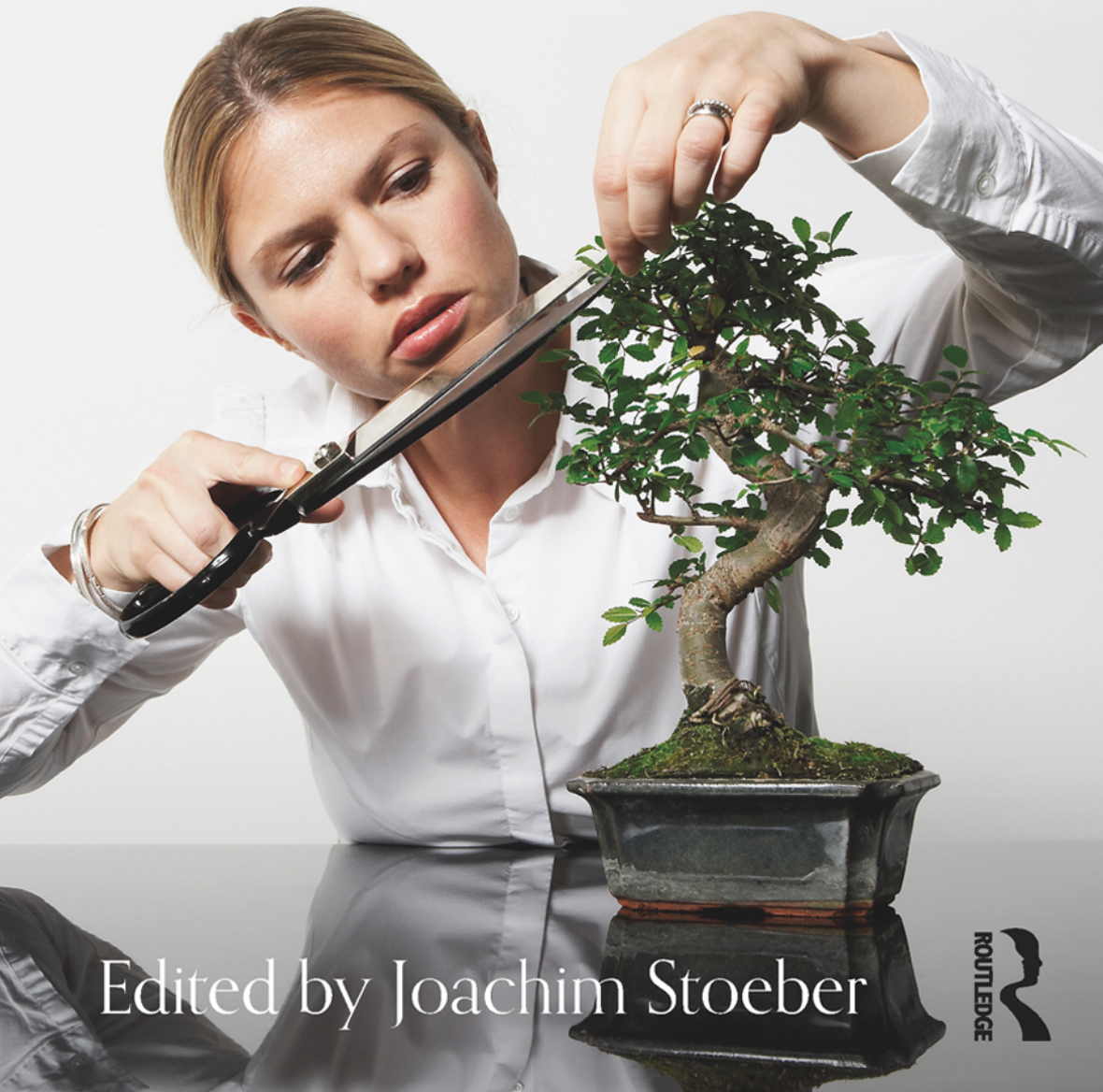
The Psychology of Perfectionism

Theory, Research, Applications



Edited by Joachim Stoeber

ROUTLEDGE

THE PSYCHOLOGY OF PERFECTIONISM

This milestone text provides a comprehensive and state-of-the art overview of perfectionism theory, research, and treatment from the past 25 years, with contributions from leading researchers in the field.

The book examines new theories and perspectives including the social disconnection model of perfectionism and the 2 × 2 model of perfectionism. It also reviews empirical findings, with a special focus on stress, vulnerability, and resilience, and examines perfectionism in specific populations. Finally, it considers how perfectionism relates to physical health and psychophysiological processes and introduces new approaches to effective prevention and treatment.

By increasing our understanding of perfectionism as a complex personality disposition and providing a framework for future explorations, this landmark publication aims to promote further research in this field. It will be invaluable reading for academics, students, and professionals in personality psychology, clinical and counseling psychology, applied psychology, and related disciplines.

Joachim Stoeber is a Professor of Psychology at the University of Kent. With a background in personality and individual differences, his focus of the past 15 years has been perfectionism research demonstrating that perfectionism is not an exclusively maladaptive characteristic, but has aspects that can be adaptive. He has published numerous journal articles and book chapters on the topic and is one of the leading experts on perfectionism.

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Theory, Research, Applications

Edited by Joachim Stoeber

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2018
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
A catalog record for this title has been requested

ISBN: 978-1-138-69102-5 (hbk)
ISBN: 978-1-138-69103-2 (pbk)
ISBN: 978-1-315-53625-5 (ebk)

Typeset in Bembo
by Saxon Graphics Ltd, Derby

CONTENTS

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ACKNOWLEDGMENTS

I would like to thank Gordon Flett for encouraging me to pursue the idea of editing a general compendium on perfectionism taking inspiration from his and Paul Hewitt's 2002 book *Perfectionism: Theory, research, and therapy* (American Psychological Association). Further, I would like to thank Lavinia Damian and Daniel Madigan for help in proofreading Chapters 1 and 16 (noting, however, that any remaining errors are my sole responsibility). Finally, I would like to say many thanks to everyone who contributed to this book (see list of contributors): This book would not have been possible without your excellent work and your help and support!

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Introduction

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1

THE PSYCHOLOGY OF PERFECTIONISM

An Introduction

Joachim Stoeber

Overview

Perfectionism is a multidimensional personality disposition characterized by striving for flawlessness and setting exceedingly high standards of performance accompanied by overly critical evaluations of one's behavior. Perfectionism is a complex characteristic. It comes in different forms and has various aspects. This chapter has a dual purpose: It aims to serve as an introduction to *The Psychology of Perfectionism* (the edited book you are holding in your hands) and an introduction to the psychology of perfectionism (what the book is about). To these aims, I first present a brief history of perfectionism theory and research. Then I introduce the two-factor theory of perfectionism—differentiating perfectionistic strivings and perfectionistic concerns—with the intention to provide readers with a conceptual framework that may serve as a "compass" guiding them through the different models and measures of perfectionism they will encounter in this book. Going beyond the two-factor model, I next introduce three aspects of perfectionism that are important for a comprehensive understanding of perfectionism: other-oriented perfectionism, perfectionistic self-presentation, and perfectionism cognitions. The chapter will conclude with a brief overview of the organization of the book and the contents of the individual chapters.

A Caveat

There is, however, a caveat. This introductory chapter is unlikely to present an unbiased account of perfectionism research. Perfectionism is a multifaceted personality characteristic, and—as the chapters of the book will demonstrate—different researchers have different views of perfectionism. Accordingly, the present chapter reflects the personal views I have acquired over the near 20 years since I

took the first stab at perfectionism research (Stöber, 1998), and they are views that the authors of the other chapters may share, share in parts, or not share. However, readers should also be aware that, despite differences in the views of perfectionism, there is lots of common ground. I personally like to think that—if we as perfectionism researchers take everything that is published on perfectionism into account—95% of our views are in agreement. The problem is that we can passionately disagree about the remaining 5%, making the discrepancies appear much larger (and perhaps more important) than they actually are. But enough of the preliminaries. Let's get started! And what would be a better start than having a look at the origins of perfectionism theory and how perfectionism research developed?

A Brief History of Perfectionism Theory and Research

The origins of perfectionism research are based in psychodynamic theory, particularly in the writings of two prominent psychoanalytic theorists: Alfred Adler (1870–1937) and Karen Horney (1885–1952). Horney (1950) described perfectionism as "the tyranny of the should" (p. 64) and regarded it as a highly neurotic personality disposition void of any positive aspects. In comparison, Adler had a more differentiated view of perfectionism. In fact, Akay-Sullivan, Sullivan, and Bratton (2016) recently pointed out that Adler may be regarded as one of the first to have a multidimensional view of perfectionism recognizing adaptive and maladaptive aspects in relation to mental health. According to Adler, "the striving for perfection is innate in the sense that it is a part of life, a striving, an urge, a something without which life would be unthinkable" (Ansbacher & Ansbacher, 1956, p. 104), but individuals attempt to achieve the goal of perfection differently, and their individual attempts can be differentiated by their functional and dysfunctional behaviors toward this goal (Akay-Sullivan et al., 2016).

Then came many years that did not see much progress in perfectionism theory except for a few psychiatric writings on perfectionism (e.g., Hollender, 1965; Missildine, 1963) leading Hollender (1978) to make the observation that perfectionism was "a neglected personality trait." The same year, however, an influential theoretical article on perfectionism was published. Hamachek (1978) suggested that two forms of perfectionism should be differentiated: a positive form he labeled "normal perfectionism" whereby individuals enjoy pursuing their perfectionistic strivings, and a negative form labeled "neurotic perfectionism" whereby individuals suffer from their perfectionistic strivings. Furthermore, two years later, the first self-report measure of perfectionism was published—Burns' (1980) Perfectionism Scale—followed by another measure three years later—the perfectionism subscale of the Eating Disorder Inventory (Garner, Olmstead, & Polivy, 1983)—and empirical research into perfectionism could begin in earnest.

The problem with these measures, however, was that they conceptualized perfectionism as a one-dimensional construct. Moreover, the measures followed

Horney's conception of perfectionism as a highly neurotic disposition. Accordingly, they exclusively captured neurotic and dysfunctional aspects of perfectionism reflecting the at the time prominent view that perfectionism was a "kind of psychopathology" (Pacht, 1984, p. 387). This view, however, must not have been very inspiring because publications on perfectionism in the 1980s continued to be few and far between (see Figure 1.1).

But all this changed at the beginning of the 1990s, and dramatically so. The reason for this was that two research teams (independently of each other) published multidimensional models of perfectionism and associated multidimensional measures. Frost, Marten, Lahart, and Rosenblate (1990) published a model differentiating six dimensions of perfectionism: personal standards, concern over mistakes, doubts about actions, parental expectations, parental criticism, and organization. Personal standards reflect perfectionists' exceedingly high standards of performance. Concern over mistakes captures perfectionists' fear about making mistakes and the negative consequences that mistakes have for their self-evaluation, whereas doubts about actions capture a tendency toward indecisiveness related to an uncertainty about doing the right thing. In contrast, parental expectations and parental criticism refer to perfectionists' perceptions that their parents expected them to be perfect and were critical if they failed to meet these expectations. Finally, organization captures tendencies to be organized and value order and neatness. At the same time, Hewitt and Flett (1990, 1991) published a model differentiating three forms of perfectionism: self-oriented, other-oriented, and socially prescribed. Self-oriented perfectionism comprises internally motivated beliefs that striving for perfection and being perfect are important. Self-oriented perfectionists expect to be perfect. In contrast, other-oriented perfectionism comprises internally motivated beliefs that it is important for others to strive for perfection and be perfect. Other-oriented perfectionists expect others to be perfect. Finally, socially prescribed perfectionism comprises externally motivated beliefs that striving for perfection and being perfect are important to others. Socially prescribed perfectionists believe that others expect them to be perfect (Hewitt & Flett, 1991, 2004).

Perfectionistic Strivings and Perfectionistic Concerns

Whereas the two models suggest different dimensions (and the different dimensions stress different aspects of multidimensional perfectionism), there are common aspects as Frost, Heimberg, Holt, Mattia, and Neubauer (1993) demonstrated in a seminal article. Frost and colleagues subjected the nine dimensions of the two models to a factor analysis (Kline, 1994), and two higher-order dimensions emerged. One dimension (Dimension 1) combined personal standards, organization, self-oriented perfectionism, and other-oriented perfectionism. The other dimension (Dimension 2) combined concern over mistakes, doubts about actions, parental expectations, parental criticism, and socially prescribed perfectionism. What is more, when the two dimensions were correlated with measures of positive affect,

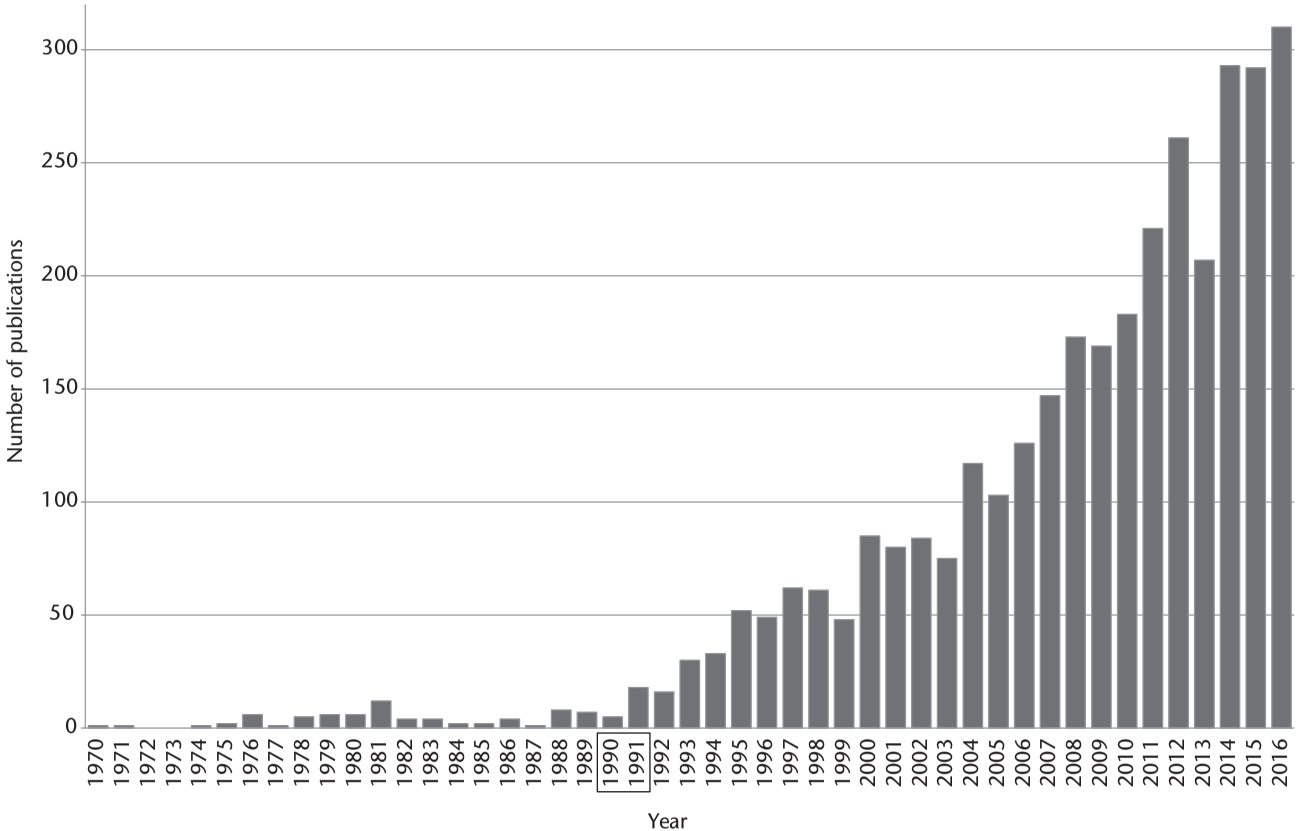

FIGURE 1.1 Number of publications in the Web of Science™ Core Collection database with "perfectionis*" in topic (2016 = estimated). 1990/1991 are highlighted as the years when the first multidimensional conceptions of perfectionism were published (Frost et al., 1990; Hewitt & Flett, 1990, 1991).

negative affect, and depression, Dimension 1 showed a positive correlation with positive affect (and nonsignificant correlations with negative affect and depression) whereas Dimension 2 showed positive correlations with negative affect and depression (and a nonsignificant correlation with positive affect). Consequently, Frost and colleagues labeled Dimension 1 "positive striving" and Dimension 2 "maladaptive evaluation concerns," and so the two-factor model of perfectionism was born.

The two-factor structure of perfectionism and the two higher-order dimensions proved to be reliable (e.g., Bieling, Israeli, & Antony, 2004). Further, the structure replicated across different multidimensional measures of perfectionism (e.g., R. W. Hill et al., 2004) and also emerged when items taken from various multidimensional measures were combined (Stairs, Smith, Zapolski, Combs, & Settles, 2012).[1] Consequently, the two-factor model can be regarded as a conceptual framework providing guidance for understanding the different, sometimes opposing, relationships that various dimensions of perfectionism show with indicators of psychological adjustment and maladjustment. Following Frost et al.'s (1993) suggestion that one dimension was "positive" and the other "maladaptive," a practice developed whereby researchers gave the two dimensions labels with evaluative connotations such as adaptive and maladaptive perfectionism, healthy and unhealthy perfectionism, positive and negative perfectionism, and functional and dysfunctional perfectionism. Fortunately, this practice is declining and nowadays the two dimensions are usually referred to as personal standards perfectionism and evaluative concerns perfectionism (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000) or perfectionistic strivings and perfectionistic concerns (Stoeber & Otto, 2006). This is preferable because the question of whether, and to what degree, the two dimensions are adaptive (healthy, positive, functional) or maladaptive (unhealthy, negative, dysfunctional) should be an empirical question (see also Gaudreau, 2013). Further, I personally prefer referring to the two dimensions as perfectionistic strivings and perfectionistic concerns to indicate that they are two dimensions of the same construct (perfectionism), and not two different forms of perfectionism.

Table 1.1 shows what aspects of different multidimensional models of perfectionism—represented by subscales from the associated multidimensional measures—are regarded as indicators (or "proxies") of perfectionistic strivings and perfectionistic concerns across different multidimensional measures of perfectionism. Consequently, the table may serve as a compass guiding readers through the different models and measures of perfectionism they will encounter in the various chapters of this book. However, when inspecting the table, attentive readers may wonder what happened to other-oriented perfectionism, parental expectations, parental criticism, and organization all of which were originally included in the two-factor model (Frost et al,. 1993). The answer (in a nutshell) is that other-oriented perfectionism is better regarded as a form of perfectionism outside the two-factor model because it is directed at others, not the self (Stoeber, 2014, 2015). Parental expectations and criticism are better regarded as developmental antecedents

TABLE 1.1 Measures of Perfectionistic Strivings and Perfectionistic Concerns

		Subscales representing indicators ("proxies") of …	
Measure	*Reference*	*Perfectionistic strivings*	*Perfectionistic concerns*
FMPS	Frost et al. (1990)	Personal standards	Concern over mistakes
		Pure personal standards[a]	Concern over mistakes + doubts about actions[b]
HF-MPS	Hewitt and Flett (1991, 2004)	Self-oriented perfectionism[c]	Socially prescribed perfectionism
APS-R	Slaney et al. (2001)	High standards	Discrepancy
PI	R. W. Hill et al. (2004)	Striving for excellence	Concern over mistakes
MIPS	Stoeber et al. (2007)	Striving for perfection	Negative reactions to imperfection

Note: Measures are listed in chronological order of their first publication. FMPS = Frost Multidimensional Perfectionism Scale, HF-MPS = Hewitt–Flett Multidimensional Perfectionism Scale, APS-R = Almost Perfect Scale–Revised, PI = Perfectionism Inventory, MIPS = Multidimensional Inventory of Perfectionism in Sport (for examples of adaptations outside sport, see Stoeber & Rambow (2007) and Stoeber & Rennert (2008)).

[a] See DiBartolo et al. (2004).

[b] See Stöber (1998).

[c] Particularly the subscale capturing perfectionistic striving (see Stoeber & Childs, 2010).

Source: Table adapted from Stoeber and Damian (2016) and Stoeber and Madigan (2016).

of perfectionistic strivings and concerns, rather than defining components (Damian, Stoeber, Negru, & Băban, 2013; Rice, Lopez, & Vergara, 2005). And organization was never regarded as a core dimension of perfectionism to begin with (cf. Frost et al., 1990), and there are factor analyses showing organization and order to form a third factor separate from perfectionistic strivings and concerns (Kim, Chen, MacCann, Karlov, & Kleitman, 2015; Suddarth & Slaney, 2001).

The two-factor model of perfectionism—differentiating perfectionistic strivings and perfectionistic concerns—represents an important framework for understanding how perfectionism can be adaptive and maladaptive (see Chapters 2–3, 8, and 11–12). Moreover, it represents the foundation of the 2 × 2 model of perfectionism (Gaudreau & Thompson, 2010) which examines how within-person combinations of high versus low perfectionistic strivings × high versus low perfectionistic concerns differ with respect to psychological adjustment and maladjustment (as detailed in Chapter 3). There are, however, important aspects of perfectionism going beyond perfectionistic strivings and perfectionistic concerns that need to be taken into account for a comprehensive understanding of perfectionistic behavior (cf. Hewitt, Flett, & Mikail, 2017): other-oriented perfectionism, perfectionistic self-presentation, and perfectionism cognitions.

Beyond Perfectionistic Strivings and Perfectionistic Concerns

Other-oriented perfectionism was introduced to perfectionism theory and research over 25 years ago and is an essential part of the tripartite model of perfectionism (Hewitt & Flett, 1990, 1991). Despite this, other-oriented perfectionism did not receive the same attention from research on multidimensional perfectionism as self-oriented and socially prescribed perfectionism, and in fact was often disregarded (Stoeber, 2014). This, however, has changed in recent years which saw a reinvigorated interest in other-oriented perfectionism. There are a number of contributing factors. First, other-oriented perfectionism plays an important role in the perfectionism social disconnection model (Hewitt, Flett, Sherry, & Caelian, 2006) and its recent extensions (see Chapters 9 and 15). Second, it is a key aspect of all forms of perfectionism where perfectionistic expectations of others are important, such as dyadic perfectionism (Stoeber, 2012) and team perfectionism (A. P. Hill, Stoeber, Brown, & Appleton, 2014). Moreover, the interest in so-called "dark personality traits" (Marcus & Zeigler-Hill, 2015) has directed attention to other-oriented perfectionism because of its associations with the dark triad—narcissism, Machiavellianism, and psychopathy—as a consequence of which, other-oriented perfectionism is now regarded as a dark form of perfectionism (Marcus & Zeigler-Hill, 2015; Stoeber, 2014). Finally, other-oriented perfectionism is a defining component of narcissistic perfectionism which is an emerging construct in perfectionism research (Nealis, Sherry, Lee-Baggley, Stewart, & Macneil, 2016; Smith, Saklofske, Stoeber, & Sherry, 2016; see also Chapter 9). Hence, other-oriented perfectionism is better regarded as a separate form of perfectionism outside the two-factor model of perfectionism (Stoeber, 2014, 2015).

Perfectionistic self-presentation (Hewitt et al., 2003) is an aspect of perfectionism that goes beyond perfectionism as a personality disposition (or "trait") by examining the motivational principles underlying perfectionism from a self-regulation perspective (Higgins, 1998).[2] According to Hewitt and colleagues (2003), perfectionistic self-presentation has two central aims: to promote the impression that one is perfect, and to prevent the impression that one is not. To capture these aims, Hewitt and colleagues developed a measure differentiating three aspects: perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection. Perfectionistic self-promotion is promotion-focused and driven by the need to appear perfect by impressing others, and to be viewed as perfect via displays of faultlessness and a flawless image. In contrast, nondisplay of imperfection and nondisclosure of imperfection are prevention-focused. Nondisplay of imperfection is driven by the need to avoid appearing as imperfect. It includes the avoidance of situations where one's behavior is under scrutiny if this is likely to highlight a personal shortcoming, mistake, or flaw. In comparison, nondisclosure of imperfection is driven by a need to avoid verbally expressing or admitting to concerns, mistakes, and perceived imperfections for fear of being negatively evaluated. Studies have shown that perfectionistic self-presentation explains variance in psychological maladjustment beyond dispositional perfectionism and,

perhaps more importantly, may explain *why* dispositional perfectionism is associated with psychological maladjustment (e.g., Hewitt et al., 2003; Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008; Stoeber, Madigan, Damian, Esposito, & Lombardo, in press). Perfectionistic self-presentation—which represents the interpersonal expression of perfectionism (Hewitt et al., 2003)—is clearly an important aspect of perfectionism that needs to be taken into account when regarding perfectionism and maladjustment and how perfectionism affects interpersonal relations and the therapeutic process (see Chapter 15).

Finally, there are perfectionism cognitions. Perfectionism cognitions (also called perfectionistic cognitions) are automatic perfectionistic thoughts reflecting the need to be perfect and concerns about one's inability to achieve perfection (Flett, Hewitt, Blankstein, & Gray, 1998). Like perfectionistic self-presentation, perfectionism cognitions are an important addition to perfectionism theory and research and have explained variance in psychological maladjustment beyond dispositional perfectionism (e.g., Flett et al., 1998; Flett et al., 2012; Flett, Hewitt, Whelan, & Martin, 2007). Following Cattell and Kline (1977) in differentiating states and traits in the study of personality, perfectionism cognitions can be regarded as representing the "states" aspect of perfectionism. Further, there is evidence suggesting that—like dispositional perfectionism and perfectionistic self-presentation—perfectionism cognitions should be conceptualized as multidimensional differentiating perfectionistic strivings and concerns (Stoeber, Kobori, & Brown, 2014a; Stoeber, Kobori, & Tanno, 2010), but this conceptualization is still debated (Flett & Hewitt, 2014; Stoeber, Kobori, & Brown, 2014b). What is not debated is that perfectionism cognitions form an essential part of the "perfectionism puzzle" without which we cannot achieve a comprehensive understanding of perfectionism, as is detailed in Chapter 5 of this book.

The Psychology of Perfectionism

Turning to the structure of the book and the individual chapters, the book is organized into four parts. Part I comprises four chapters providing different perspectives on perfectionism. Chapter 2 (Stoeber, Damian, and Madigan) presents a motivational perspective on perfectionism examining how perfectionistic strivings and perfectionistic concerns relate to achievement motivation and self-determination. Chapter 3 (Gaudreau, Franche, Kljajic, and Martinelli) provides an account of the 2 × 2 model of perfectionism as an analytic framework examining the unique, combined, and interactive effects of perfectionistic strivings (personal standards perfectionism) and perfectionistic concerns (evaluative concerns perfectionism). Chapter 4 (Stoeber, Corr, Smith, and Saklofske) examines multidimensional perfectionism from the perspective of personality theory regarding how self-oriented, other-oriented, and socially prescribed perfectionism relate to key dimensions of personality. Chapter 5 (Flett, Hewitt, Nepon, and Besser) makes the "case for cognition" by taking a look at perfectionism from a cognitive perspective providing a detailed examination of, and new perspectives on, perfectionism cognitions.

Part II presents three chapters reviewing the research literature on perfectionism in special populations. Chapter 6 (Affrunti and Woodruff-Borden) examines perfectionism in children and the role that perfectionism and associated factors play in childhood anxiety disorders. Chapter 7 (Speirs Neumeister) provides a comprehensive review of research on perfectionism in gifted students examining the development, incidence, and outcomes of perfectionism in these students. Chapter 8 (A. P. Hill, Jowett, and Mallinson-Howard) examines perfectionism in sport, dance, and exercise providing an overview of recent findings in these areas and the differential effects of perfectionistic strivings and perfectionistic concerns.

Part III comprises four chapters examining the relationships that multidimensional perfectionism shows with vulnerability and resilience. Chapter 9 (Sherry, Mackinnon, and Nealis) provides an account of perfectionism and interpersonal problems, with a special focus on self-critical perfectionism and narcissistic perfectionism. Chapter 10 (Molnar, Sirois, Flett, Janssen, and Hewitt) looks at perfectionism and health, presenting a comprehensive review of how perfectionism relates to, and affects, health-behaviors and stress-related processes. Continuing with the topic of stress, Chapter 11 (Dunkley) examines the relationships of perfectionism, daily stress, coping, and affect from a multilevel perspective including a case study to illustrate the relationships. Concluding Part III, Chapter 12 (Rice, Suh, and Davis) focuses on perfectionism and emotion regulation from the perspective of attachment theory, person-centered theory, and self psychology. In addition, the chapter presents a research agenda aimed at strengthening perfectionistic resilience and lowering perfectionistic risk, thus presenting a perfect transition to the final part of the book.

Part IV, the final part of the book, presents three chapters on the prevention and treatment of perfectionism. Chapter 13 (Wade) focuses on the prevention of perfectionism in youth, examining factors that contribute to the development of perfectionism in children and adolescents and how understanding these factors may help prevent perfectionism. Chapter 14 (Egan and Shafran) provides a comprehensive overview of cognitive-behavioral therapy (CBT) for perfectionism including key CBT techniques for addressing perfectionism and a review of studies examining the effectiveness of CBT in reducing perfectionism. Chapter 15 (Hewitt, Flett, Mikail, Kealy, and Zhang) employs the perspective of the perfectionism social disconnection model as a theoretical framework for taking a look at perfectionism in the therapeutic context and how perfectionism impacts therapeutic interventions and outcomes.

The book concludes with a chapter (Chapter 16) that—following the same approach as the present chapter—provides a personal account of what I consider critical issues in perfectionism research and open questions that perfectionism research still needs to answer. In addition, the chapter suggests future directions that I hope perfectionism theory and research will take into consideration.

Concluding Comments

Perfectionism is a common personality characteristic that can affect all domains of life (Stoeber & Stoeber, 2009). At the same time, it is a complex, multidimensional characteristic that comes in different forms and has various aspects, some of which may be harmless, benign, or even adaptive whereas others are clearly maladaptive, unhealthy, and dysfunctional (Enns & Cox, 2002; Stoeber & Otto, 2006). All this makes perfectionism a fascinating research topic, and perfectionism theory and research has become an important area of psychological inquiry. However, with scientific publications on perfectionism soaring and hundreds of journal articles being published each year (see Figure 1.1), everyone who is not an expert on perfectionism may find it difficult to keep track of the major developments and findings in perfectionism theory and research. Moreover, the last comprehensive volume presenting an overview of the psychology of perfectionism was published 15 years ago (Flett & Hewitt, 2002). Since then, over 2,500 articles on perfectionism have been published (see again Figure 1.1) not only presenting new empirical findings but also new theoretical developments, conceptual frameworks, and analytic approaches as well as further additions to the canon of models and measures of perfectionism.

The present book aims to provide help and guidance in this situation by presenting researchers, students, and practitioners with an up-to-date account of the main topics and issues of perfectionism theory and research. Written by the leading experts in the field, the chapters of the book provide a comprehensive overview of the psychology of perfectionism and the major advances that perfectionism research has made in the past 25 years. In addition, all chapters include discussions of open questions thus providing directions for future theory and research. Finally, I hope that the book provides inspirations for further psychological inquiry so we continue to make progress in our understanding of what perfectionism is, what it does, where it comes from, and—where perfectionism causes suffering and distress—how to prevent it and treat it.

Notes

1 In fact, the two dimensions even emerged in perfectionism measures conceptualized to be one-dimensional (e.g., Sherry, Hewitt, Besser, McGee, & Flett, 2004; Stoeber & Damian, 2014)!

2 Chapter 16 presents a brief discussion of whether perfectionism is a trait or a disposition explaining why I think that the term "dispositional perfectionism" is preferable to "trait perfectionism" (see also Gaudreau & Thompson, 2010).

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PART I

Perspectives on Perfectionism

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2

PERFECTIONISM

A Motivational Perspective

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Overview

The chapter presents a review of the research literature examining perfectionism from a motivational perspective. Taking the two-factor model of perfectionism—differentiating the two higher-order dimensions of perfectionistic strivings and perfectionistic concerns—as a basis, we present analyses of the differential relationships that the two dimensions show with key motivational constructs focusing on achievement motivation and self-determination theory. As regards achievement motivation, we examine the relationships with achievement motives (hope of success and fear of failure) and achievement goals (task and ego goals, 2 × 2 and 3 × 2 achievement goals). As regards self-determination theory, we examine the relationships with autonomous and controlled motivation and with the different regulatory styles associated with intrinsic motivation, extrinsic motivation, and amotivation. Based on the findings of our review, we propose that the differential motivational qualities of perfectionistic strivings and perfectionistic concerns are important to understand why perfectionism is a "double-edged sword" that may energize or paralyze people, motivating some perfectionists to engage and others to disengage. We conclude that perfectionism research may profit from seeing perfectionism from a motivational perspective, perhaps even regard perfectionism as a motive disposition (need for perfection) whereby perfectionistic strivings represent the approach-oriented and autonomous aspects, and perfectionistic concerns the avoidance-oriented and controlled aspects.

Introduction

Perfectionism comes in different forms each having different aspects and is therefore best conceptualized as a multidimensional construct (Frost, Marten, Lahart, &

Rosenblate, 1990; Hewitt & Flett, 1991). Moreover, research on multidimensional perfectionism has shown that the different forms and aspects of perfectionism—when examined together using factor analyses—form two higher-order dimensions (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; see also Bieling, Israeli, & Antony, 2004). The two dimensions have been given different names, but are nowadays mostly referred to as personal standards perfectionism and evaluative concerns perfectionism (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000) or—as we prefer to call them—perfectionistic strivings and perfectionistic concerns (Stoeber & Otto, 2006).

The differentiation of perfectionistic strivings and perfectionistic concerns is central to the understanding of multidimensional perfectionism. The reason is that only perfectionistic concerns are consistently associated with characteristics, processes, and outcomes indicative of psychological maladjustment (e.g., neuroticism, avoidant coping, negative affect). In contrast, perfectionistic strivings are often associated with characteristics, processes, and outcomes indicative of psychological adjustment (e.g., conscientiousness, problem-focused coping, positive affect). In this chapter, we want to show that the dual nature of perfectionism—illustrated by strivings and concerns often showing differential (and sometimes opposing) relationships with psychological adjustment and maladjustment—is also reflected in the two dimensions' relationships with motivational qualities.

Different studies use different measures of multidimensional perfectionism each having different subscales, which can be confusing for readers who are not experts in perfectionism research. Consequently, we followed previous reviews (e.g., Gotwals, Stoeber, Dunn, & Stoll, 2012; Jowett, Mallinson, & Hill, 2016) and did not detail what specific subscales the reviewed studies employed. Instead, we regarded specific subscales as indicators ("proxies") of perfectionistic strivings and perfectionistic concerns (see Chapter 1, Table 1.1, for details) so we could focus on the differential relationships that perfectionistic strivings and perfectionistic concerns showed with motivational constructs, starting with achievement motivation.

Achievement Motivation

Achievement Motives

Motives are a key variable in the study of motivation. Research on motives differentiates three basic motives or needs—the achievement motive (need for achievement), the affiliation motive (need for affiliation), and the power motive (need for power)—of which the achievement motive has been the most researched in the past 50 years (McClelland, Atkinson, Clark, & Lowell, 1953) and is the most relevant for perfectionism. Achievement motives can be described as stable individual differences in learned, affectively charged anticipatory responses to achievement situations that energize and direct people's behaviors (McClelland, 1985). Regarding

achievement motives, research traditionally differentiates two basic motives: hope of success (motivating people to achieve success) and fear of failure (motivating people to avoid failure) (Atkinson, 1957; DeCharms & Davé, 1965).

Reviewing the literature, we found nine studies investigating the relationships of perfectionism and fear of failure that reported bivariate correlations (Conroy, Kaye, & Fifer, 2007; Frost & Henderson, 1991; Gucciardi, Mahoney, Jalleh, Donovan, & Parkes, 2012; A. P. Hill, Hall, & Appleton, 2010; Kaye, Conroy, & Fifer, 2008; Quested, Cumming, & Duda, 2014; Sagar & Stoeber, 2009; Stoeber & Becker, 2008; Stoeber & Rambow, 2007), but only three that also included hope of success (Frost & Henderson, 1991; Stoeber & Becker, 2008; Stoeber & Rambow, 2007). Regarding the bivariate correlations, the findings show a clear differential pattern for hope of success, but not for fear of failure. As regards hope of success, all three studies found perfectionistic strivings to show positive correlations. In comparison, only one study found perfectionistic concerns to show a positive correlation with hope of success (Frost & Henderson, 1991) whereas the other two found nonsignificant correlations. For fear of failure, five studies found perfectionistic strivings to show positive correlations (Conroy et al., 2007; Frost & Henderson, 1991; Gucciardi et al., 2012; Kaye et al., 2008; Sagar & Stoeber, 2009) and four found nonsignificant correlations (A. P. Hill et al., 2010; Quested et al., 2014; Stoeber & Becker, 2008; Stoeber & Rambow, 2007).[1] By comparison, all studies found perfectionistic concerns to show positive correlations with fear of failure except for one that found a nonsignificant correlation (Stoeber & Becker, 2008).

Whereas the inspection of bivariate correlations and counting and comparing numbers of significant versus nonsignificant correlations is an appropriate method for getting a first impression of the differential relationships of perfectionistic strivings and perfectionistic concerns, the method has two serious limitations. First, it does not take into account any differences in the size of the correlations and thus ignores the strengths of the relationships. Second, and perhaps more importantly, it does not take the overlap between perfectionistic strivings and perfectionistic concerns into account, which can be considerable (see Stoeber & Gaudreau, 2017; Stoeber & Otto, 2006). Consequently, one should also consider differences in the size of the correlations and look for statistical analyses that control the overlap between the two dimensions (such as partial correlations, multiple regression analyses, and structural equation modeling) and examine the *unique* relationships that perfectionistic strivings and perfectionistic concerns show with key motivational constructs.

Consequently, we reinspected the nine studies and found that, when both perfectionism dimensions showed positive correlations with fear of failure, perfectionistic concerns usually showed larger correlations than perfectionistic strivings, suggesting that the former have stronger and more consistent links with fear of failure than the latter. Further, in the studies that statistically controlled the two dimensions' overlap (Sagar & Stoeber, 2009; Stoeber & Becker, 2008; Stoeber & Rambow, 2007), perfectionistic strivings ceased to show any positive relationships with fear of failure. On the contrary, in two of the three studies perfectionistic

strivings now showed negative relationships with fear of failure (Sagar & Stoeber, 2009; Stoeber & Becker, 2008).

The different patterns of bivariate versus unique relationships suggest that the overlap with perfectionistic concerns may be responsible for perfectionistic strivings' positive relationships with fear of failure, and may even suppress possible negative relationships with fear of failure (cf. Stoeber & Gaudreau, 2017). By contrast, nothing changed in the pattern of relationships that perfectionistic concerns showed when the overlap with perfectionistic strivings was controlled. Perfectionistic concerns continued to show positive relationships with fear of failure and all its dimensions. Further, perfectionistic concerns continued to show nonsignificant relationships with hope of success whereas perfectionistic strivings continued to show positive relationships.

Achievement Goal Orientations

Whereas the traditional approach in research on achievement motivation focuses on motives and investigates differences in how strongly individuals are motivated and energized, the contemporary approach focuses on goal orientations and investigates differences in why individuals are motivated to achieve (Elliot, 1997). Over the years, research on achievement goal orientations has progressed from a two-component model to a tripartite model, a 2 × 2 model, and—as the latest development—a 3 × 2 model. Our understanding of how perfectionistic strivings and perfectionistic concerns are related to achievement goal orientations (for brevity reasons consecutively referred to as "achievement goals") has progressed accordingly, so our review will follow the progression of achievement goal theory.

The Two-Component Model

As regards the two-component model of achievement goals, the vast majority of studies examining multidimensional perfectionism followed Duda and Nicholls' (1992) model which differentiates two goals: task goals and ego goals. The two goals have different foci and different functionalities. When pursuing task goals, people are focused on meeting the demands of the task, exerting effort, and developing their competence. Hence task goals are considered to represent adaptive achievement motivations. By contrast, when pursuing ego goals, people are focused on demonstrating superior competence with respect to others or normative standards, which may result in greater apprehension about one's ability, but can also lead to higher performance. Hence, we consider ego goals as mixed adaptive–maladaptive achievement motivations, but agree that they are maladaptive in combination with low levels of task goals (see Duda, 2005, for a review).

Reviewing the literature, we found eight studies that examined the relationships of perfectionistic strivings and concerns with task and ego goals and reported

bivariate correlations (Appleton, Hall, & Hill, 2009; Dunn, Causgrove Dunn, & Syrotuik, 2002; Hall, Kerr, Kozub, & Finnie, 2007; Hall, Kerr, & Matthews, 1998; Lemyre, Hall, & Roberts, 2008; McArdle & Duda, 2004; Nerland & Sæther, 2016; Ommundsen, Roberts, Lemyre, & Miller, 2005). As regards task goals, the majority of studies found perfectionistic strivings to show positive correlations except for two studies that found nonsignificant correlations (Lemyre et al., 2008; Nerland & Sæther, 2016). In comparison, the majority of studies found perfectionistic concerns to show nonsignificant correlations with task goals, except for three studies that found negative correlations (Dunn et al., 2002; Lemyre et al., 2008; Ommundsen et al., 2005). For ego goals, all studies found perfectionistic strivings to show positive correlations. The same applied to perfectionistic concerns, with the exception of one study that found perfectionistic concerns to show a nonsignificant correlation with ego goals (Appleton et al., 2009).

Unfortunately, none of the eight studies used statistical analyses examining the unique relationships of perfectionistic strivings and perfectionistic concerns. However, there are two recent reviews that have done just that. The first review (Gotwals et al., 2012) focused on perfectionistic strivings and therefore only computed partial correlations of perfectionistic strivings controlling the overlap with perfectionistic concerns. The second review (Jowett et al., 2016) also computed partial correlations for perfectionistic concerns controlling the overlap with perfectionistic strivings. As regards task goals, the reviews showed that controlling the overlap did not change the pattern of significant relationships found in the bivariate correlations, except that the positive relationships of perfectionistic strivings tended to become larger when the overlap with perfectionistic concerns was controlled. In contrast, the relationships of perfectionistic concerns tended to become smaller (if positive) or larger (if negative) when the overlap with perfectionistic strivings was controlled. The opposing pattern of these tendencies suggests the presence of mutual suppression effects whereby perfectionistic concerns suppress adaptive aspects of perfectionistic strivings, and perfectionistic strivings suppress maladaptive aspects of perfectionistic concerns (R. W. Hill, Huelsman, & Araujo, 2010; see Stoeber & Gaudreau, 2017, for a detailed discussion of these effects). For ego goals, the reviews found that, in the majority of studies, perfectionistic strivings showed significant positive relationships even when the overlap with perfectionistic concerns was controlled. This indicates that the links perfectionistic strivings show with ego goals cannot be explained by their overlap with perfectionistic concerns. In contrast, perfectionistic concerns tended to show smaller positive relationships with ego goals when the overlap with perfectionistic strivings was controlled (and some of the relationships even became nonsignificant). This suggests that perfectionistic concerns often show links with ego goals because of their overlap with perfectionistic strivings. Otherwise, the pattern of unique relationships dovetailed with the pattern of bivariate correlations indicating that perfectionistic strivings show more consistent and stronger positive relationships with ego goals than perfectionistic concerns.

The 2 × 2 Model

One reason why perfectionistic strivings and concern fail to show a clear-cut differential pattern of relationships with ego goals may be that Duda and Nicholls' (1992) model does not differentiate approach and avoidance orientations. According to the dual-process theory of perfectionism (Slade & Owens, 1998), approach versus avoidance is an important distinction for understanding differences between positive and negative aspects of perfectionism because positive aspects (such as those associated with perfectionistic strivings) are suggested to drive approach behaviors whereas negative aspects (such as those associated with perfectionistic concerns) drive avoidance behaviors. Consequently, differentiating approach and avoidance is important not only for understanding different forms of achievement motivation (Elliot, 1997). It is also important for understanding the multidimensional nature of perfectionism and the differential motivational qualities of different perfectionism dimensions.

Whereas the differentiation of approach and avoidance has been applied to ego goals (Skaalvik, 1997), it never really caught on in the two-component model examining task and ego goals. However, the differentiation became central in the closely related model examining mastery and performance goals. People who pursue mastery goals (which are comparable to task goals) tend to see achievement situations as opportunities to improve their ability. They focus on learning new skills or improving old ones, and regard failures and mistakes as providing important information on how to improve. In comparison, people who pursue performance goals (comparable to ego goals) tend to see achievement situations as opportunities to prove their ability. Their goal is to demonstrate ability relative to others, show others what they have learned, and—if possible—outperform others (Maehr & Meyer, 1997).

The differentiation of approach and avoidance was first applied to performance goals resulting in the tripartite model differentiating performance-approach, performance-avoidance, and mastery goals (Elliot & Harackiewicz, 1996). Later it was also applied to mastery goals resulting in the 2 × 2 model of achievement goals (Elliot & McGregor, 2001; Pintrich, 2000). The model distinguishes two goal dimensions—definition (performance versus mastery) and valence (approach versus avoidance)—and consequently differentiates four goals: performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance. Performance-approach goals represent the motivation to demonstrate normative competence (e.g., striving to do better than others) and mastery-approach goals the motivation to achieve absolute or intrapersonal competence (e.g., striving to master a task). In contrast, performance-avoidance goals represent the motivation to avoid demonstrating normative incompetence (e.g., striving to avoid doing worse than others) and mastery-avoidance goals the motivation to avoid absolute or intrapersonal incompetence (e.g., striving to avoid doing worse than one has done previously) (Conroy, Elliot, & Hofer, 2003).

Twenty-two studies have examined multidimensional perfectionism and the goals of the 2 × 2 model and reported bivariate correlations (Bong, Hwang, Noh,

& Kim, 2014; Damian, Stoeber, Negru, & Băban, 2014; Eum & Rice, 2011; Fletcher, Shim, & Wang, 2012; Gucciardi et al., 2012; Kaye et al., 2008; Kim, Chen, MacCann, Karlov, & Kleitman, 2015; Madjar, Voltsis, & Weinstock, 2015; Shih, 2012, 2013; Speirs Neumeister & Finch, 2006; Speirs Neumeister, Fletcher, & Burney, 2015; Stoeber, Stoll, Pescheck, & Otto, 2008, Studies 1–2; Stoeber, Stoll, Salmi, & Tiikkaja, 2009; Stoeber, Uphill, & Hotham, 2009, Studies 1–2; Van Yperen, 2006; Vansteenkiste et al., 2010; Verner-Filion & Gaudreau, 2010; Wang, Fu, & Rice, 2012; Zarghmi, Ghamary, Shabani, & Varzaneh, 2010).[2] All studies found perfectionistic strivings to show positive correlations with performance-approach goals. Furthermore, all studies found perfectionistic concerns to show positive correlations, with one exception: In Zarghmi et al.'s (2010) study, one indicator of perfectionistic concerns showed a nonsignificant correlation. For performance-avoidance goals, most studies found perfectionistic strivings to show positive correlations, but five found nonsignificant correlations (Kaye et al., 2008; Kim et al., 2015; Stoeber et al., 2008, Studies 1–2; Stoeber, Uphill, & Hotham, 2009). The same applied to perfectionistic concerns, except that for perfectionistic concerns only two studies found nonsignificant correlations (Stoeber et al., 2008, Study 2; Zarghmi et al., 2010). As regards mastery-approach goals, the pattern was different. Whereas all studies found perfectionistic strivings to show positive correlations (with the one exception of Vansteenkiste et al., 2010), less than half of the studies found perfectionistic concerns to show positive correlations with mastery-approach goals, and more than half found nonsignificant correlations. In comparison, mastery-avoidance goals showed a similar pattern as performance-avoidance goals. Most studies found perfectionistic strivings to show positive correlations with mastery-avoidance goals except for five studies that found nonsignificant correlations (Eum & Rice, 2011; Kaye et al., 2008; Kim et al., 2015; Stoeber et al., 2008, Study 2; Zarghmi et al., 2010). In contrast, all studies found perfectionistic concerns to show positive correlations with mastery-avoidance goals, except for two that found nonsignificant correlations (Kim et al., 2015; Speirs Neumeister et al., 2015).

As with the previous motivational constructs, the differential pattern of relationships that perfectionistic strivings and concerns showed with the 2 × 2 achievement goals became much clearer when the overlap between the two perfectionism dimensions was controlled and unique relationships were examined. Of the twenty-two studies reviewed above, nine examined unique relationships (Bong et al., 2014; Damian et al., 2014; Speirs Neumeister et al., 2015; Stoeber et al., 2008, Studies 1–2; Stoeber, Stoll, et al., 2009; Vansteenkiste et al., 2010; Verner-Filion & Gaudreau, 2010; Zarghmi et al., 2010). As regards performance-approach goals, both perfectionistic strivings and perfectionistic concerns showed positive relationships across the studies, with two exceptions: Stoeber et al. (2008, Study 1) found a nonsignificant relationship for perfectionistic strivings, and Zarghmi et al. (2010) found a nonsignificant relationship for perfectionistic concerns. Still, overall the pattern of relationships suggests that *both* perfectionism dimensions have links with performance-approach goals. For perfectionistic

strivings and performance-avoidance goals, six studies found nonsignificant relationships, three found positive relationships (Damian et al., 2014; Speirs Neumeister et al., 2015; Verner-Filion & Gaudreau, 2010), and one found a negative relationship (Stoeber et al., 2008, Study 1). In contrast, perfectionistic concerns showed positive relationships with performance-avoidance goals across all studies, except for two that found nonsignificant relationships (Speirs Neumeister et al., 2015; Stoeber et al., 2008, Study 1). This pattern suggests that perfectionistic concerns are consistently linked with performance-avoidance goals, but not perfectionistic strivings. In contrast, all studies found perfectionistic strivings to show positive relationships with mastery-approach goals, and perfectionistic concerns to show nonsignificant relationships. The pattern was reversed for mastery-avoidance goals. All studies found perfectionistic strivings to show nonsignificant relationships whereas perfectionistic concerns showed positive relationships, except for two studies that found positive relationships for perfectionistic strivings and a nonsignificant relationship for perfectionistic concerns (Damian et al., 2014; Speirs Neumeister et al., 2015). Overall, however, the pattern of relationships suggests that perfectionistic strivings are linked with mastery-approach goals whereas perfectionistic concerns are linked with mastery-avoidance goals.

The 3 × 2 Model

The 2 × 2 model has been criticized because mastery goals fail to differentiate whether an individual's goals focus on the task (improving task performance) or on the self (improving one's personal performance). To address this criticism, Elliot, Murayama, and Pekrun (2011) introduced the 3 × 2 model of achievement goals differentiating approach and avoidance for task, self, and other goals. In this model, other-approach and other-avoidance goals correspond to performance-approach and performance-avoidance goals of the 2 × 2 model. Task-approach, self-approach, task-avoidance, and self-avoidance goals go beyond the 2 × 2 model allowing an assessment of whether mastery-approach and mastery-avoidance goals are task-focused or self-focused.

So far, only two studies have investigated how perfectionistic strivings and concerns relate to the goals of the 3 × 2 model. The first study (Stoeber, Haskew, & Scott, 2015) presented undergraduates with a text to study for a mock exam to take within the next few days, and then asked students for their goals regarding this exam. As expected, perfectionistic strivings showed positive correlations with all approach goals (task-, self-, and other-approach) whereas perfectionistic concerns did not show any significant correlations with the approach goals. Unexpectedly, perfectionistic strivings also showed positive correlations with all avoidance goals (task-, self-, and other-avoidance), and perfectionistic concerns showed a positive correlation with other-approach goals. Unfortunately, the study did not control for the overlap between perfectionistic strivings and concerns, so we do not know how much the overlap was responsible for the

unexpected pattern of correlations. But there is another study on perfectionism and the 3 × 2 achievement goals in sport controlling for the overlap (Madigan, Stoeber, & Passfield, 2017), and this study found a pattern of relationships more in line with expectations. Perfectionistic strivings showed unique positive relationships with all approach goals (task-, self-, and other-approach) and unique negative relationships with task- and self-avoidance goals. In contrast, perfectionistic concerns showed positive relationships with all avoidance goals (task-, self-, and other-avoidance) and negative relationships with task- and self-approach goals, confirming the findings with the 2 × 2 model that perfectionistic strivings are mainly approach-oriented whereas perfectionistic concerns are mainly avoidance-oriented.

Summary

Our review of the studies examining multidimensional perfectionism and achievement motivation shows that perfectionistic strivings and perfectionistic concerns—the two higher-order dimensions of multidimensional perfectionism—have distinct motivational qualities. This is in particular the case when the overlap of the two dimensions is controlled statistically and unique relationships are examined (cf. Stoeber & Gaudreau, 2017). In line with Slade and Owens' (1998) dual-process model of perfectionism, perfectionistic strivings are mainly approach-oriented showing unique positive relationships with hope of success (when regarding achievement motives) and mastery-approach and performance-approach goals (when regarding achievement goals). In contrast, perfectionistic concerns are mainly avoidance-oriented showing unique positive relationships with fear of failure (regarding achievement motives) and mastery-avoidance and performance-avoidance goals (regarding achievement goals).

There are, however, two motivational qualities in which the two perfectionism dimensions show similar profiles. The first is performance-approach goals, because perfectionistic concerns—even though mainly avoidance-oriented—also show unique positive relationships with performance-approach goals, which cannot be explained by the dual-process model of perfectionism. The relationships, however, can be explained by the hierarchical model of achievement motivation (Elliot, 1997). According to this model, performance-approach goals are motivated by both hope of success and fear of failure, which would explain why both perfectionistic strivings (associated with hope of success) and perfectionistic concerns (associated with fear of failure) show positive relationships with performance-approach goals. Further, performance-approach goals may have two orientations: a normative orientation (outperforming others, comparing one's performance to others' performance) and a competence-demonstration orientation (demonstrating competence, trying to show others that one is better than others). Only the former is achievement motivated whereas the latter is mainly self-presentational (Senko, Hulleman, & Harackiewicz, 2011), and this may explain why both perfectionism dimensions link with performance-approach

goals. Perfectionistic strivings may link with performance-approach goals because they have achievement-motivated aspects, whereas perfectionistic concerns may link with these goals because they have self-presentational aspects. Support for this possible explanation comes from research on perfectionism and social goals that found perfectionistic concerns to show positive correlations with demonstration-approach goals, but not perfectionistic strivings (Shim & Fletcher, 2012; Stoeber, 2014a).

The second motivational quality is ego goals. Whereas only perfectionistic strivings show unique positive relationships with task goals, both perfectionistic strivings and perfectionistic concerns show unique positive relationships with ego goals (even though the relationships of perfectionistic strivings are stronger and more consistent). The possible explanation for this overlap may be that theory and research on ego goals do not differentiate approach and avoidance. Therefore, ego goals (which are comparable to performance goals) may not only contain qualities of performance-approach goals, but also qualities of performance-avoidance goals. This mixture of qualities may explain why both perfectionism dimensions show positive relationships with ego goals, and underscores the importance of differentiating approach and avoidance orientations in achievement motivation.

Furthermore, the differentiation of approach and avoidance is important to understand why perfectionistic strivings can be adaptive. Even though we agree with Gaudreau and colleagues (see Chapter 3) that achievement goals are inherently complex processes, the degree of self-determination in achievement goals should be taken into account (e.g., Vansteenkiste et al., 2010). Also, the adaptiveness of performance-approach and mastery-approach goals may be situation-dependent (e.g., performance-approach goals should be more adaptive in exams/competitions, mastery-approach goals in learning/training). In addition, there is substantial evidence that, all things being equal, performance- and mastery-approach goals are adaptive and performance- and mastery-avoidance goals maladaptive (e.g., Moller & Elliot, 2006). Moreover, performance-approach goals can explain why athletes high in perfectionistic strivings outperform athletes low in perfectionistic strivings in competitions (Stoeber, Uphill, & Hotham, 2009). Similarly, task-approach goals can explain why students high in perfectionistic strivings outperform students low in perfectionistic strivings in exams (Stoeber et al., 2015). But what about perfectionistic strivings' positive relationships with ego goals, which are regarded as mixed adaptive–maladaptive? Here it is important to note that perfectionistic strivings show positive relationships not only with ego goals, but also with task goals. Whereas the pursuit of ego goals can be maladaptive, it has been suggested that task goals are usually adaptive and may buffer or neutralize the maladaptive effects of ego goals (Duda, 2005). Consequently, even when we do not differentiate approach and avoidance, perfectionistic strivings (showing positive relationships with ego goals and task goals) are associated with a more adaptive pattern of achievement goals than perfectionistic concerns (showing positive relationships with ego goals, but not with task goals).

Self-Determination Theory

Self-determination theory (Deci & Ryan, 1985) postulates that an individual's level of self-determined motivation is reflected by the extent to which the individual's behavior is regulated by processes that are congruent with the self. Ryan and Deci (2000) suggest that a continuum of behavioral regulation exists that ranges from non-self-determined to self-determined motivation (see Figure 2.1). Self-determination theory differentiates three forms of motivation: intrinsic motivation, extrinsic motivation, and amotivation. These forms are associated with different regulatory styles: intrinsic motivation with intrinsic regulation, extrinsic motivation with external, introjected, identified, and integrated regulation, and amotivation with non-regulation (see again Figure 2.1). Hence, the theory conceptualizes extrinsic motivation as a composite of four regulatory styles differing in self-determination and perceived locus of causality. *External regulation* is the least self-determined regulation, and the perceived locus of causality is external and has no internal aspects. External regulation is characterized by passive compliance and feelings of alienation, and actions are performed only to gain external rewards and avoid external punishments. *Introjected regulation* is more self-determined than external regulation, and the perceived locus is predominantly external (but has some internal aspects). Introjected regulation is characterized by values, standards, and expectations—originating from socialization (parents, teachers, society)—that have been "taken in," but are not fully accepted as one's own. Here, actions are performed to gain internal rewards (e.g., feelings of pride) and avoid internal punishments (e.g., feelings of anxiety, guilt, and shame). *Identified regulation* is even more self-determined than introjected regulation, and the perceived locus is predominantly internal (but still has external aspects). Identified regulation is characterized by personal importance and conscious valuing of reasons for doing an activity. Here values, standards, and expectations are perceived as personal. *Integrated regulation* is the most self-determined regulatory style associated with extrinsic motivation, and the perceived locus of causality is internal. Integrated regulation is characterized by congruence and awareness of reasons and by goals being in synthesis with the self. Here personal values, standards, and expectations are fully integrated in the self.

The most self-determined form of regulation, however, is intrinsic regulation which is the regulatory style of *intrinsic motivation* and characterized by personal interest, inherent satisfaction, and enjoyment. As with integrated regulation, the perceived locus of control is internal, but—differently from integrated regulation—actions are not performed for the expected outcomes, but for their inherent enjoyment. Intrinsic motivation is task-focused, not outcome-focused. By contrast, *amotivation* is unfocused and is associated with non-regulation and a perceived locus of control that is impersonal. Amotivation is characterized by feelings of incompetence, not valuing activities, and a perceived lack of control. People who are amotivated either do not act or "just go through the motions" (Ryan & Deci, 2000, p. 72).

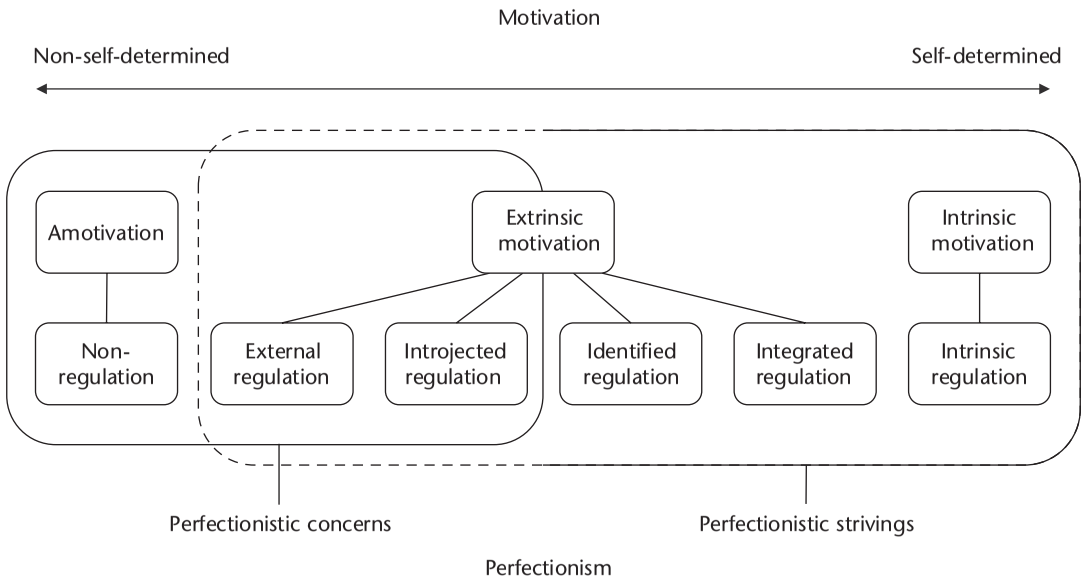

FIGURE 2.1 Perfectionism and the self-determination continuum. Perfectionistic concerns are mainly associated with amotivation, external regulation, and introjected regulation. In contrast, perfectionistic strivings are mainly associated with intrinsic motivation, integrated regulation, and identified regulation but may also show associations with introjected and external regulation. (The motivation part of the figure was adapted from Ryan & Deci, 2000, Figure 1.)

Numerous studies have investigated the relationships of multidimensional perfectionism and self-determination differing in the degree to which individual differences in the three motivations and the six regulatory styles of the self-determination continuum were analyzed. Unfortunately, some studies did not differentiate the three forms of motivation but only reported correlations with a global self-determination index combining intrinsic motivation, extrinsic motivation, and amotivation and so were not included in our analyses (e.g., Burnam, Komarraju, Hamel, & Nadler, 2014; Gaudreau, Franche, & Gareau, 2016). Other studies examined extrinsic motivation without differentiating the more self-determined from the less self-determined regulatory styles that comprise extrinsic motivation, and so were also not included (e.g., Chen, Kuo, & Kao, 2016; Mills & Blankstein, 2000). The reason is that differentiating regulatory styles in extrinsic motivation is important for understanding the different motivational qualities of perfectionistic strivings and perfectionistic concerns, as the studies on autonomous versus controlled motivation demonstrate.

Autonomous Versus Controlled Motivation

In research on autonomous versus controlled motivation, autonomous motivation is usually operationalized as the combination of intrinsic motivation and identified regulation (also including integrated regulation, if assessed) whereas controlled motivation is operationalized as the combination of introjected and external regulation (sometimes also including amotivation). Reviewing the literature on perfectionism and motivation, we found 11 studies that examined autonomous and controlled motivation and reported bivariate correlations.[3] As regards autonomous motivation, all studies found perfectionistic strivings to show positive correlations (Barcza-Renner, Eklund, Morin, & Habeeb, 2016; Gaudreau & Antl, 2008; Harvey et al., 2015; Jowett, Hill, Hall, & Curran, 2013; Madigan, Stoeber, & Passfield, 2016; Miquelon, Vallerand, Grouzet, & Cardinal, 2005, Studies 1–2; Mouratidis & Michou, 2011; Vansteenkiste et al., 2010). In comparison, only two studies found perfectionistic concerns to show positive correlations with autonomous motivation (Madigan et al., 2016; Vansteenkiste et al., 2010) whereas six found nonsignificant correlations (Gaudreau & Antl, 2008; Jowett et al., 2013; Madigan et al., 2016; Miquelon et al., 2005, Studies 1–2; Mouratidis & Michou, 2011) and one even found a negative correlation (Barcza-Renner et al., 2016). For controlled motivation, all studies found perfectionistic concerns to show positive correlations (Barcza-Renner et al., 2016; Gaudreau & Antl, 2008; Jowett et al., 2013; Madigan et al., 2016; Miquelon et al., 2005, Studies 1–2; Mouratidis & Michou, 2011; Stoeber & Eismann, 2007; Vansteenkiste et al., 2010). In comparison, only seven studies found perfectionistic strivings to show positive correlations with controlled motivation (Barcza-Renner et al., 2016; Gaudreau & Antl, 2008; Jowett et al., 2013; Madigan et al., 2016; Mouratidis & Michou, 2011; Nguyen & Deci, 2016; Vansteenkiste et al., 2010) and four found nonsignificant correlations (Harvey et al., 2015; Miquelon et al., 2005, Studies 1–2; Stoeber & Eismann, 2007).

Counting significant bivariate correlations, however, gives a distorted picture of how perfectionistic strivings are related to controlled motivation. First, when perfectionistic strivings showed positive correlations with controlled motivation, they were usually smaller than those of perfectionistic concerns. Second, studies that statistically controlled the overlap between perfectionistic strivings and concerns found perfectionistic strivings to show unique positive relationships only with autonomous motivation, but not with controlled motivation (Gaudreau & Antl, 2008; Jowett et al., 2013; Madigan et al., 2016; Mouratidis & Michou, 2011; Miquelon et al., 2005, Studies 1–2; Vansteenkiste et al., 2010). Moreover, the same studies found perfectionistic concerns to show unique positive relationships only with controlled motivation, but not with autonomous motivation. Whereas this pattern of relationships suggests that perfectionistic strivings link with autonomous motivation (but not controlled motivation) and perfectionistic concerns link with controlled motivation (but not autonomous motivation), the picture for perfectionistic strivings is more complex as the studies examining individual regulatory styles from the full self-determination continuum show.

The Full Self-Determination Continuum

Various studies have examined multidimensional perfectionism and self-determination differentiating amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and/or intrinsic motivation.[4] As regards *amotivation*, five studies found perfectionistic strivings to show negative correlations (Appleton & Hill, 2012; Chang, Lee, Byeon, Seong, & Lee, 2016; Longbottom, Grove, & Dimmock, 2012; Madigan et al., 2016; Stoeber, Davis, & Townley, 2013) and five found nonsignificant correlations (Barcza-Renner et al., 2016; A. P. Hill, 2014; Longbottom et al., 2012; Madigan et al., 2016, Time 1; McArdle & Duda, 2004). In comparison, eight studies found perfectionistic concerns to show positive correlations with amotivation (Appleton & Hill, 2012; Barcza-Renner et al., 2016; Chang et al., 2016; A. P. Hill, 2014; Longbottom et al., 2012; Madigan et al., 2016; McArdle & Duda, 2004; Stoeber et al., 2013) and only one found nonsignificant correlations (Madigan et al., 2016). Clearly, amotivation is the domain of perfectionistic concerns, and antithetical to perfectionistic strivings. Moreover, the opposing pattern of relationships is often enhanced when the overlap between perfectionistic strivings and concerns is controlled. Perfectionistic concerns tend to show stronger positive relationships, and perfectionistic strivings stronger negative relationships with amotivation when unique relationships are regarded (e.g., A. P. Hill, 2014).

For *external regulation*,[5] five studies found perfectionistic strivings to show positive correlations (Appleton & Hill, 2012; Chang et al., 2016; Gucciardi et al., 2012; A. P. Hill, 2014; McArdle & Duda, 2004) and four found nonsignificant correlations (Flett et al., 2016; Longbottom et al., 2012; Stoeber et al., 2013; Stoeber, Feast, & Hayward, 2009). In comparison, nine studies found perfectionistic concerns to show positive correlations with external regulation (Appleton & Hill,

2012; Chang et al., 2016; Flett et al., 2016; Gucciardi et al., 2012; A. P. Hill, 2014; Longbottom et al., 2012; McArdle & Duda, 2004; Stoeber et al., 2013; Stoeber, Feast, & Hayward, 2009) and only one found a nonsignificant correlation (Chang et al., 2016). This pattern suggests that perfectionistic concerns show stronger positive links with external regulation than perfectionistic strivings. Still, the number of studies linking perfectionistic strivings with external regulation is noteworthy.

Turning to *introjected regulation*, all studies found perfectionistic strivings to show positive correlations (Appleton & Hill, 2012; Chang et al., 2016; A. P. Hill, 2014; Flett et al., 2016; Longbottom et al., 2012; McArdle & Duda, 2004; Stoeber et al., 2013; Stoeber, Feast, & Hayward, 2009). In comparison, eight studies found perfectionistic concerns to show positive correlations with introjected regulation (Appleton & Hill, 2012; Chang et al., 2016; Flett et al., 2016; A. P. Hill, 2014; Longbottom et al., 2012; McArdle & Duda, 2004; Stoeber et al., 2013; Stoeber, Feast, & Hayward, 2009) and one found a nonsignificant correlation (Chang et al., 2016). However, an inspection of the size of the correlations indicated that—in the majority of studies—perfectionistic concerns tended to show stronger positive relationships with introjected regulation than perfectionistic strivings (see also Jowett et al., 2016), indicating that perfectionistic concerns have stronger links with introjected regulation than perfectionistic strivings.

Regarding *identified regulation*, seven studies found perfectionistic strivings to show positive correlations (Chang et al., 2016; Flett et al., 2016; Longbottom et al., 2012; McArdle & Duda, 2004; Stoeber et al., 2013; Stoeber & Eismann, 2007; Stoeber, Feast, & Hayward, 2009) and three found nonsignificant correlations (Appleton & Hill, 2012; A. P. Hill, 2014; Longbottom et al., 2012). In comparison, only one study found perfectionistic concerns to show a positive correlation with identified regulation (Appleton & Hill, 2012) whereas eight found nonsignificant correlations (Chang et al., 2016; Flett et al., 2016; A. P. Hill, 2014; Longbottom et al., 2012; McArdle & Duda, 2004; Stoeber et al., 2013; Stoeber & Eismann, 2007; Stoeber, Feast, & Hayward, 2009) and one even found a negative correlation (Chang et al., 2016). This indicates that identified regulation is more the domain of perfectionistic strivings than perfectionistic concerns.

Unfortunately, only one study examined multidimensional perfectionism and *integrated regulation* (Stoeber et al., 2013). It found perfectionistic strivings to show a positive correlation whereas perfectionistic concerns showed a nonsignificant correlation.

In contrast, numerous studies examined perfectionism and *intrinsic motivation*, and the pattern of relationships is very clear. Thirteen studies found perfectionistic strivings to show a positive correlation with intrinsic motivation (Appleton & Hill, 2012; Chang, Lee, Byeon, & Lee, 2015; Chang et al., 2016; Flett et al., 2016; Gucciardi et al., 2012; A. P. Hill, 2014; Longbottom et al., 2012; McArdle & Duda, 2004; Mills & Blankstein, 2000; Quested et al., 2014; Stoeber et al., 2013; Stoeber & Eismann, 2007; Stoeber, Feast, & Hayward, 2009) whereas only two found nonsignificant correlations (Longbottom et al., 2012; Mills & Blankstein,

2000). In comparison, no study found perfectionistic concerns to show any positive correlations with intrinsic motivation. Instead, all studies found nonsignificant correlations (Appleton & Hill, 2012; Chang et al., 2015; Chang et al., 2016; Flett et al., 2016; Gucciardi et al., 2012; A. P. Hill, 2014; Longbottom et al., 2012; McArdle & Duda, 2004; Quested et al., 2014; Stoeber et al. 2013; Stoeber & Eismann, 2007; Stoeber, Feast, & Hayward, 2009) except for one that found a negative correlation (Longbottom et al., 2012).

Whereas the positive relationships that perfectionistic strivings showed with intrinsic motivation, integrated regulation, and identified regulation replicate the relationships from the studies examining autonomous motivation (combining intrinsic motivation, integrated regulation, and identified regulation), this is not the case for the positive relationships that perfectionistic strivings showed with introjected and external regulation because the latter remained significant when the overlap with perfectionistic concerns was controlled. Also, when revisiting the two reviews we consulted earlier in this chapter (Gotwals et al., 2012; Jowett et al., 2016), we found that controlling for perfectionistic concerns tended to attenuate the positive correlations between perfectionistic strivings and introjected regulation, but in three of the studies the correlations remained significant. The same pattern was found with external regulation. This suggests that the motivational profile associated with perfectionistic strivings extends beyond internally and mostly internally motivated regulations into regulations that are more externally motivated.

Summary

Our review of the studies examining multidimensional perfectionism from the perspective of self-determination theory shows that perfectionistic strivings and perfectionistic concerns have distinct motivational qualities also with regard to self-determined motivation, which are particularly pronounced when the unique relationships of the two perfectionism dimensions are examined (cf. Stoeber & Gaudreau, 2017). Perfectionistic strivings are mainly associated with motivations and regulatory styles characterized by higher degrees of self-determination such as intrinsic motivation, integrated regulation, and identified regulation. In contrast, perfectionistic concerns are mainly associated with motivations and regulatory styles characterized by lower degrees of self-determination such as amotivation, external regulation, and introjected regulation. However, perfectionistic strivings may also show positive relationships with introjected and external regulation even when the overlap with perfectionistic concerns is controlled, suggesting that the motivational qualities of perfectionistic strivings may reach into the domain of less self-determined regulation (see Figure 2.1).

As to reasons why this is the case, we can only speculate. One possibility is that the pattern of strivings and concerns showing positive relationships with external and introjected regulation can be explained by the fact that both regulations are focused on rewards and punishments: External regulation aims to achieve external rewards and avoid external punishments, and introjected regulation aims to achieve

internal rewards and avoid internal punishments. Unfortunately, external and introjected regulation do no differentiate approach (achieve rewards) and avoidance (avoid punishments). Consequently, it could be that perfectionistic strivings (which are mainly approach-oriented) link with external and introjected regulation because they are geared toward achieving external and internal rewards, whereas perfectionistic concerns (which are mainly avoidance-oriented) link with external and introjected regulation because they are geared toward avoiding external and internal punishments. This explanation would also be supported by studies examining perfectionism and reinforcement sensitivity (Stoeber & Corr, 2017; see also Chapter 4) that found perfectionistic strivings to show strong links with all goal- and reward-oriented aspects of the behavioral approach system (BAS) whereas perfectionistic concerns showed strong links with the behavioral inhibition system (BIS) which is aimed at avoiding punishment. The goal- and reward-oriented aspect of the BAS may drive perfectionistic strivings toward external and introjected regulation because of the reward aspects of these regulatory styles, whereas the BIS may drive perfectionistic concerns toward external and introjected regulation because of the punishment-avoidance aspects of these regulatory styles.

Limitations and Future Research

Whereas this review presents a comprehensive account of research on multidimensional perfectionism and motivation regarding how perfectionistic strivings and concerns relate to achievement motivation and self-determination, it is important to note some limitations. First, approximately half of the studies we reviewed were conducted in the sport domain (see reference list). Whereas we are uncertain if this is a limitation or not—because our impression is that perfectionistic strivings and concerns show by and large the same motivational profiles across domains (e.g., university versus sport) and samples (e.g., students versus athletes)—future research may profit from examining whether there are systematic differences between different domains and samples (cf. A. P. Hill & Curran, 2016). Second, and more importantly, there are other important dimensions, forms, and aspects of perfectionism that our review did not cover such as other-oriented perfectionism (Hewitt & Flett, 1991), perfectionistic self-presentation (Hewitt et al., 2003), and hybrid forms of perfectionism like narcissistic and self-critical perfectionism (see Chapter 9). Further, the review provides a comprehensive coverage of achievement motives and achievement goals, but there are other motives and goals that may play a role for our understanding of multidimensional perfectionism. For example, research on motives traditionally differentiates three basic motives: achievement, affiliation, and power. Whereas achievement plays an important role for many aspects of perfectionism, affiliation and power may also play important roles particularly if we regard interpersonal aspects of perfectionism (see again Chapter 9 as well as Chapter 15). Furthermore, besides achievement goals, social goals may play a role (Shim & Fletcher, 2012; Stoeber, 2014a). Consequently, future research may profit from going beyond achievement when examining motives and goals,

and investigate differences in the motivational qualities of different forms, dimensions, and aspects of multidimensional perfectionism.

Finally, like most studies on perfectionism, nearly all the studies we reviewed were cross-sectional and thus cannot tell us whether perfectionism affects motivation, motivation affects perfectionism, whether there are reciprocal effects, or whether perfectionism and motivation are mere correlates. However, preliminary findings from longitudinal studies we conducted suggest that perfectionism affects motivation (and not vice versa). In one study, for example, we found that perfectionistic strivings predicted longitudinal increases in school engagement (Damian, Stoeber, Negru-Subtirica, & Băban, 2017). In another study, we found that perfectionistic strivings predicted longitudinal increases in autonomous motivation whereas perfectionistic concerns predicted longitudinal increases in controlled motivation (Madigan et al., 2016). Both studies tested for reverse and reciprocal effects, but did not find any such effects. Whereas these findings are encouraging, more—and more systematic—research using longitudinal designs is needed to unravel the temporal and causal relationships between perfectionism and motivation.

Conclusion

Perfectionism is a multidimensional personality disposition that comes in different forms and has different aspects, and whereas many aspects of perfectionism are maladaptive, some aspects of perfectionism can be adaptive (Enns & Cox, 2002). To understand this dual nature of perfectionism regarding adaptive and maladaptive aspects and why perfectionism can be a "double-edged sword" (Stoeber, 2014b), the two-factor model of perfectionism—differentiating the two higher-order dimensions of perfectionistic strivings and perfectionistic concerns—has been extremely useful (Stoeber & Otto, 2006; see also Gotwals et al., 2012; Jowett et al., 2016; and Chapter 3).

As the present chapter demonstrates, this is also the case when perfectionism is examined from a motivational perspective and the relationships of perfectionistic strivings and concerns with achievement motivation and self-determination are regarded. The reason is that perfectionistic strivings and concerns have different motivational qualities. Whereas there are some overlapping qualities, the two dimensions clearly have distinctive "motivational footprints." The motivations associated with perfectionistic concerns are mainly avoidance-oriented and lack self-determination—and often motivation is lacking altogether (amotivation). In contrast, the motivations associated with perfectionistic strivings are mainly approach-oriented and largely self-determined and involve both ego goals and task goals. And in individualistic, highly demanding, and competitive achievement-oriented societies, such motivations should be adaptive.

These differences in motivational qualities are not only important to understand the dual nature of perfectionism. They are also important to explain the different, sometimes opposing, relationships that the two perfectionism dimensions show

with achievement-related processes and outcomes and with indicators of psychological adjustment and maladjustment. For example, differences in achievement motives and achievement goals can explain why people high in perfectionistic strivings show higher performance, but not people high in perfectionistic concerns (Stoeber, 2012). Differences in hope of success can explain why only people high in perfectionistic strivings raise their aspiration levels after success (Stoeber, Hutchfield, & Wood, 2008) in line with Atkinson's (1957) classic model of motivation and task choice. Furthermore, differences in approach motivation and self-determined motivation can explain why people high in perfectionistic strivings make progress in important goals they set themselves, whereas people high in perfectionistic concerns do not (Powers, Koestner, & Topciu, 2005). Finally, differences in self-determined motivation can explain why perfectionistic concerns are associated with high levels of burnout whereas perfectionistic strivings are associated with low levels (A. P. Hill & Curran, 2016; Madigan et al., 2016). The latter findings suggest that differences in motivational qualities may also explain why perfectionistic strivings are often associated with psychological adjustment whereas perfectionistic concerns are associated with psychological maladjustment.

Based on the findings of our review, we assert that research would profit from taking a motivational perspective on multidimensional perfectionism. In particular, research may want to pay closer attention to the motivational qualities associated with perfectionism and the differential motivational profiles of perfectionistic strivings and perfectionistic concerns. Perhaps perfectionism should even be regarded as a motive disposition (need for perfection) whereby perfectionistic strivings represent the approach-oriented aspects (hope of perfection, perfection-approach goals) that feel self-determined and autonomous whereas perfectionistic concerns represent the avoidance-oriented aspects (fear of imperfection, imperfection-avoidance goals) that do not feel self-determined, but controlled and may leave some perfectionists disengaged and amotivated.

Notes

1 A. P. Hill et al. (2010) examined self-oriented perfectionism as an indicator of perfectionistic strivings differentiating perfectionistic striving and importance of being perfect, so our analysis focused on perfectionistic striving (see Chapter 1, Table 1.1, Note c).

2 Note that a number of studies did not examine all four goals (e.g., the studies following the tripartite model); some studies included multiple indicators of perfectionistic strivings and perfectionistic concerns; and with Van Yperen's (2006) study, our analysis focused on perfectionistic striving (cf. Note 1).

3 However, not all studies included all four variables: perfectionistic strivings, perfectionistic concerns, autonomous motivation, and controlled motivation.

4 A number of studies employed multiple measures of perfectionistic strivings and perfectionistic concerns or multiple measures of self-determined motivation that

sometimes showed different correlations. Consequently, some studies appear twice when listing the findings.

5 Note that some studies examined external regulation, but called it extrinsic regulation.

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3

THE 2 × 2 MODEL OF PERFECTIONISM

Assumptions, Trends, and Potential Developments

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Overview

We will start this chapter with an overview of the 2 × 2 model of perfectionism (Gaudreau & Thompson, 2010). Then we will use a nomological approach to revisit the empirical studies in a way that will delineate both trends and unexpected findings from the literature on the 2 × 2 model. We will also elaborate on some recent advances and potential areas of development within the theory. Lastly, we will conclude with final remarks to inform parents, teachers, coaches, and psychologists who are in need of a practical theory to know what to expect when working with individuals who have developed many of the characteristics of a perfectionist.

Introduction

Imagine that you are a parent, a teacher, a coach, or a school psychologist and that one of your protégés appears to have developed many of the characteristics of a perfectionist. Based on your observations, you are concerned because your protégé appears to be striving toward exceedingly high standards of achievement. He seems to be under constant pressure to perform exceptionally well and is overly concerned about mistakes and falling short of expectations. He rarely feels satisfied about his achievement and believes that others are expecting perfection from him. Your growing concern for his well-being prompts you to look into studies in psychology to understand what researchers and practitioners know about perfectionism. Instead of finding concrete answers, chances are you are left puzzled about the current state of research. Is perfectionism harmful, harmless, or helpful? Are the effects of perfectionism different across individuals, life domains, and situations? Given the complicated state of the evidence on perfectionism, we

believe a good theory should be the roadmap to scientific inquiry and practical interventions.

A few years ago, we decided to develop and test the 2 × 2 model of perfectionism (Gaudreau & Thompson, 2010) to offer guidelines to differentiate *four ways of being a perfectionist*. Recently, we made efforts to explicate (e.g., Gaudreau & Verner-Filion, 2012) and clarify (Gaudreau, 2013) the key assumptions of the theory. We also proposed methodological guidelines (Gaudreau, 2012) and alternative methods (Franche & Gaudreau, 2016; Franche, Gaudreau, & Miranda, 2012; Gaudreau, 2015) to probe the four hypotheses of the model. Along with members of our research team, several interested colleagues carried out studies to examine how different ways of being a perfectionist can exert distinct influences on psychological adjustment. Initial criticisms (Stoeber, 2012) eventually led their way to clarifications (Gaudreau, 2012, 2013) and renewed enthusiasm for the model (e.g., Stoeber, 2014). Following the growing number of studies testing the 2 × 2 model, time has come to critically re-examine the current state of evidence to nurture the iterative development of a "progressive and advancing research program" (Eysenck, 1987, p. 49).

Overview of the 2 × 2 Model of Perfectionism

The 2 × 2 model is based on a bidimensional conceptualization of perfectionism that differentiates personal standards perfectionism (PSP) and evaluative concerns perfectionism (ECP). We proposed that PSP and ECP cohabit within every individual, albeit to a different degree across individuals. Instead of solely focusing on the respective effects of each of the two dimensions, we used the analogy of a Latin square design to define and compare four different ways of being a perfectionist: non-perfectionism (low PSP and ECP), pure PSP (high PSP and low ECP), pure ECP (low PSP and high ECP), and mixed perfectionism (high PSP and ECP).

These ways of being a perfectionist can be derived using mathematical abstractions (Gaudreau, 2012) but we also contend that they are part of a salient and accessible system of mental representations about the self (Gaudreau, 2015). Therefore, individuals should possess sufficient self-knowledge to describe their way of being a perfectionist with relative certainty. On the one hand, individuals should possess accessible mental representations that help them differentiate whether they are typically non-perfectionist (i.e., low PSP and ECP) or perfectionist. On the other hand, perfectionism should take on a differentiated color depending on whether individuals think they are perfectionistic predominantly because of their own personal standards (pure PSP) or because of evaluative concerns (pure ECP). These two prototypically contrasted ways of being a perfectionist also need to be differentiated from a more nuanced and potentially complex form of perfectionism in which individuals think they are perfectionistic because of a mixture of personal standards and evaluative concerns (mixed perfectionism).

In the 2 × 2 model of perfectionism, we relied on the word "subtypes" as a diminutive of the expression "within-person combinations of PSP and ECP" rather than as a word to describe naturally existing categories or types of perfectionism. More importantly, we proposed that the four subtypes of perfectionism should be distinctively associated with antecedents, processes, and outcomes. Given that the controversy on the harmfulness or helpfulness of perfectionism surrounds predominantly the subtype of pure PSP, we proposed three alternative versions of Hypothesis 1 to acknowledge that pure PSP could be associated with better (Hypothesis 1a), worse (Hypothesis 1b), or similar (Hypothesis 1c) outcomes compared to non-perfectionism. Findings supporting Hypothesis 1a would be consistent with the perspective and empirical results showing that PSP can be positively associated with desirable outcomes (Gotwals, Stoeber, Dunn, & Stoll, 2012; Stoeber, 2011). Findings supporting Hypothesis 1b would be consistent with the viewpoint and research findings suggesting a positive association between PSP and detrimental outcomes (e.g., Flett & Hewitt, 2014; O'Connor, 2007). Lastly, findings supporting Hypothesis 1c would be consistent with the perspective that PSP is neither helpful nor harmful (Bieling, Israeli, & Antony, 2004). We remain convinced that each of these three alternative hypotheses are needed to examine the conditions in which pure PSP is more likely to be beneficial or damaging compared to non-perfectionism.

In the second hypothesis, we proposed that pure ECP should be associated with worse outcomes than non-perfectionism. Most researchers would unequivocally assert that the core characteristics of ECP (e.g., socially prescribed perfectionism, concern over mistakes, doubts about actions) are negatively linked to psychological adjustment and positively linked to psychological maladjustment (e.g., Gotwals et al., 2012; Hill & Curran, 2016). Consistent with these findings, we proposed that pure ECP should be the most damaging subtype of perfectionism.

In the last two hypotheses, we proposed that mixed perfectionism should be associated with better outcomes than pure ECP (Hypothesis 3) but worse outcomes than pure PSP (Hypothesis 4). Individuals with mixed perfectionism tend to set and strive toward the attainment of outstandingly high standards of perfectionism and flawlessness because of the personal importance and valuation attached to these standards. Meanwhile, these individuals also have doubts regarding their ability to attain extremely high standards of excellence and they seem to embrace perfectionistic standards because they believe that significant others expect them to be perfect. Thus, this subtype is a more nuanced and complex expression of perfectionism characterized by a combination of high PSP and ECP, forming a person-environment congruence (Gaudreau, 2016) in which the high expectations from significant others are partially internalized in the self. As a result, we proposed that mixed perfectionism should be associated with better outcomes than the least internalized form of perfectionism (i.e., pure ECP), but with worse outcomes than the most internalized form of perfectionism (i.e., pure PSP).

Overview of Studies on the 2 × 2 Model of Perfectionism

In a previous review of the 2 × 2 model in sport, exercise, and dance, we conducted a study-by-study analysis to facilitate comparison while highlighting both consistencies and unexpected findings in the observed effects (Gaudreau, 2016). In the current chapter, we will summarize two meta-observations that emerged while reflecting upon the extant literature on the 2 × 2 model. Then, we will review the empirical studies with a thematic rather than a study-by-study approach to shed light on the nomological network of the four subtypes of perfectionism.

Meta-Observations About the Extant Literature

Variable-Centered Versus Person-Centered Approach

In our research program, we tested the hypotheses of the 2 × 2 model with a variable-centered approach (e.g., multiple regressions, structural equation modeling). Until recently, we considered this approach as preferable to a person-centered approach, but not necessary to test the 2 × 2 model (e.g., Gaudreau, 2013, 2016). After further considerations, however, we now believe that the person-centered approach often offers an ambiguous and unsatisfactory platform to investigate the hypotheses of the 2 × 2 model.[1] Accordingly, some of the clusters or latent classes emerging from these analyses have not been properly aligned with the operational definitions of the four subtypes proposed in the 2 × 2 model. For example, researchers comparing mixed perfectionism and pure ECP should examine individuals with comparably high levels of ECP. However, across studies that used cluster and latent class analyses, ECP was significantly higher in mixed perfectionism than in pure ECP (Boone, Soenens, Braet, & Goossens, 2010; Cumming & Duda, 2012; Inglés, García-Fernández, Vicent, Gonzálvez, & Sanmartín, 2016; Li, Hou, Chi, Liu, & Hager, 2014; Quested, Cumming, & Duda, 2014; Shim & Fletcher, 2012; Sironic & Reeve, 2012; Wang, Slaney, & Rice, 2007). This is problematic because such a cluster composition distorts the empirical investigation of Hypothesis 3 by artificially increasing the likelihood that mixed perfectionism will be related to the worst outcomes.

Furthermore, based on the operational definitions of non-perfectionism and pure PSP, researchers should compare individuals with comparably low levels of ECP. ECP levels have been significantly lower in non-perfectionism than in pure PSP (Boone et al., 2010; Cumming & Duda, 2012; Inglés et al., 2016; Li et al., 2014; Quested et al., 2014; Sironic & Reeve, 2012). As a result, researchers compared non-perfectionism with a subtype of individuals who possessed a moderate rather than a low level of ECP. Such comparisons provided misleading and rather uninformative tests of the hypotheses of the 2 × 2 model.

Some researchers might argue that the underlying issue stems from our conceptualization of subtypes of perfectionism. Stated another way, some might suggest that cluster compositions are representative of the population, whereas the

subtypes of perfectionism in the 2 × 2 model are inaccurate portrayals of perfectionism in everyday life. We respectfully disagree with this standpoint by firstly delineating some problems with the person-centered approach and then explaining some advantages of the variable-centered approach.

The number of possible within-person combinations of PSP and ECP is countless. Trying to regroup individuals into homogeneous and mutually exclusive subgroups results in cluster compositions that not only vary in terms of subtypes (i.e., within-person combinations) but also in terms of quantity or level of PSP and ECP. Moreover, these between-person differences in the various combinations of PSP and ECP are often unaccounted for within each of the subtypes identified in cluster compositions or latent classes. At best, results reflect the most prototypical members within each of the clusters without considering that each individual also possesses his or her own within-person combination of the two dimensions of perfectionism. Even if these problems could be addressed, the main issue remains that the centroids created by the person-centered approach are not an accurate portrayal of the four subtypes proposed in the 2 × 2 model. Hence, the four theoretically driven hypotheses in the 2 × 2 model do not appear to be properly tested with such analyses.

By contrast, when using the variable-centered approach, researchers can investigate the associations between subtypes of perfectionism and outcomes—a desideratum often thought as only achievable in person-centered modeling (Bauer & Shanahan, 2007)—by estimating the interactive/moderating and unique/main effects of the two dimensions of perfectionism. Using the estimates of these interactive/moderating (e.g., Gaudreau & Thompson, 2010) or unique/additive/main effects (e.g., Gaudreau, 2012), researchers can compare the predicted outcomes of distinct intersecting points along the continuous distributions of PSP and ECP. In other words, the 2 × 2 model offers a formalized system of hypotheses to compare the predicted outcomes of four theoretically driven intersecting points (i.e., subtypes of perfectionism). For these reasons, the variable-centered approach offers the most trustworthy platform to directly examine hypotheses of the 2 × 2 model. Therefore, the present review will exclude studies that used the person-centered approach (Arana & Furlan, 2016; Boone et al., 2010; Cumming & Duda, 2012; Inglés et al., 2016; Li et al., 2014; Purrezaian, Purrezaian, Golzari, & Borjali, 2015; Quested et al., 2014; Shim & Fletcher, 2012; Sironic & Reeve, 2012; Wang et al., 2007) and focus exclusively on the studies that relied on the variable-centered approach.[2]

Types of Dependent Variables

Perfectionism research has flourished and researchers have studied an extended list of dependent variables. The diversity of life problems (e.g., mental issues, physical illness, romantic difficulties) that are seemingly linked with perfectionism is noteworthy. The numerous phenomena that have been associated with (i.e., cross-sectional links) and influenced by (i.e., longitudinal links) PSP, ECP, or both

illustrate the wide-ranging generalizability and practical importance of research on perfectionism. Perfectionism is a meaningful personality disposition that cannot be reduced to a few, weak, or relatively circumscribed effects. However, the proliferation of dependent variables linked to perfectionism creates interesting challenges that require thoughtful theoretical considerations.

First, clearly identifying the theoretically plausible correlates of perfectionism before conducting a study would be desirable. Without such theoretical specificity, researchers might start exploring the links between perfectionism and any variable in a way that will promote spurious correlations or findings that could entirely be explained by other personal, contextual, or situational sources of influence. Furthermore, if we delineate the anticipated effect sizes (i.e., small, medium, or large) between perfectionism and various types of dependent variables, we could identify the main cognitive, emotional, behavioral, and physiological processes primarily activated by perfectionism.

Second, researchers should try to distinguish the types of dependent variables that are being studied (i.e., antecedents, processes, or outcomes). Up to now, most researchers treated dependent variables as if they were all outcomes. Some of the variables might be better conceived as covariates (e.g., self-esteem, neuroticism), antecedents (conscientiousness; see Stoeber, Otto, & Dalbert, 2009), or mediators (e.g., coping, emotion regulation, self-determination, goals) of perfectionism. Proposing mediation models—or at least a clearer nomological network—could help us understand the mechanisms through which perfectionism influences various outcomes.

Third, researchers should be aware that perfectionism could influence adjustment across shorter and longer periods of time. Perfectionism might not always directly influence the long-term development of life problems. The predictive potential of perfectionism might work its way through contemporaneous effects (e.g., cross-sectional), the stability and/or intensification of these contemporaneous effects (e.g., relationships between perfectionism and health remain stable or progressively strengthen over time), or the more typical cross-lagged developmental effects (Sameroff, 2009). Despite our desire to acquire knowledge on the long-term effects of perfectionism, we should also recognize the importance of cross-sectional and short-term developmental studies. Indeed, by examining the contemporaneous links of perfectionism with cognitive, emotional, behavioral, and physiological processes, we may gain insights into the various ways in which perfectionism directly and indirectly influences the immediate occurrence and development of life problems.

Finally, stronger evidence appears to support the four hypotheses of the 2 × 2 model when predicting positively laden compared to negatively laden outcomes (e.g., Damian, Stoeber, Negru, & Băban, 2014; Gaudreau, 2016). At first glance, such findings indicate that certain subtypes of perfectionism positively associated with indicators of psychological adjustment (e.g., pure PSP compared to non-perfectionism; mixed perfectionism compared to pure ECP) might not significantly reduce psychological maladjustment. This interpretation, primarily based on the

distinction between adjustment and maladjustment, is potentially too simplistic. In the current review, we therefore examine the predictive validity (and the lack thereof) of the 2 × 2 model using an approach that distinguished different subsets of dependent variables.

The Current Review: A Nomological Analysis

Since the start of the new millennium, researchers have paid growing attention to psychological health (Seligman & Csíkszentmihályi, 2000). The absence of mental diseases does not necessarily mean that individuals are happy and thriving. The 2 × 2 model has emerged within this zeitgeist. In this section, we will review the evidence for the associations of subtypes of perfectionism with psychological adjustment, psychological maladjustment, and achievement-related outcomes. Furthermore, outcomes and processes should be differentiated insofar as outcomes denote the psychological states of individuals whereas processes characterize the potential motivational, cognitive, and behavioral pathways between perfectionism and outcomes. Consistent with a transactionalist approach (e.g., Lazarus & Folkman, 1984; Sameroff, 2009), we assume that several of the relationships between antecedents, processes, and outcomes are likely to operate with reciprocal and recursive feedback loops. Hence, the nomological network proposed in this chapter (see Figure 3.1) should be interpreted as a flexible roadmap to organize the extant literature.

Subtypes of Perfectionism and Outcomes

Psychological Adjustment

In this section, we will review the associations between subtypes of perfectionism and various indicators of well-being (e.g., positive affect, vitality, life satisfaction, joy). Further, we will review the associations with positive self-evaluations (e.g., self-concept, self-esteem) and interpersonal adjustment (e.g., friendship, conflict resolution).

Well-Being

Studies with university students (Franche & Gaudreau, 2016; Franche et al., 2012; Gaudreau, 2015; Gaudreau, Franche, & Gareau, 2016; Gaudreau & Thompson, 2010), athletes or sport participants (Crocker, Gaudreau, Mosewich, & Kljajic, 2014; Gaudreau & Verner-Filion, 2012 ; Mallinson, Hill, Hall, & Gotwals, 2014), adolescents (Damian et al., 2014), and students in physical education (Méndez-Giménez, Cecchini-Estrada, & Fernández-Río, 2014) investigated the associations between subtypes of perfectionism and well-being. Six studies measured positive affect and life satisfaction whereas two studies assessed vitality and joy/enjoyment. Results of these studies mostly provided support for Hypotheses 1a, 2, 3, and 4 of the 2 × 2 model.

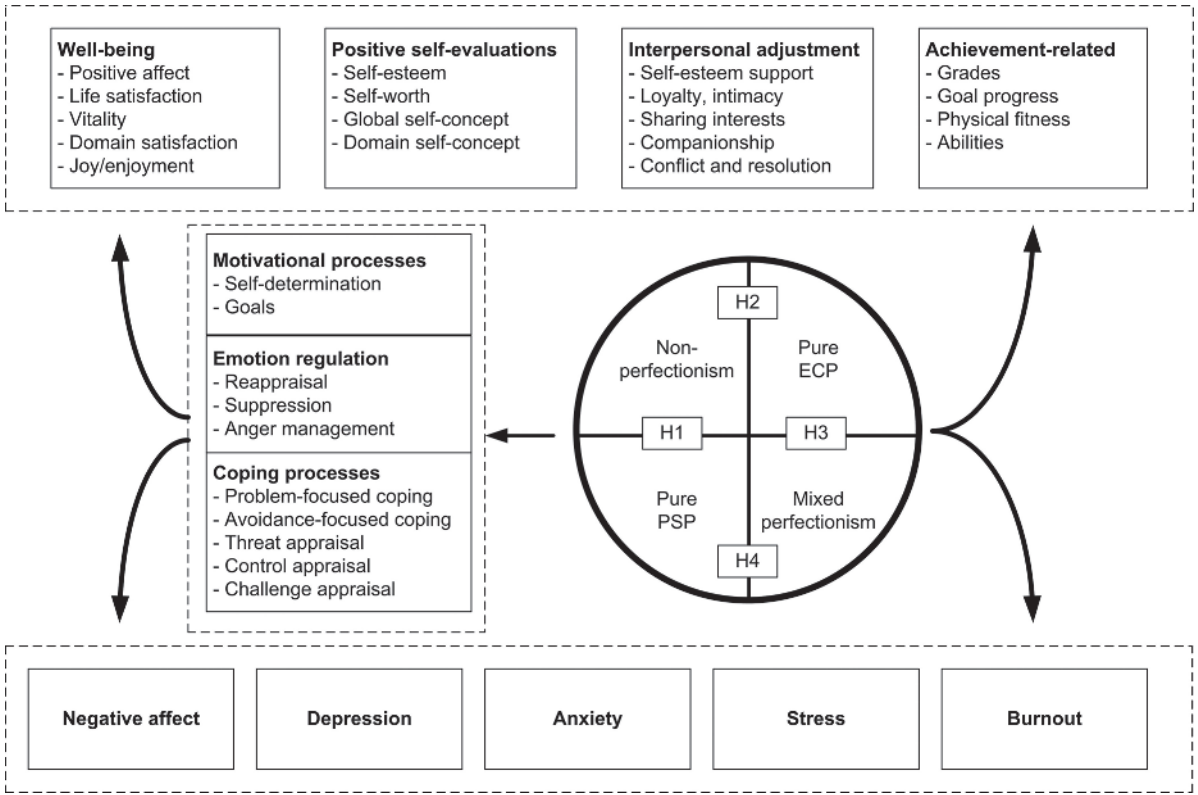

FIGURE 3.1 Thematic organization of the known correlates of the four subtypes of perfectionism within a nomological network of processes and outcomes.

PSP = personal standards perfectionism, ECP = evaluative concerns perfectionism.

Pure PSP was associated with higher positive affect (d = 0.08 to 0.89), life satisfaction (d = 0.13 to 0.32), academic satisfaction (d = 0.43 to 0.88), vitality (d = 0.12 to 1.01), and joy/enjoyment (d = 0.38 to 0.79) than non-perfectionism (Hypothesis 1a). Pure PSP was also associated with higher positive affect (d = 0.24 to 0.70; with the exception of a –0.13 in Gaudreau & Verner-Filion, 2012), life satisfaction (d = 0.43 to 0.70), academic satisfaction (d = 0.01 to 0.58), vitality (d = 0.20 to 0.47), and joy/enjoyment (d = 0.40 to 0.65) than mixed perfectionism (Hypothesis 4). Weaker effects were found in the study of Gaudreau and Verner-Filion (2012) in which athletes assessed their well-being in the last practice before competition. Such findings are noteworthy as they suggest that the relative advantages of pure PSP might vanish when participants are experiencing challenges and stressors of the final preparatory phase before performance evaluations. Also, support for Hypothesis 4 was not found with Asian-Canadian students (Franche et al., 2012). In this case, the holistic integration of self-oriented standards and socially driven traditional values appears to have created a personality–culture fit that could explain why mixed perfectionism was not associated with significantly lower academic satisfaction than pure PSP.

Across these studies, researchers also found that pure ECP is potentially the most detrimental subtype of perfectionism. Compared to both non-perfectionism (Hypothesis 2) and mixed perfectionism (Hypothesis 3), pure ECP was associated with lower positive affect (d = –0.24 to –1.17), life satisfaction (d = –0.29 to –1.09), academic satisfaction (d = –0.60 to –1.06; with the exception of a 0.01 in the Asian-Canadian students), vitality (d = –0.69 to –1.01), and joy/enjoyment (d = –0.28 to –0.79). These findings provided consistent support for a rather unique hypothesis of the 2 × 2 model, that is, the idea that pure ECP (rather than mixed perfectionism) is the least adaptive way of being a perfectionist.

Positive Self-Evaluations

Self-worth, self-esteem, and self-concept have been related to a myriad of good life outcomes (e.g., Judge & Bono, 2001; Marsh, Xu, & Martin, 2012). Results of a study on self-esteem provided strong support (d = 0.67 to 2.59) for Hypotheses 1a, 2, 3, and 4 of the 2 × 2 model with a sample of female undergraduate students (Taylor, Papay, Webb, & Reeve, 2016).

The multidimensional hierarchical model of self-concept (Marsh et al., 2012) offers a promising framework to evaluate how and under which circumstances perfectionism influences self-evaluations. Accordingly, individuals' self-concept can be boosted when they participate in social environments in which they are the "big fish in a little pond" (Marsh et al., 2008). Future work could investigate whether the self-concept of some subtypes of perfectionism is enhanced or diminished in situations in which the individual is either a big fish in a little pond or a small fish in a big pond. Moreover, both internal (e.g., I am better in mathematics than English) and external (e.g., I am better than others in mathematics but not in English) frames of reference shape the evaluation of domain-specific

self-concepts (e.g., Möller, Pohlmann, Köller, & Marsh, 2009). Given that certain subtypes of perfectionism could activate favorable or unfavorable individual and social comparison, future studies could examine if internal and external frames of reference might explain why subtypes of perfectionism are distinctively associated with self-evaluations.

Interpersonal Adjustment

Mental representations of perfectionism are inherently tied to and developed through social interactions and expectations. As such, several researchers have suggested that perfectionism plays an important role in the development of positive and negative social relationships (e.g., Sherry, Mackinnon, & Gautreau, 2016; see also Chapter 9).

A recent study of Mallinson and colleagues (2014) conducted with young sport participants provided support for Hypotheses 1a, 2, 3, and 4 of the 2 × 2 model on three of six characteristics of friendship experience in sport (i.e., enhancement and supportiveness of self-esteem, loyalty and intimacy, and companionship and pleasant play). The effect sizes varied from moderate-to-strong (d = 0.41 to 0.84). Some of the results concerning sharing things in common and conflict resolution did not reach statistical significance, but all effects were in the expected direction. Accordingly, there was a small to moderate advantage of pure PSP compared to non-perfectionism on sharing things in common (d = 0.33) and conflict resolution (d = 0.28) as well as a small advantage of pure PSP over mixed perfectionism on these two characteristics (d = 0.13; d = 0.23). Overall, these findings indicate that subtypes of perfectionism are distinctively associated with important characteristics of friendship during adolescence.

Achievement-Related Outcomes

Achievement can be evaluated with subjective (e.g., making progress on personal goals) and objective (e.g., grades) indicators. Studies examining grade-point average (Franche et al., 2012; Gaudreau, 2012) and goal progress of university students (Gaudreau, 2015; Gaudreau & Thompson, 2010) and athletes (Crocker et al., 2014) as well as a study looking at physical fitness/ability of adolescents in physical education (Méndez-Giménez et al., 2014) provided support for the 2 × 2 model. Pure PSP related to higher achievement than non-perfectionism (d = 0.39 to 0.97; Hypothesis 1a) and mixed perfectionism (d = 0.15 to 0.56; Hypothesis 4). Pure ECP was associated with lower achievement compared to both non-perfectionism (d = –0.34 to –0.77; Hypothesis 2) and mixed perfectionism (d = –0.43 to –1.07; Hypothesis 3). Overall, achievement outcomes is potentially the research area in which Hypotheses 1a, 2, 3, and 4 of the 2 × 2 model received the most consistent support.

Psychological Maladjustment

Negative affectivity has been studied in samples of university students (Franche & Gaudreau, 2016; Gaudreau & Thompson, 2010), adolescents (Damian et al., 2014), and varsity athletes (Crocker et al., 2014). Non-perfectionism was associated with lower negative affect than pure ECP (d = –0.44 to –1.39; Hypothesis 2) but not systematically higher negative affect than pure PSP (d = 0.02 to 0.17), thus sometimes providing evidence for Hypothesis 1a or 1c but never 1b. Mixed perfectionism was associated with significantly higher negative affect than pure PSP (d = 0.44 to 1.22; Hypothesis 4) but not systematically lower negative affect than pure ECP (d = –0.02 to –0.35; Hypothesis 3).

Although moderate-to-strong effects were found for Hypotheses 2 and 4, the smaller effects found for Hypotheses 1a and 3 are intriguing. On the one hand, the nonsignificant differences between pure PSP and non-perfectionism (Hypothesis 1) seem to generalize across different types of emotional states, namely social anxiety (d = 0.09; Levinson et al., 2015), depression (d = 0.13; Douilliez & Lefèvre, 2011), and a measure of negative emotionality that combined depression, anxiety, and distress (Smith, Saklofske, Yan, & Sherry, 2015). On the other hand, the evidence regarding Hypothesis 3 has been stronger for social anxiety (d = 0.44; Levinson et al., 2015) than for depression (d = 0.22; Douilliez & Lefèvre, 2011) with both normative and clinical samples. This important finding suggests that individuals with pure ECP (compared to mixed perfectionism) might experience more negative emotionality when the emotional state elicits higher arousal (i.e., social anxiety) compared to lower arousal (i.e., depression; Russell, 1980). Future research is needed to measure various indicators of negative emotions and maladjustment across lower (e.g., boredom, sadness, shame) and higher (e.g., anger, worry) levels of arousal to allow a more direct test of this possible interpretation of the results.

Researchers also paid attention to three key indicators of athlete burnout—emotional/physical exhaustion, sport devaluation, and reduced sense of accomplishment—in a cross-sectional study with junior soccer players (Hill, 2013) and a three-month longitudinal study with university athletes training in various sports (Madigan, Stoeber, & Passfield, 2016). Results generally supported Hypotheses 1a, 2, 3, and 4 of the model to predict overall burnout. Interestingly, however, the level of support for some hypotheses differed across the three indicators of burnout. It appears that pure PSP (compared to non-perfectionism) has a stronger protective effect on reduced sense of accomplishment (d = –0.64 to –0.85) and sport devaluation (d = –0.31 to –0.49) than on emotional/physical exhaustion (d = –0.21 to –0.22). Athletes episodically experience performance plateaus and blockages in the pursuit of their goals due to fatigue, injuries, or their coach's decision not to make them play. Athletes with pure PSP were more likely to make greater progress in the pursuit of their goals compared to athletes with other subtypes of perfectionism (Crocker et al., 2014). Hence, athletes with pure PSP might be less exposed to inconvenient situations that can create a reduced

sense of accomplishment and sport devaluation. Striving toward exceedingly high standards, however, can be demanding and fatiguing, which might eventually limit the protective role of pure PSP on emotional/physical exhaustion. Future work is required to replicate and extend these findings with individuals engaged in other achievement-related activities (e.g., students, employees, coaches).

Subtypes of Perfectionism and Processes

Less research has examined the processes of perfectionism. In this section, we will review the associations between subtypes of perfectionism and two motivational processes, emotion regulation, and coping processes.

Motivational Processes

Perfectionism and motivation are intertwined in many ways (cf. Chapter 2). Individuals with different subtypes of perfectionism are likely to perform their activities for different reasons and to pursue different goals. In this section, we will review the studies testing the 2 × 2 model within the confines of self-determination theory (Deci & Ryan, 2008) and achievement goal theory (e.g., Elliot & McGregor, 2001).

Self-Determination

In three studies with university students, we showed that subtypes of perfectionism were associated with different levels of internalization or *self-determination* (Gaudreau, 2015; Gaudreau et al., 2016; Gaudreau & Thompson, 2010). University students with pure PSP performed their school activities for reasons that were more self-determined (e.g., pleasure, importance, coherence with the self, instead of avoidance of guilt/shame, social pressure) than students with non-perfectionism (d = 0.32 to 0.60; Hypothesis 1a). Mixed perfectionism has been characterized as a form of partially internalized perfectionism (Gaudreau & Thompson, 2010). Consistent with this rationale, students with mixed perfectionism pursued their school activities with more self-determination than students with pure ECP (d = 0.47 to 1.37; Hypothesis 3) and less self-determination than students with pure PSP (d = –0.55 to –0.95; Hypothesis 4). Pure ECP (compared to non-perfectionism) was associated with lower self-determination (d = –0.59 to –1.96; Hypothesis 2). We also found that self-determination for school activities significantly mediated the associations between subtypes of perfectionism and academic satisfaction of university students (Gaudreau et al., 2016). For example, pure PSP was positively related to academic satisfaction because students with pure PSP were pursuing their school activities with more self-determined motivation, which in turn was positively associated with academic satisfaction. In contrast, pure ECP was negatively related to academic satisfaction because students with pure ECP were doing their school activities with lower self-determination.

Overall, these findings give credence to the potential utility of separating perfectionism, processes, and outcomes in a clearer nomological network (see Figure 3.1).

Achievement Goals

One study investigated how achievement goals of university students are distinctively associated with subtypes of perfectionism (Speirs Neumeister, Fletcher, & Burney, 2015). On the basis of the 2 × 2 model, we might expect that the associations between subtypes of perfectionism and approach and avoidance goals would follow the pattern of findings observed for adjustment and maladjustment, respectively. However, the findings of Speirs Neumeister and colleagues proved to be somewhat challenging and complex to interpret.

Students with non-perfectionism pursued less approach *and* avoidance goals than their pure PSP counterparts (Hypothesis 1). Moreover, students with non-perfectionism pursued less performance-approach and performance-avoidance goals than students with pure ECP (Hypothesis 2), although both subtypes did not differ in their level of mastery-approach and mastery-avoidance goals. For better or worse, students with non-perfectionism are likely to possess a relatively less salient and dominant need for achievement than their perfectionistic counterparts. As such, the limited need for achievement of the non-perfectionist students could be the pivotal factor responsible for the unexpected findings that pure PSP related to more avoidance goals and that pure ECP related to more performance-approach goals than non-perfectionism.

Several results of this study contradicted the hypotheses of the 2 × 2 model. For example, students with mixed perfectionism pursued more approach *and* avoidance goals than students with pure ECP (Hypothesis 3). Furthermore, students with mixed perfectionism pursued more performance-approach and performance-avoidance goals than students with pure PSP (Hypothesis 4), although both subtypes were not significantly different in their level of mastery-approach and mastery-avoidance goals. Achievement goals are inherently complex processes within which different needs, temperamental influences, and underlying motivations can be differently expressed for different individuals (Elliot & Church, 1997). Goals that are positively associated with psychological adjustment are often unrelated to achievement whereas goals that are positively associated with achievement are often unrelated to psychological adjustment (e.g., Huang, 2011; Van Yperen, Blaga, & Postmes, 2014). The interplay of goal endorsement and goal self-determination (e.g., Elliot & Church, 1997; Gaudreau & Braaten, 2016; Vansteenkiste, Lens, Elliot, Soenens, & Mouratidis, 2014) might be insightful to clarify the relationships between subtypes of perfectionism and achievement goals. Before that, researchers should remain prudent in interpreting the observed effects between subtypes of perfectionism and achievement goals as evidence for or against the 2 × 2 model.

Emotion Regulation and Coping Processes

If you are a sport fan, you have probably observed that some coaches are particularly good at reappraising their emotions and controlling their outward and inward expression of anger. If you attentively listened to post-game interviews, you may also have noticed that some athletes perceive the demands of a sport competition as challenging and controllable and that they use some problem-focused coping strategies. Appraisals and coping are known to be influenced by personality (Connor-Smith & Flachsbart, 2007), and perfectionism plays an important role in emotion regulation and coping processes (see also Chapters 11 and 12). Two studies using the 2 × 2 model were conducted on the emotion regulation strategies of sport coaches (Hill & Davis, 2014) and the cognitive appraisals and coping strategies of university athletes (Crocker, et al., 2014). Some support was found for Hypotheses 1a, 2, 3, and 4 of the model.

In the study conducted with university athletes, none of the hypotheses of the 2 × 2 model were supported to predict problem-focused and emotion-focused coping (Crocker et al., 2014). Only Hypotheses 2 and 4 were supported to predict threat appraisal and avoidance-focused coping. Appraising the situation as a threat is generally an indication that the demands of the situation exceed the resources of the individuals. Individuals with such a pattern of appraisals generally tend to use avoidance-focused coping (Crocker, Tamminen, & Gaudreau, 2015). Hence, athletes with lower ECP might perceive the competition as less threatening and thus use less avoidance-focused coping than their counterparts with higher ECP. Coping is a hierarchical and multidimensional construct. In this study, coping was measured using a questionnaire assessing broad coping dimensions. Several coping strategies, such as relaxation, thought control, and mental imagery are generally used for problem-focused and emotion-focused reasons. As such, these coping strategies are better defined and conceptualized as engagement or task-oriented coping because they help the individuals manage both the situational demands and their resulting thoughts, emotions, and physical reactions (Crocker et al., 2015). Future studies should therefore examine coping using questionnaires capable of differentiating coping strategies from broad coping dimensions.

Results concerning emotion suppression of coaches were mixed and ambiguous (Hill & Davis, 2014). Although contradicting Hypotheses 1a and 1b, both non-perfectionism and pure PSP were associated with comparably low usage of emotion suppression. Coaches with pure PSP also used lower suppression than those with mixed perfectionism (Hypothesis 4). Contrary to Hypothesis 3, mixed perfectionism was associated with higher usage of emotion suppression than pure ECP. At first glance, this particular finding seems to suggest that mixed perfectionism is more maladaptive than pure ECP. However, suppression in the domain of coaching might enable coaches to maintain composure and a relatively neutral attitude when interacting with their athletes and managing the demands of competitive sports. Prudence is warranted before interpreting these findings as evidence against the 2 × 2 model because suppression of emotions might be a reflection of the need for

coaches to develop a broader and more diversified repertoire of emotion regulation strategies to handle various personal, professional, social, and environmental demands.

Recent and Potential Extensions of the 2 × 2 Model

A Recent Extension: The Multi-Domain Multilevel Model of Perfectionism

Perfectionism has traditionally been defined as a personality trait with consistency across contexts and situations as well as stability across time. Several studies reviewed in this chapter (e.g., Damian et al., 2014; Douilliez & Lefèvre, 2011; Franche et al., 2012; Gaudreau, 2012; Gaudreau et al., 2016; Gaudreau & Thompson, 2010; Gaudreau & Verner-Filion, 2012; Hill & Davis, 2014; Speirs Neumeister et al., 2015; Taylor et al., 2016) used general questionnaires to evaluate the dispositional perfectionism of individuals across all domains of life. In these studies, *general perfectionism* was used to predict general (e.g., depression), contextual (e.g., grade-point average), and situational outcomes (e.g., positive affect during a competition). In recent years, researchers proposed that personality characteristics—like perfectionism—can exhibit both stability and change as well as consistency and variability (e.g., Beal, Weiss, Barros, & MacDermid, 2005; Fleeson, 2001). Echoing this idea, some researchers adapted and developed domain-specific questionnaires of perfectionism (e.g., Dunn, Craft, Causgrove Dunn, & Gotwals, 2011) and several studies reviewed in this chapter (Crocker et al., 2014; Hill, 2013; Madigan et al., 2016; Mallinson et al., 2014; Méndez-Giménez et al., 2014) measured the perfectionism of individuals within a particular domain to predict their domain-specific processes and outcomes.

In a recent extension of the 2 × 2 model (Franche & Gaudreau, 2016), we contended that dispositional and domain-specific perfectionism should be integrated into a unified model to capture both the variability and consistency of perfectionism. On the one hand, we proposed that individuals' perfectionism should vary across life domains.[3] On the other hand, we proposed that the aggregated score of a person's perfectionism across life domains should offer a window into his/her general tendency or predisposition toward perfectionism. To borrow the statistical analogy of central tendency and variance, the general/dispositional perfectionism of a person represents the mean of a distribution obtained through a sample of his/her domain-specific scores of perfectionism.

In Figure 3.2, we illustrate the case of three prototypical individuals with their own PSP across four life domains. The size of the circle depicts the extent to which a person has PSP in his or her life. A smaller and a bigger circle respectively indicates that a person is lower (see Person A) and higher (see Person C) than the population mean of general PSP (see Person B). As such, general PSP varies across individuals (i.e., between-person differences). The pie chart within each circle depicts the extent to which an individual has PSP in each of the four domains of

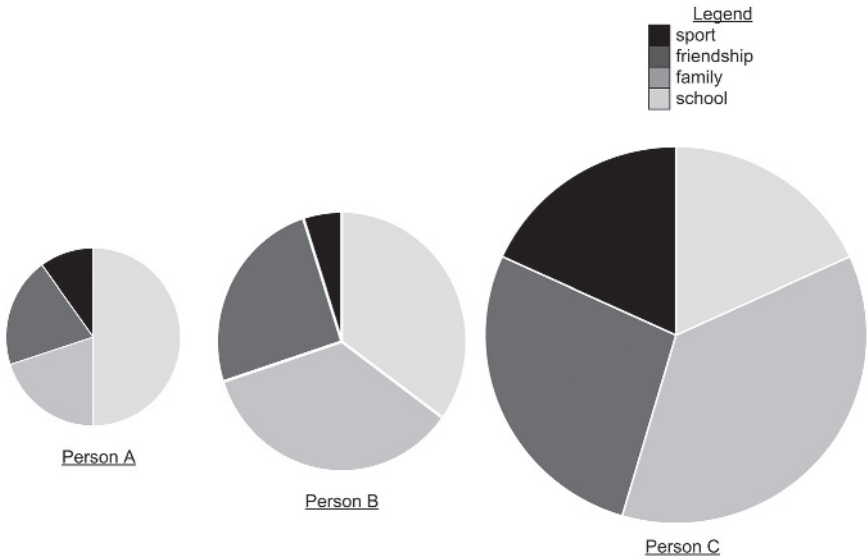

FIGURE 3.2 Three prototypical individuals with low, medium, and high general personal standards perfectionism (PSP) with their own within-person variations of domain-specific PSP.

his or her life. Not only can we observe that the perfectionism of an individual varies across the domains of his or her life (i.e., within-person differences), but we can also note that each individual is likely to have his or her unique configuration of domain-specific perfectionism. In our recent extension of the 2 × 2 model, we proposed that both the between-person and the within-person differences should be studied as part of an integrative multi-domain multilevel model of perfectionism (Franche & Gaudreau, 2016).

We tested these propositions in a study in which university students were asked to evaluate their perfectionism in seven life domains of importance for emerging adults (i.e., school, romance, friendship, family, parenting, leisure, work). Results of multilevel analyses demonstrated that 50% of variance in socially prescribed perfectionism (SPP, a cardinal feature of ECP) and 61% in self-oriented perfectionism (SOP, a cardinal feature of PSP) was attributable to variability across life domains (i.e., within-person). Furthermore, participants were asked to evaluate their goal progress, vitality, positive affect, negative affect, and perceived stress in each life domain. Here again, a large proportion of the variance in the domain-specific outcomes was attributable to within-person variability across life domains. Of particular interest, results of multilevel analyses provided strong support for the hypotheses of the 2 × 2 model at both the between-person and the within-person levels of analysis with positively laden outcomes (see Franche & Gaudreau, 2016). Interestingly, however, the findings with negatively laden outcomes (i.e., negative affect and stress) did not always support the hypotheses and were not always

comparable across levels of analysis. For example, pure SOP (compared to non-perfectionism) and mixed perfectionism (compared to pure SPP) were associated with *increased* levels of stress at the within-person level (support for Hypothesis 1b and contradiction of Hypothesis 3) and similar levels of stress at the between-person level (no support for Hypotheses 1a, 1b, and 3).

Overall, the findings of our first multi-domain multilevel extension of the 2 × 2 model outlined the importance to study how perfectionism varies between individuals and within the same individual across multiple life domains. Holding this integrative approach—that accounts for both the consistency and variability in perfectionism—is both theoretically defendable and methodologically possible. Hence, future research is needed to keep on investigating this extension of the 2 × 2 model to inform clinical psychologists and academic counselors that not all perfectionists are equally perfectionistic in all domains of their lives.

A Potential Area of Development

Soon after the first article on the 2 × 2 model (Gaudreau & Thompson, 2010), a critical comment from Stoeber (2012) highlighted a potential issue regarding the competing perspectives of Hypothesis 1. The solution proposed—to avoid contradictions in the model—was to specify for whom or under which circumstances Hypotheses 1a and 1b would be respectively supported (Stoeber, 2012). When the theoretical framework was still in its infancy, the decision was made to postpone the inclusion of moderating hypotheses to facilitate the empirical investigation of the model (Gaudreau, 2013). Given the considerable number of studies that have now tested the 2 × 2 model, the timing seems appropriate to revisit Hypothesis 1 to outline a possible mechanism that could offer a synthesis to explicate when pure PSP should be associated with better outcomes than non-perfectionism (Hypothesis 1a) and when non-perfectionism should be associated with better outcomes than pure PSP (Hypothesis 1b).

The environment in which the individual evolves is likely to comprise a number of characteristics that may contribute to enhance, reduce, buffer, or even cancel the effects of PSP on psychological adjustment. As such, past findings have pointed toward a paradoxical relationship between PSP and adjustment, which might support the idea that stressful events or other stressors could potentially moderate this relationship. For example, pure PSP (compared to non-perfectionism) appears to be sometimes associated with higher positive affect and academic satisfaction (e.g., Gaudreau & Thompson, 2010) without systematically being associated with lower symptoms of depression (e.g., Douilliez & Lefèvre, 2011) and negative affect (e.g., Crocker et al., 2014). A *diathesis-stress model* of perfectionism and psychopathology (e.g., Flett, Hewitt, Blankstein, & Mosher, 1995) might partially explain these complex relationships. Within this model, perfectionism is conceptualized as a vulnerability factor that should lead to the onset or maintenance of psychopathology, but only in the presence of a stressor (e.g., failures, negative life events, high daily pressure; Flett et al., 1995; Hewitt & Flett, 2002). In other

words, perfectionism should interact with stressful events to diminish psychological adjustment.

Despite its appeal, the diathesis-stress model of perfectionism and psychopathology focuses primarily on the negative consequences of perfectionism. However, as shown in this review, pure PSP was often associated with better adjustment, achievement, and lower maladjustment than non-perfectionism. Hence, we propose that a *differential susceptibility hypothesis* (Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007; Belsky & Pluess, 2009) potentially provides the needed synthesis to explicate why pure PSP is often associated with positive outcomes while sometimes being associated with negative or less desirable outcomes compared to non-perfectionism. The differential susceptibility hypothesis stipulates that some individuals are more susceptible to the influences of the environment than others (i.e., instead of just being more vulnerable, as suggested in the diathesis-stress model). Accordingly, these individuals may not only be more influenced negatively by an adverse environment, but they may also be more influenced positively by a supportive environment or by the absence of adversity. After experiencing success or episodes of perfect achievement, PSP has been shown to positively correlate with satisfaction and pride; in contrast, PSP has been shown to positively correlate with dissatisfaction and shame after failures or episodes of flawed achievement (Stoeber, Kempe, & Keogh, 2008; Stoeber & Yang, 2010). This hypothesis also appears consistent with the proposition of Flett and Hewitt (2005, 2014) that perfectionists might be protected from negative outcomes under certain circumstances such as when they experience success. Therefore, we suggest that pure PSP might be more susceptible to the negative *and* positive influences of the environment compared to non-perfectionism (see Figure 3.3).

The rationale of a differential susceptibility hypothesis would further support the argument that perfectionism is a double-edged sword (Stoeber, 2014). Initially, Stoeber (2014) proposed that PSP would typically be associated with positive outcomes, whereas ECP would generally be related to negative outcomes. We would like to add that—within the 2 × 2 model—pure PSP could be considered a double-edged sword depending on the context. Under the normal circumstances of everyday life (e.g., when people experience only few stressors, which are easily handled) and/or in the presence of supportive environments, pure PSP could be significantly associated with better outcomes than non-perfectionism, thus supporting Hypothesis 1a. However, in situations of profound or chronic distress (e.g., when stressors accumulate or disturb the normal functioning of individuals), and/or in the presence of adverse environments, pure PSP could be significantly associated with worse outcomes than non-perfectionism, supporting Hypothesis 1b. As shown in Figure 3.3, the seemingly contradictory Hypotheses 1a and 1b (see Stoeber, 2012) would be respectively supported in different situations that would match the pattern of a differential susceptibility hypothesis. Future work is encouraged to empirically examine this new idea.

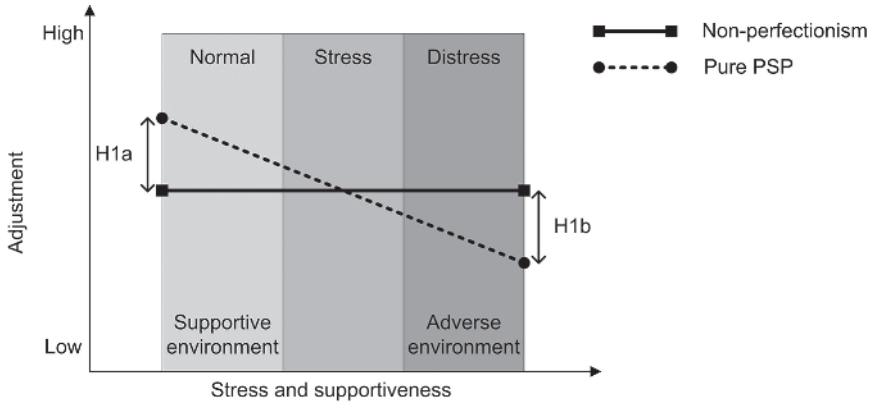

FIGURE 3.3 Hypothetical illustration of a differential susceptibility hypothesis. At a normal level of stress or when exposed to environmental support, pure PSP should be associated with higher adjustment than non-perfectionism, thus supporting Hypothesis 1a. At an extremely high level of stress or when exposed to environmental adversity, pure PSP should be associated with lower adjustment than non-perfectionism, thus supporting Hypothesis 1b. PSP = personal standards perfectionism.

Conclusion

As shown in this chapter, the 2 × 2 model of perfectionism has generated an active stream of research looking at processes, adjustment, maladjustment, and achievement-related outcomes (see Figure 3.1). Researchers have conducted studies with different populations (e.g., athletes, students) of varying age groups (e.g., adolescents, young adults). A reasonable amount of support has been obtained for the four hypotheses of the model but more research is needed to clarify when and for whom each of the four ways of being a perfectionist (i.e., subtypes of perfectionism) is associated with better or worse processes and outcomes.

One of the frequent questions we receive from clients, practitioners, and reporters is whether pure PSP should be promoted as a healthy way of being a perfectionist. We live in a world in which many individuals and organizations are wholeheartedly interested in getting an edge to secure a comfortable position against their competitors. At first glance, pure PSP might appear like a promising avenue to attain highly difficult personal goals without having to pay severe psychological costs. Despite the current state of evidence, we prefer that practitioners err on the side of prudence by not promoting perfectionism as a way of securing desirable outcomes over the long haul. As proposed in Figure 3.3, pure PSP might confer some relative advantages when individuals are navigating their ship on rather smooth and dormant oceans. However, strong winds and waves might appear unexpectedly on the horizon. Most individuals, across their lifetime, will have to face both transitional (e.g., transitioning from being a student to an

employee) and acute periods of stress (e.g., physical illness, death of a relative). Further, many individuals will experience at least one episode of acute mental distress in their lifetime (Kessler & Bromet, 2013). When the going gets tough, the relative advantages of pure PSP might vanish or even transform into harmful and distressful consequences. Pure PSP seems to naturally exist in a significant portion of university students with estimates ranging from 37 to 46% (Gaudreau, 2015). This naturally existing subtype does not need encouragement or promotion. Individuals with such a way of being a perfectionist might live a healthy and productive life for as long as their transitional and acute periods of stress remain under a certain level of control. For such individuals, it might be useless to try to reduce their pure PSP. Too many questions are still left unanswered to know with certainty whether or not we should try to modify the PSP of otherwise physically and psychologically healthy and productive individuals. Rather than trying "to fix what is not broken," parents, coaches, teachers, and psychologists should look out for signs that an individual might be physically or mentally suffering because of his or her way of being a perfectionist. In such cases, or whenever in doubt, individuals should seek the appropriate guidance of a properly trained psychologist.

Notes

1 Our analysis did not include studies in which groups of perfectionism were created using median split (Purrezaian et al., 2015) or clinical cutoff points (Arana & Furlan, 2016). In both studies, the authors did not report the mean scores of PSP and ECP across the four subgroups of perfectionism, thus preventing a critical analysis of the fit between subgroups' composition and the operational definitions of the subtypes of perfectionism in the 2 × 2 model.
2 Our argument should not be taken as a general criticism of person-centered approaches. Our concern is limited to their applicability to directly compare the subtypes proposed in the 2 × 2 model of perfectionism.
3 This model could be applied to study within-person variations of perfectionism across situations within a life domain or the within-person variations of perfectionism across days (Boone et al., 2012).

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4

PERFECTIONISM AND PERSONALITY

Joachim Stoeber, Philip J. Corr, Martin M. Smith, and Donald H. Saklofske

Overview

This chapter provides a synopsis of research on where multidimensional perfectionism "fits" within the broader framework of contemporary personality theory. Focusing on Hewitt and Flett's (1991) model of perfectionism—differentiating self-oriented, other-oriented, and socially prescribed perfectionism—the chapter presents a summary and critical discussion of how multidimensional perfectionism relates to the dimensions and facets of two major structural models of personality (the five-factor model and the HEXACO model) and one neuropsychological model of personality (reinforcement sensitivity theory). Implications of the findings for multidimensional theories and models of perfectionism, as well as future perfectionism research, are discussed.

Introduction

Perfectionism is best conceptualized as a multidimensional personality disposition, which is important because perfectionism's multiple dimensions show different, sometimes opposite, relationships with adaptive and maladaptive psychological processes and outcomes (see Chapters 1–3). For a complete understanding of multidimensional perfectionism, however, it is important to know not only how different perfectionism dimensions are related to processes and outcomes, but also how they are related to stable personality characteristics. Furthermore, it is important to know where perfectionism and its different dimensions "fit" within broader frameworks of personality.

To provide answers to these questions, we reviewed the research literature looking for studies that have investigated perfectionism's relationships with structural (trait) and neuropsychological models of personality. In this search, we

focused on Hewitt and Flett's (1991) tripartite model of multidimensional perfectionism which differentiates three forms of perfectionism: self-oriented, other-oriented, and socially prescribed. Self-oriented perfectionism reflects beliefs that striving for perfection and being perfect are important. Self-oriented perfectionists have exceedingly high personal standards, expect to be perfect, and are highly self-critical if they fail to meet these demands. In contrast, other-oriented perfectionism reflects beliefs that it is important for others to strive for perfection and be perfect. Other-oriented perfectionists have exceedingly high standards for others, expect others to be perfect, and are highly critical of others who fail to meet these expectations. Finally, socially prescribed perfectionism reflects beliefs that striving for perfection and being perfect are important to others. Socially prescribed perfectionists believe that exceedingly high standards are being imposed on them. They believe others expect them to be perfect, and think that others will be highly critical of them if they fail to meet their expectations (Hewitt & Flett, 1991, 2004).

There were a number of reasons why we focused on Hewitt and Flett's (1991) model. First, the model is one of the most widely used in perfectionism research, and there are many studies that have investigated how this model's dimensions relate to broader personality dimensions. Second, the model includes the two superordinate dimensions that can be regarded as key indicators of *perfectionistic strivings* and *perfectionistic concerns*. Self-oriented perfectionism is a key indicator of perfectionistic strivings, and socially prescribed perfectionism a key indicator of perfectionistic concerns (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Stoeber & Otto, 2006). Consequently, examining how self-oriented and socially prescribed perfectionism relate to personality gives us an indication of how perfectionistic strivings and perfectionistic concerns—and other dimensions that are key indicators of perfectionistic strivings and perfectionistic concerns—relate to personality. Third, perfectionism is a personality characteristic that has personal and social aspects (which we will see is important when examining perfectionism's relationships with personality), and Hewitt and Flett's model clearly differentiates personal and social aspects. Moreover, the model was the first to suggest that other-oriented perfectionism is an important dimension of perfectionism, which is recently seeing a reinvigorated interest from psychological research. Moreover, other-oriented perfectionism plays a central role in dyadic perfectionism (Stoeber, 2012) and is a defining component of narcissistic perfectionism (see Chapter 9). Hence, we wanted to make sure that other-oriented perfectionism played a prominent role in our review of how perfectionism relates to personality, which should begin with looking at structural models of personality.

Structural Models of Personality

Structural models of personality aim to describe personality in terms of underlying traits, that is, broad descriptions of individual differences between people that refer to consistent patterns in the way people behave, feel, and think that are consistent over time and situations (McAdams, 2006; Pervin, Cervone, & John,

2005). These models aim to provide a complete description of personality, that is, they seek to capture all relevant traits. At the same time, the models aim to be economical and avoid redundancy, and they try to do so by capturing broad, non-overlapping traits that are relevant to most people most of the time. To find these traits, structural models of personality rely on a statistical procedure called "factor analysis" (Ashton, 2013).[1]

The Five-Factor Model (FFM)

The five-factor model (FFM) of personality is a structural model of personality that evolved from psycholexical analyses of traits (e.g., Allport & Odbert, 1936; Norman, 1963) followed by factor analyses (Ashton, 2013; Pervin et al., 2005). According to the "lexical hypothesis," the descriptive terms for all traits that are relevant to describe individual differences are communicated between people (e.g., "Sam is organized") and are therefore represented in their language's lexicon as adjectives (e.g., "organized"). Consequently, a list of all adjectives in a lexicon will contain descriptors of all relevant traits and—once synonyms and rarely used adjectives are removed—can be administered as self-report questionnaires to large samples of participants with instructions to rate how accurately each adjective describes them. These ratings are then subjected to factor analyses with the aim to find the basic dimensions ("factors") that explain individual differences in people's self ratings. The resulting factors then represent the structure of personality.

Beginning with numerous earlier studies of personality trait descriptions following, for example, Cattell (1943), Norman (1963), and Eysenck (1991; see also Bowden, Saklofske, van de Vijver, Sudarshan, & Eysenck, 2016), converging evidence published by a number of prominent personality researchers showed a growing agreement on a model (the FFM) according to which five broad dimensions are sufficient to describe the basic structure of personality: neuroticism, extraversion, openness to experience (or openness for short), agreeableness, and conscientiousness (McCrae & Costa, 1999; see John & Srivastava, 1999, for a comprehensive review of the history of the FFM). These five personality dimensions—also referred to as the "Big Five"—are sometimes described as bipolar dimensions (e.g., neuroticism versus emotional stability, extraversion versus introversion) or may appear under different names (e.g., extraversion may be called surgency, openness may be called intellect), but they all represent essentially the same five broad dimensions of personality as the FFM. Consequently, our review used the FFM as a frame of reference.

According to Pervin et al. (2005), the five factors can be described as follows. Neuroticism captures individual differences in psychological maladjustment versus emotional stability and identifies individuals who are prone to psychological distress, dysfunctional beliefs, and maladaptive coping responses. Typical adjectives describing people high in neuroticism are moody, nervous, anxious, touchy, and emotional (Saucier & Goldberg, 1996). Extraversion captures individual differences in the quantity and intensity of interpersonal interaction, activity level, need for

stimulation, and—importantly—the capacity for joy. Typical adjectives describing people high in extraversion are talkative, sociable, assertive, enthusiastic, and energetic. Openness captures individual differences in the proactive seeking and appreciation of experience for its own sake and the toleration for and exploration of the unfamiliar. Typical adjectives describing people high in openness are inquisitive, intellectual, philosophical, innovative, and unconventional. Agreeableness captures individual differences in the quality of people's interpersonal orientation along a continuum from social antagonism to compassion. (Note the difference to extraversion which captures the *quantity* of interpersonal interactions.) Typical adjectives describing people high in agreeableness are kind, warm, considerate, helpful, and generous. Finally, conscientiousness captures individual differences in the degree of organization, persistence, and goal-directed behavior. Typical adjectives describing people high in conscientiousness are organized, responsible, thorough, efficient, and self-disciplined.

Multidimensional Perfectionism and the FFM

FFM Dimensions

To gauge how multidimensional perfectionism relates to the broad dimensions of the FFM, we reviewed the literature for studies published or in press that examined self-oriented, other-oriented, and/or socially prescribed perfectionism and reported bivariate correlations with any or all dimensions of the FFM (Campbell & Di Paula, 2002; Davis, Karvinen, & McCreary, 2005; Dunkley, Blankstein, & Berg, 2012; Dunkley & Kyparissis, 2008; Enns & Cox, 1999; Enns, Cox, & Clara, 2005; Hewitt & Flett, 2004; Hewitt, Flett, & Blankstein, 1991; Hill, McIntire, & Bacharach, 1997; Molnar, Sadava, Flett, & Colautti, 2012; Nathanson, Paulhus, & Williams, 2006; Rice, Ashby, & Slaney, 2007; Sherry, Hewitt, Flett, Lee-Baggley, & Hall, 2007; Sherry, Hewitt, Sherry, Flett, & Graham, 2010; Smith, Sherry, Rnic, Saklofske, Enns, & Gralnick, 2016; Stairs, Smith, Zapolski, Combs, & Settles, 2012; Stoeber, in press; Stoeber, Otto, & Dalbert, 2009).[2] When summarizing these findings in the following sections, we adopted Cohen's (1992) guidelines and regarded correlations with absolute values of .10, .30, and .50 as small, medium-sized, and large. In addition, we referred to medium-sized and large correlations as "substantial."

As regards *neuroticism*, socially prescribed perfectionism was the only perfectionism dimension of Hewitt and Flett's (1991) model that consistently showed substantial positive correlations, suggesting that socially prescribed perfectionism is a neurotic form of perfectionism (cf. Hamachek, 1978). In comparison, self-oriented perfectionism did not always show positive correlations with neuroticism. Whereas a number of studies found positive correlations (e.g., Enns & Cox, 1999; Molnar et al., 2012; Smith, Sherry, Rnic, et al., 2016), other studies found nonsignificant correlations (e.g., Hewitt & Flett, 2004; Hill, McIntire, & Bacharach, 1997; Stoeber et al., 2009). Moreover, the studies that found positive

correlations consistently found these correlations to be smaller than those for socially prescribed perfectionism (e.g., Rice et al., 2007; Smith, Sherry, Rnic, et al., 2016). This indicates that—although self-oriented perfectionists may have neurotic tendencies—neuroticism is not characteristic of self-oriented perfectionism to the same degree as it is characteristic of socially prescribed perfectionism. In contrast, other-oriented perfectionism usually showed near-zero correlations with neuroticism (e.g., Hewitt & Flett, 2004; Hill, McIntire, & Bacharach, 1997; Rice et al., 2007).

For *extraversion*, approximately half of the reviewed studies found socially prescribed perfectionism to show negative correlations (e.g., Molnar et al., 2012; Sherry et al., 2007; Stoeber et al., 2009) whereas the other half found nonsignificant correlations (e.g., Dunkley & Kyparissis, 2008; Hewitt & Flett, 2004; Rice et al., 2007). This indicates that socially prescribed perfectionism is negatively related to extraversion, but the relationship is much weaker than the positive relationship that socially prescribed perfectionism shows with neuroticism. Still, the findings suggest that socially prescribed perfectionists tend to be less talkative, sociable, assertive, enthusiastic, and energetic, and—importantly—may show a reduced capacity for joy. In contrast, self-oriented perfectionism and other-oriented perfectionism showed no consistent pattern of relationships with extraversion. Indeed, the majority of studies found nonsignificant correlations, which suggests that both self-oriented and other-oriented perfectionism are largely unrelated to extraversion.

The reviewed studies on *openness* suggest that this FFM dimension does not play a significant role in multidimensional perfectionism. Whereas there are singular studies reporting small negative correlations between socially prescribed perfectionism and openness (e.g., Stoeber et al., 2009), the vast majority of studies examining the perfectionism dimensions of Hewitt and Flett's (1991) model failed to find any significant correlations with openness (e.g., Hewitt & Flett, 2004; Hill, McIntire, & Bacharach, 1997; Rice et al., 2007). Hence, perfectionists do not appear to be less open to experience than non-perfectionists.

As regards *agreeableness*, the case was different. In particular, other-oriented perfectionism showed substantial negative correlations with agreeableness across studies (e.g., Hewitt & Flett, 2004; Hill, McIntire, & Bacharach, 1997; Stoeber, in press) which indicates that social antagonism (low agreeableness) is highly characteristic of other-oriented perfectionists. Socially prescribed perfectionism was also negatively correlated with agreeableness, but these correlations were often considerably smaller than those of other-oriented perfectionism (e.g., Hill, McIntire, & Bacharach, 1997) and sometimes nonsignificant (e.g., Hewitt & Flett, 2004). In contrast, self-oriented perfectionism appeared to be largely unrelated to agreeableness. Except for one study finding a negative correlation (Stoeber et al., 2009), all other studies found self-oriented perfectionism to show nonsignificant correlations with agreeableness (e.g., Dunkley & Kyparissis, 2008; Hewitt & Flett, 2004; Rice et al., 2007).

Turning to *conscientiousness*, all reviewed studies found self-oriented perfectionism to show positive and often substantial correlations with this personality factor (e.g.,

Hewitt & Flett, 2004; Hill, McIntire, & Bacharach, 1997; Rice et al., 2007). This was not the case for the other two perfectionism dimensions. Other-oriented perfectionism showed only small positive correlations with conscientiousness that were significant in approximately half of the reviewed studies (e.g., Hill, McIntire, & Bacharach, 1997; Rice et al., 2007) and nonsignificant in the other half (e.g., Molnar et al., 2012; Nathanson et al., 2006). In contrast, socially prescribed perfectionism showed mostly nonsignificant correlations (e.g., Dunkley & Kyparissis, 2008; Hill, McIntire, & Bacharach, 1997) except for a few studies that found significant negative correlations (e.g., Hewitt & Flett, 2004; Molnar et al., 2012).

FFM Facets

One advantage of the FFM is that—while the five dimensions provide a broad framework for an economical analysis of individual differences in personality traits—the model also allows for a more fine-grained analysis. The reason is that the FFM is conceptualized as a hierarchical model in which each of the five broad dimensions (domain level) is composed of a number of lower-level dimensions that are more specific (facet level). The most widely used measure to examine the FFM at the facet level is the NEO Personality Inventory-Revised (NEO PI-R; Costa & McCrae, 1992) which assesses six facets for each of the five dimensions.[3] Table 4.1 shows the NEO-PI-R dimensions and facets (see also Costa & McCrae, 1995a).

Three studies have examined how Hewitt and Flett's perfectionism dimensions relate to the NEO PI-R facets. Unfortunately, only two of the studies included other-oriented perfectionism (Hewitt & Flett, 2004 [Table 6.19]; Hill, McIntire, & Bacharach, 1997) whereas the third examined self-oriented and socially prescribed perfectionism only (Dunkley & Kyparissis, 2008). When we reviewed these studies focusing on the convergent findings—that is, the correlations that were significant across the studies—the following picture emerged.

As regards the *neuroticism facets*, self-oriented perfectionism showed non-significant correlations across all studies, confirming again that self-oriented perfectionism has no strong links with neuroticism. The same applied to

TABLE 4.1 FFM Domains and Facets

Neuroticism	*Extraversion*	*Openness*	*Agreeableness*	*Conscientiousness*
Anxiety	Warmth	Fantasy	Trust	Competence
Angry hostility	Gregariousness	Aesthetics	Straightforwardness	Order
Depression	Assertiveness	Feelings	Altruism	Dutifulness
Self-consciousness	Activity	Actions	Compliance	Achievement striving
Impulsiveness	Excitement seeking	Ideas	Modesty	Self-discipline
Vulnerability	Positive emotions	Values	Tender-mindedness	Deliberation

Note: FFM = five-factor model of personality. Domain and facet scales from the NEO-PI-R (Costa & McCrae, 1992, 1995a).

other-oriented perfectionism with the notable exception that both studies including other-oriented perfectionism found a positive correlation with angry hostility, which dovetails with the FFM findings linking other-oriented perfectionism to social antagonism (low agreeableness). In contrast, socially prescribed perfectionism showed positive correlations with five of the six neuroticism facets—anxiety, angry hostility, depression, self-consciousness, and vulnerability—across all three studies,[4] and positive correlations with the remaining neuroticism facet—impulsiveness—across two of the studies (Dunkley & Kyparissis, 2008; Hewitt & Flett, 2004). This again demonstrates that socially prescribed perfectionism shares the strongest and most consistent links with neuroticism.

Regarding the *extraversion facets*, it is noteworthy that self-oriented perfectionism showed positive correlations with two facets—assertiveness and activity—across all studies. This finding indicates that self-oriented perfectionists may not be more extraverted than others in general, but may be more assertive and active. Moreover, it also demonstrates the value of examining FFM facets in addition to FFM dimensions. Other-oriented perfectionism also showed positive correlations with activity across the two studies that included other-oriented perfectionism, but not with assertiveness which was surprising given that other-oriented perfectionists tend to report high self-esteem (e.g., Flett, Hewitt, Blankstein, & O'Brien, 1991). In contrast, socially prescribed perfectionism showed negative correlations with the positive emotions facets across all studies, suggesting that socially prescribed perfectionists have a lower capacity to experience positive emotions. There are studies indicating that low positive emotionality is a risk factor for depression (Khazanov & Ruscio, 2016), and thus the finding of socially prescribed perfectionism showing negative correlations with positive emotions dovetails with the finding of socially prescribed perfectionism showing positive correlations with depression (e.g., Hewitt & Flett, 2004; Smith, Sherry, Rnic, et al., 2016). Furthermore, the finding suggest that socially prescribed perfectionists may not be less extraverted than others in general, but may have a lower capacity for joy.

Turning to the *openness facets*, there was only one correlation significant across studies: Socially prescribed perfectionism showed a negative correlation with openness to values. This indicates that socially prescribed perfectionists may not be generally less open to experience than others, but they may be less open-minded regarding values, ideas, and principles and less willing to accept that values, ideas, and principles may be relative and open to change and different interpretations.

The *agreeableness facets* and self-oriented perfectionism did not show any significant correlations across studies. This finding is in line with the domain-level findings indicating that self-oriented perfectionism is largely unrelated to agreeableness. In contrast, other-oriented perfectionism showed significant negative correlations with five of the six facets—trust, straightforwardness, altruism, compliance, and modesty—across the two studies including other-oriented perfectionism, which further corroborates the strong links of other-oriented perfectionism and low agreeableness. The picture was different for socially prescribed perfectionism which showed no negative correlations with any

agreeableness facet that were significant across all studies. This again shows that, even though numerous FFM studies found socially prescribed perfectionism to show negative correlations with agreeableness at the domain level, socially prescribed perfectionism is not as strongly linked to low agreeableness as other-oriented perfectionism, but shows much stronger links with neuroticism.

Finally, as regards the *conscientiousness facets*, self-oriented perfectionism showed significant negative correlations with five of the facets—competence, order, dutifulness, achievement striving, and self-discipline (but not deliberation)—across all three studies. Moreover, the correlation with achievement strivings was always larger than the other correlations, indicating that achievement striving is the conscientiousness facet most closely related to self-oriented perfectionism. In contrast, neither other-oriented perfectionism nor socially prescribed perfectionism showed any correlations with the conscientiousness facets that were significant across studies.

Summary

The finding from the studies examining how the perfectionism dimensions of Hewitt and Flett's (1991) model relate to the FFM dimensions and facets demonstrate that the three perfectionism dimensions have a unique personality profile for four of the five FFM dimensions: neuroticism, extraversion, agreeableness, and conscientiousness (but not openness). *Self-oriented perfectionism* is primarily characterized by high conscientiousness. This suggests self-oriented perfectionists tend to show a high degree of organization, persistence, and goal-directed behavior, and can be regarded as organized, responsible, thorough, efficient, and self-disciplined. Furthermore, self-oriented perfectionists may show higher levels of extraversion regarding assertiveness and activity. *Other-oriented perfectionism* is primarily characterized by low agreeableness. This suggests that other-oriented perfectionists show a high degree of social antagonism (i.e., the opposite of agreeableness) and may be unsympathetic, uncooperative, egotistical, cold, and impersonal (cf. Saucier & Goldberg, 1996). Furthermore, other-oriented perfectionists may show higher levels of neuroticism regarding angry hostility which is in line with other-oriented being a socially antagonistic form of perfectionism (Hewitt & Flett, 1991; Stoeber, 2014a, 2014b). *Socially prescribed perfectionism* is primarily characterized by high levels of neuroticism. This suggests that socially prescribed perfectionists tend to be moody, nervous, anxious, touchy, and emotional. Furthermore, they are prone to psychological distress, dysfunctional beliefs, and maladaptive coping responses, which corresponds to findings that socially prescribed perfectionism is a decidedly maladaptive form of perfectionism associated with emotional distress and psychological maladjustment (e.g., Hewitt & Flett, 1991, 2004). In addition, socially prescribed perfectionism showed negative relationships with extraversion and agreeableness indicating that socially prescribed perfectionists may be introverted and socially antagonistic. We should note, however, that the negative relationships with extraversion tended to be small and

were often nonsignificant; and the negative relationships with agreeableness tended to be weaker than those found for other-oriented perfectionism. Consequently, low levels of extraversion and agreeableness seem to characterize socially prescribed perfectionism to a lesser extent than high levels of neuroticism. Furthermore, low levels of agreeableness seem to be more characteristic of other-oriented perfectionism than socially prescribed perfectionism.

The HEXACO Model

Another important structural model of personality based on psycholexical analyses is the HEXACO model (Ashton & Lee, 2007; Ashton et al., 2004). The main difference to the FFM is that the HEXACO model suggests that the FFM is missing an important dimension of personality labeled honesty-humility. Honesty-humility differentiates people who are sincere, honest, faithful, loyal, modest, unassuming, and fair-minded from those who are sly, greedy, pretentious, hypocritical, boastful, and pompous. Consequently, the HEXACO model comprises six broad personality dimensions: honesty-humility (H), emotionality (E), extraversion (X), agreeableness (A), conscientiousness (C), and openness (O). Emotionality, conscientiousness, and openness are supposed to correspond to FFM neuroticism, conscientiousness, and openness, but agreeableness has different characteristics than FFM agreeableness: HEXACO agreeableness differentiates people who are patient, tolerant, peaceful, mild, agreeable, lenient, and gentle from those who are ill-tempered, quarrelsome, stubborn, and choleric (Ashton & Lee, 2007).

Like the FFM, the HEXACO is conceptualized as a hierarchical model because each of the six broad dimensions (domain level) is comprised of a number of lower-level dimensions (facet level). To assess these facets, Ashton and Lee developed a 100-item version of the HEXACO Personality Inventory-Revised (HEXACO-PI-R) assessing four facets for each of the six dimensions (Lee & Ashton, n.d.). Table 4.2 shows the HEXACO-PI-R dimensions and facets. (Note that Lee and Ashton consider perfectionism to be a unidimensional facet of conscientiousness.)

Multidimensional Perfectionism and the HEXACO Model

Unfortunately, so far only one study (Stoeber, 2014a) employed the HEXACO-PI-R to examine how the three perfectionism dimensions of Hewitt and Flett's model relate to the dimensions and facets of the HEXACO model. However, due to space restrictions, Stoeber only reported the correlations with the domain scores. Consequently, correlations from Stoeber (2014a) are reproduced here with facet scores included (see Table 4.2). In addition, Table 4.2 presents partial correlations controlling for the overlap between the three perfectionism dimensions to examine the dimensions' unique relationships with the HEXACO dimensions and facets (cf. Stoeber & Gaudreau, 2017).

TABLE 4.2 Multidimensional Perfectionism: Correlations with the HEXACO Model of Personality Domains and Facets

	Bivariate correlations			*Partial correlations*		
Domains and facets	*SOP*	*OOP*	*SPP*	*SOP*	*OOP*	*SPP*
Honesty-humility						
Sincerity	.01	−.15**	−.14**	.10	−.11*	−.10
Fairness	.12*	−.09	−.13*	.21***	−.06	−.17**
Greed-avoidance	−.29***	−.33***	−.31***	−.15**	−.18**	−.11
Modesty	−.11	−.36***	−.27***	.07	−.27***	−.12*
Domain score	−.11	−.34***	−.31***	.09	−.22***	−.19***
Emotionality						
Fearfulness	.12*	.17**	.06	.07	.14*	−.05
Anxiety	.26***	.08	.15**	.22***	−.05	.05
Dependence	.03	.12*	.03	.00	.13*	−.04
Sentimentality	.13*	.06	.07	.11*	.01	.01
Domain score	.18**	.15**	.11	.13*	.09	−.01
Extraversion						
Social self-esteem	.01	.02	−.36***	.17**	.23***	−.46***
Social boldness	.10	.25***	.03	.05	.26***	−.13*
Sociability	.14*	.08	.00	.15**	.07	−.10
Liveliness	.07	.03	−.17**	.15**	.12*	−.25***
Domain score	.11	.13*	−.16**	.16**	.23***	−.31***
Agreeableness						
Forgiveness	−.07	−.19***	−.12*	.02	−.15**	−.03
Gentleness	−.01	−.29***	−.09	.09	−.30***	.05
Flexibility	−.21***	−.28***	−.17*	−.12*	−.20***	.01
Patience	.04	−.16**	−.13*	.14*	−.14*	−.09
Domain score	−.08	−.30***	−.17**	.04	−.26***	−.03
Conscientiousness						
Organization	.41***	.05	.03	.45***	−.05	−.15**
Diligence	.60***	.17**	.04	.65***	.07	−.33***
Perfectionism	.67***	.15**	.13*	.69***	−.04	−.23***
Prudence	.35***	.02	−.05	.42***	−.02	−.22***
Domain score	.64***	.12*	.05	.70***	−.02	−.32***
Openness						
Aesthetic appreciation	−.04	−.14*	−.10	.02	−.11	−.03
Inquisitiveness	−.06	−.09	−.09	−.02	−.04	−.04
Creativity	.04	−.03	−.12*	.10	.02	−.14**
Unconventionality	−.05	−.02	−.07	−.03	.03	−.06
Domain score	−.04	−.10	−.13*	.03	−.04	−.09

Note: $N = 321$ university students (50 male, 271 female). SOP = self-oriented perfectionism, OOP = other-oriented perfectionism, SPP = socially prescribed perfectionism. Partial correlations = correlations of SOP controlling for OOP and SPP, SPP controlling for SOP and OOP, and OOP controlling for SOP and SPP. Domain score = total score aggregated across the four facets.
*$p < .05$. **$p < .01$. ***$p < .001$.

Source: Data from Stoeber (2014a, Study 2).

Honesty-humility and self-oriented perfectionism were not significantly correlated. However, a unique positive relationship was observed of self-oriented perfectionism with fairness and a unique negative relationship with greed-avoidance, suggesting that self-oriented perfectionists value fairness but may be greedy. In contrast, other-oriented perfectionism showed a unique negative relationship with the domain score, sincerity, greed-avoidance, and modesty. This suggests that other-oriented perfectionists may not only be greedy (like self-oriented perfectionists), but generally manifest a deficit in honesty/sincerity and humility/modesty, which dovetails with studies linking other-oriented perfectionism to callousness and narcissistic grandiosity (Smith, Sherry, Chen, et al., 2016; Stoeber, 2015; Stoeber, Sherry, & Nealis, 2015). Also, socially prescribed perfectionism showed a unique negative relationship with the domain score and modesty, but—differently from the other perfectionism dimensions—also showed a unique negative relationship with fairness. It appears that socially prescribed perfectionists do not value fairness, and that socially prescribed perfectionists are perfectionists who "don't play nicely with others" (Sherry, Mackinnon, & Gautreau, 2016).

As regards *emotionality*, the pattern of correlations was unexpected because self-oriented perfectionism showed a unique positive relationship with the domain score whereas socially prescribed perfectionism did not. This stands in stark contrast to the FFM studies in which socially prescribed perfectionism showed consistent positive correlations with neuroticism whereas self-oriented perfectionism did not. Also, as regards the emotionality facets, the pattern of correlations was unexpected. Self-oriented perfectionism had unique positive relationships with anxiety and sentimentality, and other-oriented perfectionism had unique positive relationships with fearfulness and dependence. In contrast, socially prescribed perfectionism was not significantly correlated with any emotionality facets once the overlap with the other two perfectionism dimensions was partialled out. Whereas the correlations that other-oriented perfectionism showed are odd and not in line with previous findings that other-oriented perfectionism is unrelated to neuroticism, there are findings linking self-oriented perfectionism to anxiety (e.g., Hewitt & Flett, 2004; Klibert, Langhinrichsen-Rohling, & Saito, 2005). Moreover, Ashton and Lee (2007) suggest that HEXACO emotionality is linked to empathy and attachment, and self-oriented perfectionism shares positive relationships with nurturance and intimacy (Stoeber, 2014a). Nevertheless, the present findings do not align with Ashton and Lee's (2007) assertion that emotionality is comparable to neuroticism. However, further research on multidimensional perfectionism and emotionality is needed before firm conclusions can be drawn.

The pattern of correlations for *extraversion* showed close correspondence with the findings from the FFM studies including analyses at the facet level. Self-oriented perfectionism had unique positive relationships with the domain score, social self-esteem, sociability, and liveliness, which corresponds to the finding that self-oriented perfectionism showed positive correlations with the FFM extraversion facets of assertiveness and activity. Other-oriented perfectionism showed unique positive

relationships with the domain score, social self-esteem, and social boldness whereas socially prescribed perfectionism showed unique negative relationships with the domain score, social self-esteem, social boldness. Also, these findings highlight the close correspondence to the findings with the FFM extraversion facets. Furthermore, the negative correlation with social self-esteem replicates previous research indicating that socially prescribed perfectionists have low social self-esteem (Flett, Hewitt, & De Rosa, 1996).

Regarding *agreeableness*, self-oriented perfectionism did not show a unique relationship with the domain score but showed a unique negative relationship with flexibility, and a unique positive relationship with patience. Whereas this finding dovetails with the FFM findings that self-oriented perfectionism shows no consistent relationships with agreeableness, it suggests that self-oriented perfectionists may lack flexibility in social relations, but show patience when interacting with other. In contrast, other-oriented perfectionism had unique negative relationships with both the domain score and all facets—forgiveness, gentleness, flexibility, and patience—which is in line with the FFM findings that other-oriented perfectionism shows consistent negative relationships with agreeableness. Conversely, socially prescribed perfectionism showed no significant unique relationships—neither with the domain score nor with any of the facets—which again demonstrates that socially prescribed perfectionism is less strongly and less consistently linked to low agreeableness than other-oriented perfectionism.

As regards *conscientiousness*, self-oriented perfectionism showed large-sized positive relationships with the domain score and all facets across bivariate and partial correlations, confirming the FFM finding that self-oriented perfectionists are primarily characterized by high conscientiousness. As expected, there were no significant relationships between other-oriented perfectionism and conscientiousness or any of the facets scores once the overlap with the other perfectionism dimensions was controlled. In contrast, socially prescribed perfectionism showed unique negative relationships with the domain score and all facet scores once the overlap with the other two perfectionism dimensions was controlled. This suggests that socially prescribed perfectionists are not very conscientious, and corroborates the studies that found socially prescribed perfectionism to show significant negative correlations with FFM conscientiousness (e.g., Hewitt & Flett, 2004; Molnar et al., 2012).

Finally, as regards *openness*, no perfectionism dimension showed any significant unique relationships with the domain score or any of the facet scores, except that socially prescribed perfectionism showed a small negative partial correlation with creativity. This finding is in line with the FFM findings indicating that multidimensional perfectionism is largely unrelated to openness, but if perfectionism shows small negative relationships with openness and its facets, it is most likely socially prescribed perfectionism that will show these relationships.

Overall, the findings with the HEXACO dimensions and facets show considerable correspondence with the findings from studies of the FFM dimensions and facets with respect to extraversion, openness, agreeableness, and

conscientiousness (but not emotionality). Going beyond the FFM, the HEXACO findings indicate that both other-oriented perfectionism and socially prescribed perfectionism are associated with low honesty-humility (even though they showed somewhat different relationships with the honesty-humility facets). This suggests that not only other-oriented perfectionism is a personality disposition that has "dark" features (cf. Marcus & Zeigler-Hill, 2015), but so also is socially prescribed perfectionism, which complements prior findings that socially prescribed perfectionism showed unique positive relationships with callousness and deceitfulness (Stoeber, 2014b, 2015).

Neuropsychological Models of Personality

In contrast to structural models of personality, neuropsychological models of personality aim to provide an account of the underlying emotion, motivation, and learning bases of individual differences and, more specifically, to provide neuropsychologically anchored principles and constructs to understand the foundations of temperament and the underpinnings of general personality descriptive systems, including the FFM (Corr, DeYoung, & McNaughton, 2013). The major assumption of this specific approach is that a small number of approach and avoidance systems underlie many general personality factors.

Eysenck's PEN Theory

A prominent neuropsychological model of personality is Eysenck's PEN theory (Eysenck, 1970). Whereas the PEN theory also functions as a structural model of personality, it is not based on psycholexical analyses, but on theory and research on individual differences in neuropsychological functioning (Eysenck & Eysenck, 1985).

The PEN theory differentiates three broad personality dimensions: psychoticism (P), extraversion (E), and neuroticism (N). Factor analytic studies suggest that the PEN dimensions of extraversion and neuroticism closely correspond to the FFM dimensions of extraversion and neuroticism, whereas psychoticism appears to be a combination of low agreeableness and low conscientiousness (Costa & McCrae, 1995b). Unfortunately, there is only one study (Hewitt, Flett, & Blankstein, 1991) examining how Hewitt and Flett's three perfectionism dimensions are related to psychoticism (as conceptualized by Eysenck's PEN theory), and the findings were mixed: In male participants, perfectionism showed no significant correlations with psychoticism, whereas self-oriented and socially prescribed perfectionism showed a positive correlation in female students and other-oriented perfectionism showed a positive correlation in female patients. Still, Eysenck's PEN theory of personality is important in the present context because the E and N factors of the theory (regarding the neuropsychological foundations of extraversion and neuroticism) laid the foundation for Gray's reinforcement sensitivity theory (Gray, 1982; Gray & McNaughton, 2000; for a review, see Corr, 2008).

Reinforcement Sensitivity Theory (RST)

The reinforcement sensitivity theory (RST) is a prominent neuropsychological theory of personality explaining individual differences in approach- and avoidance-related behaviors and associated conflicts. It assumes the existence of three emotional-motivational systems: one approach system (the behavioral approach system [BAS]) and two avoidance systems (the behavioral inhibition system [BIS] and the fight-flight-freeze system [FFFS]). The most distinctive features of the two avoidance systems are emotional output and defensive direction: The BIS activates behavioral repertoire when moving *toward* threat, eliciting the emotional state of anxiety; in contrast, the FFFS activates behavior that moves the individual *away* from threat, eliciting the emotional state of fear. Further refinement and theoretical elaboration of RST resulted in a progressive revision of RST (Corr & McNaughton, 2008, 2012; McNaughton & Corr, 2004). Consequently, the latest measure of RST—the Reinforcement Sensitivity Theory Personality Questionnaire (RST-PQ; Corr & Cooper, 2016)—captures individual differences in seven RST components: four components of the BAS (reward interest, goal-drive persistence, reward reactivity, and impulsivity) plus BIS, FFFS, and a separate factor of defensive fight.

Three studies have investigated how the three dimensions of Hewitt and Flett's model relate to the components of revised RST. The first study (Randles, Flett, Nash, McGregor, & Hewitt, 2010) examined two samples of university students using Carver and White's (1994) BIS/BAS Scales to differentiate five RST components: BAS drive, BAS fun seeking, BAS reward responsiveness, the BIS, and the FFFS.[5] Across the two samples, self-oriented perfectionism showed positive correlations with BAS reward responsiveness, BAS drive, and the BIS whereas socially prescribed perfectionism only showed a positive correlation with the BIS. Otherwise, findings were mixed. In particular, other-oriented perfectionism did not show a clear pattern of significant relationships across the two samples. The second and third study (Stoeber & Corr, 2015, 2017) also examined university students, but this time used Corr and Cooper's RST-PQ differentiating all seven components of revised RST. Moreover, the studies not only examined bivariate correlations, but also computed multiple regressions to examine the perfectionism dimensions' unique relationships with the RST components. If we focus on the unique relationships that were significant across both studies, the following picture emerges. Self-oriented perfectionism showed unique positive relationships with BAS goal-drive persistence, BAS reward reactivity, and BIS. Other-oriented perfectionism showed a unique positive relationship with defensive fight, and a unique negative relationship with the BIS. In contrast, socially prescribed perfectionism showed unique positive relationships with BAS impulsivity and the BIS, and a unique negative relationship with BAS goal-drive persistence.

Taken together, the studies examining multidimensional perfectionism from the perspective of revised RST suggest that the three perfectionism dimensions of Hewitt and Flett's model have unique profiles of relationships with emotional-motivational systems and associated approach- and avoidance-related behaviors.

Self-oriented perfectionists appear to be highly goal-directed—driven by goals and persistent in the pursuit of goals—while at the same time highly reactive to both positive and negative reinforcing stimuli. Socially prescribed perfectionists are highly reactive only to negative reinforcing stimuli, and their approach-related behaviors appear impulsive. By contrast, other-oriented perfectionists appear to show a reduced reactivity to negative reinforcing stimuli, which differentiates them from other perfectionists. Whereas both self-oriented and socially prescribed perfectionism were associated with higher BIS levels (suggesting that they are prone to experience anxiety), other-oriented perfectionists reported lower BIS levels (suggesting they are unlikely to experience anxiety). In addition, other-oriented perfectionism was the only dimension that showed a unique positive relation with defensive fight. This suggests that other-oriented perfectionists may become highly defensive when attacked, and will attack back. The combination of an overactive defensive fight system with an underactive BIS (indicating a reduced sensitivity to negative reinforcers) dovetails with findings that other-oriented perfectionism shows links with aggression and psychopathy (Stoeber, 2014b, 2015).

Furthermore, these results show that it is important to go beyond structural models of personality (like the FFM and the HEXACO model) and also examine neuropsychological models if we want to gain a deeper understanding of how multidimensional perfectionism is linked with emotional-motivational systems that directly feed into approach- versus avoidance-related behavior. This is important because different dimensions of perfectionism show different profiles of relationships with approach and avoidance motivation (see Chapter 2). Moreover, individual differences in the sensitivity to positive and negative reinforcers may determine whether perfectionism takes on forms that have adaptive aspects, or forms that are maladaptive and lacking any adaptive aspects (Slade & Owens, 1998).

Open Questions and Future Research

In concluding this chapter, it is important to point out that our review focused on Hewitt and Flett's (1991) tripartite model of perfectionism. On the one hand, this focus provided us with a coherent framework when reviewing the different relationships of different perfectionism dimensions with the FFM and HEXACO dimensions and facets and with the revised RST components. On the other hand, it also presented a limitation as there are other prominent multidimensional models of perfectionism, most notably those of Frost et al. (Frost, Marten, Lahart, & Rosenblate, 1990), Slaney et al. (Slaney, Rice, Mobley, Trippi, & Ashby, 2001), and Hill et al. (Hill et al., 2004). We note, however, that self-oriented perfectionism is a key indicator of perfectionistic strivings, and socially prescribed perfectionism a key indicator of perfectionistic concerns (Stoeber & Otto, 2006). Consequently, one can expect the respective key indicators in these other models to show comparable patterns of relationships with the FFM, HEXACO model, and revised RST dimensions, facets, and components. In particular, personal standards (Frost

et al., 1990), high standards (Slaney et al., 2001), and striving for excellence (Hill et al., 2004) are key indicators of perfectionistic strivings, and should show similar relationships as self-oriented perfectionism. As well, concern over mistakes (Frost et al., 1990; Hill et al., 2004) and discrepancy (Slaney et al., 2001) are key indicators of perfectionistic concerns and should show similar relationships as socially prescribed perfectionism. Two studies employing the FFM confirm this expectation (Cruce, Pashak, Handal, Munz, & Gfeller, 2012; Rice et al., 2007). In contrast, for both the HEXACO model and revised RST, this is an open question that needs to be answered in future research.

There are further questions that remain to be answered. One question regarding the FFM findings concerns the degree to which the overlap between the three perfectionism dimensions of Hewitt and Flett's model influenced the findings. Self-oriented, other-oriented, and socially prescribed perfectionism show substantial overlap: Intercorrelations are often in the .40s, but can be in the .50s (e.g., Hewitt & Flett, 2004). Consequently, when this overlap is controlled and unique relationships are regarded, the findings may be different (Stoeber & Gaudreau, 2017). For example, socially prescribed perfectionism tends to show significant negative correlations with agreeableness, but this may be due to its overlap with other-oriented perfectionism (which shows consistent negative correlations with agreeableness). Once this overlap is removed, socially prescribed perfectionism may show nonsignificant relationships with FFM agreeableness, as was the case for HEXACO agreeableness (see Table 4.2). Furthermore, socially prescribed perfectionism tends to show nonsignificant correlations with conscientiousness, but this may be due to its overlap with self-oriented perfectionism (which shows consistent positive correlations with conscientiousness). Once this overlap is removed, it remains to be seen if socially prescribed perfectionism is negatively related with conscientiousness, as was the case for HEXACO conscientiousness (see again Table 4.2).

Another question is whether there are gender differences in the perfectionism–personality relationships. For example, Hewitt et al. (1991) found that multidimensional perfectionism showed significant correlations with psychoticism in women, but not in men (see the above section on Eysenck's PEN theory). In addition, they found that self-oriented perfectionism was positively correlated with neuroticism only in women, but not men. Furthermore, Hill, Zrull, and Turlington (1997) investigated perfectionism and personality from an interpersonal circumplex perspective. They found that male self-oriented perfectionists tended to be arrogant-calculating whereas female self-oriented perfectionists tended to be warm-agreeable (cf. Chapter 9) which suggests that there also may be gender differences in how self-oriented perfectionism relates to agreeableness.

Finally, the perhaps most important question is whether individual differences in personality contribute to the development of individual differences in perfectionism. Flett, Hewitt, Oliver, and Macdonald (2002) provided a comprehensive analysis of potential factors contributing to the development of perfectionism, and one factor they suggested to play a role was the child's "temperament." If we replace "temperament" with "personality," this would

suggest that personality contributes to the development of perfectionism. Furthermore, the findings presented in this chapter suggest that different personality dimensions contribute to the development of different perfectionism dimensions. This suggestion was put to the test in a two-wave longitudinal study examining whether the FFM dimensions predicted changes in adolescents' self-oriented and socially prescribed perfectionism (Stoeber et al., 2009). In line with cross-sectional findings linking self-oriented perfectionism with conscientiousness and socially prescribed perfectionism with neuroticism, conscientiousness was expected to predict increases in self-oriented perfectionism, and neuroticism was expected to predict increases in socially prescribed perfectionism. Even though the study found support only for one of the expectations—conscientiousness predicted increases in self-oriented perfectionism, but neuroticism did not predict increases in socially prescribed perfectionism—the study is important as it is the first to demonstrate that personality may play a role in the development of perfectionism. Unfortunately, longitudinal studies examining developmental antecedents of perfectionism are scarce and usually focus on parental factors, but do not include measures of the child's personality (Stoeber, Edbrooke-Childs, & Damian, in press). Further longitudinal research on perfectionism and personality is needed—including other models of perfectionism as well as other models of personality—to determine which perfectionism–personality relationships reflect mere covariations showing us where the different personality dimensions "fit" within broader personality theories and models, and which relationships reflect dynamic processes of personality dimensions contributing to the development of perfectionism.

Notes

1 For a "gentle introduction" to factor analysis in personality research—what it is, what it does, and how it works—the interested reader is referred to Ashton (2013, Chapter 3.2).
2 Stairs et al. (2012) were included because they measured "perfectionism toward others" using items from Hewitt and Flett's (1991) measure of other-oriented perfectionism.
3 Successively an improved NEO-PI-R version was developed called the NEO-PI-3 (McCrae, Costa, & Martin, 2005).
4 The minus sign before the correlation of socially prescribed perfectionism and anxiety in Table 2 of Hill, McIntire, and Bacharach's (1997) article is a typographical error. The correlation should be positive (R. W. Hill, personal communication, September 6, 2016).
5 Note that the BIS/BAS Scales are based on the old, unrevised RST and do not differentiate the BIS and the FFFS, but some items of the BIS Scale can be used to assess the FFFS (Heym, Ferguson, & Lawrence, 2008).

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5

PERFECTIONISM COGNITION THEORY

The Cognitive Side of Perfectionism

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Overview

The cognitive reactivity of perfectionists plays a key role in perfectionism as a diathesis for distress and health problems. Cognitive factors and processes are also strongly implicated in the development, expression, and experience of perfectionism. Accordingly, in this chapter, we make "the case for cognition." We begin by providing an overview of the influential history of perfectionism from a cognitive perspective. We then illustrate the relevance of the cognitive elements of perfectionism by describing research on individual differences in perfectionistic cognitions. It will be seen that perfectionistic cognitions are an important supplement not only in clinical assessments, but also in perfectionism research. Finally, in an attempt to promote additional research on cognitive components of perfectionism, we describe and expand our recently developed perfectionism cognition theory. We go well beyond the initial version of the theory and its main focus on the role of cognitive perseveration in perfectionism by analyzing these elements in terms of a framework from the depression literature. Directions for future research are highlighted throughout this chapter.

Introduction

It is clear when tracing the history of the perfectionism construct that the development of multidimensional measures of perfectionism in the early 1990s ushered in a new era of theory and research with an emphasis on perfectionism as a stable personality trait. Hewitt and Flett (1991) conceptualized perfectionism as representing an underlying diathesis or vulnerability factor that is activated when perfectionists encountered setbacks and other life feedback indicating their lives are not perfect and things are not going according to plan. This emphasis on a trait

perspective was based on our sense that simply focusing on perfectionism as a belief or attitude would not capture the relentless striving and all-or-nothing approach to self-evaluation that characterizes extreme perfectionism. This decision proved timely in terms of the subsequent inclusion of perfectionism as part of the workaholic style of achievement striving (Spence & Robbins, 1992).

The trait approach should dominate the perfectionism field for the next several decades. However, there is much to be gained by trying to understand perfectionism from other orientations. In the current chapter, we examine perfectionism from a cognitive perspective. The role of cognitive factors is perhaps best illustrated by considering what types of information are useful when conducting clinical assessments of people who seem to be suffering greatly from the costs of perfectionism, especially in terms of personal health and relationships. Typically, cognitive factors and processes come into play in several ways. Most notably, distressed people who fit the description of "neurotic perfectionists" as described by Missildine (1963) and Hamachek (1978) tend to be highly focused on their cognitive appraisals of having fallen short of their ultimate goal of being perfect. Adler (1938/1998) suggested that these people are "perpetually comparing themselves with the unattainable ideal of perfection" (p. 38). A subset of these distress-prone individuals will be ruminating obsessively about a key mistake they made that perhaps represents a key life turning point for them. Consider, for instance, the case of "Mr. C" introduced by Hewitt and Flett (2007), which is outlined below.

Mr. C was a 50-year-old professional writer. Mr. C had suffered from depression for a very long time but had kept it hidden from others until he attempted to take his own life by shooting himself. Clearly, in retrospect, he had several characteristics identified by Flett, Hewitt, and Heisel (2014) as factors that amplify the risk of suicide for perfectionists undergoing intense psychological pain, including the tendency to hide behind a front of apparent flawlessness. But what is most noteworthy about Mr. C is that his despair could be traced back to the point when he discovered an error in one of his published works, and his cognitive and emotional reactions to this error resulted in losing his confidence in his writing abilities and in himself. Mr. C continued to reflect on this error and then amplified its impact by engaging in a harsh, overgeneralized self-assessment that was centered on his perceptions of his diminished writing ability. His intense psychological pain led ultimately to his decision to try to end his life.

Similar case excerpts and our evaluation of research findings in the published literature had led us to introduce the concept of "perfectionistic reactivity." This focus on perfectionistic reactivity reflects our view that the vulnerability of perfectionists such as Mr. C actually stems largely from the cognitive, emotional, motivational, social, and behavioral responses and reactions they exhibit when life setbacks are experienced (Flett & Hewitt, 2016). That is, there are characteristic response tendencies that typically accompany perfectionism. These tendencies represent less than optimal responses and reactions when life outcomes suggest that things are far from perfect and the individual perfectionist seems to have deficits or defects in the self that preclude ever being perfect.

Our emphasis on cognitive perfectionism is guided by an overarching desire to get a better understanding of the self and identity issues that we believe are central in perfectionism. Recent work on the role of self-image goals and concerns in perfectionism (Nepon, Flett, & Hewitt, 2016) reflects our sense that there is substantial merit in an Adlerian view of perfectionism as being a defensive way of compensating for perceived limitations and deficits in the self. We try to keep in mind as much as possible that the ultimate goal of extreme self-oriented perfectionists is to beat the odds; that is, they accept that no one is perfect but they want to become the one person who is perfect and who has attained the ideal self. Clearly, for such individuals, perfectionism is a quest that is deeply personal.

According to our broader and extended conceptual model of perfectionism, which frames perfectionism in relational terms (Hewitt, Flett, & Mikail, 2017), perfectionists have relationships with others, but they also have a relationship with the self and one component is reflected by automatic thoughts such as "I have to be perfect." This relationship with the self could involve self-compassion and self-forgiveness but more commonly involves a perfectionism-related self-dialogue, self-criticism and derogation, and—in some instances—abject self-hatred and shame.

Returning to our theme of cognitive perfectionism, an early study by Frost and Henderson (1991) is noteworthy not only because it illustrated the relevance of multidimensional perfectionism among athletes, but it also showed the interplay of self and cognitive factors in perfectionism. They reported that perfectionistic athletes with a high level of concern over mistakes had a greater preponderance of negative thoughts 24 hours prior to competition along with negative appraisals of their sports self-confidence. These athletes also had a cognitive tendency to engage in self-talk and they endorsed items such as "Images of my mistake control my mind for the rest of the competition." Clearly, perfectionistic athletes who are anxiety-prone appear to have a cognitive orientation that should negatively impact their performance.

With these observations in mind, we now consider the cognitive side of perfectionism from an historical perspective. It struck us while conducting this review that the cognitive approach to perfectionism has yielded many key insights into the perfectionism construct and more attention to cognitive perfectionism is clearly warranted.

Perfectionism and Cognition from an Historical Perspective

Karen Horney (1950) was one of the first theorists to describe cognitive self-related aspects of perfectionism. She described neurotic individuals whose automatic thoughts and self-dialogue reflected the "tyranny of the shoulds" (p. 65). She indicated that these internal dictates or demands are used to attempt to reconcile and reduce the disparate actual self from the ideal self. These cognitive thoughts or internal dialogues dominate the perfectionistic individual's internal world but also govern and guide his or her behavior.

According to Albert Ellis (2002), perfectionism is best viewed as an irrational belief and associated cognitive tendencies. Ellis maintained that perfectionism becomes irrational when the person feels that perfection must be obtained and it becomes a personal imperative. If taken to the extreme, the need to be perfect can become a compulsive orientation that overtakes reason and logic. This viewpoint was first expressed in a classic article by Ellis (1958) titled "Rational Psychotherapy," which introduced the rational-emotive perspective. Ellis listed perfectionism as one of 12 irrational beliefs. This emphasis on being thoroughly competent, intelligent, and achieving in all respects was contrasted with learning to accept the self as imperfect.

Ellis (1958) went on to equate perfectionistic thinking and other types of irrational thinking with neurosis. Specifically, he observed:

> Neurosis, then, usually seems to originate in and be perpetuated by some fundamentally unsound, irrational ideas. The individual comes to believe in some unrealistic, impossible, often perfectionistic goals—especially the goals that he should always be approved by everyone, should do everything perfectly well, and should never be frustrated in any of his desires—and then, in spite of considerable contradictory evidence, refuses to give up his original illogical beliefs.
>
> *(pp. 43–44)*

This is an elegant and important observation by Ellis because he not only highlighted the tendency of perfectionists to make sweeping generalizations (i.e., be approved of by absolutely everyone and have do everything perfectly well), he also suggested that perfectionists are inherently prone to chronic frustration yet feel that they should never be frustrated. This is accompanied by a perfectionistic rigidity and refusal to abandon these extreme beliefs.

Ellis (1958) also introduced the concept of catastrophization (i.e., the tendency to see setbacks and other negative outcomes as horrible catastrophes) and noted that this type of thinking is common among those people who focus on absolutes and categorical judgments. Catastrophization is becoming a more prominent concept in the clinical psychology field as illustrated by Gellatly and Beck's (2016) conclusion that catastrophic thinking is transdiagnostic and contributes broadly to various forms of emotional distress. We discuss the tendency for reactive perfectionists to engage in catastrophic thinking later in this chapter.

The conceptual framework outlined by Ellis (1958, 1962) sparked other contributions such as McFall and Wollersheim's (1979) analysis of the perfectionistic irrational beliefs that underscore obsessive-compulsive neurosis. It also fostered the development of irrational beliefs measures with subscales tapping perfectionism. Jones' (1968) Irrational Beliefs Test (IBT), for example, has a high personal expectations subscale. It includes items such as "It is highly important to me to be successful in everything I do." The IBT also has a subscale that taps a belief in the need for perfect solutions to life problems. Extensive use of the IBT has yielded

several key insights about the nature of the perfectionism construct. For instance, IBT analyses suggest that self-oriented perfectionism reflects a complex blend of irrational beliefs that fuses high self-expectations with frustration reactivity, demand for approval from others, and the need for perfect solutions to life problems (see Flett, Hewitt, Blankstein, & Koledin, 1991; Flett, Hewitt, & Cheng, 2008). Other research supports a self-punitiveness model of dysphoria that predicts that people are at risk if they are characterized by the combination of perfectionistic self-expectations, overgeneralization, and self-criticism (Flett, Hewitt, & Mittelstaedt, 1991).

The next developments in the cognitive perfectionism field grew out of Beck's (1967) cognitive model of depression and the inclusion of perfectionism as a theme tapped by Weissman and Beck's (1978) Dysfunctional Attitude Scale (DAS). Dysfunctional attitudes reflect a cognitive vulnerability that is activated following relevant life experiences (e.g., a humiliating failure experienced by someone who believes that being perfect will result in a more perfect life). Brown and Beck (2002) provided several important insights about perfectionism and dysfunctional attitudes in their chapter on this topic. For instance, they observed that the extreme wording of items throughout the DAS makes it generally suitable as a measure of perfectionism. They noted that many items reflect if-then contingency statements directly relevant to perfectionism (e.g., "If I am not a success then my life is meaningless") while other items assess perfectionistic imperatives (e.g., "I should always have complete control over my feelings").

David Burns also worked with Beck. Burns (1980) developed the 10-item Burns Perfectionism Scale (BPS). This inventory has dysfunctional attitudes statements such as "If I don't set the highest standards for myself, I am likely to end up a second-rate person." The BPS items include several items that focus on how other people would react to the individual's imperfections and failures, so it is not surprising that BPS scores are highly correlated not only with self-oriented perfectionism but also with socially prescribed perfectionism (Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991).

The cognitive elements of perfectionism are also reflected in the Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990). The FMPS includes several items taken from various cognitively based measures, including scales assessing obsessionality as well as the DAS and BPS. The central dimension in the FMPS—the nine-item concern over mistakes subscale—includes six DAS items. Thus, composite measures of evaluative concerns perfectionism that include this subscale have a substantial cognitive component.

Cognitive perfectionism is also relevant to the other primary scale used to assess perfectionism in many earlier investigations: the perfectionism subscale of the Eating Disorder Inventory (EDI; Garner, Olmstead, & Polivy, 1983). The six items of the EDI perfectionism subscale are cognitively based due to the authors' sense that the perfectionism found among people with anorexia is a byproduct of a dichotomous all-or-none thinking style involving personal and parental pressures to be perfect (also see Garner, Garfinkel, & Bemis, 1982).

The Ideal Self-Schema and Automatic Thoughts Reflecting the Need to Be Perfect

The next major development in the cognitive perfectionism field occurred when Hewitt and Genest (1990) argued that people not only have a current self-schema that reflects their actual characteristics, but also have an ideal self-schema that is particularly salient among perfectionists. Their views were informed by research conducted by Deutsch, Kroll, Weible, Letourneau, and Goss (1988), who had participants rate the degree of self-descriptiveness of frequently endorsed self traits and ideal traits. Words representing these traits were presented tachistoscopically, and reaction times were assessed for judgments of the self-descriptiveness of these traits. Deutsch and colleagues reported that the highest ratings of self-descriptiveness were given for the self traits, but the ideal traits had higher ratings than words from a random list of traits. Most notably, reaction times for self traits and ideal traits did not differ and were faster than the reaction times to the words from the random list. Their results suggested the possibility that there is a cognitive side to the ideal self.

Hewitt and Genest (1990) went further and posited that there is an ideal self-schema that is implicated in the processing of self-relevant information. They had participants make structural, ideal self, or actual self ratings of three types of words: neutral words (e.g., playful, forgiving), negative words (e.g., glum, weary), and perfectionistic words (e.g., exact, persevering). A subsequent recall task showed that words rated from the perspective of the actual self or the ideal self were recalled better than words rated from a structural task orientation. Most importantly, there was enhanced recall for perfectionistic words that were rated as not self-descriptive in the ideal self and actual self conditions (i.e., words that reflects a discrepancy between the current self and the ideal self). Hewitt and Genest concluded that the ideal self functions as a schema that includes a cognitive representation of personal attributes that fall short of the perfectionistic ideal.

Nasby (1997) extended this work by maintaining that there is a cognitive prototype of the ideal self and that the ideal self can be represented cognitively and emotionally from a private stance as well as a public stance. His findings indicated that people high in private self-consciousness (chronic self-focused attention directed inward) are attuned cognitively to the private component of the ideal self, whereas people high in public self-consciousness are attuned cognitively to the public component of the ideal self. We have extrapolated from this work the notion that people who are high in perfectionistic self-presentation (i.e., the need to seem perfect rather than be perfect) and have the public self-consciousness that accompanies this personality style will have a cognitive prototype or self-structure that emphasizes the ideal public self (Hewitt et al., 2003).

Regarding the nature of the ideal self, we maintain that the content and thematic focus of the ideal self will vary among different types of perfectionists in ways that reflect the distinctions between trait self-oriented perfectionism versus perfectionistic self-presentation. Some perfectionists will have internalized extreme requirements

for the self and these self-oriented perfectionists will be invested in trying to *be perfect*. These driven individuals will have what we refer to as an "internalized ideal self." Other perfectionists will be more focused on trying to *seem perfect* (i.e., perfectionistic self-presenters). These individuals will develop an "internal idealized self" similar to the idealized self described by Horney (1950). The internal idealized self is fueled by a dependent need to appear perfect and avoiding appearing imperfect to gain recognition, approval, and acceptance. This proposed "internal idealized self" reflects a history of trying to project an image of living up to the ideals projected by other people, and it should be particularly salient for people who are hiding a defective sense of their actual self or possible selves. These individuals will have an organization of schemas that reflects the idealized self and a highly salient "undesired self" that was first articulated by Ogilvie (1987). This undesired self is a feared self that they must avoid.

Flett, Hewitt, Blankstein, and Gray (1998) built on the findings of Hewitt and Genest (1990) and suggested that there are individual differences in the salience of the ideal self and perfectionists are people who should be particularly prone to experience frequent automatic thoughts that reflect their need to be perfect and their concerns and doubts about not being perfect. The Perfectionism Cognitions Inventory (PCI) was developed to assess the frequency of automatic thoughts such as "I should be perfect" and "Why can't I be perfect?" The development of this measure was in keeping with Blatt and Shichman's (1983) observation that self-critical people tend to ruminate excessively about failures to meet personal standards and maintain a sense of control.

One way of thinking about perfectionistic cognitions versus trait perfectionism is that perfectionistic cognitions reflect a more cognitively immediate element of perfectionism that is closely linked with daily events and current concerns. The internal dialogue can become a form of "internal pressure" that reflects what is going on in a person's life and whether perfectionism is actively in someone's mind. Not surprisingly, because the cognitions facet captures a unique component of the perfectionism construct, research has established that frequent perfectionistic cognitions are linked uniquely with various forms of emotional distress and negative automatic thoughts about the self, as well as related tendencies such as engaging in perseverative thinking about failures (Flett et al., 1998) and having a deficit in positive self-talk (Flett, Hewitt, Whelan, & Martin, 2007).

The PCI is growing in terms of its use and it has now been included in over 50 studies across more than 40 journal articles. Evidence continues to indicate the relevance of perfectionistic cognitions in both anxiety and depression. For instance, Pirbaglou et al. (2013) administered the PCI along with measures of negative automatic thoughts, anxiety sensitivity, anxiety, and depression to over 900 university students. PCI scores were associated significantly with all of the other measures and support was found for a mediational model of anxiety sensitivity and negative automatic thoughts as mediators of the links that perfectionistic automatic cognitions had with anxiety and depression. Perfectionistic cognitions are also implicated uniquely in burnout (e.g., Hill & Appleton, 2011).

Other work has also examined perfectionistic cognitions from an eating disorder perspective. Flett, Newby, Hewitt, and Persaud (2011) reported that undergraduate women with elevated PCI scores also tended to have more frequent bulimic automatic thoughts. Moreover, PCI scores explained unique variance in bulimic thoughts beyond the variance attributable to negative automatic thoughts and trait perfectionism. Other research by Downey, Reinking, Gibson, Cloud, and Chang (2014) established among undergraduate women that the links found between trait perfectionism and reported dieting behavior were fully mediated by perfectionistic cognitions.

Scores on the PCI are also associated with obsessive-compulsive tendencies. Ferrari (1995) described research with two undergraduate student samples and a third sample of 65 people who acknowledged a past history of being diagnosed with obsessive-compulsive symptoms. The PCI was correlated with self-reported obsessions and compulsion as well as anger directed inward at the self and expressed outwardly in public. There were particularly robust associations between PCI scores and both obsessions ($r = .69$) and compulsions ($r = .67$) in those people who had been diagnosed with obsessive-compulsive symptoms.

Perfectionistic cognitions are conceptualized as "state-like" because they are, in part, a reflection of current concerns and daily life experiences. However, it seems that those perfectionists who tend to think about needing to be perfect seem to have chronic, trait-like thoughts, though these thoughts will vary somewhat according to daily experience. This tendency was illustrated by Mackinnon, Battista, Sherry, and Stewart (2014). They utilized a 21-day experience sampling design to investigate the associations among perfectionistic self-presentation, perfectionistic cognitions, depression, and social anxiety in 165 undergraduate students. Daily assessments were obtained with an abbreviated three-item PCI (i.e., "I should be perfect," "I expect to be perfect," "My work should be flawless"). Generalizability theory analyses showed that there was substantial variability between people in the frequency of perfectionistic cognitions and there was also person-by-day variability in the frequency of cognitions. Other analyses showed with both between-subjects correlations and within-subject correlations, perfectionistic cognitions were associated with depression and social anxiety (*r*s ranging from .30 to .52).

Space restrictions preclude us from providing a more detailed review and analysis of extant research and theory on the concept of perfectionistic cognitions. Extended accounts can be found in Flett and Hewitt (2015) and in Flett, Nepon, and Hewitt (2015). However, it is important to underscore two key points. First, Flett et al. (1998) observed that there is merit in examining perfectionistic cognitions from a multidimensional perspective, and subsequent research with a multidimensional framework has confirmed that it is possible and meaningful to distinguish different types of perfectionistic cognitions (Stoeber, Kobori, & Tanno, 2010). Stoeber, Kobori, and Brown (2014) reported that subfactors exist within the PCI and it may be multidimensional even though it was conceived of as a unidimensional measure. We have outlined why we believe it is best to still regard

the PCI as unidimensional (Flett & Hewitt, 2014), but the notion of exploring facets of perfectionistic cognitions should be revisited.

Second, given mounting evidence of the unique predictive ability of perfectionistic cognitions, it seems clear that research and theory that focuses solely on trait perfectionism could be missing a vital element of the perfectionism construct. The failure to consider cognitive perfectionism seems particularly egregious in the eating disorders field. Vitousek and Hollon (1990) have argued cogently that schemas involving themes such as perfectionism become fused and interconnected with schemas reflecting eating, appearance, and weight-related concerns, so a measure that reflects schema activation such as the PCI should relate to various phenomena and factors involving eating and appearance. We feel that there is much to be gained by future lines of investigations that seek to tie together body image ideals, the internalization of these ideals, the ideal self as perfect, and cognitions related to the pursuit of perfection. Bardone, Sturm, Lawson, Robinson, and Smith (2010) illustrated the general merits of an emphasis on perfectionistic cognitions by showing that young adult females who had fully recovered from an eating disorder showed substantially lower PCI scores compared with a group of young women who still had an eating disorder. Consequently, we have incorporated perfectionistic cognitions as a major intrapersonal component of our comprehensive model of perfectionistic behavior and the perfectionism social disconnection model (see Hewitt et al., 2017). The intrapersonal component in these models involves perfectionistic cognitions and information processing as well as automatic self-derogation, both of which reflect the self-relational dialogue of perfectionists.

The Perfectionism Mindset

No chapter on perfectionism and cognition would be complete without a broader analysis of the general mindset of vulnerable perfectionists. To our knowledge, the term "perfectionism mindset" has not been introduced in the literature until now. The perfectionism mindset that we describe below should be especially evident when the individual perfectionist perceives failure or shortfalls and/or has made some key mistakes that are not easily remedied. This is in keeping with our concept of perfectionistic reactivity and the underlying vulnerability of perfectionists.

We maintain that a key observation when considering the perfectionism mindset is that perfectionists are dominated cognitively by an evaluative set geared toward seeing people (especially themselves) and circumstances as perfect or not perfect. Perfectionists are over-represented among those people who see the world around them in terms of its goodness versus badness (or who and what is perfect versus who or what is not perfect). They are highly evaluative people who are constantly involved in cognitive appraisals even when appraisals and judgments may not be needed or wanted, in contrast to people who have a more descriptive orientation. This evaluative set contributes to a tendency and a need to make quick categorical assessments. Perfectionists, relative to non-perfectionists, are more likely to interpret ambiguous situations and feedback as good or bad, or positive versus

negative, even when the information available really does not support such definitive conclusions. This tendency likely reflects their needs for predictability and certainty and the discomfort and negative arousal fostered by ambiguous circumstances.

The evaluative nature of perfectionistic individuals is seen clearly in the treatment of perfectionism, and addressing it is a major goal in the psychotherapeutic process (see Hewitt et al., 2017, and Chapter 15). This means that the therapist encourages, models, and structures the treatment so the patient can suspend the negative evaluative "default option" and work toward exploring and discovering aspects of themselves without a sense of evaluation but one of discovery and acceptance (also see Horney, 1950).

Another key factor when considering the perfectionism mindset applies to those perfectionists with workaholic tendencies who overstrive relentlessly and take on so many demands and challenges that they become burned out. These people are not only emotionally depleted, they are also cognitively depleted. No account of cognitive perfectionism would be complete without acknowledging the need to distinguish the perfectionist who is cognitively burned out versus the perfectionist who seems to be functioning reasonably well. Depleted perfectionists will have a form of cognitive exhaustion that contributes to difficulties in cognitive functioning and in cognitive performance, and this is evident in terms of both voluntary and involuntary cognitive processes. While there has been extensive work on perfectionism and burnout (cf. Hill & Curran, 2016), the cognitive aspects of being "burned out" have not been systematically evaluated. Future research on cognitive burnout seems like an essential direction for future perfectionism research.

Research on the cognitive aspects of perfectionism tends to support the observations put forth by theorists such as Ellis (1958, 1962), Burns and Beck (1978), and Pacht (1984). Collectively, there is substantial empirical evidence indicating that perfectionists tend to be rigid and engage in all-or-nothing dichotomous thinking (e.g., Egan, Piek, Dyck, & Rees, 2007). Earlier, we alluded to the tendency to engage in various forms of catastrophic thinking, and this tendency has been confirmed in various investigations (Davis & Wosinski, 2012; Graham et al., 2010; Rudolph, Flett, & Hewitt, 2007). Both self-oriented and socially prescribed perfectionism are linked consistently across several studies with pathological forms of catastrophic worry (Flett et al., 2015). Given the established role of perceived personal deficiencies in catastrophic worry (see Davey & Levy, 1998), it follows that perfectionistic worriers with self-doubts should be especially prone to experience multiple forms of catastrophic thinking and the iterative information processing styles that reflect this type of thinking.

Other elements of the perfectionism mindset include the tendencies to engage in overgeneralization (Flett et al., 1991; Hewitt et al., 1991) and personalization (Davis & Wosinski, 2012), and endorse irrational beliefs that emphasize an overdeveloped sense of personal responsibility (Rhéaume, Ladouceur, & Freeston, 2000). When these tendencies are combined with the rumination and perseveration shown by vulnerable perfectionists, it is not surprising that these perfectionists can

develop a form of cognitive exhaustion that is not in keeping with healthy forms of mindfulness and adaptive cognitive self-regulation.

It is important to get a better understanding of just how and why perfectionists come to rely on these highly maladaptive styles. Teasdale et al. (2001) provided some useful insights as part of their attempt to account for how dichotomous thinking contributes to relapse among people prone to depression. They noted that according to Harter (1999), it is actually the case that all-or-none thinking is normative from a developmental perspective and this type of thinking is quite common in very early to middle childhood. Perhaps the cognitive aspects of perfectionism reflect the compulsive and ritualistic period and the "just right phase" found among young children (see Evans et al., 1997). Teasdale et al. (2001) posited that distress activates mood-dependent depressive schemata that are "developmentally early" and are uncorrected by the reappraisals that people typically learn as they cognitively mature. In short, depression-prone people tend to revert back to earlier thinking styles such as dichotomous thinking. When we consider this possibility for perfectionists, it must be noted that perfectionists are also susceptible to dichotomous thinking as a result of having defined success in such absolute, categorical ways over the years.

The proposed perfectionism mindset can be detected among perfectionists undergoing treatment, and it often contributes to treatment resistance. Egan, Piek, Dyck, Rees, and Hagger (2013) reported that the majority of their 40 clinical participants said they would rather keep their perfectionism rather than change it. Moreover, their clients anticipated catastrophic consequences upon changing their perfectionism. Some clinical participants also had a dichotomous tendency to see the self as either up to the challenge or falling short and simply "not good enough."

Perfectionism Cognition Theory: An Expanded Analysis

It is important that the cognitive perfectionism field has a strong theoretical focus. Accordingly, with this in mind, we will conclude this chapter with an expanded account of the perfectionism cognition theory introduced by Flett et al. (2015). Relevant research is also summarized.

The initial version of perfectionism cognition theory (PCT) has several elements, but its central tenets are as follows: (a) Perfectionism is associated with faster and more frequent onset of rumination as well as persistent and prolonged rumination. (b) Perfectionists are prone to experience a wide array of various types of recurrent thoughts and forms of cognitive perseveration, including some types of overthinking that are quite unique to perfectionism. And (c) excessive cognitive activation and perseveration leads to an overdeveloped memory for mistakes, failures, and stressful experiences that highlight a sense of personal inadequacy. This cognitive activity is accompanied by a hypervigilance and cognitive bias toward related cues that signal the possibility of failure, mistakes, and negative social evaluations.

Below, we provide an extended description of PCT using the cognitive taxonomy proposed by Ingram and colleagues as part of their information processing

model of depression (Ingram, 1990a; Ingram & Kendall, 1986; Ingram, Miranda, & Segal, 1998). This useful framework consists of four levels: the structural level, the propositional level, the operational level, and the cognitive products level.

At the structural level, there are cognitive structures at a deep level and these include core schemas about the self, long-term memories, and associated cognitive networks that have been established by deeper cognitive processing. Cognitive structures can also include neural networks and associated physiological factors.

The propositional level includes bits of information and memory traces, but it consists mostly of beliefs and assumptions (i.e., dysfunctional attitudes and irrational beliefs). These beliefs and attitudes are stored in cognitive structures, so the propositional and structural levels interact with each other. Propositions are described as centralized and reflect a person's sense of self and identity. At the propositional level, propositional beliefs about the self can become connected to other propositional structures. Ingram (1990b) has suggested that rumination and stress stem, in part, from the presence of conflicting propositions.

The next level—the operational level—reflects the active cognitive operations that people engage in. Deficits in encoding and retrieval operations reflect the operational level. Ingram (1990b) posited that based on a spreading activation model of internal cognitive processes, negative internal thoughts about the self are primed and become predominant in ways that create a high level of self-focused attention. If taken to the extreme, people with heightened self-focused attention can become self-absorbed in ways that reduce their cognitive capacity.

Finally, the cognitive products level consists of the cognitive outputs experienced by the individual. Typically, these products are automatic thoughts and other types of self-statements. It also includes the cognitions, ruminative thoughts, and images that may preoccupy someone with deficits in cognitive control, such as the daydreams and unfocused thoughts characteristic of the person who engages in mind-wandering.

The framework outlined above is useful in considering cognitive perfectionism in vulnerable perfectionists. It was developed to represent the cognitive factors and processes implicated in depression, and it is widely accepted that certain perfectionism dimensions have consistent links with depression (e.g., Smith et al., 2016). Accordingly, we now consider cognitive perfectionism at each of the four levels.

Cognitive Perfectionism at the Structural Level

At a deep structural level, perfectionists will have multiple self-representations that can become activated depending on current life experiences. Perfectionists are people who have a core sense of self and identity that reflects their conviction that they (or others) must be perfect, and this will be incorporated into cognitive structures reflecting schemas for the actual self and the ideal self as perfect (either the internalized ideal self or the idealized self). The actual self-schema and the ideal self-schema are linked with each other in an associative network; and as opposed

to most people, extreme perfectionists will incorporate self-characteristics and related experiences that are self-descriptive but also include attributes that they lack and that detract from their sense of being perfect.

Consideration of the cognitive structures at this level includes the degree of interconnectedness within the schema that emerges as a result of life experiences. Because it is unlikely that extreme perfectionists who are prone to experience dissatisfaction will have many exceptionally positive experiences whereas failures and setbacks will often be experienced, it is reasonable to postulate that there will be extensive interconnectedness involving negative self-attributes and related experiences. However, there will be much less interconnectedness when it comes to cognitive representations of positive self-attributes.

Cognitive perfectionism at a deep structural level also incorporates long-term memories and other episodic memories that reflect vivid recall of intense autobiographical events. Great accomplishments and great failures that are personally significant and emotionally charged will be enduring and vividly remembered, as will autobiographical events stretching back to childhood or adolescence that promote a sense of personal inferiority and not meeting expectations (or grandiose self-superiority in the case of perfectionists with narcissistic tendencies; see Chapter 9). Overall, however, we suggest that memories will blend together, so that instead of recalling specific memories, perfectionists will typically recall general memories over a broad time period that include events involving a generalized sense of not being perfect and generalized views of the self.

Unfortunately, there has been a paucity of research thus far on the autobiographical memories of perfectionists and their impact. However, Rasmussen, O'Connor, and Brodie (2008) did establish among parasuicide patients that both overgeneral positive memories and overgeneral negative memories interacted with socially prescribed perfectionism to predict depression and suicide ideation. Nandrino, Doba, Lesne, Christophe, and Pezard (2006) also provided indirect evidence. They showed that anorexic patients, relative to control participants, had overgeneral positive and negative memories. Perfectionism likely played a role given that the anorexic patients had exceptionally high EDI scores, and perfectionism is a subscale of the EDI as described earlier.

Cognitive Perfectionism at the Propositional Level

At the propositional level, the main focus is on stored cognitive content in terms of perfectionistic dysfunctional attitudes that typically reflect self-worth contingencies (i.e., "If I am perfect, I will be loved and respected") and absolutist irrational beliefs that reflect the theme that perfection must be obtained and failures and mistakes must be avoided. These thoughts vary somewhat for people focused on seeming perfect rather than being perfect (i.e., "If I seem perfect, I will be loved and respected").

We also propose that there are at least two key distinctions at the propositional level that are highly relevant in cognitive perfectionism. First, Burns (1980)

highlighted the need to consider "emotional perfectionism" in terms of the dysfunctional beliefs about the importance of maintaining perfect emotional control. This is a key element at the propositional level. The experience of intense emotional experiences and negative arousal and distress that may accompany certain beliefs and thoughts will be inconsistent with this dysfunctional attitude emphasizing emotional perfectionism. Repeated experiences of negative emotions will have disruptive and arousing cognitive implications for perfectionists who interpret these negative emotions as further indicators of their lack of emotional perfection and their overall imperfections.

Cognitive perfectionism at the propositional level should also reflect the approach–avoidance conflict that characterizes many perfectionists. Covington (2000) characterizes perfectionists as defensive overstrivers who are focused jointly on striving in order to be successful and great and to avoid failure and the deep-seated sense of shame that comes from failures to meet prescribed expectations and personal standards. At the propositional level, the approach–avoidance conflict will be represented cognitively by endorsing beliefs and attitudes about the rewards inherent in achieving perfection and the consequences of failing to be perfect. At the propositional level, this conflict should represent a source of tension and stress for individuals who are driven to be perfect but who also have the potential to become just as driven to avoid the shame and humiliation of being imperfect.

Cognitive Perfectionism at the Operational Level

At the operational level, our expanded PCT makes three main assertions. First, perfectionists will have an attentional bias and reactivity toward threat cues, especially evaluative cues that have implications for their personal characteristics. Perfectionists who have chronic fears of negative evaluation and being publicly exposed as inadequate will be particularly attentive to social cues connoting failure or lack of acceptance. Second, perfectionists will have a cognitive orientation toward and bias for enhanced perfectionism-relevant cues and stimuli, especially when in negative mood states that activate the ideal or idealized self-schema. Third, this attentional bias and cognitive preoccupation will act as a form of cognitive interference that limits the cognitive capacity of working memory in ways that are comparable to the working memory deficits that accompany anxiety (Whitmer & Gotlib, 2013). As suggested above, these cognitive tendencies will be especially apparent among those perfectionists experiencing emotional distress or having elevated levels of stress or pressure.

At present, there is only limited research evidence testing the assertions of PCT, but other available evidence supports these suggestions. Experiments with the Stroop task have established that trait perfectionism is associated with cognitive responses to threat stimuli (Lundh & Öst, 1996, 2001). Lundh and Öst (2001) showed that participants with a high concern over mistakes took longer to process social threat cues. This was also found in a related investigation that used verbal priming to show changes in perfectionistic thinking in response to socially

evaluative cues (Saboonchi & Lundh, 1999). Kobori and Tanno (2012) had 40 undergraduate students with varying levels of self-oriented perfectionism perform a modified Stroop task. They found that students with elevated self-oriented perfectionism, relative to students with low self-oriented perfectionism, did not take longer to respond to failure words than to neutral words; they did, however, have significantly longer reaction times to failure words.

A recent study by Howell et al. (2016) compared attentional processing in 31 perfectionistic participants (high scores on FMPS concern over mistakes) and 25 non-perfectionists (low scores). An attentional probe task examined responses to stimulus words that varied in valence and in terms of their relevance to perfectionism. This investigation showed that the perfectionistic participants, relative to the non-perfectionists, were characterized by greater attention to negative words but only words that also reflected perfectionistic themes (e.g., failure, insufficient). Another recent experiment (Ben-Artzi & Raveh, 2016) used a word-list paradigm to examine the accuracy of memories and found that a measure of perfectionistic strivings predicted more accurate memories, whereas a measure of perfectionistic concerns was associated positively with the presence of false memories. Perhaps more importantly, participants with elevated perfectionistic concerns had demonstrably lower levels of memory discriminative ability, suggesting reduced capacity in working memory.

Besser, Flett, Guez, and Hewitt (2008) introduced the notion that perfectionism is associated with a memory bias for perfectionism-relevant stimuli. An experiment was conducted to assess the effects of positive versus negative mood on recognition memory. It was hypothesized that perfectionists induced into a negative mood state would have greater recognition memory for negative content and perfectionism-related content (i.e., words reflecting these categories). It was found that perfectionists recognized more words with perfectionistic themes when induced into a negative mood state but this did not translate into better memory of perfectionistic words. The main finding that emerged was that high PCI scorers (i.e., participants high in perfectionistic cognitions measured with the PCI) had greater recognition memory for negative words when in a negative mood state than did high PCI scorers in a neutral mood, whereas this enhanced recall for negative words when in a negative mood was not found among low PCI scorers. This significant interaction between perfectionistic cognitions and mood induction was interpreted as evidence of a dynamic relation between the cognitive manifestations of perfectionism and the experience of negative mood states. This enhanced recognition memory suggests that certain perfectionists engage in elaborative processing of negative information when in a negative mood in a manner that fits with the claim that there is a negative cognitive diathesis for depression activated when depression-prone people experience stress (Scher, Ingram, & Segal, 2005).

A more recent experiment conducted by Desnoyers (2013) also supports predictions derived from the PCT. This complex investigation involved exposing 121 participants to a mood induction and a threat condition prior to performing

three cognitive tasks, including one task that involved the recall of positive, negative, neutral, and perfectionistic words. A key finding was that high PCI scorers in the negative mood induction condition, as opposed to those in the neutral or positive mood induction conditions, had quicker reaction times to the perfectionism words. However, high PCI scorers had slower reaction times to all four types of words, and this was interpreted as evidence of their cognitive preoccupations and their reduced ability to dedicate cognitive resources to performance tasks.

Cognitive Perfectionism at the Product Level

The PCT postulates that at the product level, "cognitively activated" perfectionists will experience automatic thoughts and various other forms of perseverative cognition. Moreover, they will experience frequent uncontrollable intrusive images related to being perfect and falling short of perfection. The frequent thoughts and images that are experienced will drain cognitive resources and will trigger relatively ineffective attempts to engage in thought suppression because such thoughts are not in keeping with the perfectionist's goals and objectives.

The various forms of perseverative cognition experienced here have been described by Flett et al. (2015). Cognitive activation can include various forms of uncontrollable worry and cognitive products such as mistake ruminations and stress-related rumination. Here it is important to reiterate Martin and Tesser's (1989) observation that these ruminative thoughts reflect the frustration of not reaching an important goal while in a stage of "endstate thinking" where the focus is on the goal itself instead of strategies to achieve the goal.

Regarding the proposed experience of intrusive images, it follows that the heightened cognitive activation of perfectionists should contribute to various forms of cognitive interference, including bouts of mind-wandering, and these cognitive difficulties will be especially evident when in states of high stress or high arousal. Evidence of the presence of these intrusive cognitions was provided in research linking PCI scores with reports of intrusive images following the experience of stressful events (Flett, Madorsky, Hewitt, & Heisel, 2002). Other relevant evidence was reported by Flett et al. (1998) who examined PCI scores and responses to the Distressing Thoughts Questionnaire (DTQ; Clark & Hemsley, 1985). The DTQ taps distressing thoughts and images related to depressive themes (e.g., "thoughts and images that I am a failure") and anxious themes (e.g., "thoughts or images that something is, or may in the future be wrong with my health"). Correlational results indicated that people who experience frequent rumination about needing to be perfect also tend to experience thoughts and intrusive images associated with depression and anxiety in daily life.

Concluding Comments

The extended version of the PCT outlined above will be modified as relevant research accumulates. As we noted earlier, it is our hope that the current chapter

and our more extensive description of the PCT will provide additional impetus for future research on perfectionism and cognition. Hopefully, this research will incorporate a greater emphasis on positive thoughts and tests the possibility that perfectionism is largely about an absence of positive thoughts. Deficits in positive cognition are not surprising if someone has an information processing system that promotes chronic self-evaluation according to an exacting cognitive prototype that links self-attributes and personal events with an extremely idealistic self-schema.

A final aspect of the PCT is our belief that perfectionism, including the cognitive elements, typically has a purpose and serves a function for the perfectionistic individual (see Hewitt et al., 2017). So what functions are served by the cognitive elements of perfectionism? As stated earlier, the cognitive elements reflect the intrapersonal self-relational component of our model. We maintain that perfectionism, in general, represents a reparative solution to the problem of depleted self-worth and an abiding sense of not fitting in, not belonging, or not mattering to others. Perfectionistic cognitions form one component of that solution and one can think of automatic perfectionistic cognitions as encouragements to be perfect, to put forth efforts that will result in perfection, preparation for feedback, or even, a distorted form of self-soothing in the face of failure. According to Horney (1939), a key purpose is prevention. She suggested that the person who is overly concerned with appearing perfect experiences internal thoughts in the form of "self-recriminations." These self-recriminations also serve the purpose of motivating the perfectionist so that he or she can achieve and act in ways that prevent possible humiliations before they occur. The self-criticism elements can also serve the purpose of excessive self-punishment and inducement for perfection in the future that may reflect early learning about how to be perfect (cf. Flett, Hewitt, Oliver, & Macdonald, 2002).

Given the important distinction between striving for excellence versus striving for perfection, it is likely that highly illuminating information will come from cognitive research that contrasts people who are driven to achieve absolute perfection and people with slightly more modest goals. Thus far, programmatic research comparing these different types of individuals has not been conducted, so despite all that has been done so far in the perfectionism field, there is still much more work that remains to be done.

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PART II

Perfectionism in Special Populations

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6

PERFECTIONISM AND ANXIETY IN CHILDREN

Nicholas W. Affrunti and Janet Woodruff-Borden

Overview

Although perfectionism has long been implicated in anxiety disorders in adults, it has only recently begun to show similar associations among children. During the past decade, research has shown that perfectionism is associated with greater anxiety symptoms, greater severity of disorders, and poor treatment response for childhood anxiety disorders. This chapter will begin by outlining the research that links perfectionism with anxiety symptoms, disorders, and treatment response in children. Then, factors that may influence and explain why perfectionism is connected with child anxiety will be examined. The chapter will close with a call for further research in the area. Despite advances in our understanding of the role of perfectionism in childhood anxiety disorders, there remain many important areas in need of continued study.

Perfectionism in Childhood Anxiety

Perfectionism has been implicated as a factor that contributes to the development and maintenance of anxiety disorders (Affrunti & Woodruff-Borden, 2014; Egan, Wade, & Shafran, 2011; Wheeler, Blankstein, Antony, McCabe, & Bieling, 2011). In adults, perfectionism predicts social anxiety (Heimberg, Juster, Hope, & Mattia, 1995), panic disorder (Antony, Purdon, Huta, & Swinson, 1998), generalized anxiety disorder (Santanello & Gardner, 2007), and obsessive-compulsive disorder (OCD; Frost & Steketee, 1997; Norman, Davies, Nicholson, Cortese, & Malla, 1998). Though research on the role of perfectionism and anxiety in children is less prevalent than research using adults, evidence is beginning to support similar associations.

Theoretically, children who are highly perfectionistic may worry, or feel anxious about not meeting expectations (Flett, Coulter, Hewitt, & Nepon, 2011;

Flett, Hewitt, Oliver, & Macdonald, 2002). Additionally, these children may fear the consequences of mistakes as threats with which they cannot cope. Children who are anxious may use high, rigid standards as a maladaptive strategy to assuage anxiety in challenging situations. For these children, when standards are met, the anxiety is reduced and those standards are positively reinforced. This may suggest to children that rigid standards are needed to provide a sense of certainty in their pursuit that would otherwise cause anxiety if absent. When standards are not met, anxiety increases and failing to achieve those standards may be punished (e.g., by parental criticism or a poor grade). This may lower children's self-perceived competence and create greater fear when presented with a subsequent situation where they may not meet their standards. In this way, high and rigid standards may predispose children for increased anxiety.

Though these hypotheses remain untested empirically, they suggest that there are multiple reasons that perfectionistic children are at risk of developing anxiety. As such, in this chapter we will not only review the literature that links perfectionism with childhood anxiety but also those factors which may explain the associations between perfectionism and childhood anxiety. Because this research is in its nascent stages, it should be interpreted with some caution. In addition, given the preliminary nature of this research, a future directions section will provide suggestions to expand the current knowledge base. For the purposes of this chapter, children will refer to individuals under 18 years of age, adolescents will refer to individuals between 13 and 18 years of age, and adults will refer to individuals over 18 years of age.

Associations With Total Anxiety Symptoms

Evidence from numerous studies supports the notion that perfectionism is a risk and maintenance factor for the development of anxiety symptoms in children. This section will review research that pertains to total anxiety symptoms, rather than specific diagnoses, because the majority of studies examining perfectionism and anxiety in childhood use scales that assess total anxiety symptoms (Hewitt et al., 2002). Those studies examining symptoms within specific diagnoses (e.g., obsessive-compulsive symptoms) are reviewed in a separate section. Individual studies are summarized in Table 6.1.

TABLE 6.1 Summary of Reviewed Studies Linking Perfectionism With Anxiety Symptoms and Disorders in Children

Study	*Symptoms/ disorders*	*Sample characteristics*	*Perfectionism dimensions*	*Key findings*
Affrunti & Woodruff-Borden (2016)	Worry, anxiety symptoms	$N = 61$; ages 7–13 years	SOP-critical, SPP	SOP-critical predicted greater worry; SPP predicted greater anxiety symptoms

Affrunti & Woodruff-Borden (in press)	Worry	*N* = 66; ages 7–13 years	SOP-critical, SPP	SOP-critical and SPP predicted greater worry
Essau, Conradt, Sasagawa, & Ollendick (2012)	Anxiety symptoms	*N* = 632; ages 6–12 years	Perfectionism	Perfectionism decreased during anxiety prevention program; perfectionism predicted lower treatment gains
Essau, Leung, Conradt, Cheng, & Wong (2008)	Anxiety symptoms	*N* = 1,022; ages 12–17 years	SOP, SPP	SOP and SPP associated with greater anxiety symptoms
Flett, Coulter, Hewitt, & Nepon (2011)	Worry, rumination	*N* = 81; mean age = 12.8 years	SOP, SPP	SOP associated with worry and rumination; SPP associated with worry
Hewitt et al. (2002)	Anxiety symptoms	*N* = 114; ages 10–15 years	SOP, SPP	SOP and SPP associated with greater anxiety symptoms
Libby, Reynolds, Derisley, & Clark (2004)	OCD diagnosis	*N* = 118; 28 diagnosed with OCD; ages 11–18 years	PS, CM, PE, PC, O	PS, CM, and O associated with an OCD diagnosis
McCreary, Joiner, Schmidt, & Ialongo, (2004)	Anxiety symptoms	*N* = 481; African American sample; mean age = 11.8 years	SOP-critical, SOP-striving, SPP	SOP-critical and SPP predicted greater anxiety symptoms over 1 year
Mitchell, Newall, Broeren, & Hudson, (2013)	Anxiety symptoms	*N* = 67; diagnosed with anxiety disorder; ages 9–12 years	SOP, SPP	SOP decreased during anxiety treatment; pre-treatment SOP predicted lower treatment effect
Nobel, Manassis, & Wilansky-Traynor (2012)	Anxiety symptoms	*N* = 78; ages 8-11 years	SOP, SPP	SOP associated with greater anxiety symptoms
O'Connor, Rasmussen, & Hawton (2010)	Anxiety symptoms	*N* = 737; mean age = 15.2 years	SOP-critical, SOP-striving, SPP	SOP-critical and SPP predicted greater anxiety symptoms over 6 months
Soreni et al. (2014)	OCD severity	*N* = 94; diagnosed with OCD; ages 9–17	SOP-striving, SPP, SM, CE, CP, NFA	SOP-critical and CP predicted greater OCD symptom severity
Ye, Rice, & Storch (2008)	OC symptoms	*N* = 31; diagnosed OCD; ages 7–18 years	SM, CE, CP, NFA	SM associated with greater OC symptoms

Note: Symptoms/disorders: OCD = obsessive-compulsive disorder, OC = obsessive-compulsive. Perfectionism dimensions: SOP = self-oriented perfectionism, SPP = socially prescribed perfectionism, perfectionism = single dimension of perfectionism used, PS = personal standards, CM = concern over mistakes, PE = parental expectations, PC = parental criticism, O = organization, SM = sensitivity to mistakes, CE = contingent self-esteem, CP = compulsiveness, NFA = need for admiration.

Within this literature, studies vary in their use of sample sizes, sample characteristics, anxiety rating scales, and methodology. Despite differences in these specifics, similarities do appear to emerge. First, there are consistent findings that perfectionism and total anxiety symptoms are positively associated in cross-sectional studies (Affrunti & Woodruff-Borden, 2016; Essau, Leung, Conradt, Cheng, & Wong, 2008; Hewitt et al., 2002; Nobel, Manassis, & Wilansky-Traynor, 2012). For example, in the largest of these studies, Essau and colleagues (2008) examined self-oriented perfectionism and socially prescribed perfectionism (Hewitt & Flett, 1991) in 594 children aged 12 to 17 years and found that both forms of perfectionism were positively associated with total anxiety symptoms. Similar findings were reported in children aged 8 to 11 years (Nobel et al., 2012). Second, the dimensions of perfectionism that predict increased total anxiety symptoms may differ depending on the study. For example, Hewitt et al. (2002) found that both self-oriented perfectionism and socially prescribed perfectionism predicted total anxiety symptoms, whereas Affrunti and Woodruff-Borden (2016) found that socially prescribed perfectionism predicted total anxiety symptoms when controlling for depressive and worry symptoms. Such differences make direct comparisons difficult; however, it appears likely that different dimensions of perfectionism are related to anxiety symptoms in different circumstances. Third, perfectionism predicts increased total anxiety symptoms longitudinally, as demonstrated in two studies (McCreary, Joiner, Schmidt, & Ialongo, 2004; O'Connor, Rasmussen, & Hawton, 2010). These studies found that the same dimensions of perfectionism predicted anxiety symptoms at six-month and one-year follow-ups in large samples of children with mean ages of 11 and 15 years respectively. These studies provide the strongest evidence yet that increased perfectionism leads to increased anxiety, rather than the two simply co-occurring. In sum, though studies are sparse, current research has consistently linked perfectionism with total anxiety symptoms in youths. As such, perfectionism appears not only to commonly occur alongside anxiety, but is predictive of anxiety over time.

Although these studies did not differentiate anxiety symptoms, they provide important information on the nature of perfectionism and anxiety in children. For example, studies linking perfectionism and total anxiety symptoms suggest that children who are perfectionistic may be more fearful and vigilant for threat in their environments, regardless of situation. Indeed, such biases have been shown related to perfectionism in adults (Lundh & Öst, 2001). Further, studies linking perfectionism with total anxiety symptoms suggest perfectionism and anxiety symptoms arise from similar processes. For example, anxious rearing—a parental style characterized by a focus on the negative consequences of mistakes and the use of controlling behaviors to minimize those consequences—is linked with both perfectionism and child anxiety (Affrunti & Woodruff-Borden, 2015; Mitchell, Broeren, Newall, & Hudson, 2013). Importantly, these hypotheses remain to be tested. Yet, knowledge of the links between perfectionism and total anxiety symptoms allows further analysis into prospective mutual causes and effects and specific anxiety symptom dimensions.

Associations With Worry

In addition to studies examining perfectionism and total anxiety symptoms, studies have found perfectionism to be positively associated with childhood worry. Worry may have a particular link with perfectionism as children who are perfectionistic may worry in an attempt to control their emotions (Affrunti & Woodruff-Borden, 2016). Additionally, children who are perfectionistic may see worry as beneficial and necessary to achieve their standards. Such cognitions are often seen in high worriers (Gosselin et al., 2007). However, few studies have examined the role of perfectionism in childhood worry as a separate anxiety symptom. Yet, within those few studies, common findings appear.

The three studies that currently have linked perfectionism and worry in children have used relatively small community samples (all under 100 children) and cross-sectional data, which greatly limit the conclusions that can be made. However, two of these studies have found that both self-oriented perfectionism and socially prescribed perfectionism were implicated in childhood worry, such that higher perfectionism scores predicted greater worry (Affrunti & Woodruff-Borden, in press; Flett et al., 2011). One study found that only self-oriented perfectionism predicted greater worry, when controlling for other symptoms of anxiety and depressive disorders (Affrunti & Woodruff-Borden, in press). Despite the noted limitations in this research, there are consistent findings suggesting that perfectionism predicts greater worry in children. Further research will be needed to determine if such relationships hold over time and extend to clinical samples.

Associations With Anxiety Disorders

Distinct from the above reviewed studies, previous work has examined the role of perfectionism in specific anxiety disorders. Additionally, this section will include studies examining anxiety at the symptom level provided they do so within a specific disorder (e.g., OCD). Importantly, this body of research is relatively sparse compared with those examining total anxiety symptoms. Yet, it is important to differentiate between the two areas of research because research focusing on a discrete anxiety disorder may yield more specific information as to how associations differ across anxiety disorders (Affrunti & Woodruff-Borden, 2014).

The only anxiety disorder that has been investigated with specificity is OCD. Libby, Reynolds, Derisley, and Clark (2004) examined perfectionism using the Frost Multidimensional Perfectionism scale which differentiates six perfectionism dimensions: personal standards, concern over mistakes, doubts about actions, parental expectations, parental criticism, and organization (Frost, Marten, Lahart, & Rosenblate, 1990). They found personal standards, concern over mistakes, and organization were positively associated with a diagnosis of OCD. Parental expectations and parental criticism were not associated with a diagnosis of OCD, and the dimension of doubts about actions was not evaluated. Although the investigation into a specific anxiety disorder is a strength of this study, the use of a

small sample and cross-sectional data limit the study's conclusions. Soreni et al. (2014) reported that perfectionism was positively associated with the severity of OCD symptoms in a sample of children and adolescents, aged 9 to 17 years, diagnosed with OCD. Similar findings were reported by Ye, Rice, and Storch (2008) in a separate sample of children and adolescents, aged 7 to 18 years, diagnosed with OCD. Taken together, these studies suggest that perfectionism is associated with greater and more severe symptoms in OCD, which parallels findings from research on adults (Frost & Steketee, 1997; Rhéaume, Freeston, Dugas, Letarte, & Ladouceur, 1995). However, the directionality of the relationship is not clear. At this point, no longitudinal studies have been conducted examining perfectionism and OCD in children. Future work must remedy this. Additionally, the lack of research examining perfectionism in other childhood anxiety disorders (e.g., social phobia, separation anxiety disorder, generalized anxiety disorder) is a glaring gap in the literature. Far more work is needed in this area to understand the role of perfectionism across childhood anxiety disorders.

The Effect of Perfectionism on Anxiety Treatment

Further evidence for the role of perfectionism in childhood anxiety disorders comes from research examining the effects of perfectionism in the treatment and prevention of anxiety disorders. Perfectionism has been hypothesized to interfere and undermine effective treatment and prevention by creating unrealistic standards for coping in the patient (Hewitt & Flett, 1991). Because these standards cannot be reached during treatment, patients perceive treatment to have failed and return to previous patterns of thinking and behaving. For example, children may expect the elimination of all distress from treatment. When this does not occur, they can become emotionally reactive; not only distressed by the stressor in the environment, but also by their failure to meet the treatment goal. Additionally, some children may also struggle with the process of working toward their goals in therapy, either hiding their difficulty completing tasks to appear perfect or refusing to engage in tasks due a perception that they will fail at meeting their goals. Though there is some evidence for these assumptions in the treatment of childhood depression (Jacobs et al., 2009; Nobel et al., 2012), findings are less clear in the treatment of childhood anxiety disorders.

In the only examination of the role of perfectionism in the treatment for children diagnosed with an anxiety disorder, Mitchell, Newall, Broeren, and Hudson (2013) found that pre-treatment self-oriented perfectionism (but not socially prescribed perfectionism) predicted poorer treatment outcome for a group of children receiving cognitive-behavioral treatment (CBT). These findings were the same at post-treatment and six-month follow-up. Furthermore, two studies investigated perfectionism in the prevention of anxiety disorders and symptoms in at-risk children (Essau, Conradt, Sasagawa, & Ollendick, 2012; Nobel et al. 2012). Similar to the findings of Mitchell, Newall et al. (2013), Essau et al. (2012) found that perfectionism impeded treatment gains of a CBT prevention program at a

12-month follow-up. That is, children with lower levels of perfectionism had greater decreases in symptoms 12 months after the completion of the prevention program. The authors speculated that those children with greater levels of perfectionism saw lower decreases in symptoms because they may have struggled to generate problem-solving strategies and may have made more perseverative errors, which reduced the efficacy of the treatment. Discrepant from these findings, Nobel et al. (2012) found that perfectionism did not impact treatment outcomes for a school-based CBT program for at-risk children. Data were only collected at post-treatment, but long-term follow-up data were not reported. It is possible that the discrepant findings from Nobel et al. are the result of different follow-up times. For example, it is possible that perfectionistic children at-risk of anxiety disorders show immediate treatment gains from such a prevention program. However, these gains may not last. Indeed, consistent with Hewitt and Flett's (1991) theory, children with high levels of perfectionism may revert to old patterns of behavior over time because their standards for coping are not met. At-risk children may be more likely to show immediate treatment gains, when compared to diagnosed children, because experiences with strong negative emotions arise less frequently for at-risk children than diagnosed children. As such, in the short term, at-risk children may function better until reverting to old patterns of behavior because of unmet standards for coping. Future studies focusing on the trajectory of treatment for perfectionistic children, both within and after treatment is completed, are needed to contextualize these findings. Additionally, differences in how perfectionism affects treatments aimed at at-risk children versus treatments aimed at diagnosed children need to be further understood.

The growing body of literature linking perfectionism with childhood anxiety disorders lends initial support to the theory that perfectionism is a significant factor for the development and maintenance of these disorders. Perfectionism predicts total anxiety symptoms, suggesting perfectionistic children are more fearful overall and biased toward threat across environments. Additionally, the link between perfectionism and worry in children may arise because perfectionistic children are more fearful. That is, perfectionistic children may worry as an attempt to control emotions such as fear. By engaging in worry, perfectionistic children perpetuate their fear and emotion dysregulation. Separately, perfectionism may have similar associations with OCD. Perfectionistic children may engage in compulsive behaviors as a maladaptive attempt to cope with obsessive thoughts. Despite the above hypotheses on why perfectionism associates with anxiety disorders in children, the unique contribution of perfectionism to the development and maintenance of anxiety disorders over developmental factors such as temperament, executive function, and parenting is not well known.

To help explain how and why the above associations between perfectionism and child anxiety exist, mediating factors must be examined (cf. Baron & Kenny, 1986). Such factors may explain why perfectionism is associated with multiple anxiety disorders. It is likely that various factors occurring throughout development act as mechanisms through which perfectionism exerts its effect on childhood

anxiety disorders. Although such research is in its infancy, a growing body of evidence suggests that perfectionism may associate with anxiety disorders through a number of separate mechanisms.

Mediators of Perfectionism and Anxiety Disorders

Theory and research have implicated multiple mechanisms linking perfectionism and anxiety (Hill, Hall, & Appleton, 2010; Libby et al., 2004; Moretz & McKay, 2009). Intolerance of uncertainty, lowered perceived competence, "not just right experiences," and effortful control have all shown associations with perfectionism and anxiety disorders. Indeed, these factors have been theorized as possible mechanisms through which perfectionism relates to the development of anxiety disorders (Affrunti & Woodruff-Borden, 2014). They may also represent possible paths that are part of multiple causal routes within the development of these disorders. Importantly, much of this research remains preliminary, limiting our understanding of the exact nature of the associations observed across development. Additionally, research using children is sparse. Consequently, in the following section, we will also review research using adult samples where research using children is absent from the literature.

Intolerance of Uncertainty

Intolerance of uncertainty reflects the concept that ambiguity in situations is inherently threatening or negative and should be avoided (Dugas, Buhr, & Ladouceur, 2004), and it has been implicated in disorders such as generalized anxiety disorder, OCD and depression (Buhr & Dugas, 2006; Dugas, Schwartz, & Francis, 2004; Gallagher, South, & Oltmanns, 2003; Gentes & Ruscio, 2011; Tolin, Abramowitz, Brigidi, & Foa, 2003). Intolerance of uncertainty may link perfectionism with anxiety disorders because the high and rigid standards and perceived negative consequences that occur in perfectionism make uncertainty a fearful prospect. In uncertain situations, perfectionistic children may be unsure if standards have been met, creating fear and worry about that situation. This increased distress may in turn increase their risk of developing an anxiety disorder. This may be especially true for generalized anxiety disorder and OCD. For example, perfectionistic children who are also intolerant of uncertainty may engage in worry or compulsive behaviors in an attempt to reduce distress around uncertain situations.

Research examining the relationship of intolerance of uncertainty and perfectionism has only been correlational. Buhr and Dugas (2006) reported significant positive correlations between intolerance of uncertainty and perfectionism in 197 undergraduates. Similar significant correlations were found in a sample of 191 adolescents, 14 to 18 years of age (Boelen, Vrinssen, & van Tulder, 2010). No conclusions can be drawn about temporal or causal directionality or specific dimensions. Yet, these findings are consistent with the proposition that

intolerance of uncertainty mediates the association between perfectionism and child anxiety.

In some contemporary cognitive models of OCD, intolerance of uncertainty and perfectionism are conceptualized as specific dysfunctional beliefs that give rise to obsessive-compulsive symptoms (Clark, 2004; Frost & Steketee, 2002; Libby et al., 2004). Indeed, in factor analytic studies, perfectionism and intolerance of uncertainty in adults have collapsed into a single factor (Taylor, Afifi, Stein, Asmundson, & Jang, 2010). This suggests that those who are highly perfectionistic are also likely to develop intolerance of uncertainty in the context of OCD. Longitudinal studies are needed to determine directionality and strengths of these relationships across development. Preliminary evidence for intolerance of uncertainty as a mediator between perfectionism and OCD comes from a sample of 475 undergraduates (Reuther et al., 2013). Researchers found that intolerance of uncertainty mediated the relationship between perfectionism and obsessive-compulsive symptoms. Although the data were not longitudinal, the findings are consistent with the theory that perfectionism leads to distress in uncertain, unexpected situations, which may lead to increased risk for anxiety disorders.

The need for further investigation of perfectionism and intolerance of uncertainty across development is clear. As no studies have investigated perfectionism and intolerance of uncertainty in children, hypothetical explanations for their association are presented. It is plausible that intolerance of uncertainty and perfectionism influence each other throughout development, putting children at increased risk for anxiety. Additionally, perfectionism and intolerance of uncertainty together may prime children to worry, or engage in compulsive behaviors, increasing their risk of generalized anxiety disorder and OCD. Longitudinal studies are required to understand the temporal directionality and causality of these relationships.

Perceived Competence

Perceived competence has been defined as the belief in one's own mastery over things in the environment. This has been conceptualized as including separate but related domains of competence: cognitive, social, and physical (Harter, 1982). Yet, these competence-based domains relate to a global factor of competence (Granleese & Joseph, 1994). Both the competence-based domains and the global factor have shown links with perfectionism and anxiety disorders (Grills & Ollendick, 2002; McVey, Pepler, Davis, Flett, & Abdolell, 2002; Rice, Choi, Zhang, Morero, & Anderson, 2012). Theoretically, continued perceived failure at achieving high and rigid standards would lead to the development of low competence. This low competence would then lead to anxiety disorders by raising anxiety and lowering coping. For example, children who perceive themselves as failures in the social domain may become more anxious in social situations, which puts them at risk of developing social phobia. Whereas no study has examined these assumptions across development, separate lines of research do provide some support.

Perfectionism has been linked with low perceived competence. In a sample of 286 undergraduates, interpersonal competence was negatively associated with perfectionism (Jackson, Towson, & Narduzzi, 1997). Similar results were reported in a sample of 363 females with a mean age of 13 years (McVey et al., 2002). In a sample of 187 females with a mean age of 14 years, perfectionism was found to be negatively associated with domain-specific competencies (McArdle, 2010). That is, perfectionism about cognitive tasks was associated with low perceived competence about cognitive tasks, but not with low perceived competence about physical tasks. Conversely, perfectionism about physical tasks was associated with low perceived competence about physical tasks, but not with low perceived competence about cognitive tasks. This suggests that perfectionism leads to domain-specific competence deficits. Yet, some research has shown that perfectionism predicts greater global deficits of competence (DiBartolo, Frost, Chang, LaSota, & Grills, 2004; Rice, Ashby, & Slaney, 1998).

Separately, there is a large body of research that has linked poor competence with anxiety disorders (Masten, Burt, & Coatsworth, 2006; Messer & Beidel, 1994; Rutter, Kim-Cohen, & Maughan, 2006). For example, in a longitudinal study following 87 children from Grade 2 to Grade 5, perceptions of social incompetence were predictive for subsequent internalizing problems, including anxiety (Hymel, Rubin, Rowden, & LeMare, 1990). Further, more specifically, lower self-competence predicted child anxiety symptoms (Affrunti & Ginsburg, 2012; Messer & Beidel, 1994). A longitudinal study examining predictors of social anxiety and fear of negative evaluation in children of 13 to 18 years, found that a lack of perceived social competence predicted social anxiety (Teachman & Allen, 2007). In a separate longitudinal study following 205 children from the age of 8 years to 28 years, social incompetence predicted subsequent internalizing problems at all follow-ups: 7, 10, and 20 years after the initial assessment (Burt, Obradović, Long, & Masten, 2008). Furthermore, children diagnosed with an anxiety disorder tend to perceive themselves as less competent when compared to their non-diagnosed peers (Ekornås, Lundervold, Tjus, & Heimann, 2010).

No study so far has combined these two lines of research. Taken together, however, the extant research suggests that individuals high in perfectionism may develop low competence when faced with frequent perceived failure. This may occur when a perfectionistic individual fails to achieve to the standard set by them or by others, perceiving themselves to have failed. This may influence domain-specific areas of competence. For example, specific areas of perfectionistic concern (e.g., social relationships) may lead to reduced competence for this specific area when a standard is not met. This reduced competence may then increase the risk of developing anxiety disorders in children.

Importantly, research has not yet investigated the temporal or causal directionality of the relationship between perfectionism and lowered self-competence. Competence, like perfectionism, is likely influenced by multiple developmental factors. For example, parental control and authoritarian parenting have shown to be predictive of competence deficits by restricting a child's ability to develop

competence in challenging situations (de Minzi, 2006; Grolnick & Ryan, 1989). These parental factors have also shown to be predictive of perfectionism in children (e.g., Affrunti & Woodruff-Borden, 2015) and adolescents (Soenens et al., 2008). Future research must better clarify the role of perfectionism in the development of competence and the multiple pathways they may create in the development of anxiety disorders in children.

"Not Just Right Experiences"

The phenomenon of a "not just right experience" (NJRE) reflects experiences when individuals report uncomfortable sensations that compel them to perform certain behaviors until the uncomfortable sensation is resolved as being "just right" (Coles, Frost, Heimberg, & Rhéaume, 2003). These behaviors are conceptualized as a striving for perfection, certainty, or control that needs to be achieved in order to reduce distress. That distress likely arises out of a mismatch between input and expectations (Coles, Frost, Heimberg, & Steketee, 2003). NJREs are often observed in OCD, though they have also been observed in individuals with tic disorders (Ghisi, Chiri, Marchetti, Sanavio, & Sica, 2010; Miguel et al., 2000; Neal & Cavanna, 2013). There is also some research indicating that NJREs are positively related to generalized anxiety disorder symptoms and worry (Fergus, 2014). Perfectionism likely leads to the sensation that certain experiences are imperfect, or "not just right," which leads to distress. Behaviors such as compulsions or worry may function as a way to decrease this distress, leading to anxiety disorders such as OCD and generalized anxiety disorder.

Few studies have investigated the association between perfectionism and NJREs. However, in these few studies, perfectionism has been found to be strongly positively associated with NJREs. Coles, Frost, Heimberg, and Rhéaume (2003) found that NJREs positively associated with all perfectionism dimensions of two perfectionism questionnaires in a sample of 119 undergraduates. Similar results were reported in another undergraduate sample of 188 students (Moretz & McKay, 2009). Whereas these studies provide preliminary evidence for the link between NJREs and perfectionism, they are limited by their use of undergraduates and cross-sectional data. More research is needed to confirm that perfectionism precedes the development of NJREs in the development of OCD or worry. Furthermore, more research is needed exploring these developmental links in children.

Though NJREs are understudied in children, sensory intolerance may represent analogous experiences in children. Sensory intolerance reflects the phenomenon of marked intolerance or intrusive re-experiencing of sensory stimuli that drive compulsive behaviors (Hazen et al., 2008). As such, sensory intolerance may include NJREs as one possible subtype (Miguel et al., 2000) and is common in children diagnosed with OCD or tic disorders (Ferrão et al., 2012; Hazen et al., 2008). Yet, the role of perfectionism within sensory intolerance experiences is not well understood. Though clinical case studies report co-occurrences between

sensory intolerance and perfectionism (Hazen et al., 2008), no studies have empirically investigated this connection. It is possible that NJREs and sensory intolerance are indicators of perfectionism in children, which may put them at risk of anxiety disorders. However, far more research is needed in exploring the associations between NJREs, sensory intolerance, perfectionism, and anxiety among children.

Effortful and Emotional Control

Effortful control is the ability to suppress a dominant response in order to perform a subdominant response. It is often conceptualized as a temperament factor and refers to the focusing and shifting of attention and inhibiting behavior when appropriate (Rothbart, Ellis, & Posner, 2004). In particular, it is the combination of attentional and inhibitory control that acts to regulate experience and overlaps with executive function, temperament, and self-regulation (Kochanska, Murray, & Harlan, 2000). Additionally, effortful control can assist in the modulation of emotional responses using executive function (Gioia, Isquith, Guy, & Kenworthy, 2000). Separate lines of research have linked effortful control with perfectionism (Mandel, Dunkley, & Moroz, 2015; Tangney, Baumeister, & Boone, 2004) and anxiety (Lonigan & Vasey, 2009; Muris, van der Pennen, Sigmond, & Mayer, 2008; Muris, de Jong, & Engelen, 2004) in children. These studies suggest that perfectionism may predispose children to effortful control deficits, which may predict increased anxiety symptoms and disorders in youths. Hypothetically, perfectionism may predict lower effortful control by preventing children from regulating their actions when perceived failure occurs. Perfectionistic children may experience distress when perceived failure occurs, be unable to regulate that distress, and feel anxious or worry about that situation in the future. Although research has yet to test this hypothesis directly, previous research has provided indirect support for it (e.g., Muris et al., 2004; Tangney et al., 2004)

Similarly, emotional control, or the ability to modulate emotional responses using executive control, has been theorized to associate with both increased perfectionism and anxiety symptoms (Affrunti & Woodruff-Borden, 2014). Perfectionism may predict decreased emotional control, as children who are perfectionistic may be unable to modulate their emotional responses when perceived failure occurs. This may show when a child becomes overwhelmed and has difficulty coping with strong emotions in the face of perceived failure. There are studies suggesting that emotional control and perfectionism are linked, yet they have been primarily conducted with adult samples (Rudolph, Flett, & Hewitt, 2007; Wirtz et al., 2007). Additionally, this decreased ability to control their emotions may cause children to become anxious or worried about future situations. Indeed, children with emotional control deficits have shown to be at risk for increased anxiety (Suveg & Zeman, 2004) and worry (Gramszlo & Woodruff-Borden, 2015). A single study has linked these two areas of research. In this study of 66 children, aged 7 to 13 years, emotional control deficits were found to mediate

the association between perfectionism and worry (Affrunti & Woodruff-Borden, in press). Although this was not a clinical sample and only measures of worry, not anxiety, were used, the findings provide preliminary support for the above propositions.

Although the factors discussed above all have some studies providing empirical evidence to suggest they mediate the relationship between perfectionism and childhood anxiety, there are few conclusive studies. Directionality and causality remain poorly understood and require further studies. Additionally, few studies have used child samples. Unique associations may be observed in children. Further, the mediators mentioned may be implicated in specific anxiety disorders. As noted earlier, perfectionism may put children at risk of developing social phobia by decreasing their perceived self-competence in social situations. Similarly, perfectionism may put children at risk of generalized anxiety disorder by increasing worry and distress in uncertain situations. In these ways, perfectionism may act as a risk factor for multiple anxiety disorders.

Conclusions

Research has provided some support for the link between perfectionism and childhood anxiety disorders. Although this area of study is burgeoning and much remains to be known, it appears that perfectionism predicts greater total anxiety symptoms, worry, and the diagnosis of an anxiety disorder. Moreover, it disrupts the treatment of anxiety disorders in children. As noted throughout, this research is not without its limitations. Many studies examining the role of perfectionism in childhood anxiety have used small samples, correlational analyses, cross-sectional data, and have differed in their measurement of anxiety and perfectionism. Such inconsistencies do restrict the conclusions that can be drawn from these studies. However, research to date also provides an important foundation to build upon. This is because research has begun to identify the link between perfectionism and childhood anxiety, allowing further research to test more specific hypotheses using more advanced methodologies. Furthermore, recent studies (e.g., Mitchell, Newall, et al., 2013; Soreni et al., 2014) have looked beyond simple associations between perfectionism and childhood anxiety into how perfectionism may affect symptom severity and treatment outcomes. Not only this, but preliminary findings have allowed researchers to attempt to understand why and how associations between perfectionism and childhood anxiety disorders occur.

Although research is sparse, there is evidence that further variables may act as factors through which perfectionism impacts childhood anxiety. The four factors reviewed here (intolerance of uncertainty, perceived competence, "not just right experiences," and effortful and emotional control), however, have so far the best empirical support. These factors likely help explain why perfectionism links with many different anxiety disorders and other psychopathologies (see Figure 6.1). There is research from both child and adult studies that supports these links (e.g., Buhr & Dugas, 2006; Flett, Hewitt, & Cheng, 2008). However, further research

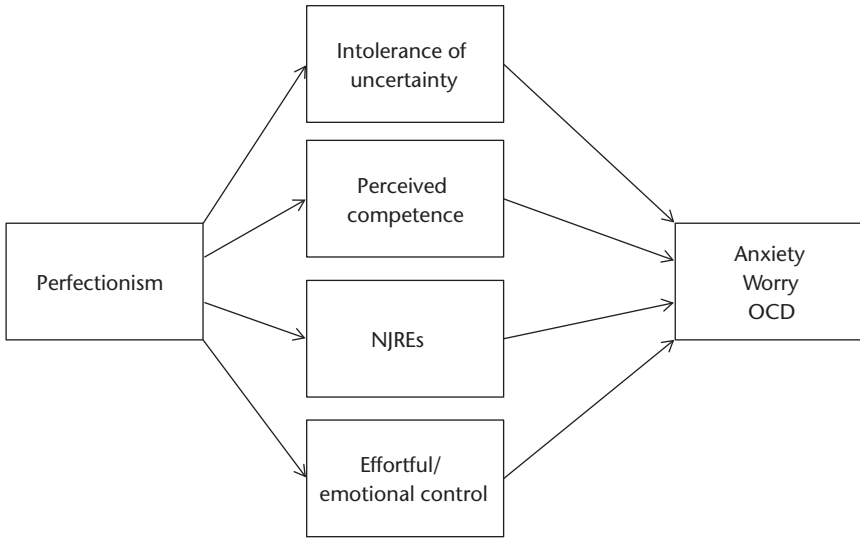

FIGURE 6.1 The effect of perfectionism through mediators on child anxiety, worry, and obsessive-compulsive disorder (OCD). NJREs = not just right experiences.

will be needed to determine whether the observed relationships are causal. It is possible that perfectionism and the four factors influence each other over time and are best characterized by bidirectional relationships that increase the risk of developing anxiety disorders in children. Furthermore, the four factors may be important in the treatment of anxious children. Indeed, research has begun to identify intolerance of uncertainty, competence, and effortful control as factors that influence treatment outcomes for childhood anxiety disorders (Kendall, 1994; Krain et al., 2008; Rapee, Schniering, & Hudson, 2009). As such, they may explain not only why perfectionism positively relates to child anxiety, but also why it negatively impacts treatment outcomes. Interventions addressing perfectionism may profit from also addressing the factors reviewed here to increase the efficacy of childhood anxiety disorder prevention and treatment (cf. Chapter 13).

Future Directions

Given the preliminary nature of the research on perfectionism and childhood anxiety, many suggestions for future research have been presented throughout the chapter. However, there remain specific directions that may serve to accelerate understanding in this area. First, similar factors may explain the development of both childhood anxiety and perfectionism. For example, Flett and colleagues (2002) detail a model suggesting the role of anxious parenting practices in contributing to the development of perfectionism. Indeed, such parenting practices have shown links with both childhood anxiety (Affrunti & Woodruff-Borden, 2014) and childhood perfectionism (Mitchell, Broeren, et al., 2013). Yet, the

trajectory of these links remains poorly understood. Do these parenting practices increase perfectionism and subsequently anxiety, or do they increase anxiety and subsequently perfectionism? More research is needed to understand the relationship of similar developmental constructs in the etiology of both childhood anxiety and perfectionism.

As noted earlier, few studies have examined perfectionism within specific childhood anxiety disorders. Beyond understanding the role that perfectionism plays in these different disorders, future research should explore why and how perfectionism creates risk for these distinct disorders. Perfectionism may place children at risk for, and interact with, other cognitive deficits that may lead to specific anxiety disorders. For example, perfectionistic children may be more likely to experience NJREs due to their high and rigid standards, and thus be at risk for developing OCD. More research is needed exploring possible mechanisms for the development of specific anxiety disorders. Furthermore, findings from such research may serve to help devise treatments to address perfectionism within a specific disorder. Although the contribution of perfectionism may be similar across disorders (i.e., incorporating high and rigid standards, and valuing only the attainment of these standards), it may depend on the domain in which the child is perfectionistic as perfectionism is typically focused on selected domains (Stoeber & Stoeber, 2009). As such, children who are perfectionistic in social domains may not be perfectionistic in academic domains. This may show as the former children being socially reticent, whereas the latter may engage in high levels of checking, for example, when working on home assignments.

Treatments would be required to address the salient domain and the subsequent relevant mediators. Novel treatment methods have been devised to address perfectionism (e.g., Egan et al., 2014; Sullivan, Keller, Paternostro, & Friedberg, 2015; see also Chapters 13–15), but their applicability to children with specific anxiety disorders is not well known. Given the various links between perfectionism and anxiety in children, effective prevention and treatment of perfectionism may not only reduce the dysfunctional effects of perfectionism in children, but may also help treat childhood anxiety disorders.

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7

PERFECTIONISM IN GIFTED STUDENTS

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Overview

Perfectionism frequently emerges as a concern for parents, educators, and counselors of intellectually gifted students. For those whose achievement is not commensurate with their ability, or for those who indicate psychological distress through stress, anxiety, or depression, the possibility of perfectionism as a contributing factor is frequently explored. Consequently, a considerable body of literature has developed over the past two decades as professionals have attempted to construct a thorough understanding of perfectionism in the gifted population. Theoretical contributions and research studies examining perfectionism in gifted individuals center on four broad themes: *development*, with a focus on identifying antecedent factors that shape the type, degree, and incidence of perfectionism; *typologies*, with a focus on understanding different "types" of perfectionism primarily through cluster analyses; *incidence*, with a focus on determining if perfectionism (and if, what types) may be more prevalent among the gifted than the general population, or within the gifted population depending on cultural group, grade level, gender, or birth order; and *outcomes* with a focus on understanding how perfectionism may relate to psychological and educational outcomes. The purpose of this chapter is twofold. The first goal is to provide a synthesis and analysis of the current body of literature according to these four themes. A second goal is to outline recommendations for future research that both addresses current gaps in the literature and effectively situates the study of giftedness and perfectionism within the broader context of current perfectionism research.

Synthesis and Analysis of Current Literature on Perfectionism and Giftedness

Development of Perfectionism in Gifted Students

Compared with studies examining the incidence and types of perfectionism among gifted students, relatively few studies have been conducted examining how perfectionism may actually develop. In 2002, Flett, Hewitt, Oliver, and Macdonald proposed an overarching model of how perfectionism may develop within the general population including three primary areas of influence: family, child, and environmental factors. The research on the development of perfectionism in gifted students will be reviewed according to these three areas.

Family Factors

Flett and colleagues (2002) proposed four different family history models: the social expectations model, the social reaction model, the social learning model, and the anxious rearing model. In the social expectations model, the authors postulated that perfectionism may develop from parental approval contingent upon the child's performance. Children who experience such contingent approval may develop a sense of helplessness if they are not able to meet their parents' expectations. Consequently, children may develop a sense of conditional self-worth, a central component of socially prescribed perfectionism (Hewitt & Flett, 1991).[1]

The social expectations model provides a framework for understanding perfectionism in gifted children. In this population, contingent self-worth may develop in children in response to receiving positive feedback based on their high intelligence level (Kamins & Dweck, 1999). Because their advanced levels of thinking and accomplishments often impress adults, gifted children may receive a profusion of such feedback from their parents and teachers. As Kamins and Dweck proposed, children may begin to perceive their self-worth as contingent upon their advanced intelligence. Consequently, if they fail, they may interpret the failure as a sign that they are not as intelligent as previously thought and, therefore, not as worthy. As such, they may strive for perfection in an attempt to preserve their self-worth.

The social expectations model is consistent with previous research examining the development of perfectionism in gifted middle-school, high-school, and college students. In a study examining perfectionism in middle-school gifted students, Siegle and Schuler (2000) found that both gifted students who were first-born and gifted male students reported parents as having high expectations for their performance. In a study of high-school students attending a residential academy for gifted students (Speirs Neumeister, Williams, & Cross, 2009), students described their perfectionism as developing in part in response to conditional parental approval. Parents were either explicit in their conditional approval by specifically communicating their disapproval when their child did not meet their expectations,

or they communicated their disapproval implicitly through nonverbal cues. Finally, in a study of self-oriented perfectionism in gifted college students (Speirs Neumeister, 2004b), participants also reported that their parents had high expectations for them; however, the parents were perceived as supportive rather than punitive when the participants did not meet those expectations.

Flett and colleagues (2002) also described a second developmental family history model, the social reaction model, through which children may develop perfectionism in response to exposure to a punitive environment characterized by physical abuse or psychological distress caused by withdrawing love, shaming, or experiencing chaos within the family dynamics. According to Flett and colleagues, a child in this situation may develop perfectionistic tendencies as a coping strategy to escape abuse, reduce shame, or develop a sense of control in a chaotic environment. Flett and colleagues noted that, whereas this model may overlap with the social expectation model, the chief difference is that within the social reaction model, individuals experience harsh punitive effects including hostility and lack of warmth when expectations are not met.

Support for the social reactions model can also be found from existing literature on the development of perfectionism in gifted students. Speirs Neumeister et al. (2009) found that gifted high-school students with high levels of socially prescribed perfectionism believed that, if they did not achieve perfection, they would experience harsh or cruel reactions from their parents including being yelled at, threatened, shamed, and ridiculed. Additionally, Speirs Neumeister (2004b) found that the socially prescribed perfectionists in her study of college students indicated that their perfectionism resulted in part from the experience of growing up with one or more authoritarian parents who were harsh and demanding and held unrealistic expectations for their performance. When expectations were not met, the participants in this study also indicated that they were either punished or made to feel shameful, resulting in insecurity and feelings of self-worth contingent upon their achievements.

Finally, in an empirical study of perfectionism in gifted college students, Speirs Neumeister and Finch (2006) also found that both authoritarian and uninvolved parenting styles predicted insecure attachment, which then predicted either self-oriented or socially prescribed perfectionism. These findings provide support for both the social expectations and the social reaction model. In their discussion of the social expectations model, Flett and colleagues (2002) noted that perfectionism may emerge when children do not receive any parental input. In this situation, children set high expectations for themselves as a way of coping with their uncertainty about how their behaviors will be received by their parents. This may provide an explanation for why uninvolved parenting in Speirs Neumeister and Finch's (2006) study predicted insecure attachment, which then predicted perfectionism. Likewise, their finding regarding authoritarian parenting may be consistent with the social reaction model because by definition this type of parent has high expectations but lacks demonstration of warmth and affection for the child.

Flett and colleagues' (2002) third family history model, the social learning model, stresses the inclination for children to model perfectionistic behaviors they

observe in their parents. Support for this finding in gifted students is also evident. Speirs Neumeister (2004b) found that when participants were specifically asked what contributed to the development of their perfectionism, both self-oriented and socially prescribed perfectionists attributed the development in part to the observance of their parents' modeling of perfectionist behaviors. Additionally, the gifted high-school students in Speirs Neumeister et al.'s (2009) study attributed perceived parental perfectionism as contributing to the development of their own perfectionism. Interestingly, with a younger sample, Parker and Stumpf (unpublished study, cited in Parker, 2002) found that parental perfectionism, as measured by parental self-report, contributed little to the variance in the perfectionism scores of their academically talented sixth-grade sample.

One explanation for the discrepant findings of these studies may be that children's *perception* of their parents' levels of perfectionism is more closely related to the development of the children's perfectionism than is parental self-report of perfectionism. Research beyond the field of gifted education provides evidence for this conclusion. For example, one study (Damian, Stoeber, Negru, & Băban, 2013) found a positive relationship between children's self-reported levels of perfectionism and perceptions of their parents' expectations and criticism. Moreover, other studies found no significant relationship between children's self-reported levels of perfectionism and parental self-reported levels of perfectionism (Clark & Coker; 2009; Cook & Kearney, 2009, 2014). In a study of elite junior athletes and their parents, Appleton, Hall, and Hill (2010) examined both child perceptions of parental perfectionism and parental self-report of perfectionism to determine what, if any, relationship could be found with either of these indicators and the level of perfectionism in elite junior athletes. The researchers found a positive relationship between the junior athletes' perfectionism and their perceptions of their parents' perfectionism, but not a relationship with their parents' self-report of perfectionism. Together, these studies provide evidence for the importance of examining perceptions of parental perfectionism when studying the development of perfectionism in both gifted and typically functioning individuals.

Lastly, Flett and colleagues (2002) identified a fourth family history model, the anxious rearing model, which states that perfectionistic strivings and over-concern with mistakes may develop as a function of exposure to anxious parents who themselves perseverate on mistakes and the negative consequences of making mistakes. To date, no studies with gifted students have been conducted that offer support for this model. In summary, the current literature offers support for three of the four family history models suggesting that the developmental path for perfectionism in gifted children may be, in part, consistent with the pathways found in the general population.

Child Factors

In addition to family influence, Flett and colleagues (2002) suggested that perfectionism may also develop in response to specific child factors including

temperament, attachment style, openness to societal influence, and need for approval and recognition as well as environmental factors such as culture, society, and school. With regard to the study of perfectionism within gifted individuals, however, additional child and environmental factors may have significant influence on the development of perfectionism such as high levels of intelligence and achievement that preclude any opportunity to experience failure within the early years of schooling. Research findings offer support for the notion that perfectionism in gifted students may arise in part from a lack of challenge in their early educational experiences (Schuler, 2002; Speirs Neumeister, 2004b; Speirs Neumeister, Williams, & Cross, 2007). These studies suggest that without academically challenging work, gifted students often achieve perfection in their classwork effortlessly; and based on these experiences, they maintain perfection as the expected standard for their performance, even as they encounter challenging material later in their academic careers.

Presently, our understanding of the role that lack of challenge plays in the development of perfectionism within gifted students has been constructed primarily on the basis of qualitative findings (e.g., Speirs Neumeister, 2004b; Speirs Neumeister et al., 2007, 2009). These studies have provided a theoretical foundation for understanding the influence that lack of challenging academic experiences has on the development of perfectionism. Now empirical, longitudinal studies are needed that monitor the development and degree of perfectionism in gifted students beginning at the primary level and continuing throughout their tenure in formal schooling. Such studies should include a comparison of gifted students participating in challenging gifted programs that provide opportunities for continued enrichment and acceleration compared with gifted children participating only in traditional general-education programs. These studies would provide insight on the potential short-term and long-term impact that lack of challenge may have on the development of perfectionism and academic achievement.

Environmental Factors

With the exception of culture (discussed in the next section), only a few research studies have examined other environmental factors that may influence perfectionism. Flett and colleagues (2002) suggested that competitive school environments and relationships with peers may influence perfectionism. These contextual variables merit investigation when studying perfectionism in gifted students. Services for gifted students may vary from one extreme wherein all students are identified as gifted (and all subjects are taught with a rigorous, above grade-level curriculum) to less intensive programming in the form of a weekly enrichment pullout that may not even be connected to the curriculum of studies to any other service option in between. Studies are needed that systematically examine each of the contextual variables of competitive versus noncompetitive gifted programs, time spent in rigorous programming, degree of rigor in the program, and influence of learning

with equally able peers compared with "non-identified" peers[2] to gain a better understanding of how environmental factors influence the development of perfectionism in gifted students. Finally, more studies are needed to examine the effect of introduced challenge on achievement behaviors and self-perceptions of students who already have developed perfectionistic tendencies. Studies are needed that examine these students' reactions to increased challenge and how their responses may differ according to their degree of positive striving and/or evaluative concerns (as will be discussed further below).

Typologies of Perfectionism in Gifted Students

With the 1990s came a shift in the conceptualization of perfectionism from a unidimensional to a multidimensional construct. Three scales were developed, each providing a different conceptual lens on the multidimensional nature of perfectionism. Frost, Marten, Lahart, and Rosenblate (1990) developed a scale—the Frost Multidimensional Perfectionism Scale (FMPS)—comprised of six subscales capturing personal standards, concern over mistakes, doubts about actions, parental expectations, parental criticism, and organization. In this scale, personal standards and organization are considered adaptive, and concern for mistakes, doubts about actions, parental expectations, and parental criticism are considered maladaptive (Frost, Heimberg, Holt, Mattia & Neubauer, 1993). Hewitt and Flett (1991) developed a scale differentiating personal and social aspects of perfectionism—the Hewitt–Flett Multidimensional Perfectionism Scale (HF-MPS)—comprised of three subscales capturing self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. Finally, Slaney, Mobley, Trippi, Ashby, and Johnson (1996) developed a scale—the Almost Perfect Scale–Revised (APS-R)—comprised of three subscales capturing high standards, discrepancy, and order (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). The high standards subscale measures the high standards one sets for oneself, the discrepancy subscale measures the discrepancy between one's perceived standards and one's actual performance, and the order subscale measures a personal preference for order and organization.

The advent of these three multidimensional perfectionism scales paved the way for the subsequent two decades of typological research across the entire field of perfectionism, including the study of gifted individuals. Wayne Parker emerged as the most prolific early researcher on typologies of perfectionism in gifted students. Independently and with colleagues he published multiple studies (Parker, 1997, 2002; Parker & Mills, 1996; Parker, Portesová, & Stumpf, 2001; Parker & Stumpf, 1995) using cluster analyses to determine different types of perfectionism and examine their psychological correlates in gifted students. Employing the FMPS, Parker's (1997) research on academically talented sixth-grade students identified three clusters he labeled "nonperfectionists," "healthy perfectionists," and "dysfunctional perfectionists." The nonperfectionist cluster (32% of the sample) was characterized by low scores on personal standards,

parental expectations, and organization as well as a low FMPS total score. The healthy perfectionist cluster (42% of the sample) was characterized by low scores on concern over mistakes, doubts about actions, and parental criticism coupled with a high score on organization, a moderately high score on personal standards, and a moderate FMPS total score. Finally, the last cluster, dysfunctional perfectionists (26% of the sample), was characterized by the highest scores on personal standards, concern over mistakes, doubts about actions, parental expectations, and parental criticism and had the highest FMPS total score. Other research on gifted middle-school students employing different measures of perfectionism supports this tripartite structure (LoCicero & Ashby, 2000; Schuler, 2000; Vandiver & Worrell, 2002).

Dixon, Lapsley, and Hanchon (2004) attempted to replicate Parker's typology with academically talented high-school students. However, instead of finding the three-cluster structure identified in Parker's research, their research identified four clusters. Cluster 1, labeled "mixed-adaptive perfectionists" and compromising 36% of the sample, scored relatively high on personal standards, organization, and parental expectations and relatively low on concern over mistakes, doubts about actions, and parental criticism. Cluster 2, labeled "pervasive perfectionists" and comprising 21% of the sample, was characterized by uniformly high scores on all dimensions of perfectionism. Cluster 3, labeled "self-assured, nonperfectionists" and comprising 28% of the sample, was characterized by uniformly low scores on all dimensions. Cluster 4, labeled "mixed-maladaptive perfectionists" and comprising 14% of the sample, was characterized by relatively high scores on personal standards, concern over mistakes, doubts about actions, and parental criticism and relatively low scores on parental expectations and organization. A comparison of Parker's typology with Dixon et al.'s typology suggests that Parker's healthy cluster corresponds to Dixon and colleague's mixed-adaptive cluster, his dysfunctional cluster corresponds to their pervasive cluster, and his nonperfectionist cluster corresponds to their self-assured, nonperfectionist cluster. The remaining cluster identified by Dixon and colleagues, mixed maladaptive, was not found in Parker's typology. However, this cluster may have been subsumed under Parker's dysfunctional cluster, as both clusters shared high scores on personal standards, concern over mistakes, doubts about actions, parental expectations, and parental criticism.

The results of two more recent studies also challenge the validity of a common tripartite model of perfectionistic clusters in gifted students. In a follow-up study of perfectionism typologies in mathematically gifted Czech students, Portesová and Urbánek (2013) found that—while their original 2000 cohort (Parker et al., 2001) confirmed Parker's (1997) three-cluster typology—data from two additional cohorts (2005 and 2010) did not support this typology. Whereas the researchers did find the same cluster of healthy perfectionists as described by Parker (1997) and Dixon et al. (2004), who labeled it "mixed-adaptive," Portesová and Urbánek did not find a nonperfectionist cluster characterized by low scores on all FMPS subscales in either their 2005 or 2010 cohort. Instead, the second cluster in these

cohorts included students with average scores on maladaptive and high scores on adaptive dimensions resembling Dixon and colleagues' mixed-maladaptive type rather than a nonperfectionist type. Additionally, instead of the third cluster of dysfunctional perfectionists found in the original 2000 cohort (Parker et al., 2001) and by Parker (1997), the third cluster in the 2005 and 2010 cohorts was comprised of students who scored high not only on maladaptive dimensions but also on adaptive dimensions. The researchers labeled this cluster "mixed maladaptive-adaptive" and noted that it had the same characteristics as the pervasive cluster found by Dixon et al. (2004).

Mofield and Parker Peters (2015) also conducted a replication study using the FMPS to determine if the same typologies would be found in a suburban middle-school sample of gifted students. Results of this study did not replicate the previous findings. Initially, only a two-cluster solution emerged, and when a three-cluster solution was imposed on the data, the three clusters were not the same as those found by Parker (1997). Cluster 1, labeled "unhealthy perfectionists," had the highest scores on all subscales with the exception of organization. This cluster corresponded to the pervasive cluster found by Dixon et al. (2004) and the mixed maladaptive-adaptive cluster found by Portesová and Urbánek (2013). Cluster 2 was tentatively labeled "functional perfectionists" showing a pattern similar to Parker's (1997) and Dixon et al.'s (2004) healthy/adaptive clusters, but as Mofield and Parker Peters noted, their sample was skewed in that their Cluster 2 also scored highly on the maladaptive dimensions of concern over mistakes, doubts about actions, and parental criticism. Cluster 1 and Cluster 2 only differed in that functional perfectionists (Cluster 2) had lower scores compared to unhealthy perfectionists (Cluster 1) on the maladaptive dimensions but not necessarily higher scores on the adaptive dimensions. Cluster 3 was comprised of nonperfectionists with relatively low scores on all perfectionism dimensions compared with participants in the other two clusters.

Both Portesová and Urbánek (2013) and Mofield and Parker Peters (2015) suggested contextual changes as explanations for their discrepant findings in the typologies compared with the tripartite structure identified in previous research. In the case of Portesová and Urbánek, the authors credited the cultural revolution that took place as the Czech Republic transformed from a totalitarian communist society to a democracy. The authors noted that the increased emphasis on prestigious private schools and competition for quality education may have fueled more perfectionistic tendencies. Likewise, Mofield and Parker Peters hypothesized that the cultural shift in the United States following the No Child Left Behind legislation led to an increased focus on standardized testing with an emphasis on performance over learning that may have led to an increase in perfectionism. Collectively, these studies stress the importance of considering contextual factors in addition to child factors (in this case, giftedness) when determining types of perfectionism within a population.

Incidence of Perfectionism in Gifted Students

Incidence of Perfectionism in Gifted Individuals Compared With General Population

In addition to identifying different types of perfectionism in gifted students, a second line of research has been dedicated to determining whether or not perfectionism is more common in the gifted compared with the general population. In the traditional lore of gifted education (e.g. Adderholdt-Elliott, 1987), perfectionism is a prevalent characteristic among gifted individuals that results in psychological maladjustment. Research findings, however, are not supportive of this conventional wisdom. The findings of two research studies indicate that perfectionism is not more common among gifted students compared with nonidentified students. In one of these studies, Parker and Mills (1996) compared the scores on the FMPS of a sample of gifted sixth-grade students with a comparison group of nonidentified students, and their results indicated inconsequential differences between the two groups. In a second study, Parker et al. (2001) also compared differences among mathematically gifted and nonidentified Czech students in the prevalence of category membership for the different perfectionism typologies of nonperfectionists, healthy perfectionists, and dysfunctional perfectionists. Their results indicated that among the mathematically gifted students, 37% were classified as nonperfectionists, 35% as healthy perfectionists, and 28% as dysfunctional perfectionists. In contrast, among the nonidentified students, 20% were classified as nonperfectionists, 35% as healthy perfectionists, and 45% as dysfunctional perfectionists. Instead of finding gifted students to be more perfectionistic and maladjusted as conventional wisdom would suggest, in this study the nonidentified students were more likely to be both perfectionistic and dysfunctionally perfectionistic.

Whereas other studies have shown gifted students to be more perfectionistic than their nonidentified counterparts, in each of these studies, the gifted students have only scored higher on dimensions of perfectionism that are traditionally associated with adaptive, rather than maladaptive outcomes. For example, in their study of middle-school students, LoCicero and Ashby (2000) found that gifted students had significantly higher levels of adaptive perfectionism (as defined by scores on the high standards subscale of the APS-R) than nonidentified students and significantly lower levels of maladaptive perfectionism (as defined by scores on the discrepancy subscale of the APS-R). In a study of French fifth- and sixth-grade students, Guignard, Jacquet, and Lubart (2012) found that gifted sixth-grade students scored significantly higher on self-oriented perfectionism than nonidentified sixth-grade students. Additionally, the gifted sixth-grade students did not score significantly different on any dimension of compared to their nonidentified same-age peers (who were fifth-grade students).

Kornblum and Ainley (2005) compared the level of perfectionism between gifted and nonidentified Australian students aged 11 to 16 years. Using the FMPS

to measure perfectionism, the researchers found that gifted students scored higher than nonidentified students only on the subscale of personal standards. The researchers were also able to replicate the three perfectionism clusters found by other researchers (Parker & Mills, 1996; Rice & Mirzadeh, 2000), and they found only borderline-significant differences between giftedness and perfectionism cluster type: Whereas gifted students held greater membership in the perfectionistic clusters than nonidentified students, the gifted students were not significantly more likely to be either healthy or unhealthy perfectionists compared with nonidentified students.

Finally, at the high-school level, Shaunessy, Suldo, and Friedrich (2011) sought to compare the levels of perfectionism measured with the APS-R between academically advanced students participating in the rigorous International Baccalaureate program compared with general-education students. The researchers found that the academically advanced students scored significantly higher on the adaptive dimension of perfectionism (as defined by the high standards subscale) and significantly lower on the maladaptive dimension (as defined by the discrepancy subscale).

Collectively, the research findings summarized above suggest that the traditional concerns regarding a greater incidence of perfectionism leading to maladjustment in the gifted population may not be supported. Whereas individual gifted students certainly may struggle with perfectionistic tendencies, imposing this maladaptive tendency as a central characteristic of this group of students is not warranted.

Incidence of Perfectionism in Gifted Students Cross-Culturally

Whereas studies have been conducted examining the prevalence of perfectionism in gifted students compared with nonidentified students in Western cultures (Guignard et al., 2012; Parker et al., 2001; Portesová & Urbánek, 2013), the majority of cross-cultural studies on perfectionism has been conducted on gifted Asian students. Similar to the research conducted on Western students, Chan's research on gifted Chinese students (e.g., Chan, 2009, 2010, 2012) has focused on classifying students as healthy or unhealthy perfectionists and examining psychological correlates. With his samples of Chinese gifted students, Chan found substantially greater numbers of healthy compared with unhealthy perfectionists, and he also found that those classified as healthy perfectionists were most likely to set learning goals and reported being the happiest and most satisfied with their lives. Chan highlighted the importance of considering culture when interpreting the results of research on perfectionism. Cultural differences may account for the high percentage of Chinese students identifying as healthy perfectionists, and for the relationship to positive psychological outcomes, because setting high standards and striving for excellence are often encouraged and considered desirable (Chan, 2010; Fong & Yuen, 2014).

In contrast to Chan's findings of greater numbers of healthy perfectionists among Chinese gifted students, Basirion, Majid, and Jelas's (2014) work with

16-year-old gifted Malaysian students found that the majority (58%) were classified as dysfunctional perfectionists. In their study, only 30% were classified as healthy perfectionists and 12% as nonperfectionists. The researchers suggested that the findings may be attributed to cultural differences between Eastern and Western cultures as other researchers have found that Asian Americans reported more pressure from others to be perfect than White Americans (Wei, Mallinckrodt, Russell, & Abraham, 2004).

The discrepancy between Chan's findings and Basirion et al.'s findings indicate that perhaps a blanket categorization of Eastern compared to Western cultures is too broad to form generalizations regarding the prevalence of perfectionism types in gifted students. More studies are needed that explore subtle differences among "Asian" cultures including differences in parenting styles, attitudes toward educational achievement, and values in order to better understand the role that culture may play in influencing perfectionism. The same suggestion applies to the study of "Western" cultures because changes in educational policy and government leadership may lead to changes in the prevalence of perfectionism even within the same cultural groups (e.g., Mofield & Parker Peters, 2015; Portesová & Urbánek, 2013).

Incidence of Perfectionism in Gifted Students According to Gender

Differences in perfectionism between male and female gifted students have not been studied extensively. Only a few studies have been conducted, and the findings are not consistent. In three studies of cluster analyses of perfectionism typologies (Chan, 2009, 2012; Parker & Mills, 1996), no significant gender differences were found for membership in each cluster group (healthy, unhealthy, and non-perfectionist). Also a study of mathematically gifted middle-school students (Tsui & Mazzocco, 2006) did not find any significant gender differences on perfectionism measured with the FMPS. Similarly, Parker and Mills (1996) did not find significant differences in the total perfectionism score measured with the FMPS. However, they did find gender differences among the FMPS subscales with gifted boys scoring higher on concern over mistakes than gifted girls, and gifted girls scoring higher on organization than gifted boys. Siegle and Schuler (2000) also found differences between the genders in perfectionism subscale scores for their gifted middle-school participants: Females scored significantly higher on organization, and males scored significantly higher on parental expectations. Likewise, in a study of Chinese gifted students, Chan (2007) found that gifted girls rated themselves higher on a measure of positive perfectionism than males. Finally, in a study of gifted middle- and high-school students, Margot and Rinn (2016) found no main effect for gender and perfectionism as measured by the FMPS. However, they did find a gender × birth order interaction[3] such that male first-borns and only children scored higher on parental expectations than male middle and last children as well as females of all birth orders. Additionally, they found female middle children had higher scores on the parental expectations subscale than first-borns, only children,

and last children; and they also found a gender × grade level interaction for the parental expectations subscale such that males scored higher at all grades levels except for the eighth and twelfth grade, and peaking at the tenth grade. In contrast, females showed a significant increase in subscale scores from eleventh to twelfth grade, and peaking at the twelfth grade.

With merely a few published studies examining gender differences within perfectionism in gifted individuals, only preliminary conclusions may be drawn. While initial findings suggest no significant gender differences on overall perfectionism scores or cluster membership in typology classifications, results do indicate that subtle differences may exist when examining subscale scores on perfectionism measures and when including additional variables such as grade level and birth order within the analyses. Consequently, future studies are warranted to form a more complete understanding of potential contextual variables that may influence differences in the manifestation of perfectionism in gifted males compared with gifted females.

Incidence of Perfectionism in Gifted Students According to Birth Order

As with gender, the potential influence of birth order on perfectionism in gifted individuals has only been explored minimally. In a study of perfectionism typologies, Parker (1998) reported that only children were more likely to be categorized as healthy perfectionists. Additionally, he reported that last children were the least likely to be classified as unhealthy perfectionists, and they were more likely to be nonperfectionists. In their study of gifted middle-school students, Siegle and Schuler (2000) found birth order differences on the perfectionism subscales of parental expectations and parental criticism with first-borns reporting higher levels than last children. Two studies (Margot & Rinn, 2016; Sondergeld, Schultz, & Glover, 2007) attempted to replicate Siegle and Schuler's findings with a similar sample of gifted middle-school students. Sondergeld and colleagues (2007) found only one birth order effect: Middle children scored higher on the doubts about actions subscale compared to first-borns and last children. Margot and Rinn's (2016) replication study indicated several birth order effects for perfectionism subscale scores with first-borns and only children scoring higher on the concern over mistakes subscale than both middle children and last children. Additionally, on the personal standards subscale, first-borns, only children, and middle children scored higher than last children. On the parental expectations subscale, male first-borns and only children scored higher than male middle and last children as well as females of all birth orders. And, finally, first-borns reported higher parental criticism and parental expectations than last children.

Taken together, the results of these studies suggest that gifted students who are first-borns or only children are at greatest risk for parental influence on perfectionism in the form of high parental expectations and criticism. This finding is not unique to the gifted population as other studies have shown that first-borns and only children in the general population may also experience greater scrutiny from

parents (Hotz & Pantano, 2015). As the majority of studies has been conducted on gifted middle-school students, more studies with gifted students at different developmental stages are necessary to more fully understand the potential influence of birth order on perfectionism.

Incidence of Perfectionism in Gifted Students Across Grade Levels

Whereas perfectionism in gifted students has been studied across middle-school, high-school, and college samples (Parker, 2002; Schuler, 2000; Shaunessy et al., 2011; Speirs Neumeister, 2004c; Speirs Neumeister et al., 2009), relatively few studies have compared how the incidence of perfectionism may differ across levels of schooling. Results of these studies suggest that differences may exist. For example, Kornblum and Ainley (2005) compared the levels of perfectionism, as measured with FMPS, in gifted Australian students ranging in age from 11 to 16 years and sampled in three grades (sixth, eight, and eleventh grade). Results indicated that scores for concern over mistakes, doubts about actions, parental expectations, and parental criticism increased with grade (over the three grades sampled in school) for gifted students starting below the mean and ending above the mean. The researchers suggested that these findings may be the result of gifted students experiencing greater parental pressure to live up to their abilities as they went further in their schooling. Kline and Short (1991) also found an increase in perfectionism from lower to higher school grades for gifted females. Siegle and Schuler (2000) found an increase in concern over mistakes for gifted females from sixth through eighth grade whereas scores for males increased in seventh grade but then decreased in eighth grade. Margot and Rinn (2016) found that seventh-graders had significantly lower scores on concern for mistakes compared with eighth-graders, and seventh-graders had significantly higher scores on organization than eleventh-graders.

Similar to the research on birth order, the number of studies examining differences in perfectionism across grade levels is too scant to draw definitive conclusions. However, as preliminary results suggest that differences may occur, future studies are needed to more specifically determine if patterns can be found in the rise and fall of specific perfectionism dimensions (associated with positive and negative outcomes) across years in school, and how increases or decreases may be associated with changes in the academic environment such as exposure to a more rigorous curriculum and higher stakes for academic performance.

Perfectionism, Psychological Well-Being, and Achievement in Gifted Students

The relationship among perfectionism, measures of psychological well-being, and achievement are gaining attention in the field of gifted education. Studies exploring typologies of perfectionism in gifted students have demonstrated that "healthy" or "adaptive" perfectionism has been associated with positive outcomes such as

happiness and life satisfaction (Chan, 2010), greater academic competence and superior adjustment (Dixon et al., 2004), and agreeableness, conscientiousness, and orientation to achieve (Parker, 1997). In contrast, "unhealthy" or "dysfunctional" perfectionism has been associated with negative outcomes such as anxiety and disagreeableness (Parker, 1997) as well as dysfunctional coping, poor mental health, and psychological maladjustment (Dixon et al., 2004). In a study of honors college students and using the APS-R, Rice and colleagues (2006) also found that discrepancy was associated with psychological problems whereas having high standards was associated with healthy functioning (although not as consistently as discrepancy was associated with psychological problems).

Other studies have examined the effects of perfectionism on various achievement processes and outcomes including achievement goal orientations. Using the HF-MPS, Speirs Neumeister (2004a, 2004b, 2004c; Speirs Neumeister & Finch, 2006) studied gifted college students who scored highly on either self-oriented perfectionism or socially prescribed perfectionism. The findings of her mixed-methods research program suggest that gifted college students scoring high on socially prescribed perfectionism tended to over-generalize their failures and adopted either performance-approach (desire to seem competent in the eyes of others) or performance-avoidance (desire to avoid seeming incompetent in the eyes of others) goal orientations (Elliot, 1999). In contrast, the self-oriented perfectionists were more likely to adopt a performance-approach or mastery (goal of gaining competence, regardless of performance) goal orientations than a performance-avoidance orientation. Although this program of research used a different typological scheme than the other studies reviewed previously, the findings corroborate the notion that different types of perfectionism may be related to more adaptive or maladaptive processes and outcomes.

The findings of Speirs Neumeister, Fletcher, and Burney's (2015) study, however, paint a more complex picture of perfectionism and achievement goal orientations in high ability students. These researchers examined high ability students' goal orientation and perfectionism through the framework of the 2×2 model of dispositional perfectionism proposed by Gaudreau and Thompson (2010; see also Chapter 3). As expected, pure self-oriented perfectionism was associated with higher scores on performance-approach and mastery goal orientation than nonperfectionism, and pure socially prescribed perfectionism was associated with lower mastery goal orientation than pure self-oriented perfectionism and "mixed perfectionism" (i.e., high self-oriented perfectionism combined with high socially prescribed perfectionism). With regard to performance-approach goals, however, pure socially prescribed perfectionism only showed significantly lower scores than mixed perfectionism, but not nonperfectionism or pure self-oriented perfectionism. Finally, those students with mixed perfectionism scored the highest among the four subtypes of perfectionism on the performance-approach goals. As performance-approach goals can be associated with either positive or negative outcomes, depending on the root of the goal as either a fear-of-failure or a need-for-achievement motivation (Elliot, 1999), caution is warranted when making

inferences about the psychological well-being of gifted perfectionistic students who adopt these goals.

Recommendations and Priorities for Future Research

The current body of research on examining perfectionism in gifted students has provided insights on developmental contributors, factors influencing the prevalence of perfectionism, and the relationship between perfectionism and psychological and achievement outcomes. Future research may extend this body of work by addressing some of the methodological inconsistencies that have limited full interpretation of the current work such as standardizing how perfectionism and giftedness are operationalized, and comparing participants of different ages and in different educational contexts.

Of particular importance is the need to better articulate how perfectionism is defined. Researchers beyond research on gifted education (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Gaudreau, 2012; R. W. Hill et al., 2004; Stoeber & Otto, 2006) have shifted to identifying higher-order factors of perfectionism that consistently emerge across different measures of perfectionism: the factor of positive striving (also referred to in the literature as perfectionistic strivings, personal standards perfectionism, or conscientious perfectionism) and evaluative concerns (also referred to as perfectionistic concerns, evaluative concerns perfectionism, or self-evaluative perfectionism). When researchers analyze data by arranging perfectionism dimensions along these factors, findings regarding the healthy versus unhealthy debate of perfectionism are clear: Indicators of positive striving are often associated with adaptive characteristics, processes, and outcomes such as conscientiousness, internal locus of control, and positive affect whereas indicators of evaluative concerns are typically associated with maladaptive characteristics, processes, and outcomes such as neuroticism, anxiety, and negative affect (Stoeber & Otto, 2006).

However, just as blue by itself or red by itself does not make purple, *neither do positive striving nor evaluative concerns by themselves make perfectionism*. Both are necessary ingredients. Consequently, to facilitate clarity, researchers are called to reserve the label of perfectionism for only those who score highly on *both* positive striving and evaluative concerns. The phrase "high on positive striving" should replace the current terminology of "adaptive" or "healthy" perfectionism to reflect those who only score highly on positive striving and not evaluative concerns. Likewise, rather than using the terms "unhealthy," "dysfunctional," or "maladaptive" perfectionism to describe those who score highly only on evaluative concerns and not positive striving, researchers should consider using the phrase "high on evaluative concerns." Finally, the term "nonperfectionist" may be used to describe those who score low on both positive striving and evaluative concerns (cf. Gaudreau & Thompson, 2010). Common terminology such as this will not only help to clarify research findings, but it will also effectively shift the discussion from the debate on whether or not perfectionism is healthy to a more productive

understanding of how perfectionism relates differentially to various psychological and achievement outcomes compared with nonperfectionism, positive striving, or evaluative concerns alone.

Clarifying the definition of giftedness within the study of perfectionism is also paramount. Current studies of perfectionism within gifted individuals may be more appropriately named as studies of perfectionism within *high-achieving* gifted students. The participants in these studies are frequently students enrolled in honors classes or special schools or programs for gifted students. Calling these samples "gifted" is problematic because participation in these services requires one to be high achieving as well as intellectually able. To gain a more comprehensive understanding of perfectionism within the gifted population, researchers need to study not just those who are enrolled in academically advanced classes, courses, or programs but also those who are *not* participating in these offerings, despite their availability. Inclusion of this group of "underachieving" or "nonparticipating" gifted students may paint an entirely different picture of the incidence of perfectionism with this population and its correlates to adaptive and maladaptive outcomes.

The study of perfectionism in academically gifted individuals would also benefit from cross-collaboration with researchers studying perfectionism with other gifted performers in different domains such as sport, dance, and music (A. P. Hill, 2016; Stoeber & Eismann, 2007). Perhaps the unique factor of being talented in one's domain, regardless of the domain, would yield similar findings with regard to the manifestation of perfectionism and correlates with performance outcomes and adjustment versus maladjustment.

Moreover, the field would also benefit from an in-depth analysis of how gifted students experience perfectionism. Whereas the incidence of perfectionism generally does not appear to be greater in the gifted population than the general population, the current research does not address whether or not gifted individuals *experience* perfectionism differently than nonidentified individuals in terms of their psychological well-being and achievement orientation. As a group, gifted students are more emotionally intense and sensitive than nonidentified students (Neihart, Pfeiffer, & Cross, 2016). Consequently, the impact of high levels of perfectionism may be greater for these students. Empirical studies are needed that examine giftedness as a moderating variable for the relationship between perfectionism and various psychological and achievement outcomes.

Finally, perhaps the greatest need is for future studies to examine the effectiveness of potential interventions in preventing and/or reversing high levels of evaluative concerns within gifted individuals. In a review of the literature on perfectionism, Parker and Adkins (1995) wrote that "while there have been many studies on educational interventions for the gifted, little has been studied in the area of differential interventions for perfectionistic and non-perfectionistic gifted children and hence, little is known" (p. 17). In a literature review on the state of research on perfectionism in gifted students, Speirs Neumeister (2007) echoed this need for studies focused on examining the effectiveness of interventions for gifted students

with high levels of evaluative concerns. Despites these pleas, however, these studies have not yet emerged.

Implications

Implications from two decades of research on perfectionism in gifted students suggest that, most critically, parents and teachers need to understand the distinction between the two factors that comprise perfectionism: positive striving and evaluative concerns. According to Speirs Neumeister (2016), gifted students with high levels of positive striving coupled with low levels of evaluative concerns are likely to experience adaptive outcomes with behaviors rooted in conscientiousness, a need-for-achievement motive, and mastery goal orientation. As a result, with teacher and parental support, these students are likely to thrive and not need interventions related to perfectionism. In contrast, gifted students with high levels of positive striving coupled with high levels of evaluative concerns, as well as students with only high levels of evaluative concerns, may benefit from interventions such as counseling. Their high levels of evaluative concerns may be rooted in a fear of failure and may result in high levels of anxiety, depression, and feelings of low self-worth (Hewitt & Flett, 1991). Consequently, these students may be experiencing psychological distress, despite their high levels of achievement. Collectively, these recommendations suggest a need for parents, teachers, and counselors to explore the underlying factors of students' perfectionistic behaviors to determine appropriate guidance, support, and/or interventions (Speirs Neumeister, 2016).

Current research on perfectionism in gifted education has provided a solid foundation for understanding how perfectionism may develop and manifest in this population, its prevalence, and its correlates to various indicators of psychological well-being and academic adjustment. While conventional wisdom holding that gifted students as a whole are more likely to be perfectionistic compared with their nonidentified counterparts was not borne out in the literature, individual gifted students may still suffer from perfectionistic tendencies that prevent them from achieving their potential. Future research that defines perfectionism as a combination of high levels of both positive striving and evaluative concerns will allow researchers to better understand how different educational contexts may influence the development of perfectionistic tendencies within gifted students. Such clarity in the research is vital, as it will enable parents, teachers, and counselors to guide gifted students toward thoughts and behaviors that facilitate, rather than inhibit, their academic development and psychological well-being.

Notes

1 Hewitt and Flett's (1991) model of perfectionism differentiates self-oriented perfectionism (setting unrealistically high standards for oneself), other-oriented perfectionism (adopting unrealistically high standards for others), and socially prescribed

perfectionism (perceiving that others have unrealistic expectations/standards for one to meet).

2 Students not identified as gifted or not participating in programs designed for gifted or high-achieving students.

3 The psychology of birth-order effects differentiates four groups of children: first-borns, middle children, last children, and only children.

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8

PERFECTIONISM IN SPORT, DANCE, AND EXERCISE

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Overview

Perfect performance, flawlessness, and the perfect body are revered in sport, dance, and exercise. As such, sport, dance, and exercise provide ideal domains in which to study perfectionism. This chapter provides an overview of research that has examined multidimensional perfectionism in these domains. We place particular emphasis on the most recent research in this area and provide suggestions to guide future research. It will be argued that perfectionism is a complex characteristic with particular relevance in sport, dance, and exercise. In addition, in its various guises, perfectionism can be problematic, beneficial, and also ambivalent with regards to motivation, well-being, and performance. To better understand the effects of perfectionism in sport, dance, and exercise, we call for research that adopts longitudinal designs, examines moderating factors, develops and refines measurement tools, and focuses on the influence of perfectionism among exercisers.

Introduction

It is common for athletes and dancers to describe themselves as perfectionists. Some of the notable examples we and others have previously highlighted include world champions from various sports (rugby: Jonny Wilkinson; snooker: Ronnie O'Sullivan; cycling: Victoria Pendleton), multiple tennis Grand Slam winners (Andy Murray, Andre Agassi, John McEnroe), and celebrated professional dancers (Karen Kain, Daria Klimentová). We believe the accounts of these individuals serve to illustrate both how common perfectionism is in these domains and the complexity of perfectionism. On the one hand, the aforementioned individuals are all extremely successful and often attribute their success, at least in part, to perfectionism. On the other hand, in each case these individuals have described

how their perfectionism has had a detrimental impact on their motivation, well-being, and performance at one time or another.

The complexity of perfectionism is readily apparent in the accounts of other self-identified perfectionists and is worth briefly exemplifying again here. The professional tennis player Eugenie Bouchard provides a recent case. Following a breakthrough year when she was named WTA Newcomer of the Year (2013), and a season in which she reached the semifinals of the Australian Open and French Open and the final of Wimbledon, Bouchard suffered a huge loss of form that included a series of early round losses to qualifiers and unseeded players. As a result, having started the year with an ATP ranking of seventh in the world, she finished the year ranked 48th. In explaining her performance slump in interviews to the media, she described the mounting sense of pressure she experienced from the outside world, the inability to cope with the subsequent stress, and—significantly—the inability to satisfy her own desire for perfection (Flatman, 2015; Osmond, 2015).

The swimmer Amanda Beard is another case, albeit more extreme. A four-time Olympian (1996, 2000, 2004, 2008) and winner of seven Olympic medals (two gold, four silver, and one bronze), she has recounted in her autobiography how throughout her career she struggled with depression, bulimia, self-harm, and drug abuse (Beard, 2012). In doing so, she described the sense of pressure she experienced as a result of her own standards and the need for every dive to be the "perfect dive" and every turn the "perfect turn" (p. 107). This left her exhausted and took a heavy toll on her mental health. Dissatisfaction with her body was particularly central to her experiences. She describes how she "wanted to be a great and fast swimmer, but more than that I wanted to be pretty, skinny, and perfect" (p. 101). The dual nature of perfectionism as both a powerful motivational force and, at the same time, a source of psychological difficulties is summarized poignantly by Beard: "The perfectionist drive that made me a star athlete in the water, out of the water tore me apart. As I nitpicked every little aspect of myself, I discovered over and over again that I wasn't any good" (p. 89).

To further complicate matters, views vary among researchers and practitioners interested in perfectionism with regards to its likely consequences. Some hold the view that, in some guises, perfectionism can be healthy and a defining characteristic of elite performers (e.g., Dunn, Causgrove Dunn, Gamache, & Holt, 2014; Gould, Dieffenbach, & Moffett, 2002; Henschen, 2000). Others argue that perfectionism is likely to have few desirable long-term effects and is instead a significant vulnerability factor for athletes to possess (e.g., Flett & Hewitt, 2014, 2016; Hall, 2016). Whether perfectionism is something to be encouraged or avoided is a question that forms the backdrop for the current chapter. It is ultimately an empirical question that can be answered through the systematic study of perfectionism in athletes, dancers, and exercisers. As will be evident in this chapter, researchers and practitioners have dedicated considerable amounts of time to uncovering the correlates and consequences of perfectionism and, although there is still a considerable way to go, we are making good headway in terms of answering this question.

Research examining perfectionism in sport, dance, and exercise began some 25 years ago. Frost and Henderson (1991) examined the relationship between perfectionism and reactions to mistakes during competition among athletes. At a similar time, Szymanski and Chrisler (1991) compared athletes and non-athletes in terms of factors common among those with eating disorders, and one of these factors was perfectionism. The earliest studies in dance and exercise were published at a similar time (Archinard & Scherer, 1995; Davis, 1990). However, most of the research in these three domains has appeared much more recently. Based on the review of research presented in this chapter and elsewhere (Jowett, Mallinson, & Hill, 2016), we estimate that approximately 75% of all empirical studies examining perfectionism in sport, dance, and exercise have appeared in the last 10 years compared to 25% in the 15 years before. The field has now grown to the point where we have recently been able to dedicate a special issue of the *International Journal of Sport Psychology* to this topic as well as an edited book (Hill, 2016; Hill, Appleton, & Hall, 2014)

In this chapter we aim to illustrate the findings of research in sport, dance, and exercise by focusing on the latest research. The chapter includes an overview of the two-factor model (or hierarchical model) of perfectionism and an updated review of research adopting an independent effects approach. In presenting our updated review we build directly on our previous efforts to review research in sport, dance, and exercise reported in Jowett, Mallinson, and Hill (2016). We highlight the current state of knowledge in this area, consider whether perfectionism is something to be encouraged or avoided based on research in sport, dance, and exercise, and make suggestions regarding directions for future research.

Two-Factor Model of Perfectionism

To provide a better understanding perfectionism and the findings of the reviews we describe later, we start with a brief overview of the two-factor model of perfectionism (cf. Chapter 1), also referred to as the hierarchical model of perfectionism. As in other domains, a number of different models and instruments have been used in sport, dance, and exercise to examine perfectionism, with those developed by Frost, Marten, Lahart, and Rosenblate (1990), Dunn and Gotwals (Dunn et al., 2006; Gotwals & Dunn, 2009), Hewitt and Flett (1991), and Stoeber, Otto, and Stoll (2006) the most popular. Because details of these models and instruments as they are used in sport, dance, and exercise have been provided elsewhere (Stoeber & Madigan, 2016), we do not repeat this information here and use the available space for novel content. Instead, we provide a description of the two-factor model of perfectionism of which these individual models and instruments form a part. The two-factor model has been used previously to integrate and organize lines of research adopting different models of perfectionism in sport, dance, and exercise (e.g., Gotwals, Stoeber, Dunn, & Stoll, 2012; Jowett, Mallinson, & Hill, 2016; Stoeber, 2011). We use it here in the same manner.

The two-factor model of perfectionism is comprised of two positively related higher-order dimensions of perfectionism, namely perfectionistic strivings (PS) and perfectionistic concerns (PC).[1] The dimensions are measured using subscales from the instruments developed by the researchers identified above. Current practice is to use subscales from the same instruments or multiple subscales from different instruments to capture the two dimensions. In sport, dance, and exercise, PS are most commonly measured using subscales capturing high personal standards, self-oriented perfectionism (imposing the need for perfection on the self), and striving for perfection. By contrast, PC are most commonly measured using subscales capturing concern over mistakes, negative reactions to imperfection, and socially prescribed perfectionism (believing others expect perfection). In summarizing the content of the higher-order dimensions of perfectionism, PS have been described as capturing "aspects of perfectionism associated with self-oriented striving for perfection and the setting of very high personal performance standards" and PC as capturing "aspects associated with concerns over making mistakes, fear of negative social evaluation, feelings of discrepancy between one's expectations and performance, and negative reactions to imperfection" (Gotwals et al., 2012, p. 264). Evidently, these are broad constructs conceived in a manner designed to encompass different models.

The two-factor model is based on factor-analytical studies that have examined the underlying structure of instruments designed to measure perfectionism (e.g., Bieling, Israeli, & Antony, 2004; Cox, Enns, & Clara, 2002; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). This research suggests that, regardless of the individual content, the two higher-order dimensions are represented in most instruments designed to measure perfectionism. Moreover, a two-factor model may even be a better representation of underlying structure than each instrument modeled separately (Bieling et al., 2004). The two-factor model is also based on evidence of "functional homogeneity" among its subdimensions (Gaudreau & Verner-Filion, 2012). That is, subdimensions indicative of PS or PC tend to have similar correlates and consequences. This can be observed in research in most domains including sport, dance, and exercise (see Jowett, Mallinson, & Hill, 2016). As such, the two-factor model emphasizes conceptual and empirical overlap evident between different perfectionism models and instruments, and offers a useful heuristic when reviewing research.

Independent Effects Approach to Multidimensional Perfectionism

In the following part of the chapter, we summarize the findings of a previous review of research on perfectionism in sport, dance, and exercise before we present a review of the most recent research in these domains. Together, the reviews aim to illustrate the main findings in this area of research and should place the reader at the forefront of current understanding of perfectionism in these domains. In both these reviews, we adopted an "independent effects approach." We therefore start with a brief description of this approach.

One way of studying multidimensional perfectionism is to examine the effects of the two higher-order dimensions separately. The independent effects approach does this by examining the two dimensions in either an unpartialled or partialled manner. When examining the dimensions in an unpartialled manner, the two dimensions are simply examined separately. Both remain conceptually and statistically unaltered. That is, no attempt is made to take into account or control for the relationship between them. This is the case when bivariate correlations are examined. By contrast, when examining the two dimensions in a partialled manner, the effects of one of the dimensions are examined when holding the effects of the other constant (i.e., the effects of PS on a criterion variable when PC is zero or another fixed value). In this case, the two dimensions of perfectionism are conceptually and statistically altered in that new residual variables are created whose relationship with any criterion variable is unique, that is, independent of the contribution of the other dimension of perfectionism. To reflect this fact, we have previously used the terms "pure PS" and "pure PC" when discussing these variables. However, so as to avoid confusion with other uses of the term "pure" in this area (e.g., the 2 × 2 model of perfectionism), we use the terms "residual PS" and "residual PC" in this chapter.[2]

Adopting an independent effects approach allows examination of the unique (or independent) effects of PS and PC. This is advantageous because the two dimensions of perfectionism are typically positively related and often display opposing relationships with the same criterion variable. Therefore, it can be difficult to discern which dimension is responsible for a relationship with a given criterion variable, that is, to discern whether the relationship is unique to one particular dimension or whether it reflects common or shared variance. Comparison of bivariate correlations and partial correlations can also help identify instances of suppression whereby the two dimensions may act on each other so to increase or change the direction of their relationship with a given criterion variable. In some circumstances, suppression can pose interpretative difficulties but it can also add to our understanding of the relationship between predictor variables and criterion variables (Lynam, Hoyle, & Newman, 2006). For instance, comparison of PS, PC, and their residual counterparts can help identify the degree to which an observed relationship is attributable to the positive relationship between PS and PC. Therefore, the examination of partialled effects can be especially useful when studying multidimensional perfectionism.

Updated Review of Research Adopting an Independent Effects Approach

We recently reviewed research adopting an independent effects approach in sport, dance, and exercise (Jowett, Mallinson, & Hill, 2016). This review extended earlier reviews in sport, notably Stoeber's (2011) and Gotwals et al.'s (2012), in terms of coverage of sport research, as well as by including research in dance and exercise. In addition, whereas previous reviews included only criterion variables if they were

clearly adaptive or maladaptive, and focused mainly on PS, we included all substantive criterion variables along with bivariate and partial correlations for both PS and PC. The review was based on an electronic search of PsycINFO, PsycARTICLES, and SPORTDiscus using the terms "perfection*" (capturing all words containing "perfection" such as perfectionism, perfectionist, and perfectionistic) AND sport OR dance OR exercise, from January 1990 to August 2015, and included peer-reviewed journal articles published in English. In total, our review included 70 studies published between January 1991 and August 2015. This was 44 more studies and 1,736 additional bivariate and partial correlations than had previously been reviewed.

The findings of our review were similar to the two earlier reviews (Gotwals et al., 2012; Stoeber, 2011). In particular, PS displayed a mix of positive relationships with adaptive and maladaptive criterion variables suggesting that PS are ambivalent in sport, dance, and exercise. This was evident in how PS were related to motivation (e.g., intrinsic *and* introjected regulation, harmonious *and* obsessive passion, task *and* ego orientation) and well-being (e.g., positive *and* negative affect, confidence *and* worry) in context of a positive relationship with performance (e.g., season's best performances, actual performances). By contrast, residual PS were not ambivalent (with a few exceptions detailed below). Most of the positive relationships with maladaptive criterion variables that characterized PS were diminished or reversed whereas the positive relationships with adaptive criterion variables were typically unaltered or strengthened when residual PS were examined. This was evident for motivation (e.g., task orientation, ego orientation, obsessive passion) and well-being (e.g., bulimia symptoms, social physique anxiety, need thwarting) as well as performance (e.g., season's best performances, actual performances). Two notable exceptions were exercise dependence and eating pathology with which PS and residual PS tended to be positively related. Across the criterion variables, the sizes of the relationships varied but medium to large-sized effects were common (based on $r = .10$, .30, and .50 being small, medium, and large-sized effects; Cohen, 1992).

The review also revealed that PC displayed a consistent pattern of positive relationships with maladaptive criterion variables. This was evident for motivation (e.g., extrinsic regulation, ego orientation, fear of failure, amotivation) and well-being (e.g., worry, anxiety, low satisfaction). PC also displayed a pattern of negative relationships (or no relationships) with adaptive criterion variables. This included motivation (e.g., intrinsic regulation, identified regulation, and harmonious passion), well-being (e.g., friendship quality, task orientation, and self-esteem), and performance (e.g., season's best performances and actual performances). These relationships remained basically unaltered when residual PC were examined. However, there were some cases where residual PC were more maladaptive. This included instances where statistically nonsignificant relationships with adaptive criterion variables became negative and statistically significant (e.g., friendship quality), and positive and statistically significant relationships with maladaptive criterion variables were strengthened (e.g., amotivation). Again, across the criterion

variables, the sizes of the relationships varied but medium to large-sized effects were common.

Results of the Review of Research Adopting an Independent Effects Approach

For this chapter, a second electronic search was conducted using the same parameters as the previous review but searching over the time period since (August 2015 to April 2016; search carried out on April 17, 2016). The search produced 55 new studies. After reviewing the articles' abstracts for relevance (i.e., studies that provided empirical examination of perfectionism in sport, dance, or exercise), the number of studies was reduced to 12. One of these studies was a qualitative study (Hill, Witcher, Gotwals, & Leyland, 2015), and two studies examined unidimensional perfectionism (Tao & Sun, 2015; Watson Breeding & Anshel, 2015) which left us with nine studies (Barcza-Renner, Eklund, Morin, & Habeeb, 2016; Bennett, Rotherham, Hays, Olusoga, & Maynard, 2016; Cheng & Hardy, 2016; Costa, Coppolino, & Oliva, 2016; Hill, Robson, & Stamp, 2015; Neves, Meireles, Carvalho, Almeida, & Ferreira, 2016; Madigan, Stoeber, & Passfield, 2016a, in press; Oliveira et al., 2015). In addition, there were six published (or soon to be published) studies examining multidimensional perfectionism in sport, dance, and exercise that we were aware of but were not retrieved from the electronic search (Gustafsson, Hill, Stenling, & Wagnsson, 2016; Jowett, Hill, Hall, & Curran, 2016; Lizmore, Dunn, & Causgrove Dunn, 2016; Madigan, Stoeber, & Passfield, 2015, 2016b, 2017) giving us a total of 15 studies. After excluding four further studies—three studies that did not report bivariate correlations (Barcza-Renner et al., 2016; Bennett et al., 2016; Oliveira et al., 2015) and one that reported correlations only for total perfectionism (Neves et al., 2016)—we arrived at a final number of 11 studies examining multidimensional perfectionism in sport, dance, and exercise that were not included in the previous review (Jowett, Mallinson, & Hill, 2016). Table 8.1 shows the independent effects analyses for these 11 studies.

There are a number of notable observations from the present review. The first notable observation is the emergence of a number of longitudinal studies. In the previous review, only three of 70 studies used longitudinal designs. In two studies, Madigan et al. (2015, 2016b) examined the relationships between multidimensional perfectionism and athlete burnout (total burnout and individual burnout symptoms) in adolescent and adult athletes across two time points, three months apart. Madigan and colleagues found that PS were negatively related to total burnout at both time points and negatively related to reduced sense of accomplishment at Time 1, and exhaustion and devaluation at Time 2. Unexpectedly, PS were also positively related to reduced sense of accomplishment at Time 2.[3] Residual PS negatively predicted changes in total burnout and two other symptoms, reduced sense of accomplishment and devaluation, over time. By contrast, PC were unrelated to total burnout and unrelated to reduced sense of accomplishment, exhaustion, and devaluation. Residual PC positively predicted changes in total burnout and one

TABLE 8.1 An Updated Review of Research Adopting an Independent Effects Approach to Perfectionism in Sport, Dance, and Exercise (August 2015–April 2016)

Study	*Sample*	*Domain*	*Measure*	*Perfectionistic Strivings (PS)*	*Perfectionistic Concerns (PC)*	$r_{PS,\ PC}$	*Criterion variable*	*PS r*	*PC r*	*PS pr*	*PC pr*
Cheng & Hardy (2016)	485 university dance students (87% females)	Dance	FMPS, SMPS, SMPS-2	PStan	CM	–	Cognitive anxiety	–	–	–	–
							Physiological anxiety	–	–	–	–
							Regulatory anxiety	**.51**	–	–	–
Costa et al. (2016)	169 adult exercisers (50% females)	Exercise	FMPS	–	CoPC	–	Autonomy thwarting	**.30**	–	–	–
							Competence thwarting	**.42**	–	–	–
							Relatedness thwarting	**.47**	–	–	–
							Autonomy satisfaction	**–.17**	–	–	–
							Competence satisfaction	–.14	–	–	–
							Relatedness satisfaction	–.15	–	–	–
							Need thwarting	**.47**	–	–	–
							Need satisfaction	**–.17**	–	–	–
							ED: Withdrawal	**.28**	–	–	–
							ED: Continuance	**.20**	–	–	–
							ED: Tolerance	**.18**	–	–	–
							ED: Lack of control	**.27**	–	–	–
							ED: Reduction in other activities	**.28**	–	–	–
							ED: Time	.06	–	–	–
							ED: Intention effects	**.16**	–	–	–
							ED: Total	**.29**	–	–	–

Gustafsson et al. (2016)	237 adolescent athletes (48% females)	Sport	FMPS SF	PStan	CM	**.68**	Learning/enjoyment climate	.10	**−.14**	**.26**	**−.28**
							Worry conducive climate	**.27**	**.46**	−.05	**.36**
							Success without effort climate	.12	**.18**	.00	**.13**
							BO: Reduced accomplishment	**.29**	**.48**	**−**.04	**.37**
							BO: Exhaustion	**.31**	**.49**	−.03	**.36**
							BO: Devaluation	**.23**	**.45**	−.09	**.39**
Hill, Robson, & Stamp (2015)	248 adult exercisers (41% females)	Exercise	HF-MPS SF	SOP	SPP	**.38**	Perfectionistic self-promotion	**.45**	**.57**	**.21**	**.39**
							Nondisplay of imperfection	**.29**	**.47**	.11	**.37**
							Nondisclosure of imperfection	**.32**	**.45**	**.14**	**.34**
							ED: Withdrawal	**.30**	**.22**	**.23**	.11
							ED: Continuance	**.23**	**.19**	**.17**	.11
							ED: Tolerance	**.30**	**.18**	**.25**	.07
							ED: Lack of control	**.29**	**.20**	**.23**	.09
							ED: Reduction	**.24**	**.21**	**.17**	**.13**
							ED: Time	**.26**	.10	**.24**	.00
							ED: Intention effects	**.29**	**.22**	**.22**	.11
Jowett, Hill, et al. (2016)	222 adolescent athletes (56% females)	Sport	HF-MPS SF, SMPS-2	CoPS	CoPC	**.22**	Need satisfaction	**.44**	−.07	**.47**	**−.15**
							Need thwarting	**−.16**	**.42**	**−.23**	**.46**
							Total engagement	**.41**	−.07	**.44**	**−.15**
							BO: Total	**−.26**	**.36**	**−.32**	**.41**

TABLE 8.1 continued

Study	*Sample*	*Domain*	*Measure*	*Perfectionistic*				*PS*	*PC*	*PS*	*PC*
				Strivings (PS)	*Concerns (PC)*	$r_{PS, PC}$	*Criterion variable*	*r*	*r*	*pr*	*pr*
Lizmore et al. (2016)	343 adult curlers (42% females)	Sport	SMPS-2	PStan	CM	**.35**	RM: Anger and dejection (low criticality)	**.15**	**.46**	−.01	**.43**
							RM: Self-confidence and optimism (low criticality)	**.12**	**−.26**	**.22**	**−.32**
							RM: Anger and dejection (high criticality)	**.14**	**.48**	−.03	**.46**
							RM: Self-confidence and optimism (high criticality)	.10	**−.28**	**.20**	**−.33**
Madigan et al. (2015)†	103 adolescent athletes (20% females)	Sport	SMPS, MIPS	CoPS	CoPC	**.54**	BO: Total (Time 1)	**−.31**	.08	**−.42**	**.28**
							BO: Total (Time 2)	**−.40**	.14	**−.56**	**.39**
Madigan et al. (2016a)	130 adolescent athletes (100% males)	Sport	SMPS, MIPS	CoPS	CoPC	**.60**	Positive attitudes towards doping	−.08	.10	−.17	**.18**
Madigan et al. (2016b)†	129 adult athletes (49% females)	Sport	SMPS, MIPS	CoPS	CoPC	**.78**	BO: Reduced accomplishment (Time 1)	**−.33**	−.08	**−.43**	**.27**
							BO: Exhaustion (Time 1)	−.13	.08	**−.31**	**.29**
							BO: Devaluation (Time 1)	−.32	−.07	**−.42**	**.27**
							BO: Total (Time 1)	**−.29**	−.02	**−.44**	**.32**
							BO: Reduced accomplishment (Time 2)	**.29**	−.02	**.49**	**−.37**
							BO: Exhaustion (Time 2)	**−.21**	−.02	**−.31**	**.22**
							BO: Devaluation (Time 2)	**−.29**	−.02	**−.44**	**−.32**
							BO: Total (Time 2)	**−.31**	−.05	**−.43**	**.29**

Madigan et al. (2017)†	141 adolescent athletes (11% females)	Sport	SMPS, MIPS	CoPS	CoPC	**.54**	Training distress (Time 1)	–.07	**.24**	**–.23**	**.33**
							Training distress (Time 2)	.09	**.33**	–.10	**.33**
Madigan et al. (in press)	261 adolescent and adult athletes (26% females)	Sport	MIPS	SP	NRI	**.62**	Reasons for training: Avoidance of negative affect	**.20**	**.31**	.01	**.23**
							Reasons for training: Weight control	**.14**	**.28**	–.04	**.24**
							Reasons for training: Mood control	**.20**	**.14**	**.14**	.02

Note: FMPS = Frost Multidimensional Perfectionism Scale (Frost et al., 1990), FMPS SF = FMPS, short form (Cox et al., 2002), HF-MPS SF = Hewitt–Flett Multidimensional Perfectionism Scale, short form (Cox et al., 2002), SMPS = Sport Multidimensional Perfectionism Scale (Dunn et al., 2006), SMPS-2 = Sport Multidimensional Perfectionism Scale, Version 2 (Gotwals & Dunn, 2009), MIPS = Multidimensional Inventory of Perfectionism in Sport (Stoeber et al., 2006); PStan = Personal Standards, CoPS = a composite of multiple subscales indicative of PS, SOP = Self-Oriented Perfectionism, SP = Striving for Perfection; CM = Concern over Mistakes, CoPC = a composite of multiple subscales indicative of PC, SPP = Socially Prescribed Perfectionism, NRI = Negative Reactions to Imperfection; ED = exercise dependence, BO = burnout, RM = reactions to mistakes; *r* = bivariate correlation, *pr* = partial correlation; Significant correlations ($p < .05$) are boldfaced. † = Correlations between dimensions of perfectionism are for Time 1.

symptom, reduced sense of accomplishment, over time. Effect sizes over time tended to be small to medium-sized (e.g., PS–total burnout, PS–reduced sense of accomplishment, PS–devaluation, and PC–reduced sense of accomplishment). These findings provide an important extension to research in this area by confirming evidence from cross-sectional research and redressing null findings from the one previous study examining multidimensional perfectionism and athlete burnout longitudinally (Chen, Kee, & Tsai, 2009).

In another study, Madigan et al. (2017) supplemented their work on burnout by examining the related concept of training distress (a psychological precursor of overtraining syndrome). Again, this study employed a longitudinal design to examine the relationship between multidimensional perfectionism and training distress and did so among adolescent athletes across two time points, three months apart. Madigan and colleagues found that PS were not related to training distress at either time point and that residual PS did not predict changes in training distress over time. However, PC were positively related to training distress at both time points, and residual PC positively predicted changes in training distress over time. The effect of PC on training distress over time was small- to medium-sized. When taken alongside the aforementioned research examining athlete burnout, we believe that a picture is beginning to emerge that suggests that PC and residual PC may be important in the progressive development of the inability to cope with, or adapt to, the psychological demands of sport participation.

The second notable observation is the continued interest of researchers in the influence of multidimensional perfectionism on exercise dependence. The possibility that dimensions of perfectionism are a risk factor for exercise dependence has long been of interest to our research group. Building on our previous work on this topic, a study by Hill, Robson, and Stamp (2015) examined the relationship between multidimensional perfectionism, perfectionistic self-presentation, and exercise dependence in adult exercisers. Hill and colleagues found that PS and residual PS were positively related to all symptoms of exercise dependence. In addition, PC were positively related to all but one symptom of exercise dependence (time spent in activities necessary for exercise) whereas residual PC were positively related to only two symptoms (giving up activities to engage in exercise and engaging in exercise in larger amounts than intended). Effects tended to be small- to medium-sized. Based on these and previous findings (e.g., Miller & Mesagno, 2014), exercise dependence continues to be one of the few maladaptive criterion variables that PS and residual PS are consistently related to in research in this area. Examining exercise dependence further may therefore be particularly valuable in terms of gaining a better understanding of what psychological costs are associated with PS and residual PS.

The third notable observation is the inclusion of examination of new criterion variables that are of interest and importance in the psychology of sport, dance, and exercise. Athlete engagement (the supposed antithesis of burnout), psychological need satisfaction (perceived lack of opportunities for need fulfillment), reasons for training, and training distress have all recently been examined for the first time.

One particularly exciting development in this regard has been the publication of a study examining perfectionism and attitudes toward doping. In this study, Madigan et al. (2016a) found that residual PS (but not PS, PC, or residual PC) negatively predicted positive attitudes toward doping in a sample of adolescent athletes. The effect was small- to medium-sized. Doping continues to be a hot topic in sport, and the possibility that perfectionism may explain individual differences in attitudes toward doping and doping behavior is likely to be of significant interest to the wider field. We would therefore like to see additional research of this kind. This is also especially the case because Madigan et al.'s findings contradict other research that found both PS and PC to be positively related to positive attitudes toward doping in other athletic samples (e.g., Bahrami, Yousefi, Kaviani, & Ariapooran, 2014) and are counter to the notion that perfectionism may push athletes toward immoral behaviors that place themselves or others at risk of harm in pursuit of extremely high standards (Flett & Hewitt, 2014).

The fourth notable observation is that recent research has also extended our understanding of possible mediating mechanisms that might explain some of the relationships displayed by multidimensional perfectionism. Jowett, Hill, et al. (2016) provided evidence that the link between dimensions of perfectionism with both athlete burnout and athlete engagement may be mediated by perceptions of psychological need satisfaction and need thwarting (perceptions of active obstruction to need fulfillment). In a sample of adolescent athletes, Jowett and colleagues found that residual PS were negatively related to total burnout via a positive relationship with need satisfaction and a negative relationship with need thwarting, and positively related to athlete engagement via a positive relationship with need satisfaction. By contrast, residual PC were positively related to total burnout via a negative relationship with need satisfaction and a positive relationship with need thwarting, and negatively related to athlete engagement via a negative relationship with need satisfaction (but not via need thwarting).

Interestingly, Costa et al. (2016) found similar support for the mediating role of need thwarting when examining perfectionism and exercise dependence. In a sample of adult exercisers, PC were found to be positively related to exercise dependence via a positive relationship with need thwarting (but not via any relationship with need satisfaction). We have previously argued that perfectionism (PC, in particular) may impoverish the fulfillment of psychological needs and contribute to a range of difficulties (see Mallinson & Hill, 2011). Exercise dependence and burnout are two examples of these difficulties. We believe that other difficulties associated with lower need fulfillment such as anti-social behavior and sport drop-out also warrant examination. The relationship between perfectionism and lower need fulfillment appears to be a key component in understanding why PC are likely to have a detrimental impact on the motivation and well-being of athletes, dancers, and exercisers. We encourage researchers to consider testing these assertions in future work.

The final notable observation is that studies are beginning to test more complex models that include moderating situational or contextual factors alongside

perfectionism and various criterion variables. Gustafsson et al. (2016), for example, extended the work on perfectionism and athlete burnout by also examining the influence of perceptions of the parental climate (expectations evident in the behavior of parents that shape personal perspectives on success) in adolescent athletes. They found that the adolescent athletes at greatest risk of burnout were those higher in both PS and PC who also perceived their parents to emphasize concerns about failure and winning without trying one's best. Also of note from this study is that it is the first time, to our knowledge, that PS have been found to have a positive statistically significant relationship with burnout symptoms. Specifically, PS displayed a positive small to medium-sized relationship with all three burnout symptoms. It is not clear why this was the case in this particular study. However, alongside research that has found PS to be unrelated and negatively related to burnout symptoms, this finding can be taken as evidence that the relationship between PS and burnout is subject to moderation by other factors. These factors will need to be identified in future research.

Another study that examined perfectionism and moderating factors has been provided by Lizmore et al. (2016). In their study they integrated perceptions of event criticality into an examination of the relationship between perfectionism and reactions to mistakes in a sample of adult curlers. They found that that PS and PC displayed relatively consistent relationships with anger/dejection and self-confidence/optimism across low and high critical events. Specifically, they found PS to be positively related to anger/dejection in both conditions of low and high criticality and positively related to self-confidence/optimism in conditions of low criticality. By contrast, PC was positively related to anger/criticality, and negatively related to self-confidence/optimism, in both conditions of low and high criticality. Effects were small-sized for PS and small- to medium-sized and large-sized for PC. Even though no evidence of moderation was found, this study and the study by Gustafsson et al. (2016) are extremely valuable as they are among the few that have attempted to understand *when* PS and PC are likely to be beneficial or problematic for athletes, dancers, and exercisers, not just *if*. This is surely a more realistic and reasonable line of enquiry for future research than assuming that dimensions of perfectionism will be beneficial or problematic for all individuals all of the time.

Overall, the findings of the present review are consistent with the findings of our previous review of perfectionism in sport, dance, and exercise (Jowett, Mallinson, & Hill, 2016). Research continues to find PC and residual PC to exhibit a pattern of relationships with maladaptive criterion variables that suggests they are undesirable and debilitating. By contrast, PS continue to be more complex and ambivalent showing a positive relationship with both adaptive and maladaptive criterion variables. Moreover, residual PS continue to exhibit a pattern of relationships with adaptive and maladaptive criterion variables that suggests residual PS are benign, or even beneficial (with exercise dependence being a notable exception).

Recommendations for Future Research

We close the chapter by directing attention to a number of additional issues that we believe need to be addressed in future research. The first issue is an over-reliance on cross-sectional designs. Most research to date on perfectionism in sport, dance, and exercise has adopted cross-sectional designs. The weaknesses of cross-sectional designs are well-documented. In particular, cross-sectional designs do not allow inference of causality between variables as there is no temporal component in the design (i.e., all variables are measured at the same time point). These designs provide only a static "snapshot" of the relationships they examine. They offer no means of assessing whether the magnitude or direction of the relationships change over time, or whether variables act on one another to varying degrees over time (i.e., the existence of reciprocal effects). Consequently, we know a considerable amount regarding the relationship between perfectionism and various criterion variables, but little about whether these are causal relationships or in which direction this is the case. As identified earlier, studies are emerging that use longitudinal designs to address these issues, and their findings indicate that perfectionism can predict change in various criterion variables. However, more longitudinal studies are sorely needed.

The second issue is that too few studies have employed designs examining factors that moderate the relationship of PS and PC with outcomes in sport, dance, and exercise. The reasons for this are unclear. One reason may be that researchers examine moderation effects, but only report them when they are statistically significant ($p < .05$). Another reason may be that interactions—signifying moderation effects—are difficult to detect in correlational research, and statistical analyses require large sample sizes to have sufficient statistical power to detect these effects (e.g., McClelland & Judd, 1993). Studies examining sport, dance, and exercise, however, often do not have large samples comprising several hundred participants. Still, research searching for moderators (and probing for interactions) is important because this research addresses whether there are situational or personal factors that provide resiliency toward the negative consequences of perfectionism. This research is also necessary in order to test important assertions that include the idea that those higher in perfectionism are vulnerable to psychological and motivational difficulties following achievement stress (the specific-vulnerability hypothesis) or may respond to difficult life circumstances in a fashion that is problematic (perfectionistic reactivity; Flett & Hewitt, 2016).

A third issue is the availability of quality instruments to measure perfectionism. As the area of research develops further, we must continue to develop and refine the instruments we use in sport, dance, and exercise to measure perfectionism. Outside of sport, dance, and exercise, researchers have been active in developing new measures and scrutinizing existing measures (e.g., Smith, Saklofske, Stoeber, & Sherry, 2016; Stoeber, in press). Although there have recently been similar developments in sport (e.g., Hill, Appleton, & Mallinson, 2016; Madigan, 2016), there is still considerable scope for more research of this kind. In particular, there

are currently no instruments that have been developed specifically to measure perfectionism in dance or exercise, which may partly explain why perfectionism research in these two domains lags behind perfectionism research in sport. Because perfectionism may be best measured using domain-specific instruments (e.g., Stoeber & Stoeber, 2009), the development of instruments designed to capture perfectionism as it is uniquely manifested in dance and exercise would be extremely valuable.

A final issue is the amount of research that has been dedicated to examining perfectionism in exercisers. In comparison to sport and dance, the correlates and consequences of perfectionism in exercisers have received much less attention. This is surprising because, anecdotally, perfectionism appears to be part of a culture common among some exercisers that includes a focus on "perfecting the body" (e.g., Morrison, Morrison, & Hopkins, 2003). Furthermore, the small number of studies that have examined perfectionism in an exercise domain indicates that perfectionism is related to the experiences of exercisers (e.g., Longbottom, Grove, & Dimmock, 2012). Exercise is also a particularly interesting domain in that dimensions of perfectionism that are sometimes associated with adaptive criterion variables in sport and dance (i.e., PS and residual PS) are often associated with maladaptive criterion variables in this domain (e.g., exercise dependence; Hill, Robson, & Stamp, 2015). For these reasons, we consider research examining perfectionism in exercise to be another priority for future research.

Concluding Comments

In this chapter we illustrated the correlates and consequences of perfectionism in sport, dance, and exercise by providing an updated review of research. Examination of multidimensional perfectionism continues to illustrate the unique (and often opposing) effects of PS and PC. Notably, this includes recent longitudinal work that suggests that perfectionism can predict changes in the experiences of athletes over time. Research has also begun to examine mediating and moderating factors. All this research is important because whether perfectionism is desirable or debilitating will depend on the degree to which a particular dimension is exhibited, whether the other dimension of perfectionism is considered, and what other individual differences and contextual factors are evident. Based on current research, most guises of perfectionism are associated with some psychological costs to motivation and well-being. Only when the correlates and consequences of PS are considered independently from PC is this not the case (i.e., residual PS). To progress our understanding of perfectionism further, a number of recommendations were made for future research including a call for further studies employing longitudinal designs, a focus on moderating factors, the continued development and refinement of instruments to measure perfectionism, and more research on the influence of perfectionism among exercisers.

Notes

1 Also referred to as personal standards perfectionism and evaluative concerns perfectionism (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; see also Gaudreau & Thompson, 2010)
2 The labels "pure PS" or "pure PC" can also be considered misleading in that they suggest that these variables are unrelated to each other (something we have stated in error when describing this approach previously; Jowett, Mallinson, & Hill, 2016). When fully controlled for, it is the residualized variable and the unresidualized opposite that are unrelated (e.g., residual PS and PC).
3 Based on the correlations, this is likely to be a reporting error.

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PART III

Vulnerability and Resilience

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9

PERFECTIONISM AND INTERPERSONAL PROBLEMS

Narcissistic and Self-Critical Perfectionism

Simon B. Sherry, Sean P. Mackinnon, and Logan J. Nealis

Overview

Many perfectionists struggle to benefit from and to participate in harmonious, satisfying, and stable interpersonal relationships. Perfectionism seems to thwart a basic human need for close interpersonal relationships. Congruent with this view, perfectionism is linked with interpersonal problems (Hewitt, Flett, Sherry, & Caelian, 2006; Sherry, Mackinnon, & Gautreau, 2016), including negative social outcomes (e.g., romantic breakup), negative social behaviors (e.g., hostile interactions), and negative social cognitions (e.g., seeing others as displeased). In this chapter, we examine the interpersonal lives of self-critical and narcissistic perfectionists, highlighting how these individuals view themselves and others. We also examine the interpersonal behaviors of self-critical and narcissistic perfectionists, and we consider how interpersonal problems lead to psychological distress in self-critical and narcissistic perfectionists. In this chapter, we also present two case studies illustrating our points: Sylvia Plath (mainly a self-critical perfectionist) and Bobby Knight (mainly a narcissistic perfectionist).

Narcissistic and Self-Critical Perfectionism

Let us first define narcissistic and self-critical perfectionism. Self-critical perfectionism involves a family of traits including a tendency to be intensely self-critical, to be preoccupied with mistakes, to be doubtful about performance abilities, and to see others as demanding perfection of oneself (Dunkley, Berg, & Zuroff, 2012). This family of traits robustly predicts numerous negative outcomes (Sherry, Nealis, et al., 2013). In contrast, narcissistic perfectionism involves a family of traits including a tendency to direct the demand for perfection outward onto others in a grandiose, entitled, and hypercritical way (Nealis, Sherry, Sherry,

Stewart, & Macneil, 2015). Although theory has speculated about a constellation of narcissistic and perfectionistic traits (Millon & Davis, 2000), researchers have only recently started using research to bridge the gap between narcissism and perfectionism (Nealis, Sherry, Lee-Baggley, Stewart, & Macneil, 2016). Preliminary findings suggest narcissistic perfectionism is distinct from self-critical perfectionism, with each perfectionism construct uniquely predicting negative social behaviors, including a characteristic view of self and others that complicates relationships.

View of Self

The way people view themselves, often described as self-concept or self-schema, plays a role in how people experience the world and interact with it. Rather than being a static mental representation, self-concept is dynamic—it reflects ongoing behavior while also regulating behavior (Markus & Wurf, 1987). Self-concept is multifaceted, including an *actual* self and one or more *possible* selves (e.g., an ideal self). These possible selves serve a motivating, evaluative, and interpretive function for behavior (Markus & Nurius, 1986), but can also create problems. From a cognitive perspective, Beck and Freeman (1990) emphasized how "dysfunctional feelings and conduct … are largely due to the function of certain schemas that tend to produce consistently biased judgments and a concomitant consistent tendency to make cognitive errors in certain types of situations" (p. 5).

Intrapersonally, self-schemas provide an organizing structure for information processing (e.g., self-monitoring, self-appraisal, and self-evaluation), emotion regulation, and motivation (Beck & Freeman, 1990). Rather than self-schemas being a personal affair operating in the private confines of the mind, these beliefs exert wide-reaching influence on interpersonal behavior and the social environment through social perception, selection of social contexts, and characteristic methods of interaction and reaction (Markus & Wurf, 1987). Similar to how personality disorders have characteristic self-schemas (Young, 1994), narcissistic perfectionism and self-critical perfectionism are each linked to their own characteristic view of self that drives how these personality styles manifest in a social context and contribute to social problems.

Narcissistic Perfectionism

Available theory and evidence suggests narcissistic perfectionists characteristically view themselves as perfect, superior people who have largely attained the idealized image they hold for themselves (see Table 9.1). In their mind, they see themselves in exceedingly positive ways: They manifest the glory of perfection and bask in their perceived achievement of this idealized image. Theoretical work has long described narcissistic perfectionists as having an inflated and idealized view of self that they rigidly pursue and maintain (Horney, 1950). Research links grandiosity to other-oriented perfectionism (Flett, Sherry, Hewitt, & Nepon, 2014; Sherry, Gralnick, Hewitt, Sherry, & Flett, 2014; Smith, Sherry, et al., 2016; Stoeber,

Sherry, & Nealis, 2015; Watson, Varnell, & Morris, 1999), and empirical models of narcissistic perfectionism suggest these individuals maintain a grandiose, perfect image of themselves (Nealis et al., 2016; Nealis et al., 2015). A recently validated scale for narcissistic perfectionism also features grandiosity and superiority in its conceptual structure (Smith, Saklofske, Stoeber, & Sherry, 2016), further highlighting the tendency for narcissistic perfectionists to view themselves as perfect and worthy of praise.

Supplemental analyses of data from Nealis et al. (2015, Study 1) suggest narcissistic perfectionists tend to experience minimal discrepancy between their actual and ideal selves. Multiple regression on a sample of 323 undergraduates indicated narcissistic perfectionism was uniquely and negatively associated with discrepancies ($\beta = -.14$), as measured by the revised Almost Perfect Scale (Slaney, Rice, Mobley, Trippi, & Ashby, 2001), after including self-critical perfectionism in the model (Nealis & Sherry, 2016). Despite a relatively small effect, this stands in sharp contrast to the strong positive relation between self-critical perfectionism and discrepancies ($\beta = .69$). Published data also suggest narcissistic perfectionism has little relation to socially prescribed discrepancies (i.e., a perceived difference between the actual self and other people's expectations) over a four-week period (Nealis et al., 2015). Narcissistic perfectionists see themselves as "shining stars" while remaining relatively unconcerned about living up to the expectations of others.

It is unsurprising that narcissistic perfectionists see themselves in a positive light and generally feel quite good about themselves. Key traits involved in the measurement of narcissistic perfectionism, such as other-oriented perfectionism (Hewitt & Flett, 1990), tend to show moderate positive correlations with self-esteem (Watson et al., 1999) and positive self-regard (Stoeber, 2015). Despite this overt self-assurance, unconditional self-acceptance is elusive for narcissistic perfectionists (Flett, Besser, Davis, & Hewitt, 2003), and a positive view of the self may only be possible when they are on the "winning team" (Zeigler-Hill, Clark, & Pickard, 2008). With a moderate to large overlap between narcissistic and

TABLE 9.1 Prototypical Forms of Cognition, Affect, and Behavior for Self-Critical and Narcissistic Perfectionists

Domain	*Narcissistic perfectionists*	*Self-critical perfectionists*
View of self	perfect, superior, ideal, and grandiose	imperfect, deficient, flawed, and defective
View of others	inferior, flawed, disappointing, and deserving of criticism	harsh, hyper-critical, punitive, and demanding
Affective experience	angry and hostile	angry, hostile, anxious, depressed, and ashamed
Interpersonal behaviors	hostile-dominant, self-enhancing, and conflictual	hostile and/or submissive, self-concealing, and conflictual

self-critical perfectionism, it is possible grandiosity gives way to self-criticism (Nealis et al., 2015; Nealis et al., 2016; Ronningstam, 2010) when these conditions are not met. Such an underlying vulnerability makes it vitally important for a narcissistic perfectionist to maintain a sense of superiority over others.

A question remains as to whether narcissistic perfectionists regard themselves through rose-colored glasses, or whether this view is consistent with others' perspective. Evidence supports the latter view, with self-reports and informant reports of narcissistic perfectionism overlapping by approximately 25% (Nealis et al., 2016). People may also have unique biases in self-perception compared to how others see them, with different relationship types (e.g., parents, friends, romantic partners) showing different systematic biases. Informant-report data from Nealis et al. (2016) were disaggregated based on relationship type to examine this possible bias in detail (see Figure 9.1). People tended to rate themselves as more grandiose than others rated them, although informant reports from romantic partners and family members showed the greatest similarity to self-reports. In contrast, friends and parents tended to rate people as less grandiose (Nealis & Sherry, 2016). This suggests people see themselves in the most idealized way, while others may agree (or disagree) with this view according to how they relate to the person. Biases in ratings of entitlement were much smaller. Only participants' parents seemed to rate them as less entitled than others, including when compared to self-reports. Both indicators of other-oriented perfectionism (other-oriented perfectionism and high standards for others) were relatively consistent across relationship types with the exception of romantic partners, who tended to rate participants as having much higher expectations of others than indicated by self-reports or reports from other relationship types. This suggests romantic partners may be particularly vulnerable to lofty demands for perfection in the context of intimate relationships.

These data are exploratory, however, and should be interpreted with caution. Average levels of self- versus informant-reported traits provide only a snapshot of similarities and differences between informant types, and larger samples are needed (especially for certain relationship types, such as romantic partners) before firm conclusions are made. These ratings also reflect perceived personality traits and only act as a proxy for how people view and evaluate themselves or others. Future studies in this area may yield important insights into the possible biases and distortions involved in how narcissistic perfectionists view themselves versus how others see them.

American basketball coaching legend Bobby Knight illustrates many aspects of the characteristic view of self maintained by narcissistic perfectionists. Most of what people know about Knight comes from depictions of him through media, most notably a video depicting Knight flinging a chair across the basketball court in a fit of rage. These actions were described as showing a flagrant disregard for authority and social convention (Walton, 2000), suggesting he sees himself as superior and is dismissive of the rules or opinions of others in favor of an approach emphasizing winning at all costs.

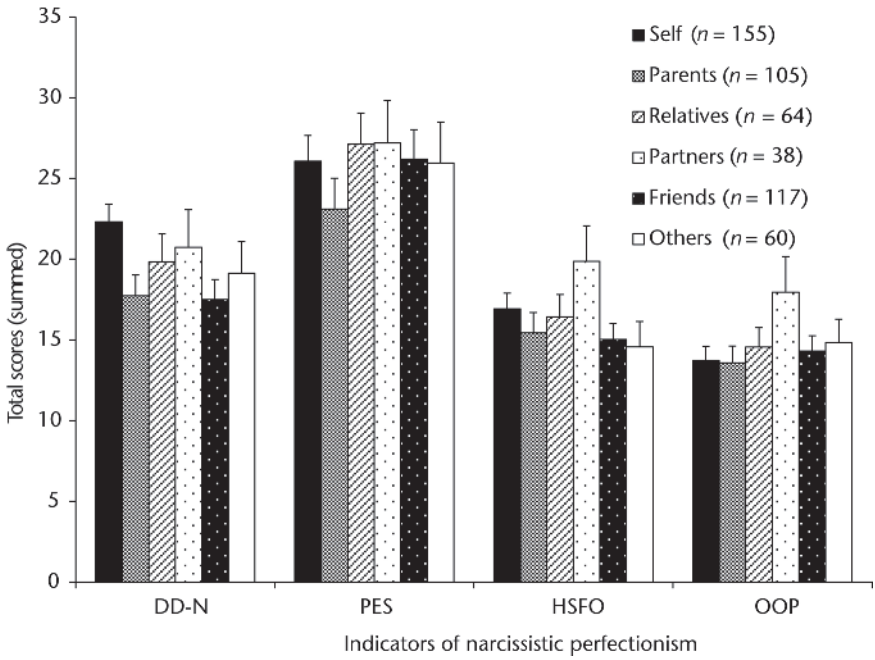

FIGURE 9.1 Self-reports and disaggregated informant reports of indicators for narcissistic perfectionism based on relationship type. Reports for multiple informants within the same category (e.g., multiple friends) were aggregated to create a single "friends" estimate for each indicator. Additional information regarding measurement can be found in Nealis et al. (2016).

Note: DD-N = Jonason and Webster's (2010) narcissism subscale of the Dirty Dozen; PES = Campbell, Bonacci, Shelton, Exline, and Bushman's (2004) Psychological Entitlement Scale; HSFO = Hill et al.'s (2004) high standards for others subscale of the Perfectionism Inventory; OOP = Hewitt and Flett's (1990) other-oriented perfectionism subscale. Error bars represent 95% confidence intervals.

An interview in *Playboy* provided insight into Knight's view of self (Grobel, 2014). During the interview, which occurred during a harrowing 12-hour drive, Knight frequently described his superiority over others and demanded respect for his accomplishments while minimizing or justifying the behavior described as abusive by former players (see also Walton, 2000). He described his infuriation when the host of a talk show failed to recognize his positive accomplishments while introducing him and instead focused on the infamous video of him throwing a chair across the court (Grobel, 2014). His sensitivity to criticism also became apparent at one point during the interview when he became irate and uncooperative, saying: "You haven't brought up one [expletive] positive thing I've said or done since we've been talking. I'm tired of it" (Grobel, 2014, paragraph 156).

Similar to narcissistic perfectionists, Knight shows little discrepancy between his actual and ideal self. In defending his actions, Knight declared: "What was right

twenty-five years ago is still right. I'm not going to change—it's up to them to change. The best teachers I've known are intolerant people. They don't tolerate mistakes" (Huber, 2008, paragraph 29). Even in his more sensitive and candid moments, he described how his coaching job was unfairly stripped away from him (Grobel, 2014), seemingly without recognition of his contribution to that outcome. This betrays a superior view of self where he is the tragic, unappreciated hero.

Self-Critical Perfectionism

Whereas narcissistic perfectionists see themselves as superior and perfect, self-critical perfectionists see themselves as flawed, imperfect, and deficient (see Table 9.1). In their mind, they are incapable of living up to the lofty and idealized standards they strive for, whether these are the standards imposed on themselves, or seemingly imposed by others. An idealized state of perfection is the ultimate goal, similar to narcissistic perfectionists; for self-critical perfectionists, however, life is constantly reminding them just how far away from this ideal they really are.

The discrepancy between the actual self and the ideal self is a core feature of self-critical perfectionism. Research often uses discrepancies as part of a constellation of traits for self-critical perfectionism and related constructs (e.g., perfectionistic concerns; Blankstein, Dunkley, & Wilson, 2008; Richardson & Rice, 2015; Suddarth & Slaney, 2001). Some researchers see discrepancies as a pillar of self-critical perfectionism, rather than merely a down-stream correlate (Blankstein et al., 2008), with a resultant self-schema that is imperfect, flawed, and largely, if not entirely, unworthy. The day-to-day experience of self-critical perfectionists is dominated by concerns they are imperfect in others' eyes, not just in their own (Nealis et al., 2015).

With a view of self predominated by weakness and inferiority, self-critical perfectionists place a low value on themselves. Theoretical accounts link the discrepancy between the actual and ideal self as a prime contributor to low self-esteem in perfectionists (Horney, 1950), and research supports this notion (Dunkley et al., 2012). In addition to doubting their self-worth, self-critical perfectionists are more likely to see themselves as being ineffectual in attaining the lofty performance standards they feel compelled to pursue (Stoeber, Hutchfield, & Wood, 2008).

Rather than a chronically low sense of self-worth, self-critical perfectionists ride a roller coaster of discrepancies, fragile self-worth, and emotional upheaval. They show an overall pattern of low self-esteem and negative affect, but these experiences tend to fluctuate from day to day (Dunkley et al., 2012). Decreases in self-esteem and problems with social interactions trigger corresponding emotional difficulties. Instability in self-esteem often betrays a fragile sense of self (Kernis, Paradise, Whitaker, Wheatman, & Goldman, 2000), driven largely by how far the person feels from his or her ideal self on a particular day. Such fragility of self-worth is common when self-concept is contingent on external events, rather than a more internal, global, and stable sense of self (Greenier et al., 1999). Because self-critical perfectionists set unrealistic standards for themselves and feel others set unobtainable

standards for them (Sherry, Law, Hewitt, Flett, & Besser, 2008), it is unsurprising their day-to-day experience is that of inadequacy and distress at the perceived reality of being imperfect. These individuals have great difficulties with unconditional self-acceptance (Flett et al., 2003), and devote substantial energy to the attainment or maintenance of self-esteem. This drive comes at a cost: The pursuit of self-esteem can thwart the development of competence and close relationships with others (Crocker, 2002).

The self-view maintained by self-critical perfectionists is only somewhat consistent with how other people view them. Published data suggest only a modest overlap (12.3%) between self-reports and informant reports of self-critical perfectionism (Sherry, Nealis, et al., 2013). Similar to narcissistic perfectionism, there appear to be differences in how component traits of self-critical perfectionism are endorsed through self-report and informant report depending on relationship type (see Figure 9.2). Analysis of empirical data showed romantic partners reported similar overall levels of self-criticism compared to self-reports, but all other relationship types reported lower levels of this tendency. A similar pattern was evident for doubts about actions, although to a lesser degree. Interestingly, informant reports from romantic partners indicated the highest estimates of a participant's concern over mistakes compared to informant reports from others and the participant's own self-reports. In contrast, socially prescribed perfectionism was similar across self- and informant reports. These results suggest differences in perception of these component traits, with certain traits less likely to be reported based on someone's relationship with the individual in question. For example, the self-abasement and self-doubt of a self-critical perfectionist may not be broadcasted widely to others in that person's social network, while romantic partners may have a privileged window into her or his private world. In contrast, concern over mistakes may manifest through verbalizations and behavior in performance contexts, with others being more likely to pick up on these concerns relative to self-doubt. The discrepancy between self- and partner reports suggests people have blind spots in regard to their pre-occupation with mistakes, potentially as a result of being immersed in these thoughts and not having an outside perspective. Partners may be particularly likely to see these concerns manifest while also having an external perspective with which to compare, making them particularly well situated to comment on a person's self-critical perfectionism.

Sylvia Plath is a widely cited example of the destructiveness of self-critical perfectionism (Nealis et al., 2015; Sherry et al., 2016), with a self-view characteristic of this personality style being evident in her biography and poetry. Plath's writings are understood to represent an accurate portrayal of her inner experience, thus affording an intimate window into her inner life and views of self (Shulman, 1998).

Plath frequently gave voice to a fragile self that was deeply afraid of being deficient, making mistakes, and not living up to her own idealized expectations. In her published diaries, Plath (2000) described her perfectionism as having a "demon who wants me to run away screaming if I am going to be flawed, fallible. It wants me to think I'm so good I must be perfect. Or nothing" (p. 619). She then

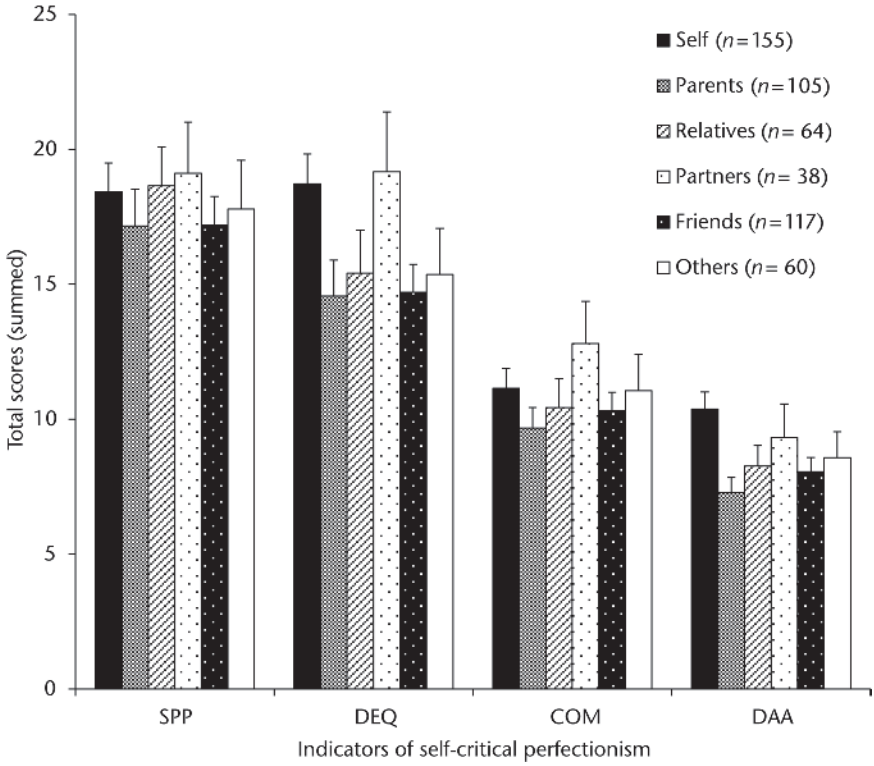

FIGURE 9.2 Self-reports and disaggregated informant reports of indicators for self-critical perfectionism based on relationship type. Reports for multiple informants within the same category (e.g., multiple friends) were aggregated to create a single "friends" estimate for each indicator. Additional information regarding measurement can be found in Nealis et al. (2016).

Note: SPP = short form of Hewitt and Flett's (1991) socially prescribed perfectionism subscale of their Multidimensional Perfectionism Scale; DEQ = Bagby, Parker, Joffe, and Buis's (1994) self-criticism subscale of the reconstructed Depressive Experiences Questionnaire; COM = a short form of Frost, Marten, Lahart, and Rosenblate's (1990) concern over mistakes subscale of their Multidimensional Perfectionism Scale; DAA = doubts about actions subscale of the same scale. Error bars represent 95% confidence intervals.

continued, describing her own social deficiencies as stemming from this "demon" and standing in the way of living a more tolerable life: "If I get through this year, kicking my demon down when it comes up, I'll be able, piece by piece, to face the field of life, instead of running from it the minute it hurts" (p. 619).

Her biography and poetry depict intense self-criticism and self-devaluation (Firestone & Catlett, 1998; Shulman, 1998). These writings also point to periodic discrepancies when she perceived her actual self as largely deficient compared to her ideal self, and these discrepancies tended to be bring periods of intense distress and suicidality (Shulman, 1998). These discrepancies were intermittent, however,

and often mixed with periods of lesser discrepancy when Plath would describe herself in more positive terms (Shulman, 1998). It is unclear whether she truly believed herself when speaking in positive terms, or whether this represented a desperate defense against the "demon" of perfectionism that threatened her.

View of Others

Perfectionists also have characteristic ways of viewing others in their social context. These views are often complementary and each contributes in its own way to a person's affective experience and interpersonal behavior. Cognitive theory largely focuses on the impact of schemas, both on the self and the world beyond, and how they influence social behavior in a mutually dependent way (Beck & Freeman, 1990; Young, 1994). Social cognitive theory broadens and extends this framework to emphasize the mutual and reciprocal relationships between intrapersonal factors (e.g., cognition, affect), overt behavior, and the environment (Bandura, 1999). In this system, individual characteristics (e.g., cognitive structures, affect) influence the social-environmental contexts people seek out and how these contexts are interpreted. Though the factual aspects of the social environment exerts an influence, it is often the social environment *as it is perceived to be* that carries meaning for the individual and has implications for a person's emotional experience and subsequent behavior (Beck & Freeman, 1990; Young, 1994). Narcissistic and self-critical perfectionists both have characteristic views of others that contribute to interpersonal problems.

Narcissistic Perfectionism

Alongside their view of themselves as superior and perfect, narcissistic perfectionists view others in a complementary but less favorable way—namely as inferior, flawed, and deserving of criticism. They see themselves as natural leaders (Stoeber et al., 2015) who deserve to be hoisted up on a pedestal for all of their positive qualities and actualized greatness, while others are relegated to subordinate roles and devalued for their perceived inadequacies. The sense of superiority inherent in this trait constellation is frequently documented, with forms of other-oriented perfectionism associated with feelings of superiority over others (Stoeber, 2015) and devaluation of others (Stoeber et al., 2015). Narcissistic perfectionists take it upon themselves to lead and dominate others, and react with confusion and indignation when these inferior others do not submit to their will (Nealis et al., 2016). They see the world as one big "mistake," and they deputize themselves to "fix" it.

While narcissistic perfectionists largely see themselves as living up to their lofty and idealized standards, others do not bask in the same glow. Over 28 days of intensive measurement, those higher on narcissistic perfectionism tended to report others as frequently failing to live up to expectations (Nealis et al., 2015). Narcissistic perfectionists view others from an elevated position, with constant and inevitable

disappointment being the only expectations that these others ever seem to be able to meet.

In contrast, narcissistic perfectionists are unperturbed by the possibility of not measuring up to others' expectations (Nealis et al., 2015). They view themselves as meeting normative standards for performance, especially in comparison to others to whom they are in direct competition. When there are clear discrepancies between their actual self and others' expectations, these discrepancies may be dismissed as arising from the expectations of "inferior" people and thus of little consequence

These characteristics of narcissistic perfectionists are evident in writings describing Knight. His actions and words frequently betray a view of others as being weak, deficient, and worthless. On one occasion, he was reputed to use a piece of soiled toilet paper to convey his opinion of his players while chastising them in the locker room (Grobel, 2014). This behavior was not an isolated incident. There are frequent reports of him treating players, officials, and colleagues with a blatant disrespect (Huber, 2008), while railing against others for not affording him the respect he felt he deserved (Feinstein, 2000). Knight voiced a similar disparaging attitude toward journalists during his *Playboy* interview, describing the media as biased and incapable of doing anything right (Grobel, 2014). When discussing the aftermath of his dismissal from the University of Indiana, he described the administration in unfavorable terms, disparaging them as self-interested and neglecting the welfare of faculty and students alike (Grobel, 2014). The only times when he described others positively were seemingly in the context of others showing him admiration.

Self-Critical Perfectionism

Unlike the contrast between self-view (favorable) and view of others (unfavorable) demonstrated by narcissistic perfectionists, self-critical perfectionists tend to view others with ambivalence. Self-critical perfectionists are prone to social comparison, often seeing themselves in a "one-down" position relative to others (Wyatt & Gilbert, 1998). At the same time, they are vulnerable to social anxiety (Cox & Chen, 2015; Saboonchi & Lundh, 1997), seeing others not as benevolent and accepting of flaws but as harsh judges who are always vigilant to possible mistakes, lying in wait to cast a critical eye. In this way, self-critical perfectionists view others as "oppressors" who subject the self to painfully high standards that cannot be satisfied.

Similar to self-critical perfectionists' view of self, discrepancies are a key feature for their view of others. Interpersonal discrepancies reflect the concern of being unable to live up to the unobtainable standards set by others. This experience is central to the social disconnection experienced by self-critical perfectionists, where these individuals tend to interpret others as being highly critical and demanding (Dunkley, Sanislow, Grilo, & McGlashan, 2006; Hewitt et al., 2006). Self-critical perfectionists feel that others are chronically dissatisfied with their performance,

over both day-to-day interactions (Nealis et al., 2015) and week-to-week interactions (Sherry, Mackinnon, et al., 2013).

The view of others as being dissatisfied and critical can result in intra- and interpersonal problems. Intrapersonally, the perception of others being critical and demanding feeds into the underlying concern with oneself being flawed and imperfect, making one more prone to emotional distress (Sherry et al., 2008; Sherry, Mackinnon, et al., 2013). It can also catalyze interpersonal friction, as others are seen as acting unfairly and harshly toward the self, and the self-critical perfectionist may react with either overt hostility or unexpressed indignation (Nealis et al., 2015). Discrepancies are central to this process, as self-critical perfectionists simultaneously hold a view of themselves as failing to live up to others' expectations while also viewing others as being flawed in their own way, making them unjust and hypocritical in their expectations. The key difference between narcissistic perfectionism and self-critical perfectionism is that the self-critical perfectionist lashes out not because others are flawed and in need of correction, but because others are perceived to be unfairly critical and demanding.

We see problems of social disconnection play out with Plath. In her journals, she expresses a concern about being under the watchful eyes of others, who largely judge and criticize her:

> I talk to myself and look at the dark trees, blessedly neutral. So much easier than facing people, than having to look happy, invulnerable, clever. With masks down, I walk, talking to the moon, to the neutral impersonal force that does not hear, but merely accepts my being. And does not smite me down.
>
> *(Plath, 2000, p. 200)*

Although she often expressed idealization of others in her life, she was also known to be deeply critical of people she was fond of while being suspicious and cynical toward their intentions (Firestone & Catlett, 1998). This was especially true after discovering her husband's (Ted Hughes) infidelity: "Privately, Sylvia puzzled over what to tell people. Confiding in her friend Elizabeth Compton, she called Ted a *'little* man.' This sounded to Elizabeth like a cry over a fallen idol" (Rollyson, 2013, paragraph 6). Plath's experiences accord with data from Nealis et al. (2015) who found self-critical perfectionists tended to derogate others when they felt disappointed by them.

Beyond any particular relationship, however, Plath may have felt so socially disconnected that she perceived others as being unable to receive her affection, while also being unable to give her the love and affection she so desperately needed: "I have never found anybody who could stand to accept the daily demonstrative love I feel in me, and give back as good as I give" (Plath, 2000, p. 455). Although this, in and of itself, sounds grandiose, elsewhere in her journal she takes a more pleading tone, seeking the affection and understanding that others were withholding from her, rather than simply incapable of giving: "Someone, somewhere, can you

understand me a little, love me a little? For all my despair, for all my ideals, for all that—I love life. But it is hard, and I have so much—so very much to learn" (Plath, 2000, p. 25).

Interpersonal Behaviors

In this section, we emphasize interpersonal behaviors, rather than cognitions or affect, and use the interpersonal circumplex to describe the interpersonal world of perfectionistic people. The interpersonal circumplex is a two-dimensional model of interpersonal space, organized into a circular shape (Gurtman, 2009). The y-axis represents agency (i.e., dominance, power, status, control) and the x-axis represents communion (i.e., love, warmth, affiliation, union). From these axes, a location in angular coordinates ranging from 0° to 360° can be specified for each person. Gurtman (2009) showed most circumplex models are split into the following generic octants: friendly (0°), friendly-dominant (45°), dominant (90°), hostile-dominant (135°), hostile (180°), hostile-submissive (225°), submissive (270°), and friendly-submissive (315°).

Narcissistic Perfectionism

The interpersonal lives of people high in narcissistic perfectionism tend to fall into the hostile-dominant octant of the interpersonal circumplex (Habke & Flynn, 2002; Hill, Zrull, & Turlington, 1997; Southard, Noser, Pollock, Mercer, & Zeigler-Hill, 2015; see Table 9.1). The hostile-dominant octant represents an interpersonal style that prioritizes self-enhancement, personal achievement, and domination (i.e., high agency, low communion). This manifests in disagreeable behaviors such as dishonesty, grandiosity, cold-heartedness, and antisocial behaviors. Stoeber (2014a) found other-oriented perfectionism had a moderate positive association with "dark" personality traits (narcissism, Machiavellianism, and psychopathy), and was negatively correlated with facets of agreeableness. Stoeber also found robust positive relationships of other-oriented perfectionism with agentic social goals (leadership and dominance) and negative relationships with communal social goals (nurturance and intimacy). Similarly, Smith, Saklofske, et al. (2016) found a large negative correlation between agreeableness and narcissistic perfectionism. Thus, narcissistic perfectionists direct their hostility outwards, seeking to dominate their interpersonal world as a means of enhancing themselves.

Hewitt et al. (2003) described three dimensions of perfectionistic self-presentation: perfectionistic self-promotion (brash public displays of one's supposed perfection), nondisplay of imperfection (concealing and avoiding imperfect behaviors), and nondisclosure of imperfection (avoiding verbal admissions of imperfection). The self-presentation style of narcissistic perfectionists is characterized by self-promotion. A meta-analysis of eight studies (N = 2,307) found narcissistic grandiosity was more strongly related to perfectionistic self-promotion (r = .30) than nondisclosure of imperfection (r = .19) or nondisplay of imperfection (r = .12;

Smith, Sherry, et al., 2016). A similar pattern has been found for other-oriented perfectionism (Hewitt et al., 2003; Sherry et al., 2014). Thus, narcissistic perfectionists often attempt to gain admiration and respect by demonstrating their supposed perfection. Unfortunately, this behavior is often seen as interpersonally aversive, and may evoke hostility from narcissistic perfectionists when others fail to acknowledge their supposed perfection (Hewitt et al., 2003).

The conflictual interpersonal lives of narcissistic perfectionists are motivated by the sense others are disappointing or deficient, which can evoke angry hostility. Miller et al. (2011) found grandiose narcissism was positively correlated with the tendency to experience and express anger, be rude, yell and threaten others, and to use physical aggression in a hypothetical social interaction. Similarly, when using a sham aggression paradigm where participants were able to administer shocks to an ostensible confederate, Reidy, Foster, and Zeichner (2010) found people high in narcissism administered more shocks more quickly than people low in narcissism. Aggression from narcissists was also more likely to be unprovoked (i.e., not in retaliation to receiving a shock themselves). And Wiehe (2003) found parents investigated for child abuse in the United States tended to have elevated narcissism levels versus nonabusive foster parents.

The relationship between narcissism and popularity is more nuanced. Küfner, Nestler, and Back (2013) found narcissism had an indirect effect on popularity through assertive (dominant and expressive) and aggressive (arrogant and combative) behaviors during videotaped discussions. Interestingly, assertive behaviors were positively associated with popularity, while aggressive behaviors were negatively associated with popularity; thus, the overall effect of narcissism on popularity was close to zero.

There do not appear to be studies linking other-oriented perfectionism to concrete interpersonal behaviors. Instead, the evidence is limited to self-report of socially aversive behaviors. Stoeber (2015) found other-oriented perfectionism was positively linked to aggressive humor, callous traits, and uncaring traits. Stoeber (2014b) also found other-oriented perfectionism was the only form of perfectionism to be positively correlated with the *DSM-5* personality traits domains of antagonism (Krueger, Derringer, Markon, Watson, & Skodol, 2012), after controlling for self-oriented and socially prescribed perfectionism. However, other-oriented perfectionism was unrelated to dyadic conflict in romantic couples after controlling for dyadic self-critical perfectionism in one longitudinal study, even though it had a positive bivariate correlation with dyadic conflict (Mackinnon et al., 2012). To date, there is only one study linking narcissistic perfectionism to self-reports of socially aversive interpersonal behaviors. Nealis et al. (2015) found that narcissistic perfectionism led to other-oriented discrepancies (i.e., a sense that others are falling short of one's own standards) which in turn led to hostile conflict and derogation of others.

Other-oriented discrepancies and hostility are evident in the life of Knight. Araton (2012) noted Knight once grabbed Neil Reed (a former player) by the neck and choked him out of anger during a practice. Moreover, when he began to lose

more games, Knight dismissed Reed from the team and tried to publicly humiliate him by making sure some of the younger teammates belittled and kicked him on his way out of the door (Araton, 2012). As this example shows, other people are often perceived as a barrier to achieving perfection in narcissistic perfectionists' lives, and derogating others' perceived imperfections is one means to maintaining their grandiose sense of self-worth.

Self-Critical Perfectionism

The interpersonal lives of people high in self-critical perfectionism are also fraught with interpersonal difficulties. However, the nature and source of these problems differs from those of people high in narcissistic perfectionism (Table 9.1). Narcissistic perfectionists come from a place of self-entitlement and high self-worth, and dominate other people as a means of demonstrating their superiority. The self-critical perfectionist comes from a place of self-hatred and uncertainty, accompanied by a perception that other people are enforcing a set of unrealistic standards. When placed in context with the Big Five personality traits, self-critical perfectionism shows a positive relationship with neuroticism and negative relationships with extraversion, suggesting increased negative affect, a lack of positive affect, and lower social dominance (Smith, Saklofske, et al., 2016; Stoeber, 2014b). Self-critical perfectionists are difficult to place within the interpersonal circumplex, showing opposing elements of hostile-dominance and friendly-submission (Habke & Flynn, 2002; Hill et al., 1997; Slaney, Pincus, Uliaszek, & Wang, 2006). This seemingly contradictory set of findings belies an interesting set of gender differences. Men high in self-critical perfectionism tend toward the hostile-dominant octant, while women high in self-critical perfectionism tend toward the friendly-submissive octant (Habke & Flynn, 2002; Slaney et al., 2006). For men, the perceived societal pressures of perfection may evoke anger, causing men to lash out at others as they attempt to reach the unrealistic standards they believe are imposed on them. In contrast, women high in self-critical perfectionism may experience problems with expressing anger, nonassertiveness, and exploitability. This gender difference may arise from the societal ideals of a "perfect" man or woman, and indeed seems to represent widely held gender stereotypes for interpersonal behavior. It may also suggest an interaction with agreeableness—a highly gendered personality trait (Weisberg, DeYoung, & Hirsh, 2011)—where the type of interpersonal problems experienced by self-critical perfectionists might vary from outright hostility (low agreeableness) to exploitability (high agreeableness). Though this remains speculative, data are suggestive of interpersonal subgroups within the self-critical perfectionism construct (Slaney et al., 2006).

In theory, the self-presentational style of the self-critical perfectionist should be characterized by a defensive concealment of an imperfect self. This seems reasonable, given that self-critical perfectionists tend to be less extraverted (Smith, Saklofske, et al., 2016) and harshly critical of their own mistakes. However, socially prescribed perfectionism—a key component of self-critical perfectionism—has a

robust positive correlation with perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection in about equal measure (Hewitt et al., 2003; Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008; Sherry et al., 2014). Similarly, in a three-wave, 130-day longitudinal study of university freshmen, Mackinnon and Sherry (2012) found self-critical perfectionism indirectly predicted subjective well-being via a composite of all three perfectionistic self-presentation styles. In sum, self-critical perfectionists attempt to present themselves as flawless. However, unlike narcissistic perfectionists (who rely primarily on self-aggrandizing behaviors), self-critical perfectionists appear to employ a wider variety of self-presentation strategies to achieve that goal.

Though the strategies self-critical perfectionists use to navigate their interpersonal world may vary depending on self-held views of "perfection," the interpersonal consequences are strikingly similar. For instance, in a three-wave, four-year longitudinal study, Dunkley et al. (2006) found self-critical perfectionism predicted future likelihood of negative social interactions (e.g., anger, insensitivity, and interference). In a set of two 28-day longitudinal studies, Mackinnon and colleagues (Mackinnon, Kehayes, Leonard, Fraser, & Stewart, in press; Mackinnon et al., 2012) demonstrated dyadic self-critical perfectionism is robustly linked to increased conflict in romantic couples (i.e., behaviors such as yelling at or publicly embarrassing one's partner). This heightened tendency to come in conflict with others is likely motivated by a sense that others are critical and pressuring. Sadly, this may leave the self-critical perfectionist isolated and alone. Shahar, Blatt, Zuroff, Krupnick, and Sotsky (2004) found pre-treatment self-critical perfectionism was associated with an impoverished social network (fewer and lower quality relationships), which in turn impeded the effectiveness of psychotherapy. We can also see these themes of social disconnection consistently in Plath's journals, where she describes intense feelings of self-consciousness and loneliness, despite an external facade of happiness (e.g., Plath, 2000, entry 36). In sum, self-critical perfectionists have a wide array of interpersonal problems.

Perfectionism and Negative Affect: The Revised Social Disconnection Model

The social disconnection model of perfectionism (Hewitt et al., 2006) proposes self-critical perfectionism confers vulnerability to negative affect via subjective social disconnection (e.g. perceived social support, perceived loneliness) and objective social disconnection (e.g., overt conflict, severed relationships). That is, social disconnection is the mechanism by which perfectionism confers risk for psychopathology. Sherry et al. (2016) proposed a revised social disconnection model (RSDM) that incorporated the rich history of diathesis-stress models (Enns, Cox, & Clara, 2005; Hewitt & Flett, 1993), as well as more recent interest in a revitalized narcissistic perfectionism construct, into a single integrative model. In this revised model, each dimension of perfectionism confers risk for psychopathology via two mechanisms: (a) personality-dependent mediators, such as social

disconnection; and (b) personality-independent moderators, such as stressful life events. Though the model can be adapted for many different psychopathological outcomes, our focus here will be on negative affect, with mediating/moderating variables that are interpersonal in nature.

Self-Critical Perfectionism

Self-critical perfectionism appears to be a broadband risk factor for many types of negative affect (Table 9.1). Stoeber, Schneider, Hussain, and Matthews (2014) found people high in socially prescribed perfectionism experienced increased anger, depression, and anxiety after receiving bogus false feedback on a set of mental rotation tests. When examining the impact of repeated failure on this task, socially prescribed perfectionism continued to predict increased anger even when controlling for baseline anger. Besharat and Shahidi (2010) found negative perfectionism—a close relative of self-critical perfectionism—was robustly correlated with state anger, trait anger, and anger rumination. Chen, Hewitt, and Flett (2015) found socially prescribed perfectionism (but not self-oriented or other-oriented perfectionism) was strongly linked to feelings of shame. A comprehensive review (Frost, Glossner, & Maxner, 2010) also found self-critical perfectionism was linked to social anxiety symptoms in non-clinical populations and social anxiety disorder in clinical populations, even when controlling for depression and generalized negative affect. This represents a small fraction of the available research that all speaks to the same point: Self-critical perfectionism is robustly correlated with negative affect.

There is good evidence to support personality-dependent social disconnection as a mechanism by which self-critical perfectionism confers risk for negative affect. Self-critical perfectionists may generate negative affect through their hostile and rejecting interpersonal behaviors. For instance, in a four-wave, four-week longitudinal study of romantic couples, Mackinnon et al. (in press) found dyadic self-critical perfectionism led to increased social negativity directed toward one's romantic partner, which in turn predicted increased negative affect and decreased life satisfaction. Using a two-wave, three-year longitudinal study, Dunkley et al. (2006) found self-criticism indirectly predicted increases in depressive symptoms through lower perceived social support and more negative social interactions. Moreover, using a two-wave, one-year longitudinal design examining 723 community-based adults, Cox, Clara, and Enns (2009) found self-critical perfectionism indirectly predicted depressive symptoms at a future wave through personality-dependent life stressors (e.g., trouble with superiors at work). Thus, there is longitudinal evidence to support this aspect of the RSDM.

Findings on personality-independent moderators tend to be mixed. Early research found support for the moderating effect of negative interpersonal life events, with interpersonal stressors intensifying the positive relationship between socially prescribed perfectionism and negative affect (Hewitt & Flett, 1993). However, these findings have also failed to replicate in other research (Enns et al.,

2005). This said, research is limited to self-report measures of life events, which often confound personality-independent stressors (e.g., losing one's job) and personality-dependent stressors (e.g., fighting with one's friend; Cox et al., 2009). It may be fruitful to look for more objective, ego-involving measures of stress that are unlikely to be generated by the personality trait via a mediational process if research in this area is to progress. Sherry, Mackinnon, and Gautreau (2016) examined the life of Plath in the context of the social disconnection model, and suggested that loneliness and perceived disconnection served as personality-dependent mediators, while the stress she endured due to unequal gender roles and discrimination served as a personality-independent moderator when predicting Plath's depression.

Narcissistic Perfectionism

Given the relatively recent development of narcissistic perfectionism as a unified construct, there is little research on the construct's associations with negative affect. Nealis et al. (2016) found a positive association between narcissistic perfectionism and anger when considering both self- and informant reports. Similarly, the review of the literature in Chapter 4 showed other-oriented perfectionism is generally uncorrelated with neuroticism, except for a positive relationship with angry hostility. Moreover, other studies found other-oriented perfectionism is unrelated to negative affect, depressive symptoms, and anxiety (Hewitt & Flett, 1991; Short & Mazmanian, 2013). Thus, unlike self-critical perfectionism, there appears to be no consistent relationship between narcissistic perfectionism and negative affect, except for a modest positive relationship with anger. Given the generally null relationship between narcissistic perfectionism and negative affect, studies have not tended to propose social disconnection as a mediator. Instead, the more fruitful question may be: Under what circumstances do people high in narcissistic perfectionism experience negative affect?

Research on grandiose narcissism suggests people high in narcissism may react more strongly to certain types of stressors, which in turn can generate a disproportionate amount of negative affect. Besser and Zeigler-Hill (2010) used a pre-post experimental design asking participants to imagine one of four hypothetical scenarios: public interpersonal rejection, private interpersonal rejection, public achievement failure, and private achievement failure. They found grandiose narcissism was associated with increases in negative affect following public interpersonal rejection and achievement failures, but not when the rejection or failure was private. Similarly, when exposed to a public psychosocial stressor (i.e., a difficult public speaking task with a non-responsive audience), narcissistic men experienced more negative affect and greater cortisol reactivity compared to non-narcissistic men; however, the same pattern was not supported in women (Edelstein, Yim, & Quas, 2010). Besser, Zeigler-Hill, Pincus, and Neria (2013) found civilian exposure to rocket and missile fire during the Middle East conflict led to increased risk for symptoms of anxiety in the forms of post-traumatic stress and generalized

anxiety disorder for participants high in narcissism, but not for those with low narcissism. Besser and colleagues argued that such uncontrollable traumatic events may be seen as a kind of "narcissistic injury" that undermines their grandiose self-views, forcing them to consider that they are just as ordinary and vulnerable as everybody else, which in turn leads to intense negative affect as their grandiose sense of self collapses.

Feinstein (2000) recalls a seemingly innocuous event from his past with Knight, where he refers to him informally as "Knight" (as we do in this chapter). Knight's reaction was immediate and intense: "Before the last word was out of my mouth, he had whirled around and charged back at me, finger in my face, screaming (expletives deleted) 'Who do you think you are calling me Knight? I'm almost 20 years older than you, you show me some respect'" (Feinstein, 2000, paragraph 2). This theme played out again 14 years later when Kent Harvey (a 19-year-old university freshman) showed a similar lack of respect; except this time, the outburst led to Knight's dismissal from Indiana University (Feinstein, 2000). In this way, the sense of grandiosity and entitlement in Knight's life led to intense anger whenever his grandiose self-view was threatened.

The contrast between self-critical versus narcissistic perfectionism is striking. Self-critical perfectionists are consumed by self-loathing, and feel constant pressure from themselves and other people. Thus, they often lash out at others, defending themselves from perceived attacks. However, their own social negativity serves to confirm their self-deprecating view of themselves, making them feel worse, and continuing a self-perpetuating cycle of negative emotions. Any deviation from perfection is a complete and emotionally devastating failure. In this way, a wide range of negative affect (anger, hostility, anxiety, depression, and shame) appears to be driven by social disconnection in the self-critical perfectionist.

In contrast, narcissistic perfectionists feel that other people are wrong, and do not tend to feel guilty or upset about the conflict itself. After all, narcissistic perfectionists think of themselves as powerful, competent, and entitled to good things. However, there often comes a time when something happens to challenge these grandiose views. Perhaps they are fired from their job, they are a victim of a crime, or their spouse divorces them. At these moments the facade breaks, and narcissistic perfectionists experiences intense distress as the realization that they might be as "weak" as those they have criticized becomes too much to bear, resulting in an outburst of intense negative emotions (i.e., anger and hostility). Thus, though narcissistic perfectionists do not characteristically experience chronic negative affect, we might expect intense outbursts of angry hostility when uncontrollable stressors challenge their grandiose sense of self-worth.

In sum, self-critical and narcissistic perfectionists do not play nicely with others. In fact, their interpersonal lives are often fraught with conflict and dissatisfaction. Ample theory and evidence suggests self-critical and narcissistic perfectionism involve an enduring pattern of thinking, behaving, perceiving, and relating that is destructive in relationships with others. Both self-critical and narcissistic perfectionists live amid interpersonal turmoil, but arrive at that place of turmoil in

different ways. Seeing themselves as perfect and others as flawed, narcissistic perfectionists react angrily in response to the perceived imperfections of others. And seeing themselves as defective and others as hypercritical, self-critical perfectionists suffer anger, anxiety, depression, and shame in response to the perceived demandingness of others.

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10

PERFECTIONISM AND HEALTH

The Roles of Health Behaviors and Stress-Related Processes

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Overview

In this chapter, we advocate for greater attention to be directed at studying the influence of perfectionism on health and illness. It is from this perspective that our chapter presents a critical examination of the role of perfectionism in health outcomes. Although our analysis focuses primarily on how and why perfectionism relates to health symptoms, we also examine evidence linking perfectionism with difficulties in coping with chronic illness—an assessment that highlights how excessive striving for perfection may be a liability in the context of ongoing health limitations. We then focus on key mechanisms and processes that render certain perfectionists particularly vulnerable to health problems. A significant limitation plaguing the perfectionism and health field is that, aside from a few noteworthy exceptions, research has been largely atheoretical. To this end, we propose two potential pathways that may help further our understanding of why perfectionism might be implicated in poor health outcomes, namely stress and health behaviors.

Introduction

It is important to note at the outset that we view perfectionism as reflecting a behavioral pattern and cognitive, emotional, and motivational orientation toward a form of hyper-conscientiousness that is distinguishable from conscientiousness. We must reiterate from a construct validation perspective that, as conceptualized by Hewitt and Flett (1991), perfectionism is not simply a positive striving for excellence. Rather, it is a relentless pursuit of perfection such that the extreme perfectionist does not simply want to be perfect. He or she demands perfection. This conceptualization incorporates the irrational importance placed on the need to be perfect that was described by Albert Ellis (2002) and the workaholic, compulsive drive to be perfect emphasized by Spence and Robbins (1992).

This proposed difference between hyper-conscientiousness versus conscientiousness and the associated difference between striving for perfection versus striving for excellence have very important implications when viewed from a health perspective. Clearly, conscientiousness is adaptive in terms of health behaviors and health consequences (Roberts, Walton, & Bogg, 2005) and examination of specific facets has yielded some evidence indicating that the order facet of conscientiousness predicts greater longevity (Kern & Friedman, 2008). Thus, it is hard to deny the benefits of being responsible and striving for excellence. However, when the perfectionistic individual demands absolute perfection from the self and from others, this is a taxing and potentially deadly orientation that results in serious health consequences, especially when perfectionism is combined with difficulties in adapting to life challenges.

Distinguishing perfectionism from conscientiousness, along with other complexities, such as important nuances in terms of how personality factors are assessed and conceptualized, and how they contribute to the onset of illness and less than optimal responses to illness may, in part, explain why we still know relatively little about perfectionism's role in physical health relative to our understanding of the implications that this personality trait has for individuals' well-being (Gaudreau & Verner-Filion, 2012), particularly its consequences for mental health outcomes (Burgess & DiBartolo, 2016). Indeed, the lack of research focusing on how perfectionism may confer risk or resilience for health-related outcomes appears to be a striking omission from the literature given the continuing relevance of personality for a host of significant health outcomes such as morbidity and early mortality (Ozer & Benet-Martinez, 2006; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Furthermore, many theoretical models have been proposed to explain the associations of personality in general to health (Smith, 2006; Vollrath, 2006). However, to date none of these models have been explicitly applied for understanding how perfectionism may relate to physical health. To address these substantial gaps in the literature we first review the role of perfectionism in health-related outcomes in both healthy and chronically ill samples. We then shift our discussion to address possible pathways that may explain how and why perfectionism is related to a variety of consequential health outcomes.

Perfectionism in Health and Illness in Healthy Samples

It is our contention that individuals high in perfectionism are at an increased risk for a wide variety of illnesses and health problems. Put differently, excessively high standards, equating self-worth with success, high levels of self-scrutiny, fear of failure, and inability to experience satisfaction even when successful contribute to a maladaptive personality style that is linked with increased vulnerability to health problems. Indeed, as reflected in the historical review by Flett, Hewitt, and Molnar (2016), the notion that perfectionism is a vulnerability factor for many health risks is not new; this theme was clearly evident in the medical and psychological literatures in the 1930s and 1940s. As part of his seminal work, Alfred Adler

(1938/1998) posited that the behavior of striving toward complete (and unattainable) perfection represents a constant source of pressure within the self that can lead to physiological dysregulation, a notion that is supported by Alexander's (1939) account of a hypertensive man with an inferiority complex and a chronic need to strive for and demonstrate perfection.

Pacht (1984) and Blatt (1995) both emphasized that perfectionism is driven by a fear of failure, extreme self-scrutiny, and self-criticism and underscored the notion that perfectionism is unhealthy. In particular, Pacht (1984) observed that a perfectionistic personality is implicated in myriad dysfunctions that compromise overall health and well-being such as migraines, irritable bowel syndrome, erectile dysfunction, ulcerative colitis, depression, anxiety, and eating disorders. Indeed, several cross-sectional investigations have supported the conclusion reached by Pacht (1984) and Blatt (1995) that perfectionism is highly relevant in the domain of health. For instance, perfectionism has been implicated in a host of somatic problems such as migraine headaches (Burns, 1980), chronic pain (Van Houdenhove, 1986), headaches (Stout, 1984), and asthma (Morris, 1961). Longitudinal investigations, although relatively few in number, established that elevated perfectionism does indeed predict the experience of greater health symptoms over time. Pritchard, Wilson, and Yamnatz (2007), for example, assessed perfectionism and health symptoms in a sample of undergraduate students at the beginning of the academic year and then again at the end of the academic year. Their findings indicated that perfectionism at the beginning of the academic year predicted experiencing greater health symptoms at the end of the academic year, even after accounting for initial health symptoms. A similar study by Sumi and Kanda (2002) that was conducted in Japan with male undergraduates investigated whether perfectionism predicted increases in health symptoms over a time period of six weeks. Results indicated that men higher in perfectionism reported experiencing more somatic symptoms both cross-sectionally and six weeks later after accounting for initial levels of somatic symptoms.

Although the aforementioned studies offer important insights into the role of perfectionism in physical health, they are limited because perfectionism was conceptualized as a unidimensional construct. This is a major drawback because it is now established that the perfectionism construct is multidimensional, as shown simultaneously by the work of Frost, Marten, Lahart, and Rosenblate (1990) and Hewitt and Flett (1990, 1991). Indeed, several models and scales of multidimensional trait perfectionism continue to be commonly employed (Sirois & Molnar, 2016). Further, mounting evidence indicates that the prevailing measures of trait perfectionism may actually assess two underlying higher-order factors (i.e., perfectionistic concerns [PC] and perfectionistic strivings [PS]) that tend to be differentially related to a wide variety of outcomes (Dunkley & Blankstein, 2000; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Stoeber & Otto, 2006). PC consist of severe self-scrutiny, excessive concern over mistakes and others' evaluations, beliefs that others demand perfection from the self, perceptions of not living up to self- or other-imposed exacting standards, and disproportionate

reactions to perceived failures, whereas PS consist of the setting and compulsive striving toward excessively high standards.

A study by Molnar, Reker, Culp, Sadava, and DeCourville (2006) provides a vivid illustration of the importance of considering perfectionism as a multidimensional construct when examining perfectionism in the context of health. Differentiating socially prescribed from self-oriented perfectionism (see Hewitt & Flett, 1991) in an adult community sample, this study found that PC (socially prescribed perfectionism) were associated with poorer health via higher levels of negative affect and lower levels of positive affect, whereas PS (self-oriented perfectionism) were associated with better health via lower levels of negative affect and higher levels of positive affect. Findings from a study conducted by Ofoghi and Besharat (2010) also emphasize the important of multidimensional conceptions of perfectionism when examining health. They found in a sample of Iranian adults that PS (self-oriented perfectionism) were associated with fewer self-reported physical symptoms and more positive perceptions of health. Conversely, PC (socially prescribed perfectionism) were associated with experiencing greater physical symptoms and poorer perceived health. These studies are unique in that they indicate that perfectionism does not invariably compromise health.

Other studies have highlighted the role of both PC and PS in somatic symptoms. Martin, Flett, Hewitt, Krames, and Szanto (1996) found that PS (self-oriented perfectionism) and PC (socially prescribed perfectionism) were positively associated with physical health complaints in a sample of university students at the level of bivariate correlations. However, they found that the effect of PC was stronger than that of PS because only PC continued to be a significant predictor of physical health complaints when the other study variables were entered into the regression equation. Moreover, they observed a significant interaction between PC and self-efficacy when predicting health complaints such that individuals who reported the highest levels of PC and the lowest levels of self-efficacy reported the poorest health.

Saboonchi and Lundh (2003) found in a Swedish general population sample that PS (self-oriented perfectionism) and PC (socially prescribed perfectionism) were each positively correlated with somatic complaints such as daytime sleepiness, headaches, tension, and insomnia. Whereas the association between PC and somatic complaints was statistically significant only for women, PS and PC were both associated with experiencing more negative affect and less positive affect, a finding that puts into question the notion that PS represent a healthy form of perfectionism.

Perhaps the most striking evidence for the role of perfectionism in health comes from a unique study that examined whether perfectionism is a contributing factor in all-cause mortality. Fry and Debats (2009) found that PS (self-oriented perfectionism) was longitudinally predictive of all-cause mortality over a time period of six-and-a-half years in a sample of older adults (ranging in age from 65 to 87 years) such that individuals with high PS scores (70th percentile and above) were at a 51% increased risk of death relative to individuals with low PS scores

(30th percentile and below). Moreover, they found that PS remained as a risk factor for early all-cause mortality once other health-related variables (e.g., age, social support satisfaction, index of disability in daily life, and the number of medical visits to health-care providers during the previous year) were accounted for in the analyses. It is noteworthy that PC were largely unrelated to all-cause mortality in that study. It is also worth noting that the predictive role of trait perfectionism was evident when perfectionism was examined along with other personality traits related to health outcomes (e.g., conscientiousness and neuroticism).

Collectively, the studies reviewed thus far indicate that perfectionism is indeed relevant for health, and it is tempting to surmise that perfectionism is a risk factor for poorer health. However, this research also hints at the idea that PS may not always be detrimental to health and may even carry some health benefits, given that PS were associated with better health in some of the studies. Further, these results were limited to relatively healthy populations, which raises the question of what the health implications of perfectionism are in not so healthy populations. If we view living with chronic illness as being akin to living with a chronic stressor, then the apparent differential relations of PC and PS with physical health may not necessarily hold for health-challenged populations. To the extent that both perfectionism dimensions are associated with less adaptive responses and outcomes when in the context of stressful and limiting circumstances, perfectionism may be a particular liability for poor health-related outcomes in those with chronic illness. Moreover, stress and its deleterious effects experienced may be amplified by attempts to strive for perfection while living in the imperfect world of chronic illness. In the next section we critically review the literature linking perfectionism to adjustment in the context of chronic illness.

Perfectionism in Chronic Illness

Although the study of perfectionism in chronic illness is in its infancy, both theory and preliminary empirical evidence suggest that perfectionism plays an important role in the etiology and maintenance of several chronic illnesses. Molnar, Sirois, and Methot-Jones (2016), for example, have proposed a theoretical model in which perfectionism contributes to poor adjustment and adverse health outcomes in the context of chronic illness via both intrapsychic (i.e., perceived control and self-evaluative tendencies) and interpersonal processes (i.e., self-concealment and social support) through the amplification of stress and maladaptive coping processes. Indeed, the picture that emerges from the research described below is that perfectionism appears to amplify stress and maladaptive responses, which, in turn, complicates adjustment to illness. For example, one investigation found that each of the subscales of the Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990) predicted greater tinnitus distress and higher levels of depression and anxiety among tinnitus sufferers (Andersson, Airikka, Buhrman, & Kaldo, 2005). This is not surprising in light of the robust associations between perfectionism and

maladaptive coping in both healthy (Dunkley, Solomon-Krakus & Moroz, 2016; Hewitt & Flett, 2002) and chronically ill samples (Sirois & Molnar, 2014).

A recent review of the literature also reveals robust associations of perfectionism with poorer mental and physical outcomes among people coping with chronic fatigue syndrome (see Kempke, Van Houdenhove, Claes, & Luyten, 2016). Luyten et al. (2011) showed that self-critical perfectionism predicted greater stress generation which, in turn, predicted depression. The same team of investigators demonstrated in a large sample of patients with chronic fatigue syndrome that PC (concern over mistakes and doubts about actions) were associated with depression and that self-esteem mediated the association between PC and depression (Kempke, Luyten, et al., 2011). These data illustrate the need to examine self-concept variables as contributors to the link between perfectionism and health problems in general and coping with chronic illness in particular.

At first glance, there appear to be differential associations between dimensions of perfectionism and health-related outcomes in the context of chronic fatigue syndrome. Kempke, Van Houdenhove, et al. (2011), for example, investigated the role of PC (as measured by concern over mistakes and doubts about actions) and PS (as measured by personal standards) on physical health in a sample of adult patients diagnosed with chronic fatigue syndrome. Findings indicated that only PC were significantly and positively associated with poorer physical health among patients and that this association was mediated by depression. These results are congruent with White and Schweitzer (2000) who also found that patients with chronic fatigue syndrome scored significantly higher on PC (concern over mistakes and doubts about actions) than controls.

Research from our labs has found that perfectionism is also related to health functioning in women with fibromyalgia, a rheumatic condition characterized by muscular or musculoskeletal pain. Molnar, Flett, Sadava, and Colautti (2012), for example, found that PC and PS (socially prescribed and self-oriented perfectionism, respectively) were both associated with lower health functioning in adult women diagnosed with fibromyalgia. Specifically, in the case of PS, there was a curvilinear relationship between perfectionism and health such that very low and very high levels of PS were related to considerable reductions in health functioning whereas moderate levels appeared to be relatively adaptive (i.e., associated with better health functioning). Thus, our work builds upon the extant literature to further demonstrate the complex relationship that exists between specific dimensions of perfectionism and physical health in the context of chronic illness.

Finally, the deleterious impact of perfectionism in chronic illness is further illuminated by Flett, Baricza, Gupta, Hewitt, and Endler (2011) who examined the extent to which trait perfectionism (Hewitt & Flett, 1991) and perfectionistic self-presentation (Hewitt et al., 2003) are associated with coping and psychosocial adjustment in patients with Crohn's disease and ulcerative colitis. The focus on perfectionism in these individuals was suggested by previous work noting the prevalence of perfectionism in patients with these illnesses. For instance, psychiatric evaluations in one study found that 25 of 30 patients with ulcerative colitis had

elevated perfectionism (Holub & Kazubska, 1971). Flett et al.'s (2011) study showed that both trait perfectionism and perfectionistic self-presentation were associated with a maladaptive emotional preoccupation form of coping with this chronic illness. In addition, trait perfectionism and perfectionistic self-presentation were associated robustly with greater sickness impact ratings in terms of the psychosocial impact of Crohn's disease and ulcerative colitis. Importantly, the pattern of findings described above held even after accounting for the impact of other personality factors such as conscientiousness and optimism. When they are conducted, comparative tests show that perfectionism remains a significant predictor of health outcomes and maladaptive illness responses after taking into account the effects of broad factors such as neuroticism, conscientiousness, and optimism (e.g., Fry & Debats, 2009). Consequently, it cannot be concluded that perfectionism is merely a form of neurotic conscientiousness that is redundant with broader personality orientations.

Perfectionism and Health: The Stress Pathway

Consistent with models linking personality to health (e.g., Friedman, 2000; Smith, 2006; Suls & Rittenhouse, 1990), the final section of our chapter proposes that perfectionism may contribute to detrimental health outcomes via a direct, stress-related route and an indirect, behavioral route. Our discussion is also guided by theoretical advancements in the field of perfectionism such as the diathesis-stress model of perfectionism (Hewitt & Flett, 1993, 2002) and the self-regulation resource model (Sirois, 2015, 2016). Key issues and directions for future research are also included to further advance this rich and important area of research.

Theoretical models linking personality to health provide a foundation for our proposed pathway linking perfectionism to health via stress processes. Research aimed at understanding the effects of stress on the body indicates that stress, particularly prolonged or chronic stress, negatively impacts virtually all systems of the body and is linked with all leading causes of early mortality (Cohen, Janicki-Deverts, & Miller, 2007; Juster, McEwen, & Lupien, 2010). Complementary findings have been discovered in the field of human psychoneuroimmunology with studies showing that stressful life events contribute to increased vulnerability to infectious illnesses such as the common cold (Cohen, Tyrrell, & Smith, 1991; Cohen & Williamson, 1991; Lacey et al., 2000) as well as adverse health (Jorgensen, Frankowski, & Carey, 1999).

Segerstrom (2000) hypothesized that personality constructs can affect health via several different pathways. In particular, personality may directly affect the amount or quality of stress experienced which, in turn, has downstream effects on the immune system. However, Segerstrom also cautioned that this pathway is complicated such that personality contributes to the exposure of stressors *and* to the resulting reactivity to these stressful events. In addition, she postulated that other potential pathways, such as health behaviors, may contribute to health-related outcomes either by exacerbating the effects of stress or by having direct effects on health.

According to the diathesis-stress model of perfectionism (Hewitt & Flett, 1993, 2002) stress can mediate (i.e., represent an explanatory pathway from perfectionism to health) or moderate (i.e., exacerbate or ameliorate risk or resilience) the relationship between perfectionism and psychopathology. Specifically, Hewitt and Flett focused on four important aspects of stress: stress generation, stress anticipation, stress perpetuation, and stress enhancement. With respect to stress generation, Hewitt and Flett (2002) suggested that perfectionists are extensively engaged in stress exposure by continuously pursuing impossible standards. Another possibility is that perfectionists may generate extensive interpersonal conflict by feeling pressured by others, or by finding fault with others (see also Chapter 9).

An overview of existing research and theory on perfectionism and stress is provided below. First, however, we consider two key questions that have not been the subject of extensive consideration thus far in the perfectionism and health field: When considering possible pathways to illness for perfectionists, why is it important to focus extensively on the role of stress in perfectionism and health? And, given the heterogeneity that exists among perfectionists, which perfectionists are most susceptible to the stress-induced health problems?

Regarding the first question, our focus on the role of stress is based on our contention that perfectionists, relative to nonperfectionists, are faced with substantially higher, if not overwhelming levels of stress throughout their lives. This stress can come in many forms. Typically, researchers have focused on the stress that is a result of experiencing major life events and daily life hassles (see Hewitt & Flett, 2002). However, other forms of stress are also quite commonly experienced. For instance, research on interpersonal perfectionism and self-critical perfectionism shows that perfectionism is associated with a greater frequency of negative social interactions (Dunkley, Sanislow, Grilo, & McGlashan, 2006; Flett, Hewitt, Garshowitz, & Martin, 1997) and daily event studies point to a link between perfectionism and a tendency to both experience and contribute to interpersonal conflicts (Mackinnon et al., 2012; Sherry, Gralnick, Hewitt, Sherry, & Flett, 2014). This evidence should be particularly disconcerting for perfectionists given the substantial impact that negative social exchanges can have on people in terms of their health and well-being.

We maintain that the link between perfectionism and stress has been underestimated in most research investigations because perhaps the most salient form of stress for perfectionists has seldom been assessed: pressure. Extreme perfectionists are under constant and unrelenting pressures to be perfect or to seem perfect and live up to their own self-imposed demands or the demands of other people. It is when these pressures are considered that the difficulties and challenges facing successful perfectionists are perhaps most apparent because being successful means that the ongoing pressures to be perfectly successful can become even greater. We maintain that these pressures will lead to emotional and physical exhaustion, especially among those perfectionists who evaluate their lives according to the activity-based self-worth contingency identified by DiBartolo, Frost, Chang, LaSota, and Grills (2004). This self-worth contingency is based on the notion that,

for perfectionists to feel good about themselves (or avoid feeling bad about themselves), they must be active and they must be striving at all times.

Weiten (1998) has examined pressure as a form of stress, and he developed a multifaceted inventory that yields an overall assessment of pressure, as well as pressure in various life domains (e.g., family, school) and self-imposed pressure. Previously, Hewitt and Flett (2002) reported unpublished results showing in sample of 100 students that self-oriented perfectionism and socially prescribed perfectionism were associated with elevated pressure as assessed by Weiten's (1998) Pressure Inventory. Moreover, there was a robust correlation of $r = .65$ between overall pressure and scores on the Perfectionism Cognitions Inventory (PCI) which assesses the frequency of current automatic thoughts involving perfectionism (Flett, Hewitt, Blankstein, & Gray, 1998). We have reexamined these associations in a second sample of 104 university students and found that self-oriented perfectionism was not associated with overall pressure scores, though it was linked positively with school-related pressure. However, associations were found once again between overall pressure and both socially prescribed perfectionism ($r = .37$) and PCI scores ($r = .54$).

An insightful study by Stoeber and Rennert (2008) also illustrates the potential destructiveness of pressure. They evaluated perfectionism and the correlates of burnout in 118 secondary-school teachers. They developed three measures to assess the extent to which teachers felt a pressure to be perfect emanating from colleagues, students, and students' parents. Their results showed that all three forms of pressure were associated with emotional exhaustion, depersonalization, and overall levels of burnout as well as negative cognitive appraisals involving threat and loss. Given that such pressures can be quite unrelenting, it seems that pressure is a form of stress that can have a profound negative influence on the health and well-being of vulnerable perfectionists.

As for our second question of which perfectionists are most susceptible to stress-related health problems, we maintain that the most susceptible perfectionists are the people who have the "perfectionistic reactivity" that was described recently by Flett and Hewitt (2016). The essence of the perfectionistic reactivity concept is that much of the vulnerability and risk inherent in feeling a pressure to be perfect is based on how people react when their daily events and experiences are not perfect and they see that their lives are not working out in a manner that fits with their idealized vision of how life should be. According to Flett and Hewitt, perfectionistic reactivity includes a wide range of maladaptive cognitive, emotional, motivational, and behavioral reactions that reflects the all-or-none self-evaluative tendencies of perfectionists. At the cognitive level, this includes an extensive array of various forms of perseverative cognitions. The concept of perfectionistic reactivity when viewed from a cognitive perspective has clear health implications in light of the findings that support Brosschot, Gerin, and Thayer's (2006) perseverative cognition hypothesis (see also Flett, Nepon, & Hewitt, 2016).

We contend that the perfectionists who are most likely to be susceptible to health problems are those reactive perfectionists who are also particularly prone to

make extreme negative inferences about themselves. These negative inferences can come in the form of an abiding sense of shame and the sense that the inadequacies and characterological deficits in the self have been exposed and are on display for everyone to see. Perfectionists who are overcome by a sense of shame must come to terms with the sense of being exposed, but also their own personal sense of being exposed to themselves as individuals who are not perfect and likely never will be perfect.

But it is even more problematic for distressed, demoralized, and defeated perfectionists when the stress, pressures, and sense of inadequacy that they are experiencing combine to create a deep sense of hopelessness that contributes to a sense of coping inefficacy. Hopelessness is different from helplessness or pessimism in that the negative outcome expectancies are accompanied by a profound sense of being incapable of doing anything to overcome the stressors and pressures facing the individual. We suggest that certain perfectionists are highly susceptible to hopelessness and this can have grave consequences given the growing literature of the role of hopelessness in both the etiology of health problems and the exacerbation of existing health problems (e.g., Kuosmanen et al., 2016). A general form of global hopelessness should be a strong mediator of the link between perfectionism and health problems, but a more specific form of social hopelessness should serve as a mediator of the link that interpersonally based components of the perfectionism construct (i.e., socially prescribed perfectionism and perfectionistic self-presentation) have with physical health indices. In light of these observations, research is clearly needed to examine the role of possible mediators that reflect the negative self-evaluative tendencies of vulnerable perfectionists.

Finally, it is important to remain cognizant of the fact that there is substantial heterogeneity among perfectionists, and some perfectionists have been dealing with a level of stress that started very early in their lives. Flett, Hewitt, Oliver, and Macdonald (2002) described several developmental models that delineate pathways to perfectionism, and one of these models (i.e., the social reaction model) suggests that striving to be perfect is a lifelong coping response for some people. Some people have a perfectionistic orientation that is underscored by an extensive history of early adversities, and their perfectionism is largely an attempt to limit further stressors and traumas. We noted in a recent commentary that the notion that certain perfectionists have experienced significant trauma has not received extensive consideration in the literature thus far (see Flett, Molnar, & Hewitt, 2016), and it is important that this void in the literature is addressed sooner rather than later. One potentially important focus within this area of research is to assess the physical health status of perfectionists in terms of not only their current experiences, but also their possible past history of traumatic experiences.

With these concepts in mind, we now provide an overview of the existing literature on perfectionism and stress. In general, research has supported Hewitt and Flett's (1993, 2002) notion that perfectionism generates stress, which, in turn, leads to greater psychopathology and a poorer sense of well-being over time (see Dunkley et al., 2016). For instance, Chang, Watkins, and Banks (2004) found that

stress fully mediated the relationship between perfectionism and negative affect among Black women and partially mediated the relationship among White women. Employing daily diary methodology over a six-month period with a sample of community adults, Dunkley, Ma, Lee, Preacher, and Zuroff (2014) found that PC (self-critical perfectionism) predicted daily elevations in negative affect and more persistent negative affect via two stress-related processes: the "disengagement trigger pattern" and the "disengagement maintenance pattern," respectively (p. 93; see also Chapter 11). Each of these patterns consists of negative appraisals about the self (e.g., event stress) and negative appraisals concerning others (e.g., perceived criticism) along with coping strategies that are characterized by disengagement (e.g., avoidant coping) that mediated links between PC and increases in daily negative affect (disengagement trigger pattern) and more persistent negative affect across six months (disengagement maintenance pattern). Furthermore, as noted above, Luyten et al. (2011) have provided initial evidence for stress generation among self-critical perfectionists coping with illness. Taken together, these results provide strong support for the notion that some perfectionists generate stress for themselves and that this stress is, in part, created by their reliance on negative cognitive appraisals and their use of avoidant coping strategies.

Once stress is generated, perfectionists are at risk for distress and, as we now suggest, they are also prone to health problems, due to their heightened stress reactivity and their inability to regulate their stress levels. Recent data from a study that used a multifaceted self-report measure of vulnerability to stress reactivity suggest that perfectionists are highly reactive to failure experiences. Also, people with elevated levels of socially prescribed perfectionism and frequent thoughts about needing to be perfect are highly reactive to social evaluation and reported more prolonged stress reactivity (Flett, Nepon, Hewitt, & Fitzgerald, in press). Likewise, a longitudinal study of stress in students found that perfectionistic students transitioned into a higher stress category after experiencing academic failure (Rice, Ray, Davis, DeBlaere, & Ashby, 2015). This finding also highlights the merits of applying the diathesis-stress model by underscoring the role of the social context.

Experimental evidence also supports the link between perfectionism and stress reactivity. For example, McGirr and Turecki (2009) found in a community sample of adults that self-criticism (a construct that forms part of self-critical perfectionism) predicted greater stress reactivity as evidenced by higher salivary alpha-amylase (a biomarker of stress) after exposure to a psychosocial stressor. Furthermore, Wirtz et al. (2007) found in their study of middle-aged men that PC (particularly concern over mistakes) were associated with higher cortisol stress reactivity, including hypothalamic-pituitary-adrenal (HPA) axis activation in response to a psychosocial stressor. A subsequent study of maladaptive perfectionism by Richardson, Rice, and Devine (2014) found evidence of stress reactivity with respect to cortisol stress response following exposure to a stress test that involved social-evaluation threats.

Maladaptive coping styles and other maladaptive responses, which also tend to characterize perfectionists, contribute to stress reactivity, anticipation, and perpetuation (see Dunkley et al., 2016, and Chapter 11). It has already been noted

within the context of chronic health problems that people high in perfectionism tend to rely on an emotion-oriented coping style that can exacerbate health problems (Flett et al., 2011; Sirois & Molnar, 2014). More generally, Flett, Nepon, and Hewitt (2016) provide compelling evidence to support their cognitive model of perfectionism, which posits that both PC and PS contribute to chronic forms of cognitive perseveration, such as rumination, resulting in the protraction of the stress response that has downstream effects for adverse health outcomes.

Although there is relatively little empirical work on the proposed perfectionism, stress, and health pathway, some research does support the validity of our assertion. Initially, Fry (1995) established that trait perfectionism combines with daily hassles to produce elevated physical symptoms. Organista and Miranda (1991) similarly showed that perfectionism interacts with life events to predict psychosomatic symptoms. Specifically, individuals higher in perfectionism who also experienced a high number of events that threatened self-esteem showed elevated psychosomatic symptoms. The results of these studies accord with findings indicating that perfectionists exposed to stress tend to have health-related reactions (Dittner, Rimes, & Thorpe, 2011) and the experience of daily hassles seems to underscore the link between trait perfectionism and headaches (Bottos & Dewey, 2004).

The likely importance of exposure to chronic stress should not be underestimated given that socially prescribed perfectionism entails chronic and ever-present stress due to the sense of hopelessness about ever being able to please others and meet their impossible demands (Hewitt & Flett 2002). Chronic stress also plays an especially important role in health and disease because it is a known precursor of allostatic load or "wear and tear" on the body, which lays the groundwork for the development and exacerbation of illness and disease (Cohen et al., 2012; Juster et al., 2010). Consequently, the chronic exposure to stress, or "toxic stress," experienced by perfectionists due to their constant strivings, internal pressures, and ruminative tendencies can be considered a direct health risk.

Indeed, theory and research support this contention. With respect to chronically ill samples, Kempke et al. (2016) implicate stress processes as central mechanisms that explain perfectionism's role in both the etiology and maintenance of chronic fatigue syndrome. More specifically, the theoretical model put forth by Kempke and colleagues posits that perfectionism has downstream effects for cumulative stress that over time creates "wear and tear" on the body. This cumulative stress leads to dysregulation of the HPA axis, which, in turn, results in stress intolerance and then chronic fatigue. Increasing evidence supports their model, as findings indicate that PC is linked to chronic stress and to changes in the neurobiological functioning implicated in chronic fatigue syndrome (Van Houdenhove, Luyten, & Kempke, 2013). These intriguing findings may also provide important insights that generalize to other illness groups and to healthy samples.

Concerning general samples, Flett, Molnar, Nepon, and Hewitt (2012) examined perfectionism, daily hassles, and psychosomatic symptoms in 228 university students. Perfectionism was assessed in terms of perfectionistic automatic thoughts using the PCI, and they found that daily hassles mediated the link between

perfectionism and psychosomatic symptoms. A more comprehensive investigation by Molnar, Sadava, Flett, and Colautti (2012) involved a web-based survey that was completed by 538 undergraduate students. Molnar et al. found that there was a positive association between socially prescribed perfectionism and poor health, and that this association was fully mediated by higher levels of perceived stress and lower levels of perceived social support. Further, these findings held even after accounting for the effects of conscientiousness and neuroticism, thus attesting to the unique predictive ability of perfectionism.

Collectively, a burgeoning research literature lends support to the notion that stress is a key pathway linking perfectionism to health and illness. Given findings demonstrating that perfectionism is implicated in stress processes—namely stress generation, reactivity, anticipation, and perpetuation—researchers are encouraged to assess multiple indicators of stress that tap each of these related, yet distinct, processes. Examination of specific stress processes will not only provide a much more fine-grained analysis of how perfectionism contributes to stress and health, but will directly inform prevention and intervention efforts aimed at ameliorating the deleterious effects of perfectionism on adverse health outcomes. Programmatic research employing prospective longitudinal designs to explore the mutual effects of cumulative toxic stress and its resulting allostatic load also provides a valuable unifying framework to further explore associations between perfectionism and health over the life course. Although research on the daily impact of perfectionism on well-being, including stress and psychopathology, is accumulating (Dunkley, et al., 2014; Dunkley, Zuroff, Blankstein, 2003; see also Chapter 11), research employing daily diary methodology is also needed to further understand the processes that link perfectionism to stress and physical health at a more immediate level.

Perfectionism and Health: The Health Behaviors Pathway

A second and equally important pathway linking perfectionism to physical health outcomes is that of health behaviors. Commonly referred to as modifiable risk factors for the prevention of illness (World Health Organization, 2011), health-promoting behaviors such as healthy eating, regular activity, and good sleep behaviors are well recognized as key factors for determining health trajectories and associated outcomes such as morbidity and mortality (Bogg & Roberts, 2013; Hampson, Goldberg, Vogt, & Dubanoski, 2007). Conversely, smoking, excessive alcohol use, sedentary behaviors, and an unhealthy diet are established determinants of poor health and disease (World Health Organization, 2011). Despite these obvious links to physical health, and the recognized role of health behaviors within personality and health models, understanding how and why perfectionism may foster or prevent the practice of important health-promoting behaviors remains a largely understudied area within the perfectionism and health literature. At the time of this writing there were only six published studies available on this topic (Andrews, Burns, & Dueling, 2014; Chang, Ivezaj, Downey, Kashima, & Morady,

2008; Harrison & Craddock, 2016; Molnar, Sadava, et al., 2012; Sirois, 2016; Williams & Cropley, 2014).

Among this handful of studies that examine perfectionism and health-promoting behaviors, there are both consistencies and inconsistencies depending on the way in which perfectionism and health behaviors are conceptualized and measured. In terms of consistencies, the available evidence generally indicates that PC are associated with less frequent practice of health-promoting behaviors. For example, in research conducted by Chang et al. (2008) and Williams and Cropley (2014), PC (concern over mistakes, doubts about actions, socially prescribed perfectionism) as well as perceived parental pressure to be perfect (parental expectations, parental criticism) were negatively associated with measures of general health behaviors, which included positive health behaviors (e.g., healthy eating, regular exercise) and avoidance of negative or health risk behaviors (e.g., smoking). The negative link between PC and health-promoting behaviors has also been noted in undergraduate students in both cross-sectional research (Harrison & Craddock, 2016; Molnar et al., 2012) and short-term longitudinal research (Andrews et al., 2014) in which PC were measured with scales capturing socially prescribed perfectionism (Hewitt & Flett, 1991) and negative perfectionism (Terry-Short, Owens, Slade, & Dewey, 1995), respectively. Notably, these findings have also been replicated in a study with community adults (Sirois, 2016) where PC (socially prescribed perfectionism) were negatively associated with a validated measure of the frequency of general health-promoting behaviors (i.e., regular exercise, healthy eating habits, stress management). The convergence of these findings with respect to PC is particularly notable given the variety of measures used to assess this perfectionism dimension across the different studies.

With respect to PS, the findings are less consistent. Across the six published studies, PS were positively associated with measures of health behavior in only two studies (Andrews et al., 2014; Williams & Cropley, 2014). In the other four studies, PS were either not significantly associated with health behaviors (Harrison & Craddock, 2016; Molnar, Sadava, et al., 2012; Sirois, 2016) or were sometimes related and sometimes unrelated to health behaviors depending on the perfectionism measure that was used (Chang et al., 2008).

Further evidence that PC and PS are differentially related to health behaviors comes from a meta-analysis of data sets from one of the authors' lab. Across all seven data sets (N = 2,213) which included both community and student samples, PC were significantly associated with lower scores on a measure assessing the frequency of a range of health-promoting behaviors (average $r = -.21$) whereas PS were significantly associated with higher scores in three of the seven data sets and not significantly associated in the remaining four data sets (Sirois, 2013). Accordingly, the average association of PS with the frequency of health-promoting behaviors was not statistically significant (average $r = .09$).

Having addressed the question of *how* perfectionism may be linked to health behaviors, we now turn our attention to the important question of *why* perfectionism may be linked to the practice of health behaviors. As noted previously, there has

been little research focused on this perfectionism–health pathway, and less still on understanding the potential mechanisms that might explain the differential relations of perfectionism dimensions to health behaviors. Emerging theory and research suggest that differences and deficits in self-regulation capacities may help explain why PC create risk for health behaviors and subsequent health whereas PS may not pose a risk. Self-regulation, the capacity of being able to control one's thoughts, feelings, and actions (Forgas, Baumeister, & Tice, 2009), is critical for the performance of health behaviors. Health behaviors often require forgoing immediate desires, temptations, and pleasures in lieu of the long-term rewards associated with maintaining good health and reducing the risk of disease. Accordingly, successful performance of health behaviors can be compromised when self-regulation capacities or resources are depleted.

The self-regulation resource model (SRRM; Sirois, 2015, 2016) is one theoretical approach that has been applied for understanding why perfectionism may relate to health behaviors. Derived from research on the role of affect in self-regulation, the SRRM posits that individuals will be more likely to engage in health behaviors to the extent that they have available internal resources, such as positive affect and a future time-orientation, and low levels of negative affect. Negative affect is one key factor that can threaten self-regulation and derail the practice of important health behaviors (Wagner & Heatherton, 2015), in part because it saps valuable resources needed for effective self-regulation (Sirois, 2015; Sirois & Hirsch, 2015). Not surprisingly, PC, but not PS, are robustly associated with high levels of negative affect, including stress and anxiety (Sirois, 2016), which is consistent with this self-regulation view of perfectionism and health behaviors. In a direct test of the SRRM's view of perfectionism and health behaviors, higher levels of negative affect explained in part the association between PC and fewer health behaviors in a community sample of adults (Sirois, 2016). Together, this theory and evidence suggest that the frequent and negative thoughts about not having attained goals or of not living up to other people's standards, which characterize PC, may drain the self-regulation resources needed to perform important health behaviors, and therefore create risk for poor health outcomes.

The higher levels of stress associated with perfectionism, and PC in particular, noted earlier, may also have some spillover effects with respect to health behaviors. Research has demonstrated that stress interferes with the practice of a range of health-promoting behaviors (Sirois, 2007). From a self-regulation perspective, this make sense if we consider that stress is experienced as a negative emotional state, and therefore is expected to be disruptive to effective self-regulation. Indeed, in the meta-analysis of seven data sets noted previously (Sirois, 2013), this hypothesis was tested in five of the seven data sets with a mediation analysis. In all five data sets, stress was a significant mediator of the relationship between PC and fewer health-promoting behaviors, with standardized paths (betas) ranging from –.16 to –.60. Although more research is clearly needed to confirm and expand on these findings to better understand the potential cross-over associations between the

stress and health behavior pathways linking perfectionism to health outcomes, this preliminary evidence provides one of the first theoretically driven views of why PC may compromise the practice of important health behaviors.

Conclusions and Future Directions

In this chapter we provided evidence supporting perfectionism's role in health-related outcomes in both healthy and chronically ill populations. Using theories linking personality to health along with the diathesis-stress model of perfectionism (Hewitt & Flett, 1993, 2002) and the self-regulation resource model (Sirois, 2015, 2016) as guiding conceptual frameworks, we further underscored the importance of both stress processes and health behaviors as potential mechanisms that may explain how and why perfectionism may contribute to health and illness. What is now required is conceptually driven and methodologically sound research that will enable us to gain a better appreciation and understanding of the associations that perfectionism has with illness and the mechanisms and processes that contribute to this association. Future research would also benefit from an examination of potentially important moderators of the stress and health behavior pathways to identify the conditions under which these pathways are enhanced or ameliorated. It could be argued, for example, that the stress pathway from perfectionism to health is enhanced when individuals perceive that they are not meeting their excessively high standards or, in other words, are high in perfectionistic discrepancy (Slaney, Rice, Mobley, Trippi, & Ashby, 2001).

A significant limitation plaguing this field is researchers' reliance on singular and self-reported measures of health. Whereas self-reported measures of health, such as perceived health, are certainly important to capture health outcomes prospectively predicting morbidity and mortality (Guimaraes et al., 2012), they are not sufficient to address the complex associations among perfectionism, stress, health behaviors, and health. Consequently, we encourage researchers to conduct multi-method and multi-informant studies that better reflect biopsychosocial models of health (e.g., Engel, 1977; Suls & Rothman, 2004). It is our hope that research in this area will also continue the important trend of establishing that health costs associated with perfectionism are not simply a byproduct of individual differences in broader personality constructs such as higher levels of neuroticism or lower levels of conscientiousness and optimism. We believe that there are particular health risks that accompany extreme perfectionism, and this is a unique vulnerability that is distinguishable from the health risks and associated factors that are central to these other personality styles. Once the unique health risks associated with perfectionism are more fully documented, it will be important to develop a research agenda that focuses on developing and implementing a preventive approach that jointly aims at reducing perfectionistic strivings and concerns and bolstering levels of resilience among at-risk perfectionists who may profit from striving for excellence rather than perfection.

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11

PERFECTIONISM AND DAILY STRESS, COPING, AND AFFECT

Advancing Multilevel Explanatory Conceptualizations

David M. Dunkley

Overview

The main goal of this chapter is to explicate a multilevel explanatory conceptualization of the role of perfectionism in the daily stress, coping, and adjustment process. To this goal, I will review studies of university students, community adults, and depressed patients which used a daily diary method to examine stress and coping patterns that trigger and maintain daily negative and positive affect. First, I discuss factor-analytic results identifying personal standards and self-critical higher-order dimensions of perfectionism and appraisal, coping, and affect constructs across both situational and dispositional levels. Second, I examine a within-person trigger model to synthesize several distinct appraisal (e.g., perceived event stress) and coping (e.g., avoidant coping) processes that commonly operate together when the typical individual experiences daily changes in negative affect and positive affect. I then discuss the differential stress reactivity and coping (in)effectiveness of perfectionistic individuals to daily stressors. Third, I examine a between-persons maintenance model to explain how individuals with higher self-critical perfectionism experience persistent daily negative affect and low positive affect because of certain maintenance tendencies (i.e., daily stress appraisals, avoidant coping, low perceived social support). In parallel, I examine problem-focused coping tendencies that might contribute to compensatory experiences of positive affect for individuals with higher personal standards perfectionism. Fourth, I illustrate the trigger and maintenance patterns with a case illustration. Finally, I discuss the clinical and practical implications of the reviewed studies' findings for helping perfectionistic individuals manage stressors and distressing emotions and bolster resilience in everyday life.

Introduction

Over the past three decades, the perfectionism construct has become viewed as a multidimensional construct and has been conceptualized and defined in many different ways (see Flett & Hewitt, 2002; see also Chapter 1). Three multidimensional conceptualizations have generated considerable interest, including those of Frost and colleagues (Frost, Marten, Lahart, & Rosenblate, 1990), Hewitt and Flett (1991), and Slaney and colleagues (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Factor-analytic studies have consistently identified two higher-order dimensions of perfectionism that underlie the many different perfectionism constructs and measures in nonclinical samples (e.g., Dunkley, Blankstein, & Berg, 2012) and clinical samples (e.g., Clara, Cox, & Enns, 2007; Dunkley et al., 2017; see Stoeber & Otto, 2006). These two higher-order dimensions have been referred to as *personal standards (PS) perfectionism* and *self-critical (SC) perfectionism*, respectively (e.g., Dunkley, Zuroff, & Blankstein, 2003). PS perfectionism involves the setting of and striving for high standards and goals for oneself. PS perfectionism measures include the personal standards scale of Frost et al.'s (1990) Multidimensional Perfectionism Scale (FMPS), the self-oriented perfectionism scale of Hewitt and Flett's (1991) Multidimensional Perfectionism Scale (HF-MPS), and the high standards scale of Slaney et al.'s (2001) Almost Perfect Scale-Revised (APS-R). On the other hand, SC perfectionism involves constant and harsh self-scrutiny and overly critical self-evaluation tendencies that are closely linked with chronic concerns about others' criticism and disapproval (e.g., Dunkley et al., 2003). SC perfectionism measures include FMPS concern over mistakes, HF-MPS socially prescribed perfectionism, and APS-R discrepancy as well as the self-criticism scores of the Depressive Experiences Questionnaire (Blatt, D'Afflitti, & Quinlan, 1976) and the Dysfunctional Attitude Scale (Weissman & Beck, 1978).

In contrast to PS perfectionism measures, SC perfectionism measures have been consistently related to depressive and anxious symptoms (see Dunkley, Blankstein, Masheb, & Grilo, 2006; Stoeber & Otto, 2006). Further, several studies have supported SC perfectionism as a prospective predictor of psychosocial maladjustment over periods ranging from several months (e.g., Rice, Leever, Christopher, & Porter, 2006; Sherry, Mackinnon, Macneil, & Fitzpatrick, 2013) to several years (Dunkley, Sanislow, Grilo, & McGlashan, 2006, 2009; Mandel, Dunkley, & Moroz, 2015). Additionally, SC perfectionism has been shown to be relatively resistant to change and have a negative impact on outcome across different forms of psychotherapy (Blatt & Zuroff, 2005; Kannan & Levitt, 2013).

To improve evidence-based practice, it is critical to address person-centered explanatory questions (e.g., "Why do individuals with higher SC perfectionism keep having difficulties?") that are essential to help achieve the two overarching therapy goals of reducing clients' distress and bolstering their resilience (Kuyken, Padesky, & Dudley, 2009; Persons, 2012). In cognitive-behavior therapy (CBT), therapists emphasize the present in gathering records summarizing patients' thoughts, feelings, and behaviors for many situations of daily life (e.g., "I worried

I would be blamed when others noticed the mistake I made in my report, so I gave up and was late finishing the report, and I felt really sad and afraid"). Therapists then develop cross-sectional explanatory conceptualizations by searching for themes and patterns across numerous situations when clients' presenting issues are activated to identify triggers and maintenance factors (Kuyken et al., 2009). Trigger patterns can be understood as time-proximal state-level (within-person) effects whereas maintenance patterns are better understood as disposition-level (between-persons) effects.

Identification of Coping Trigger and Maintenance Factors

Cognitive appraisals and coping are emphasized as critical explanatory processes in the relationship between stressful person-environment relations and outcomes by the cognitive theory of psychological stress and coping developed by Lazarus and colleagues (e.g., Lazarus & Folkman, 1984). Changes in stress, cognitive appraisals, and coping occur across situational contexts in perfectionistic individuals who can also be characterized as having stable dispositions with respect to perceived stress, cognitive appraisals, and coping (Dunkley et al., 2003).

Although there are many ways to group coping responses within the broad domain of coping, one of the oldest and most often used distinctions is between disengagement/avoidant coping responses, which are aimed at escaping the stressor and are emotionally negative, and engagement/approach responses, which are aimed at dealing with the stressor and are emotionally positive (Carver & Connor-Smith, 2010; Skinner, Edge, Altman, & Sherwood, 2003). One fundamental barrier to the study of coping is that the most often used situational coping measures (i.e., measures assessing responses to a single, specific stressor) consist of behaviorally oriented coping scales that measure thoughts and behaviors that are not applicable to many situations (Aldwin, 2007; Stone & Kennedy-Moore, 1992). For example, in considering the items of the planful problem-solving scale of the Ways of Coping Inventory (e.g., Folkman & Lazarus, 1985), one might endorse "I made a plan of action and followed it" without endorsing "I came up with a couple of different solutions to the problem" for any specific situation. These kinds of situational coping scales usually have an unstable factor structure and poor internal consistency, and are difficult to combine factor-analytically to form broad, internally consistent, coping constructs. Without internally consistent situational coping measures, it is difficult to provide precise and meaningful interpretations of individual scale scores and broader coping dimensions, and coping researchers will be unable to detect existing relationships (see Folkman, 1992; Stone & Kennedy-Moore, 1992; Watson & Hubbard, 1996).

An alternative approach to the assessment of situational coping is the use of construct-oriented measures that are guided by theory (see Stone & Kennedy-Moore, 1992) such as those of the COPE (Carver, Scheier, & Weintraub, 1989). The content of the items for each of the COPE scales, such as planning (e.g., "I tried to come up with a strategy about what to do," "I made a plan of action"),

directly assess the underlying meaning of coping responses, and the wording of items is general enough to apply to many specific situations (e.g., work deadlines, interpersonal conflicts). Theory-guided situational coping scales are likely to exhibit good internal consistency, be meaningfully subjected to factor analysis, and be cross-situationally applicable (Stone & Kennedy-Moore, 1992; Watson & Hubbard, 1996).

Using a daily diary methodology, we found support for the within-person and between-persons reliabilities of six situational COPE scales assessing avoidant coping (behavioral disengagement, mental disengagement, denial), problem-focused coping (active coping, planning), and positive reinterpretation (a form of emotion-focused coping) in nonclinical adults (Dunkley, Ma, Lee, Preacher, & Zuroff, 2014) and depressed patients (Dunkley et al., 2017). The within-person reliabilities of these six scales ranged from moderate to high across the nonclinical adult and depressed patient samples, demonstrating the ability of the scales to detect differences in systematic changes of persons over days. The between-persons reliabilities were all high across the nonclinical and depressed samples, demonstrating the ability of the scales to differentiate persons at the average daily level. Further, we demonstrated the feasibility of combining situational coping scales into internally consistent, higher-order latent constructs (i.e., avoidant coping, problem-focused coping) at both situational (within-person) and dispositional (between-persons) levels (see Folkman, 1992; Stone & Kennedy-Moore, 1992). Standardized factor loadings ranged from .34 to .85 for the within-person model across the nonclinical adult and depressed patient samples. This supported that the indicators of the avoidant coping and problem-focused coping latent factors were systematically triggered together in a variety of daily situations for the typical individual. Standardized factor loadings ranged from .41 to .98 for the between-persons model across the nonclinical and depressed samples. This supported that the indicators of the daily avoidant coping and problem-focused coping latent factors were maintained together at the average daily level to differentiate individuals.

Thus, relative to behaviorally-oriented measures of situational coping that are not generalizable to many situations, our results support the promise of theoretically derived coping scales with cross-situationally applicable items when assessing situational coping in the context of various stressors of everyday life for both nonclinical adults and individuals with depression (see Stone & Kennedy-Moore, 1992). Similarly, the latent factors for event stress, perceived social support, negative affect, and positive affect were supported across levels, suggesting that these factors are also replicable when situational and dispositional covariation are modeled. Most importantly, the appraisal, coping, and affect constructs were supported as meaningful and interpretable building blocks for testing explanatory models of perfectionism and daily stress, coping, and adjustment processes at both situational and dispositional levels.

Triggers of Daily Affect: Perfectionism, Stress, and Coping Patterns

Cognitive appraisals, coping strategies, interpersonal influences, and affect constantly influence each other in stressful situations (Aldwin, 2007; Kuyken et al., 2009; Lazarus, 2000). We use the term *coping action patterns* to refer to sets of appraisals, behaviors, and emotions that are commonly in play together across many different stressors (see Skinner et al., 2003). Based on an integration of various theoretical perspectives, our model (Dunkley et al., 2017; Dunkley, Ma, et al., 2014) articulated disengagement, engagement, and counteraction patterns consisting of sets of stress appraisals, coping responses, and emotions that are organized around overarching concerns about competence central to perfectionistic individuals' difficulties (A. T. Beck, 1983; Blatt, 2004; Blatt et al., 1976). Figure 11.1 illustrates our theoretical model and findings that elucidate trigger patterns that are connected to within-person changes in daily negative and positive affect (Dunkley et al., 2017; Dunkley, Ma, et al., 2014).

Disengagement Trigger Patterns

Daily disengagement trigger patterns involve negative social (e.g., perceived criticism) and self- (e.g., event stress) appraisals and disengagement coping strategies (e.g., avoidant coping) that commonly operate together to orient the individual's attention away from many daily stressors, and these patterns are connected to within-person increases in negative affect for the typical individual. In both a community sample of nondepressed adults (Dunkley, Ma, et al., 2014) and a clinical sample of depressed patients (Dunkley et al., 2017), we found that, across many daily stressors, when the typical individual perceives more criticism from others than usual, he or she uses more avoidant coping and perceives higher event stress than usual, and this is connected to daily increases in negative affect and decreases in positive affect (see Figure 11.1, paths $a_W d_W g_W$ and $a_W d_W h_W$). In addition, we found that lower perceived control than usual was related to more avoidant coping than usual which in turn was *indirectly* related to daily increases in negative affect and decreases in positive affect through event stress (Figure 11.1, paths $c_W d_W g_W$ and $c_W d_W h_W$).

Engagement and Counteraction Trigger Patterns

Engagement Trigger Patterns

Daily engagement trigger patterns involve constructive social (e.g., perceived social support) and self- (e.g., perceived control) appraisals and engagement coping strategies (e.g., positive reinterpretation, problem-focused coping) that commonly facilitate one another to orient the individual's attention toward many daily stressors, and these patterns are linked to within-person increases in daily

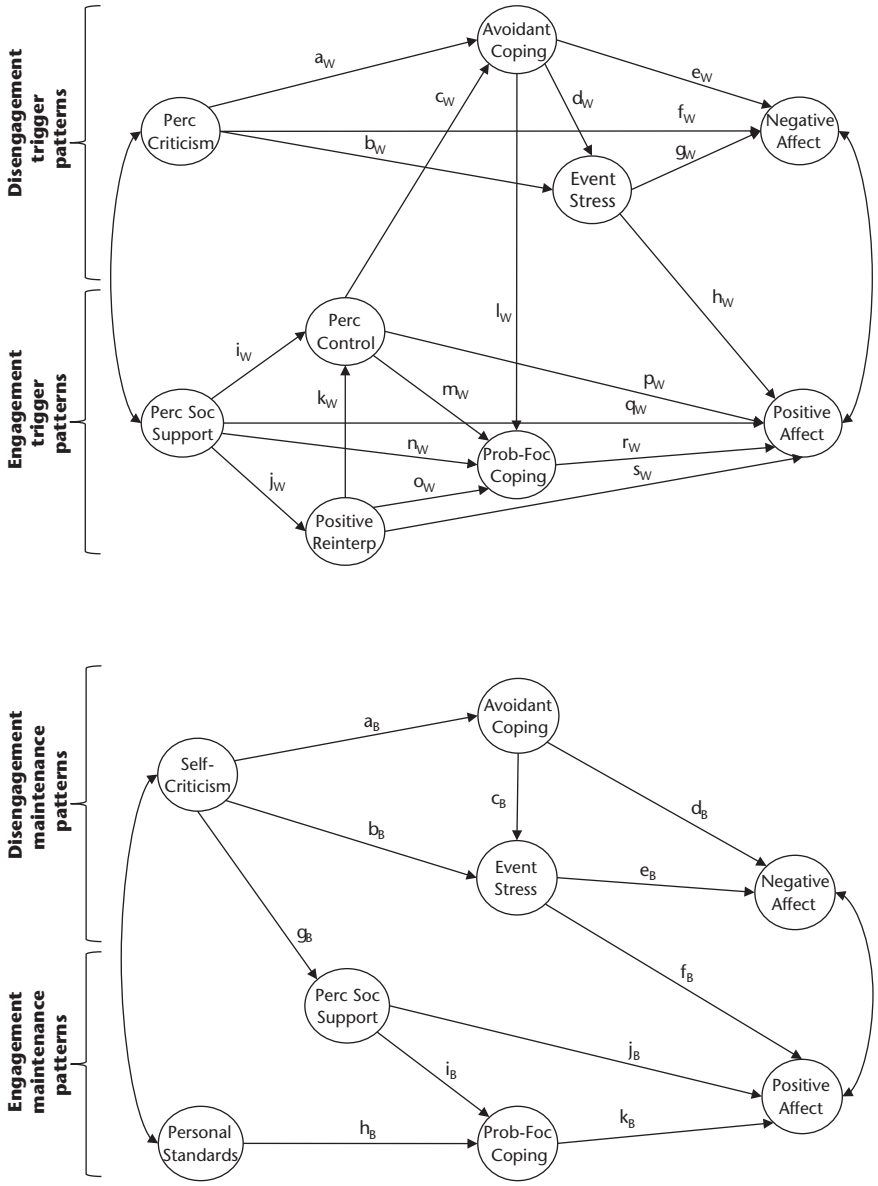

FIGURE 11.1 Within-person trigger (top) and between-persons maintenance (bottom) models, based on Dunkley et al.'s studies (Dunkley et al., 2017; Dunkley, Ma, et al., 2014; Dunkley et al., 2003).

Note: Perc = Perceived; Soc = Social; Reinterp = Reinterpretation; Prob-Foc = Problem-Focused.

Source: Reprinted from "Advancing Complex Explanatory Conceptualizations of Daily Negative and Positive Affect: Trigger and Maintenance Coping Action Patterns," by D. M. Dunkley, D. Ma, I. Lee, K. J. Preacher, & D. C. Zuroff, 2014, *Journal of Counseling Psychology, 61,* p. 103. Copyright 2014 by American Psychological Association. Reproduced with permission.

positive affect for the typical individual. In our study of nondepressed adults (Dunkley, Ma, et al., 2014), we found that, across several daily stressors, when the typical individual perceives more social support than usual, he or she construes daily stressors in more positive terms than usual, perceives more control, and engages in more problem-focused coping than usual, and this is linked to daily increases in positive affect (see Figure 11.1, paths i_W to s_W). We further examined the within-person relationships among perceived control, problem-focused coping, and positive affect in our study of depressed patients (Dunkley et al., 2017). We found that, when the typical person with depression perceives more control than usual, he or she engages in more problem-focused coping, and this is connected to daily increases in positive affect (Figure 11.1, path $m_W r_W$), which replicated our finding for nondepressed adults.

Counteraction Trigger Patterns

Theory and research suggest that disengagement coping and engagement coping responses each have the ability to suppress or inhibit the other (see Corr, 2002; Martell, Addis, & Jacobson, 2001; Trew, 2011). Dunkley, Ma, et al. (2014) found that within-person decreases in avoidant coping were significantly correlated with increases in problem-focused coping in nondepressed adults, but this link was not hypothesized in their within-person mediation model. In our study of depressed patients (Dunkley et al., 2017), we demonstrated complex *counteraction trigger patterns*: When the typical person with depression suppresses helplessness appraisals (lower perceived criticism or higher perceived control), he or she uses less avoidant coping (see Figure 11.1, paths a_W and c_W) than usual, and engages in more problem-focused coping than usual, and this is connected to increases in positive affect (see Figure 11.1, path $l_W r_W$).

Perfectionism, Daily Stress Reactivity, and Coping Effectiveness

In CBT, explanatory conceptualizations are used to understand the links between the client's key developmental experiences, dysfunctional attitudes, behavioral strategies, and situations that often precipitate or trigger heightened reactivity to daily affect (see Kuyken et al., 2009). Several theorists have discussed how perfectionism develops in response to parental approval that is conditional on attaining extremely high parental expectations of success and productivity (e.g., Blatt, 1995; Hamachek, 1978). Further, it has been theorized that the development of SC perfectionism arises from exposure to a combination of excessive parental expectations as well as parental harshness and punitiveness (Blatt, 1995; Flett, Hewitt, Oliver, & Macdonald, 2002; Young, Klosko, & Weishaar, 2003).

Understanding the links between past experiences and dysfunctional underlying assumptions can help therapists and perfectionistic clients make sense out of the latter's intensified reactions that often appear mismatched to current circumstances (cf. Kuyken et al., 2009). Several studies have supported a general vulnerability

model that maintains that individuals with higher levels of either PS or SC perfectionism who are experiencing life stress will be especially vulnerable to psychological distress symptoms (e.g., Chang & Rand, 2000; Enns, Cox, & Clara, 2005; Flett, Hewitt, Blankstein, & Mosher, 1995). Further, a large body of research has examined a specific vulnerability model: Individuals with higher PS or SC perfectionism, who have contingent self-worth that is based on success and productivity (e.g., Sturman, Flett, Hewitt, & Rudolph, 2009), are expected to be specifically vulnerable to achievement-related stressors that reflect personal failure and loss of control (Blatt & Zuroff, 1992; Dunkley et al., 2003; Hewitt & Flett, 1993). Relatedly, because individuals with higher SC perfectionism have heightened sensitivity to criticism and disapproval from others, these individuals might experience more distress in response to negative social exchanges with others (Dunkley, Berg, & Zuroff, 2012; Dunkley et al., 2003; Hewitt & Flett, 1993).

An important shortcoming of most research examining these moderator hypotheses is that between-persons designs and analyses were used, which address whether SC perfectionism in conjunction with individual differences in certain variables (e.g., perceived stress) predict individual differences in maladjustment. Moreover, these studies were based on single, one-occasion measures of the moderators and outcomes, which does not address the common precipitants or triggers of an individual's distress. Our studies of university students (Dunkley et al., 2003) and nondepressed adults (Dunkley, Mandel, & Ma, 2014) have dealt with some of the limitations of previous research by using a daily diary approach and within-person analyses to examine whether within-person variations in appraisals and coping across many different stressors were linked to within-person fluctuations in daily affect, with participants serving as their own control across all the stressors that they reported.

Stress Reactivity

We found support for the specific vulnerability hypothesis in that students with higher SC perfectionism, relative to students with lower SC perfectionism, exhibited greater increases in daily negative affect when they experienced more academic hassles and perceived criticism from others than usual, and less perceived control than usual (Dunkley et al., 2003). Additional findings showed that students with higher SC or PS perfectionism were emotionally reactive to decreases in self-esteem, whereas only students with higher SC perfectionism were emotionally reactive to increases in fear of closeness with others (Dunkley, Berg, & Zuroff, 2012). Further, we have examined the differential stress reactivity of individuals with higher perfectionism across the short and long term (Dunkley, Mandel, & Ma, 2014). The same sample of nondepressed adults used in the Dunkley, Ma, et al. (2014) study described above completed daily diaries for 14 consecutive days repeatedly at six-month and three-year follow-ups (consecutively referred to as Month 6 and Year 3). We found that for both adults higher on SC perfectionism and adults higher on PS perfectionism, compared to adults lower on these

perfectionism dimensions, more event stress than usual was associated with greater increases in negative affect and sadness and greater decreases in positive affect at Month 6 and Year 3. We also found some support for the specific reactivity hypothesis in that adults with higher SC or PS perfectionism experienced greater increases in negative affect and sadness and greater decreases in positive affect at Year 3 when they perceived less control than usual. However, this result was not found at Month 6. In addition, daily increases in depressive affect were connected to more negative social interactions than usual for SC perfectionists only at Month 6 and Year 3. On the other hand, our findings also highlighted conditions under which individuals with higher PS perfectionism feel more resilient than those with lower PS perfectionism. Specifically, adults with higher PS perfectionism had higher daily positive affect than adults with lower PS on days when they perceived less event stress (at Month 6 and Year 3), more control over their most bothersome event (at Year 3), and experienced fewer negative social interactions (at Year 3) than usual (Dunkley, Mandel, & Ma, 2014).

Recently, we have examined the role of heightened stress reactivity (i.e., daily fluctuations in negative mood in response to daily fluctuations in stress appraisals) as an important explanatory variable in the relationship between SC perfectionism and psychosocial maladjustment over time. In two four-year follow-up studies of the same sample of nondepressed adults, we created stress reactivity (Mandel et al., 2015) and interpersonal sensitivity (Mandel, Dunkley, & Starrs, 2017) variables that represented the strength of relationship between a given individual's daily stress appraisal and affect at Month 6 and Year 3. Specifically, we created Month 6 and Year 3 stress reactivity and interpersonal sensitivity variables that captured the degree to which stress or negative social interactions and sadness were coupled in each participant, which were then tested as sequential mediators in the relationship between SC perfectionism and psychosocial maladjustment over four years. Our results demonstrated that SC perfectionism predicted daily stress reactivity (i.e., greater increases in sadness in response to increases in stress) across Month 6 and Year 3, which in turn mediated the relationship between higher SC perfectionism and anhedonic depressive symptoms as well as general depressive and anxious symptoms four years later, controlling for baseline symptoms (Mandel et al., 2015). Findings also showed that interpersonal sensitivity (i.e., greater increases in daily sadness in response to increases in daily negative social interactions) mediated the relationship between SC perfectionism and interpersonal stress generation four years later, controlling for the effects of depressive symptoms (Mandel, Dunkley, & Starrs, 2017). Further, in a study of 43 depressed patients undergoing CBT, we demonstrated that high levels of SC perfectionism in combination with high levels of daily stress reactivity predicted less depression improvement relative to other patients one year later (Mandel, Dunkley, Lewkowski, et al., 2017).

Given that intensified stress reactivity appears to play a role in perfectionistic individuals' vulnerability to various maladjustment outcomes over time, it is important for explanatory conceptualizations to discern whether certain coping strategies commonly make stressful situations worse or whether they can serve a

protective role for these individuals (see Kuyken et al., 2009). For instance, avoidant coping may be particularly problematic for individuals with higher PS or SC in that it might contribute to the anticipation of impending personal failure to meet high expectations of productivity (O'Connor & O'Connor, 2003; Shafran, Cooper, & Fairburn, 2002).

Coping (In)Effectiveness

Three studies have examined whether certain coping strategies for dealing with most bothersome daily events may be especially (in)effective for perfectionistic individuals (Dunkley, Mandel, & Ma, 2014; Dunkley et al., 2003; Stoeber & Janssen, 2011). We found that, across many different daily stressors, engaging in more self-blame than usual was coupled with greater increases in daily negative affect for university students higher on SC perfectionism than for those lower on SC perfectionism (Dunkley et al., 2003). In addition, using more problem-focused coping and less avoidant coping than usual was coupled with greater increases in daily positive affect only for students with lower SC perfectionism, but not for those with higher SC perfectionism, which indicates that problem-focused coping might be ineffective for SC perfectionistic students. On the other hand, across many different daily stressful situations, using more positive reinterpretation than usual was coupled with greater increases in daily positive affect for students with higher SC perfectionism (Dunkley et al., 2003). Stoeber and Janssen (2011) replicated the latter finding in showing that the more students with higher SC perfectionism used positive reinterpretation to deal with the day's most bothersome failures, the more satisfied they felt at the end of the day. Thus, cognitive reframing might work especially well for self-critical perfectionists.

Given that we found that nondepressed adults with higher levels of perfectionism have heightened reactivity to stress as they get older, it is important to examine the (in)effectiveness of coping strategies in adult populations (rather than student populations) because the cumulative burden of daily stressors that adults typically experience may diminish their coping resources. Accordingly, we found more avoidant coping than usual was connected with greater increases in negative affect and sadness at Month 6 and Year 3 in adults who have higher levels of either SC or PS perfectionism. On the other hand, engaging in more problem-focused coping than usual was associated with greater decreases in sadness at Month 6 for adults with higher SC or PS perfectionism and with greater increases in positive affect at Month 6 for those with higher SC perfectionism (Dunkley, Mandel, & Ma, 2014). Previous theory and findings (e.g., O'Connor & O'Connor, 2003; Sturman et al., 2009) can help explain these findings. Individuals with higher perfectionism possess conditional self-worth that is contingent on success and productivity. When perfectionistic individuals do not meet goals they expect to meet, they believe that they are failing and consequently feel heightened anxiety, irritability, and guilt (e.g., Blatt, 1995; Shafran et al., 2002; Young et al., 2003). We also found that engaging in more positive reinterpretation than usual was associated

with greater decreases in sadness for adults with higher SC perfectionism at Month 6 and Year 3 (Dunkley, Mandel, & Ma, 2014), which provides further evidence that perfectionistic individuals respond well to perceiving stressors as challenges rather than as threats (Dunkley et al., 2003; Stoeber & Janssen, 2011).

Maintenance of Daily Affect: Perfectionism, Stress, and Coping Patterns

Perfectionism also plays an important role in driving the maintenance of negative affect and lower positive affect (see Blatt, 2004; Egan, Wade, & Shafran, 2011). The bottom part of Figure 11.1 depicts our between-persons maintenance model and findings of the relationships of SC and PS with average daily appraisals, coping, and affect (Dunkley et al., 2017; Dunkley, Ma, et al., 2014; Dunkley et al., 2003).

Disengagement Maintenance Patterns

Relative to PS perfectionism, SC perfectionism is more closely related to disengagement maintenance patterns that contribute to intense, prolonged negative affect. Individuals who show higher levels of SC perfectionism are thought to instigate daily stress for themselves because they tend to engage in harsh self-evaluations and magnify the negative aspects of events, thereby interpreting even mundane stressors as major threats (Dunkley et al., 2003; Hewitt & Flett, 2002). Individuals with higher SC perfectionism also have a tendency to engage in avoidant coping resulting from their perceived inability to cope with stressful situations to their own and others' satisfaction (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Flett, Hewitt, Blankstein, Solnik, & Van Brunschot, 1996). An avoidant coping style in turn fails to address stressors directly, and thereby increases the severity and duration of stress, leading to a greater susceptibility to experience additional stressors (Carver & Connor-Smith, 2010; Dunkley et al., 2003). This tendency for individuals with higher SC perfectionism to engage in avoidant coping impedes their ability to use other more adaptive coping strategies that would help them move past the distress related to stressful situations (see Carver & Connor-Smith, 2010; Dunkley et al., 2003).

We aggregated daily reports across several stressors to empirically derive maintenance measures of daily stress, appraisals, coping, and affect (Dunkley et al., 2003). In our study of university students, the relationship between SC perfectionism and the maintenance of negative affect and lower positive affect over seven days was mediated by daily avoidant coping and stress maintenance factors. In our six-month follow-up study of nondepressed adults (Dunkley, Ma, et al., 2014), we used multilevel structural equation modeling (SEM) to provide unbiased estimates of between-persons means of several daily stress, coping, and affect reports for each participant, which allowed a more rigorous test of the indirect effects of perfectionism dimensions on maintenance of daily affect through stress and coping than previous studies. As shown in Figure 11.1 (paths a_B to f_B), the relationship

between SC perfectionism and daily negative affect maintenance six months later was mediated by daily avoidant coping and event stress maintenance factors, with avoidant coping related to higher negative and lower positive affect indirectly through its association with event stress.

In our study of depressed patients (Dunkley et al., 2017), SC perfectionism exhibited an even stronger correlation (r = .65) with avoidant coping tendencies compared to the correlation (r = .53) reported in Dunkley et al.'s (2003) study of university students and the correlation (r = .51) reported in Dunkley, Ma, et al.'s (2014) study of nondepressed adults. Dunkley et al. (2017) found that avoidant coping and event stress maintenance factors, in combination, explained why individuals with depression and higher SC perfectionism had persistent negative affect as well as lower positive affect. These findings are consistent with our findings with university students (Dunkley et al., 2003) and nondepressed adults (Dunkley, Ma, et al., 2014), and demonstrate that people with depression and higher SC perfectionism have a stronger tendency to avoid many different daily stressors (e.g., achievement, interpersonal), which keeps their problems going and perpetuates the co-existence of depressive and anxious mood. Whereas Dunkley, Ma, et al. found SC perfectionism to be indirectly related to negative affect and lower positive affect through greater event stress in nondepressed adults, we did not replicate this in the sample of depressed patients. This suggests that the ongoing stress that people with depression and higher SC perfectionism experience is attributable to their avoidant coping tendencies. Together, these disengagement maintenance patterns demonstrate that the pervasive theme of defeat, helplessness, and withdrawal becomes even more accentuated for self-critical perfectionists when they are depressed, which resonates with clinical observations of these kinds of depressed patients (cf. A. T. Beck, 1983; Blatt, 2004).

Engagement Maintenance Patterns

In parallel to their disengagement tendencies, individuals with higher SC perfectionism often lack compensatory experiences of positive affect to provide a psychological respite because they typically do not utilize engagement resources and strategies (e.g., Dunkley, Ma, et al., 2014; Dunkley et al., 2003). Specifically, individuals with higher SC perfectionism often perceive that others are unavailable or unwilling to help them in times of stress (e.g., Dunkley et al., 2000). Subsequently, they lack an important resource (i.e., perceived social support) to encourage more adaptive coping strategies and make stressors seem less overwhelming. In our study of university students (Dunkley et al., 2003), the relationship between SC perfectionism and the maintenance of lower positive affect over seven days was mediated by lower perceived social support (see Figure 11.1, path $g_B j_B$). In our six-month follow-up study of nondepressed adults (Dunkley, Ma, et al., 2014), our findings also indicated that SC perfectionism had an indirect association with the maintenance of lower positive affect six months later through lower perceived social support and problem-focused coping

maintenance (see Figure 11.1, path $g_B i_B k_B$). Finally, in our study of depressed patients (Dunkley et al., 2017), problem-focused coping was associated with greater maintenance of daily positive affect, but SC perfectionism was unrelated to problem-focused coping.

In contrast, individuals with higher PS perfectionism have been theorized to internalize high parental standards and actively strive to meet them (Blatt, 1995; Hamachek, 1978). PS perfectionistic individuals may also experience higher levels of stress, but their tendency to engage in active, problem-focused coping appears to offset the potential negative outcomes of distress (see Dunkley et al., 2000). However, theorists have suggested that the adaptive tendency of individuals with higher PS to engage in problem-focused coping might only be present when they are not depressed (cf. A. T. Beck, 1983; Blatt, 2004). Indeed, we found that PS perfectionism was indirectly related to positive affect through problem-focused coping in nondepressed adults (Dunkley, Ma, et al., 2014; see Figure 11.1, path $h_B k_B$), but this was not found in our study of depressed patients (Dunkley et al., 2017). Together, these findings indicate that individuals with higher PS exhibit active coping tendencies when they are not depressed, but these individuals show a loss of self-control, self-direction, and self-discipline when they are depressed. "This complete turn-around in the person's behavior constitutes one of the paradoxes of depression" (A. T. Beck, 1983, p. 276).

Case Illustration of Multilevel Explanatory Conceptualization

In the sections below, I extrapolate key aspects from Kuyken et al.'s (2009) detailed case example of a single patient, Mark, to illustrate how disengagement and engagement trigger and maintenance patterns operate in the daily life of a perfectionistic individual. Mark was in his mid-30s and married with two children. He was successful in his work but was currently experiencing work difficulties due to mild to moderate depression and anxiety.

PS and SC Perfectionism

Like many depressed patients (A. T. Beck, 1983; Blatt, 2004; Blatt et al., 1976), themes of achievement and failure were central to Mark's difficulties. Corroborating the distinction between PS perfectionism and SC perfectionism, Mark and his therapist built a picture of Mark as "someone with high standards who tries really hard not to make mistakes" (Kuyken et al., 2009, p. 183). Discussions revealed Mark's self-critical thoughts about being a failure and a poor father, husband, and worker (e.g., "I'm useless," "I'm a waste of space," "My theme song is failure"; p. 197) as well as several underlying beliefs (e.g., "If I make a mistake then it means I am useless," "If I make a mistake then others will think less of me"; p. 192), all of which reflect the distinct but related aspects of the broader SC perfectionism construct. Most importantly, Mark's therapist recognized the central role of Mark's self-critical perfectionistic thinking which

in turn led to a more comprehensive understanding of what triggered and maintained Mark's low mood.

Disengagement Trigger Patterns

As is the case for many depressed patients, Mark's drops in mood seemed to "come out of the blue" (Kuyken et al., 2009, p. 172), but several examples where his mood plummeted demonstrate the disengagement trigger patterns detailed above. Perceived criticism from others was identified as a trigger of avoidant coping responses (e.g., withdrawal) in many stressful situations and also often signaled higher event stress and escalating negative affect (e.g., "I worried I would get it wrong and when others noticed it was wrong I would get the blame. I just got really wound up and uneasy, like I wanted to run [Starts to cry]."; Kuyken et al., 2009, p. 140; see Figure 11.1, paths a_W, b_W, and d_W to h_W).[1] A perceived lack of control over the ability to successfully handle stressful situations (i.e., lower perceived control) was also identified by Mark and his therapist as a unique trigger of avoidant coping responses to give up or disengage across many daily stressors (e.g., "Some days I just sit staring at the pile of work I am supposed to do and I just can't get things done properly, to the right standard or on time. So I just don't bother."; p. 129; path c_W). After reviewing many examples, Mark and his therapist agreed that, when Mark avoids or puts things off (e.g., "stopped working," "stayed up really late watching bad TV"), this increased the intensity and duration of stressors (e.g., "did not finish the report on time," "tried to watch TV, but kept thinking about work"), which in turn exacerbated his various negative moods (e.g., "felt really sad", "anxious"; pp. 177 and 196; paths $d_W g_W$, $d_W h_W$, and e_W). Further, Mark and his therapist agreed that their model generalized across situations in that, when Mark avoided doing things expected of him as a dad or husband or worker, this made things worse and made him feel even more like a failure.

Engagement and Counteraction Trigger Patterns

Although Mark initially felt like nothing was going right in his life, Mark and his therapist noticed many days when Mark did not feel low that illustrated the engagement and counteraction trigger patterns detailed above. When Mark construed mistakes at work in more positive terms than usual (i.e., positive reinterpretation), he experienced increases in positive mood and perceived controllability as well as decreases in avoidance on those days (e.g., "take credit for good things that happen and admit mistakes without getting too caught up with them and putting off my work for fear of making a mistake"; "enjoy my day and think to myself, 'I enjoy my work and I'm okay at it.'"; p. 188; paths $k_W c_W$, $k_W p_W$, and s_W). The effect of these positive interpretations and constructive appraisals of mistakes was that Mark did not avoid work and instead engaged in problem-focused coping efforts (e.g., "well, it makes it more likely I will carry on doing the right things"; p. 188). Problem-focused coping in turn helped Mark to manage

complex tasks and difficulties more successfully and made it possible for him to feel better about himself on those days ("I felt pretty good"; p. 187; paths $l_W r_W$, $m_W r_W$, and $o_W r_W$). Further, when Mark perceived more support from his wife (e.g., "I feel so lucky to have Claire. She was right; she helped me get out of that funk."; p. 218), this motivated Mark to use more positive reinterpretation, perceive more control, and engage in more active coping than usual (e.g., "I got out of bed and completed a Thought Record, which was sort of reassuring because it was all there, the same old thoughts, and I was able to respond to them"), and this was connected to increases in positive mood (e.g., "we had a good family day afterwards"; p. 219; paths i_W to s_W).

Disengagement and Engagement Maintenance Patterns

Mark's self-critical evaluation tendencies suggesting that he is useless and a failure contributed to his avoidance across numerous situations (e.g., "I avoid tasks at work, I avoid John, I avoid lots of things"; p. 184). In reviewing Mark's list of examples, Mark and his therapist established a common maintenance pattern where Mark's avoidance tendencies made problems worse and built pressure up, and this kept his mood down (e.g., "I did that with the example when I got the e-mail about the report. … I didn't finish the report. The next time I went back to work the e-mail was still there. So then I felt even worse."; p. 184; paths $a_B c_B e_B$, $a_B c_B f_B$, and $a_B d_B$). Mark and his therapist also established that avoidance did not completely explain all of Mark's depressive mood, but that his tendency to perseverate about mistakes was another important maintaining factor that explained why his mood did not improve (e.g., "I review all the mistakes I made that day …I find so many things I have not done or have done badly that I feel worse and worse as the night goes on."; p. 185; paths $b_B e_B$ and $b_B f_B$). Finally, when Mark was depressed, he no longer engaged in problem-focused coping tendencies: "They would say I am hard working, conscientious, and reliable … I am very organized and thorough. I do my job to a high standard … well, I used to!" (pp. 126–127; path $h_B k_B$).

Translating Multilevel Explanatory Conceptualizations into Clinical Practice

Relative to past research, our complex explanatory results have richer and more detailed clinical implications that can help therapists and their patients more effectively reduce patients' distress and bolster resilience (Kuyken et al., 2009; Persons, 2012). Entertaining multiple mechanism hypotheses at multiple levels has the advantage of increased flexibility in treatment (e.g., shifting between different mechanism hypotheses to align with the situation and/or patient preferences, trying different interventions when treatment based on one mechanism hypothesis fails). Another advantage is the potential for increased power in using multiple interventions that target more than one precipitant or perpetuating factor of negative affect and (low) positive affect (Persons, 2012). In keeping with CBT,

explanatory conceptualizations are meant to be used *collaboratively* and *flexibly* by therapists with their clients (see Chapter 14) in that therapy can focus on either cognitions or behaviors (or alternate between the two), according to which element is most likely to promote change for each patient at a given moment (Kuyken et al., 2009; Persons, 2012). Several treatment methods could be used to treat both depression and anxiety by decreasing daily negative affect and increasing daily positive affect.

Breaking Up Disengagement Patterns

To decrease daily negative affect and increase daily positive affect, cognitive strategies might be used to modify harm appraisals, such as perceived event stress (e.g., J. S. Beck, 1995). Clinicians might reduce self-critical clients' avoidant coping across many different stressors by changing their heightened tendency to engage in destructive self-blame and perceive criticism from others, and instead encouraging more compassionate ways of typically relating to themselves and more problem-focused coping. Behavioral activation methods can be used to specifically target avoidant coping and promote an increase in pleasurable and rewarding activities, which might decrease the time available for rumination about stress (e.g., Martell et al., 2001). At the same time, our findings suggest that avoidant coping might also be suppressed by reducing helplessness appraisals (i.e., perceived criticism, lower perceived control; Dunkley, Ma, et al., 2014). Our findings suggest that perfectionistic clients should be helped to move from a reactive mode of responding automatically to stressors (e.g., avoidance) to a response mode in which they respond with awareness of the stressor and its effects while working toward goals that are grounded in their values (see Kuyken et al., 2009; Persons, 2012). Further, the origins part of the conceptualization can be used to understand how key developmental experiences (e.g., harsh parental criticism) led to some patients developing pervasive SC perfectionism, heightened stress reactivity, and avoidant coping mechanisms. And this understanding can guide interventions to break up these dysfunctional patterns that are maintaining depression and anxiety.

Promoting Engagement Patterns

The engagement patterns supported in our research help bring alternative adaptive patterns into focus for clients and highlight specific intervention choice points in order to improve daily mood for the typical client. When daily stressful situations seem more uncontrollable than usual, targeting the self by attempting to implement emotion-focused coping responses (e.g., positive reinterpretation), or targeting the context by trying to discover available interpersonal contingencies (e.g., perceived social support) might be healthy alternatives to avoidant coping and rigid perseveration that exacerbates stressors (e.g., Skinner et al., 2003). When others are perceived to be more critical than usual, the typical client might focus on improving social competence (e.g., positive expressions to others, active listening, responding

to criticism) in an effort to facilitate more positive supportive relations (e.g., Brand, Lakey, & Berman, 1995) as a constructive alternative to concealing problems by avoidance. Further, problem-focused coping efforts might be bolstered not only by behavioral skills-building strategies (Martell et al., 2001), but also by enhancing perceived social support, positive reinterpretation, and perceived control (see Dunkley, Ma, et al., 2014). Finally, the underutilization of adaptive problem-focused coping strategies in individuals with higher PS perfectionism when they are depressed suggests that interventions should aim to restore a sense of competence and goal-directed motivations, in keeping with previous clinical recommendations for depressed patients (cf. A. T. Beck, 1983).

Limitations and Directions for Future Research

There are a number of limitations in the extant literature that should be addressed in future research. First, daily diary studies have assessed stress, coping, and affect only once a day. Future research should assess these variables multiple times throughout the day to better capture the dynamics of stress and coping processes as they unfold. This would also help ascertain the direction of causality among variables. Second, stress appraisals are very rapid and require more frequent measures than are possible using daily diaries. Future cognitive priming studies that expose individuals to experimental stimuli and examine subsequent cognitive reactions (cf. Ingram, Miranda, & Segal, 1998) would be useful to better examine how stress and coping processes evolve. Third, as the majority of studies have relied on self-report measures, future studies might also want to supplement self-report measures with informant reports or assessments of observable behaviors (e.g., coping). Fourth, the majority of the research presented in this chapter focused on perfectionists' appraisals of and reactions to minor or daily stressors. It would be important to examine the role of stress appraisals and coping in response to major life events from different domains (e.g., interpersonal, achievement) because more severe negative events may have a greater effect on the onset of certain problems, such as depression (see Hammen, 2005). Fifth, the generalizability of the findings reviewed in this chapter must be examined in various clinical and nonclinical populations, and in different age or sociocultural groups. In particular, it would be important to replicate and extend these findings in various psychopathologies (e.g., depression, anxiety disorders, eating disorders). Finally, it would be important to develop and evaluate interventions integrating the various strategies outlined above to investigate whether treatment outcomes can be improved for individuals with higher perfectionism.

Conclusion

Employing daily diary methodology together with SEM and multilevel modeling, our studies have explicated explanatory models that can help therapists and their clients make more sense of what commonly triggers and maintains negative affect

and (low) positive affect for perfectionistic individuals. Our findings demonstrate trigger patterns that shed light on how daily increases in negative affect and decreases in positive affect are precipitated for individuals with higher SC or PS perfectionism as well as the negative impact that heightened stress reactivity has on the psychological maladjustment of these individuals over the longer term. We also showed how depressive mood is maintained for university students, nondepressed adults, and depressed individuals with higher self-critical perfectionism. In parallel, our explanatory models brought alternative adaptive engagement patterns (triggers and maintenance) into focus to orient researchers and therapists toward obtaining a more holistic view of perfectionism and perfectionistic individuals.

Note

1 To avoid overloading the text with references, all consecutive page numbers in this case illustration always refer to Kuyken et al. (2009) whereas the paths always refer to Figure 11.1.

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12

PERFECTIONISM AND EMOTION REGULATION

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Overview

The goals of the present chapter are (a) to summarize what we know about perfectionism and emotion regulation and (b) to develop theory to inform a progressive research agenda for the next era of research in this area. To do this, we extend and integrate earlier work that positions perfectionism and emotion regulation within attachment theory (Rice & Mirzadeh, 2000), person-centered theory (Ashby, Rahotep, & Martin, 2005) and self psychology (Rice & Dellwo, 2002). We use these theories to describe how perfectionistic traits initially emerge to aid the regulation of self-esteem and self-development ("perfectionism as outcome" model). Perfectionism is then further developed and maintained through internal working models of self and others. The "perfectionism as predictor" model then predicts that perfectionistic tendencies will affect how people regulate stress and emotions, which in turn affects a variety of domains, including health, mental health, academics, career development, and relationships. The chapter concludes with implications for viewing perfectionism as virtue or vice (Chang, 2003), and presents a conceptual and methodological agenda for applied research aimed at strengthening perfectionistic resilience and lowering perfectionistic risk. We frame this chapter within a broader perspective that considers person × environment interactions, development, and resilience, and not just risk with regard to perfectionism.

Definitional Considerations

Consistent with other recent statements (Rice, Richardson, & Ray, 2016), we generally adhere to a definition and operationalization of perfectionism as a personality construct that involves two primary and self-focused dimensions

referred to as personal strivings (e.g., standards, performance expectations) and concerns about the adequacy of those strivings (e.g., self-critical performance evaluation, perceived gap between personal expectations and degree to which one is meeting those expectations). Perfectionism can have both adaptive and maladaptive implications, depending on its motivations and consequences. For example, Adler (1956) wrote that striving for perfection is a normal, innate aspect of human development. Adopting high standards is how people grow, learn, and change. However, such striving becomes problematic when individuals accompany high standards with habits associated with poor emotion regulation, such as adopting unrealistic standards or cultivating highly punitive self-talk.

We measure perfectionism with the Almost Perfect Scale-Revised (APS-R; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996; Slaney, Rice, Mobley, Trippi, & Ashby, 2001; see also Rice, Richardson, & Tueller, 2014, for a short form). This scale has robust psychometric features, non-overlapping dimensions, allows for potentially healthy *or* unhealthy expressions of perfectionism, and avoids confounding the measurement of perfectionism with relational precursors or consequences of perfectionism. The APS-R measures self-performance expectations or strivings (standards),[1] perfectionistic concerns in the form of self-critical evaluation in one's perceived ability to live up to expected standards (discrepancy), and a third dimension (order) measuring preferences for organization.

From a self-regulation perspective, adaptive versus maladaptive perfectionism reflects two contrasting patterns on the two primary dimensions of perfectionism (standards and discrepancy). Both types involve high standards, which has the potential to cause greater stress for the individual. The two patterns differ in the degree to which the individual has a strong set of mental habits (including physiological response) that can offset that stress and intrapsychic pressure. The discrepancy scale is named based on characteristics of poor self-regulation. Namely, one of the primary mental behaviors of maladaptive perfectionists is their tendency to criticize themselves when falling short of high standards. Thus, adaptives have high standards, but low self-criticism (i.e., low discrepancy scores); whereas maladaptives have high standards and high self-criticism (i.e., high discrepancy scores).

Perfectionism as Outcome: Attachment and Self-Development

We next turn to what we view as compelling theoretical accounts of precursors to the development of these perfectionism dimensions, and how the dimensions serve important relational and regulatory functions early and throughout the lifespan. We integrate theories on attachment, self-actualization, and self psychology into an integrative account of perfectionism and self-regulation. There is also some limited research supporting moderate genetic influences on perfectionism (Iranzo-Tatay et al., 2015; Tozzi et al., 2004), but our emphasis here is on environmental precursors, some of which potentially interact with genetic predisposition.

Attachment Theory

Attachment theory provides a compelling account of how early environments affect development of personality, especially traits associated with self-regulation and performance competencies. According to the theory, humans are innately programmed to seek proximity to caregivers when stressed, and the emergence of personality characteristics in how persons tend to deal with security-related threats are initially shaped by the nature of early infant–caregiver interactions (Bowlby, 1988). To the extent that infants experience early caregivers as reliable, responsive, and non-invasive sources of support, they develop *secure* internal working models of self and others that facilitate both their autonomous exploratory behavior and appropriate support-seeking. Infants who experience their early care-giving environments as neglectful, unreliable, or rejecting form an *insecure* attachment orientation that predicts suboptimal forms of emotional regulation and support-seeking. In either case, these early models are "carried forward" as cognitive representations that, by virtue of the confirmatory biases they impose on the person's social-cognitive processes and interpersonal behavior, are likely to shape the construction of later (adult) relationships in schema-consistent ways. These characteristics are theorized to affect the acquisition and deployment of adaptive coping and interpersonal behaviors in adulthood (Lopez & Brennan, 2000).

Person-Centered Theory

To understand the link between early relational experience and perfectionistic tendencies, we can also draw on two self-oriented theories. Much of the attention on Carl Rogers' work has focused on the necessary and sufficient conditions for personality change to occur through psychotherapy, but Rogers (1959) also articulated a progression for the early development of a sense of self. Interestingly, he described an innate motive that drives people to actualize their potential as a person: "the inherent tendency of the organism to develop all its capacities in ways which serve to maintain or enhance the organism" (p. 196). This roughly corresponds to standards within our model. Rogers suggested that people seek to grow through comparing and seeking to reduce the discrepancy between their current sense of self with their potential self (called the "organismic valuing process," p. 210). He believed humans have an innate sense of what will help or hurt their ability to actualize themselves.

According to Rogers (1959), humans develop a sense of self within their early relationships. At first, humans (neonates) experience all relationships as unitary (i.e., no perception of a separate "I"). Over time, they move toward gradual discrimination of what is "me" and "not me." This differentiation of self occurs through interactions between the child and parents or other caregivers, and those interactions bring about several important elements in his theory. For example, children become aware that their own self-value changes as a result of regard and acceptance of others, which eventually they realize is contingent on meeting others' moral and

performance expectations. According to Rogers' theory, the need for positive regard is sufficiently strong that children invariably sacrifice congruence with the "organismic valuing process" and internalize and seek alignment with externally imposed conditions of worth (i.e., values within a community). Rogers regards this process as "a natural and tragic development" (p. 226).

Self Psychology

A third theory we integrate into our account of perfectionism as self-regulation comes from Kohut's self psychology. According to Kohut and Wolf (1978), the ways in which children's needs are met by parents play a crucial role in the cohesiveness of the child's self-development and in the management of self-esteem. Children develop a cohesive self when parents are *sufficiently* aware of and responsive to their needs for mirroring and idealizing. Namely, children need to experience admiration (empathic mirroring) of their grandiosity and perfection by parent figures. Parents "promote cohesion of the child's fragile sense of self by remaining sufficiently in tune with and giving attention to the child and by taking delight in its proud displays" (Patton & Robbins, 1982, p. 878). They also need to experience parent figures as all-powerful objects for idealization combined with a sense that the child is a part of the idealized parent. As Patton and Robbins explain, "this self-object is constructed in terms of the child and the powerful parent as one and the same" (p. 879).

Pertinent to this chapter, Kohut and Wolf (1978) posit that a crucial part of development is learning to deal with mild disruptions in one's need for admiration and idealization from parents. These disruptions allow the child opportunities to self-soothe and otherwise shore up a sense of self that might periodically need to withstand the absence of otherwise good-enough parenting. When grandiose needs are reasonably met, children develop assertiveness, healthy expression of ambitions, realistic admiration and expectations of others, and a clear sense of goals. Adequate self-development ostensibly is reflected in healthy regulation of self-esteem, especially during stressful or otherwise threatening situations. In contrast, children who do not experience reasonable empathic resonance from parents have limited capacity to manage self-esteem as adults. For example, they may expect others to admire them, feel shame and embarrassment easily (Patton & Robbins, 1982), or respond aggressively to critical feedback or other ego threats (Bushman & Baumeister, 1998). Thus, people who had unavailable or unsuitable targets for idealization continue to seek out others or ideas (religious conversions, political movements) to provide caretaking functions that were absent or disappointed in parent–child interactions.

Conceptual Synthesis

These different and richly descriptive literatures on attachment and self-development provide a means for understanding early origins of perfectionism as

well as its development and maintenance over time. Parents who provide their children with dependable, generally consistent relationships that are clear and reasonable regarding expectations, who encourage performance but do not make their love or positive attention contingent on performance, and who respond to their children and their efforts in supportive and encouraging ways, are likely to help children develop high but realistic standards and corresponding views of themselves as worthy and confident, and views of others as trustworthy and responsible (Sorotzkin, 1998). In contrast, maladaptive perfectionistic characteristics are likely to emerge when parents are inconsistent or unclear with expectations, or clear that their expectations will never be met. In such environments, how children perform seems to matter too much or not at all, which overshadows any hint of inherent relational or intrinsic value a child might long for. Children of such parents may learn to emphasize the importance of their performance over and above their emotional needs. Being perfect and discounting or suppressing emotional needs emerge as an unfortunate adaptation required to maintain recognition from parents or avoid critical or punitive parental responses (Cassidy, 1994). As we later argue, insecure parent–child attachment bonds and corresponding parental behaviors leave children with an impaired value system (i.e., internalized values and ability to regulate behavior to gain a sense of integrity) and an unfortunate foundation for self-critical perfectionism.

Empirical Evidence Linking Attachment with Perfectionism

Conceptually, it might be easy to imagine how perfectionism could emerge as a way for children to self-soothe in systems that have few or unclear expectations or that involve unrelentingly demanding expectations. Demonstrating those causal relationships empirically, however, requires reaching a rather high methodological bar.

Ample evidence points to a correlation between perfectionism with attachment and parenting behaviors. For example, Morris and Lomax (2014) conducted a recent review of childhood perfectionism and concluded that there was strong evidence linking "pushy" parenting (e.g., overprotection from mistakes, intrusive parenting to push children to achieve at certain levels) and perfectionistic concerns in children (e.g., Kenney-Benson & Pomerantz, 2005; Mitchell, Newall, Broeren, & Hudson, 2013). Two recent studies have focused on perfectionistic tendencies in children (Affrunti, Gramszlo, & Woodruff-Borden, 2016; Affrunti & Woodruff-Borden, 2015). During achievement and social tasks with parents and children (ages 3 to 12), parent perfectionism correlated moderately and positively with over-controlling behavior during the task, which in turn correlated with child anxiety (Affrunti & Woodruff-Borden, 2015). Although child perfectionism was not directly measured, anxiety during performance tasks is often an indicator of perfectionistic concerns in children. For example, in Affrunti et al.'s (2016) study of parents and children (ages 7 to 13), child-reported perfectionistic concerns (but not strivings) correlated moderately with parent-reported behavioral indicators of

the child's emotional control (e.g., overreacting, outbursts) and with child-reported worry. These studies focused on a reasonable age range to examine the development of perfectionism, but because they did not separate parenting behavior and perfectionism in time, the causal direction of the relationship is ambiguous.

In this regard, we have several studies to evaluate the ideas of our chapter. Herman, Trotter, Reinke, and Ialongo (2011) used parenting variables from first grade (e.g., monitoring, poor discipline, and specific praise) to predict perfectionism in sixth grade. Perfectionism as the outcome involved four latent profiles: critical (maladaptive: high strivings, high concerns), non-critical (adaptive: high strivings, low concerns), non-striving (extremely low strivings), and non-perfectionists (low strivings, low concerns). Only one parenting variable predicted differences in perfectionism: The non-critical (adaptive) group had experienced more specific praise five years earlier compared with the non-striving group.

In another study also spanning five years, Hong et al. (2017) studied children beginning at age 7 with the measurement of multiple predictors (e.g., child temperament, parenting behavior during a problem-solving task, socio-economic status [SES], cognitive abilities). Follow-ups—conducted at ages 8, 9, and 11—included two measures of perfectionistic concerns. Results identified three latent classes with different growth trajectories: (a) high self-criticism that increased over time, (b) high self-criticism that decreased over time, and (c) low self-criticism that increased over time. Parent behavior but not temperament variables predicted class membership. Specifically, relative to the third class, children in the first two classes had more intrusive parents who tried to help their child with the problem-solving task even though children gave no signs of distress, confusion, or difficulty. Compared with the other classes, children in the third class had parents who were more likely to use negative control behaviors (e.g., harsh punishment or ignoring).

Cultural or contextual variables may explain why one study (Hong et al., 2017) found that parenting practices influenced subsequent patterns of change in perfectionism but the other did not (Herman et al., 2011). The studies focused on different samples, with Hong et al. sampling middle-class children in Singapore, and Herman et al. sampling low-income Black children in the United States. This suggestion is consistent with results from another study in which parent perfectionism correlated strongly with child perfectionism in White, but not in Black families (Rice, Tucker, & Desmond, 2008). Clarifying how various cultural factors affect the relationship between parenting behavior and the development of perfectionism will require a series of programmatic studies.

In addition to these highly rigorous longitudinal studies, we can also draw some evidence from retrospective studies in which adolescents and parents rate the child's current perfectionism and other variables during the child's formative years. Such retrospective methods have known limitations, such as potential memory bias based on current state of mind or for parenting practices to change over time. Despite those limitations, these studies have consistently demonstrated moderate correlations between adolescent perfectionism and retrospective ratings of parenting variables. For example, several studies linked perfectionism with authoritarian

parenting (e.g., Gong, Fletcher, & Bolin, 2015; Speirs Neumeister & Finch, 2006; cf. Hibbard & Walton, 2014).

We can also draw indirect evidence for the link between parenting behavior and perfectionism in children from studies examining the relationship between perfectionism in parents and perfectionism in their children. These studies have generally reported a moderate, positive correlation between parents and children, with some studies finding stronger effects for mother than father perfectionism (Frost, Lahart, & Rosenblate, 1991; Soenens, Elliot, et al., 2005) and others finding evidence that the patterns of transmission might be gender-specific (Vieth & Trull, 1999). In different studies of Dutch samples, Soenens and colleagues (Soenens, Elliot, et al., 2005; Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005) found that parents with high levels of perfectionistic concerns were likely to be psychologically controlling, which in turn was associated with their late-adolescent daughters' perfectionistic concerns. More adaptive perfectionism (perfectionistic strivings controlling for perfectionistic concerns) was directly associated with daughters' levels of perfectionistic striving. Soenens, Vansteenkiste, et al. (2005) also found that lack of parental responsiveness (i.e., lack of positivity and perceived warmth) was associated with perfectionistic concerns among adolescents. In a longitudinal extension of their earlier research, Soenens et al. (2008) found that parental psychological control significantly predicted adolescent perfectionistic concerns a year later, though effects were stronger for adolescents' reports on their parents than parents' self-reports.

Summary

Taken together, parenting behaviors (e.g., authoritarian parenting, attunement, responsiveness, intrusiveness, control, and flexibility) tend to correlate (and in a few studies predict) the development of perfectionistic characteristics among children, adolescents, and young adults. There are two possible moderators worth exploring in future work and perhaps meta-analyses. First, the relationship seemed stronger and more consistent for perfectionistic concerns rather than strivings. Second, race and SES seemed to moderate the relationship between parenting and perfectionism in children. This relationship was most stable in European or European American samples, and to some extent Asian samples; however, it showed greater variability in African American, male, or low SES samples. Thus, more work is needed to clarify how cultural differences may influence the development of perfectionism.

Given that perfectionism involves a value system linking self-worth and achievement, it seems worth contextualizing the results of our review on parenting behavior and perfectionism within the broader literature on the intergenerational transmission of values. Not surprisingly, there is a strong connection between parent values and the social attitudes and values adopted by their children (e.g., Glass, Bengtson, & Dunham, 1986; Miller & Glass, 1989). For example, there is impressive longitudinal evidence of intergenerational transmission of religious

beliefs, with stronger linkages emerging as a function of quality of early parent–child relationships (Min, Silverstein, & Lendon, 2012). However, although effect sizes for religious belief tend to be sizable (r = .42), effect sizes for other domains, such as achievement values (r = .22), tend to be more moderate (Grønhøj & Thøgersen, 2009) and comparable in size with some reported associations between parent and child perfectionism (e.g., Soenens, Elliot, et al., 2005).

The intergenerational transmission or continuity of attachment (Besser & Priel, 2005) also is implicated in the connection between attachment and perfectionism that extends into late adolescence and young adulthood. The general patterns of association seem to hold whether attachment is measured as the perceived bond with parents (Rice & Mirzadeh, 2000) or as adult attachment orientations based on bonds with romantic partners are the focus of measurement (Wei, Mallinckrodt, Russell, & Abraham, 2004).

Perfectionism as Predictor of Stress, Emotion Regulation, and Outcomes

Stress Generation and Stress Enhancement

Two complementary conceptual models can serve as foundations for making the next connection in understanding how perfectionism might trigger emotion regulatory responses or tendencies. Both models address stress, stressors, and stress reactivity. Stressors can be understood as challenges to homeostatic or allostatic balance. Humans, perhaps especially perfectionistic ones, have the capacity to not only experience physical or social threats as acutely stressful, but also can generate anticipatory threat and chronic stress in rather unique ways compared with other species (Sapolsky, 2004). Acute stress for a perfectionist might be a pop-quiz or other performance-related activity whereas chronic stress could be experienced by regularly thinking negative, self-defeating thoughts that overemphasize mistakes and perceived inadequacies. However, as research persistently shows, all perfectionists are not the same, and some important components must be in place to determine whether an environmental or internal experience is stressful.

We rely on Lazarus and Folkman's (1984) transactional model of stress as a major conceptual foundation because of its explanatory power involving individual differences in perception of a stressor and coping responses to that stressor. According to this model, how much stress individuals experience depends on two appraisals. First, individuals appraise the degree to which the stressor is threatening or challenging (primary appraisal). Second, they appraise the degree to which they have coping resources to psychologically manage the experience of threat (secondary appraisal). Thus, *perceived* stress is fundamental to this model, as are characteristics of the person that are intimately tied to stress appraisals (Bibbey, Carroll, Roseboom, Phillips, & de Rooij, 2013).

Bolger and Zuckerman (1995) described how personality characteristics can increase the likelihood of exposure to stressors ("differential exposure model"), can

affect reactivity to stressors ("differential reactivity model"), or both ("differential exposure/reactivity model"). Consistent with their conceptualization, hypotheses can be formed regarding how perfectionism may influence stress and the need for emotion regulation. The *stress-generation hypothesis* positions self-critical perfectionism as a precursor to experiences of subsequent stress (Hewitt & Flett, 2002). This hypothesis predicts that self-critical perfectionists create their stress, increase their likelihood of exposure to stressors, or are simply more likely to appraise experiences as stressful by, for example, putting themselves in high-pressure situations and negatively evaluating their performance in such situations. By contrast, in the *stress-enhancement hypothesis*, self-critical perfectionism intensifies the effects that stress has on eventual outcomes. Stress enhancement is consistent with a diathesis-stress model that positions perfectionism as a moderator of how stress affects an outcome. Consistent with the MacArthur approach to defining moderators (Chmura Kraemer, Kiernan, Essex, & Kupfer, 2008), in order for perfectionism to moderate stress, it should temporally precede the experience or appraisal of stress. Bolger and Zuckerman (1995) also position stress as a mediator through which personality (perfectionism) might lead to later outcomes. The temporal position for a stress-as-a-mediator model is also consistent with the MacArthur approach (Chmura Kraemer et al., 2008).

Emotion Regulation

Stressful experiences produce cognitive and emotional reactions that have implications for the eventual effects of perfectionism on outcomes such as goals, performance, and mental health (Gross & John, 2003; Koole, 2009). Emotion regulation strategies can be considered features of characteristic adaptations, which are specific ways that individuals learn to react to their environment based on their own configuration of personality traits (Gross, 2008; McAdams & Pals, 2007). Nolen-Hoeksema (2012) referred to emotion regulation as "the range of activities that allow an individual to monitor, evaluate, and modify the nature and course of an emotional response, in order to pursue his or her goals and appropriately respond to environmental demands" (p. 163). Drawing upon Gross and Thompson's (2007) emotion regulation process model, our focus is on major strategies identified in the emotion regulation literature (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2010; Kohl, Rief, & Glombiewski, 2012; Webb, Miles, & Sheeran, 2012) and their links to perfectionism.

Emotion Regulation Process Model

We draw on the emotion regulation process model (Gross & Thompson, 2007) to consider how certain emotion regulation strategies might be more effective at different phases, given that perfectionism both generates and enhances stress. According to this model, emotion regulation strategies can be differentiated according to whether an emotional response is fully generated or not.

Antecedent-focused strategies, such as selecting or modifying situations, shifting attention, or reappraising, occur before a substantial emotional response has occurred. Response-focused strategies, such as suppression, occur after a substantial emotional response has occurred and are implemented to modulate the experience or expression of emotion.

Aldao et al.'s (2010) review organized emotion regulation according to strategies identified as adaptive (e.g., reappraisal) or maladaptive (e.g., rumination). Rumination—or more specifically, a "brooding" form of rumination (Treynor, Gonzalez, & Nolen-Hoeksema, 2003)—refers to excessive and persistent self-focused attention on negative emotions without engaging in problem-solving to reduce or redirect those emotions. As Nolen-Hoeksema (2012) pointed out, rumination is not simply a failure to down-regulate negative affect, but also a perseverative wallowing in the causes, consequences, and experience of negative affect without resolution. Rumination is a robust correlate of maladaptive perfectionism (O'Connor, O'Connor, & Marshall, 2007), and this tendency to ruminate about failures may explain why perfectionism causes and amplifies stress.

Attachment, Perfectionism, Stress, and Emotion Regulation

There is not only an extensive literature linking attachment to stress and stress reactivity (Diamond, 2015), but there are also several studies connecting attachment with contemporary formulations of emotion regulation and perfectionism. For example, Shaver and Mikulincer (2007) found that individuals with higher levels of attachment anxiety were likely to amplify distress through appraising events as catastrophic or ruminating. Caldwell and Shaver (2012) showed that attachment anxiety, along with rumination, predicted higher levels of negative affect, decreased efforts at mood repair, and thus lower levels of ego-resiliency in the face of challenging situational demands. By contrast, attachment-related avoidance, coupled with emotional suppression, was related to diminished clarity and repair of moods, which similarly predicted lower ego-resiliency.

Likewise, self-critical perfectionism predicts various forms of stress (Dunkley, Solomon-Krakus, & Moroz, 2016), including heightened (Wirtz et al., 2007) or blunted (Richardson, Rice, & Devine, 2014) psychological stress responsiveness consistent with chronic stress. Perfectionistic concerns also lead to problematic cognitive and emotional regulation responses (Aldea & Rice, 2006; Rice, Vergara, & Aldea, 2006) likely to prolong or worsen, rather than reduce or control, stress. Consistent with Hamachek's (1978) differentiation of normal from neurotic perfectionism, however, are a set of perfectionistic characteristics aligned with secure attachment, healthy emotion regulation and stress responsiveness, and a general pattern of resilient adjustment and well-being. For example, Richardson et al. (2014) found support for a latent profile of adaptive perfectionists who, compared with other groups, had higher standards and lower self-criticism, used more adaptive coping strategies (i.e., more reappraisal and less suppression), and showed moderate levels of stress reactivity. Aldea and Rice (2006) found that high personal

performance standards (controlling for self-criticism) were predictive of healthier psychological functioning, with that effect mediated by positive emotional regulation. These results are also consistent with other findings that perfectionists with high standards and low self-criticism tend to have secure rather than anxious bonds with others (Rice & Mirzadeh, 2000; Wei et al., 2004).

Binding Ties

High personal standards and expectations may develop when caregivers value or require performance. For some, self-criticism may become intertwined with standards, resulting in a toxic combination of needing to perform at a high level and never really gaining a sense of satisfaction that the level has been attained. In contrast, the consequences of high perfectionistic strivings without lurking self-criticism appear to be consistently positive or at worse, benign, in terms of numerous academic, emotional, interpersonal, and occupational outcomes. Thus, it makes sense why people maintain this type of perfectionism—because it works. What is less clear is what maintains maladaptive perfectionism. Why do those with high standards blended with self-criticism hold on so dearly to what seem to be a self-punishing, discouraging, and depressogenic combination of personality factors? Although maintaining a punishing style of perfectionism seems highly costly to the individual, we suspect that many individuals resist changing this maladaptive form of perfectionism because it would result in some other form of substantial loss, such as losing or disrupting an important relational connection. Because defending against such loss is likely to thwart change efforts, we suggest the need for creative preventive, secondary, and tertiary interventions that circumvent resistance and retain the benefits of perfectionistic strivings, but weaken self-criticism.

In the development of depth-oriented brief therapy (now called coherence therapy), Ecker and Hulley (2000) explained why it can be "compellingly necessary" to have a problem like maladaptive perfectionism "despite the suffering or trouble incurred by having it" (p. 162). The "depth" in their approach focused on helping clients achieve goals through a new understanding of the "emotional truth" of a problem. What makes their approach so different from many others is that they eschewed direct efforts to counteract or correct the symptom or problem. Rather than, for example, helping maladaptive perfectionists monitor, challenge, and change irrational thoughts, Ecker and Hulley advocated a process of experiential discovery that included an emphasis on understanding the adaptive necessity of the seemingly maladaptive issue for the individual. That level of understanding, they argued, was crucial because a deeper acknowledgment of the symptom's function would then allow for more conscious integration, and then transformation, of the symptom or problem. As is probably evident, coherence therapy is consistent with many of the emotion-focused, strengths-based, and humanistic counseling traditions (e.g., Greenberg, 2014). Coherence therapy emphasizes models of growth and development over pathology through respecting the healing capacity of the individual over his or her deficits or dysfunctions.

Based on the theories we have considered in this chapter (i.e., attachment theory, person-centered theory, and self psychology), maladaptive perfectionism may serve the adaptive purpose of helping individuals maintain a relationship bond with attachment figures who—from the child's perspective, and for a variety of reasons—are difficult to consistently please. Seeking a consistent and stable sense of positive connection, the child develops a habit of adopting very high standards and a rigid style of evaluating their current progress toward meeting those standards. From attachment theory, maladaptive perfectionism results in retaining allegiance to self-critical, negative, internalized working models of the self and others, and in that way, perpetuates a relational connection with those who contributed to the formation of those internal models. From humanistic theory and person-centered therapy, continuing to adhere to conditions of worth despite how unworthy those conditions make one feel is likely motivated by the same strong need for positive regard that initiated the suspension of attending to internal standards of self-acceptance in favor of external, contingent standards of others. From self psychology, maladaptive perfectionism may emerge through the combination of non-empathic parents who were excessively critical and poorly suited for idealization (Rice & Dellwo, 2002). Thus, all three theories converge on the idea that maladaptive perfectionism helps individuals self-validate through desperately seeking to achieve relentlessly high standards.

Thus, some perfectionists may have strong adaptive needs tied to self–other relational dynamics resulting in them wanting to preserve what otherwise seems like a maladaptive combination of strivings and self-criticism. It is striking, for instance, that if clients choose to change their standards, they are more likely to set standards *higher* following failure (Egan, Piek, Dyck, Rees, & Hagger, 2013). Obviously, such approaches are risky. Performance-related disappointments and failures (real or perceived) are inevitable, and adjusting expectations to be even higher after failure seems likely to perpetuate despair. What makes having high standards maladaptive for some may involve a combination of vulnerabilities, including (a) rigid reliance on an externally-mandated rather than self-generated value system, (b) chronic shame emanating from a vulnerable self-system that then exacerbates self-criticism, (c) limited or dysfunctional emotion regulatory resources, (d) impoverished social connections, and (e) a less diversified strategy for performance and performance-related reactivity. Thus, the theories we reviewed converge on the idea that what may help individuals develop an adaptive form of perfectionism may involve virtues such as forgiveness of self and others, tolerance of failure and imperfection, the ability to scaffold goals after failure (i.e., to set a series of achievable goals that build on each other), an ability to disentangle self-worth from performance or productivity, high-quality relationships that are reciprocally supportive, and a diversified portfolio of effective strategies for reactivity and regulation in response to disappointment.

Research Agenda

We recently concluded that emotion up- and down-regulation approaches may be a primary mechanism linking perfectionism to various outcomes, and made several recommendations for studies along those lines (Rice et al., 2016). Several of those ideas seem appropriate to raise in future research addressing perfectionism and emotion regulation, but we should also acknowledge that complex interdisciplinary and multi-method studies already have been done or are underway, so our recommendations are also partly a commentary on the present.

Extending measurement of perfectionism beyond self-report scales of trait-like qualities seems worthy to pursue. The fact that emotional states can affect self-reports (Bagby, Buis, & Nicholson, 1995) poses a particular challenge for studies of personality and emotion regulation. Thus, we strongly recommend future studies integrate other methods, including informant reports (Connelly & Ones, 2010), implicit measures (De Cuyper, Pieters, Claes, Vandromme, & Hermans, 2013), and markers of cardiovascular and neuroendocrine responsiveness (Appleton & Kubzansky, 2014) or coping process measures that can clarify how types of perfectionists appraise and attempt to cope with failures differently.

Another important direction for future research involves exploring how diversity-related variables sometimes moderate the relationship between perfectionism and outcomes (DiBartolo & Rendón, 2012). Given our theorizing that perfectionism may arise through how individuals learn to stay connected to attachment figures and internalized cultural values, it is important to understand how this process may vary in societies with different values associated with perfectionistic strivings and concerns. Some cultures value and normalize self-criticism as important for growth. Zane and Song (2007) commented that "research in Japan and other East Asian societies indicates that … the basic underlying motivation is to be self-critical and to make continual efforts to improve oneself and to reduce one's shortcomings" (p. 295; see also Lo, Helwig, Chen, Ohashi, & Cheng, 2011). In East Asian countries, it is possible that what strongly distinguishes maladaptive perfectionism in the United States and other Western countries (i.e., variability in self-criticism) may involve other constructs that are associated with chronic shame in these cultures.

Comments and recommendations regarding interventions for (maladaptive) perfectionists often focus on psychotherapy or self-help and infrequently advocate preventive approaches (cf. Chapter 13). To be sure, there is a growing literature supporting psychotherapeutic approaches to reducing self-critical perfectionism and reducing psychological problems (Egan, Wade, Shafran, & Antony, 2014; see also Chapters 14 and 15). Nevertheless, there is also reason for being guarded about how much psychotherapy can do for the most self-critical perfectionists. Many maladaptive perfectionists do not view their self-criticism as a problem (e.g., Stoeber & Hotham, 2013), and they may resist efforts to change perfectionistic tendencies because these tendencies play crucial roles in maintaining bonds with others and shoring up personal integrity. Thus, until we know more, we advise

exploring a range of alternative approaches for thinking about how to intervene with maladaptive perfectionists.

Several variations to traditional intervention have shown promise. Several teams have augmented treatment studies with self-help and web-based resources. For example, Wimberley, Mintz, and Suh (2016) found support for a mindfulness-based bibliotherapy approach to reducing self-critical perfectionism and perceived stress that left personal standards unchanged. Egan et al. (2014) reviewed other promising approaches, such as guided or pure self-help, and online administration of interventions, with generally positive results supporting their use. Although relatively small sample sizes and other methodological limitations exist in these and related studies, overall, this is an exciting and promising area of research making creative use of technology and other modalities (see Kazdin & Blase, 2011), which may ultimately expand access to treatment options and benefits for perfectionists.

Going beyond these psychotherapy or self-help variations, some alternative approaches specifically address several major issues experienced by the most maladaptive of perfectionists: stress, ill health, academic or other performance concerns, and problems with social belonging. So-called "wise" interventions (Walton, 2014) make use of theory and research to bring about strong, positive effects while using relatively few but creative and efficient resources. Some examples include values or self-affirmation to reduce stress (Sherman, 2013; Taylor & Walton, 2011), altering implicit personal theories of personality (Yeager et al., 2014), and enhancing social belonging through "saying-is-believing" (Walton & Cohen, 2011). Because of the centrality of stress and emotion regulation in the lives of self-critical perfectionists—and because self-affirmation seemingly runs counter to how highly self-critical, maladaptive perfectionists are likely to view themselves—we provide more detail about values affirmation interventions.

Given the vulnerable sense of self experienced by maladaptive perfectionists, self-affirmation theory (Cohen & Sherman, 2014) aligns squarely with the theories of perfectionism we describe earlier. For example, a key element in self-affirmation theory is that people are motivated to maintain self-integrity, "a sense of global efficacy, an image of oneself as able to control important adaptive and moral outcomes in one's life. Threats to this image evoke psychological threat" (p. 336). Furthermore, people need "to maintain a global narrative of oneself as a moral and adaptive actor … to be competent enough in a constellation of domains to feel that one is a good person, moral and adaptive … not to esteem or praise oneself but rather to act in ways worthy of esteem or praise" (ibid.). Self-affirmation interventions are based on subtle techniques designed to activate inherent motivations to maintain perceived self-worth and self-integrity (Cohen & Sherman, 2014). Thus, these interventions can reduce appraisals of threat (primary appraisals) as well as perceived resources for coping with stress (secondary appraisal).

Evidence supports self-affirmation interventions as facilitating better neuroendocrine or cardiovascular stress reactivity in stressful situations (Creswell et al., 2005; Tang & Schmeichel, 2015). For example, Sherman, Bunyan, Creswell, and Jaremka (2009) found that, compared with nonaffirmed students, students who

had gone through an affirmation procedure earlier in the semester had less physiological stress reactivity on the morning of an exam. As an important implication regarding perfectionism, the positive effects of self-affirmation in that study were most conspicuous among students with the greatest concerns about consequences they might experience as a result of performing poorly on the exam.

The common social-disconnection difficulties of self-critical perfectionists might be improved through social belonging interventions (e.g., Walton & Cohen, 2011), as might related issues of stress and threat. Participants in social belonging interventions come to interpret their stressful experiences as common (shared connection with others) and temporary rather than pessimistically chronic. For at-risk groups, such interventions have been credited with positive health and performance outcomes (see Walton, 2014, for a comprehensive summary). Other intervention studies could examine the effects of procedures for changing beliefs about personality. Such an intervention might help self-critical perfectionists shift their understanding of personality and adopt a more flexible and ultimately more adaptive view of self and others. Yeager et al. (2014) have demonstrated that such an intervention pays off in terms of lower stress, and better health and academic performance.

Thus, future research in the area of perfectionism and emotion regulation interventions might examine interventions being developed and supported in areas other than what traditionally might be considered counseling or clinical psychology. These approaches have the potential to benefit larger groups while using dramatically fewer resources than traditional psychotherapy. Theory and practice in the area of perfectionism seem likely to benefit regardless of the outcomes produced by such studies. For example, if self-critical perfectionists do not benefit from such interventions in the ways that others do, then an important moderator of the effectiveness of these interventions will have been identified and variations of those approaches might be in order. Further, values affirmation or implicit personality interventions may work for younger but not older perfectionists, or perhaps "wise" interventions need to be paired with other approaches in order to be helpful (e.g., brief psychotherapy, guided self-help, group therapy). If, on the other hand, such interventions prove effective, then efficient and easy to implement methods will be at the disposal of those interested in addressing perfectionism and the related emotion regulation difficulties of the most impaired perfectionists.

Note

1 Originally called "high standards."

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PART IV

Prevention and Treatment

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13

PREVENTION OF PERFECTIONISM IN YOUTH

Tracey D. Wade

Overview

This chapter focuses on the current and future directions for universal prevention targeting unhelpful perfectionism in youth (children and adolescents before the age of 18 years). Universal approaches are those delivered to all youth, regardless of risk status, typically in classroom settings. Unhelpful perfectionism is broadly defined as the types, dimensions, and aspects of perfectionism that lead to adverse outcomes in youth. The following questions will be addressed: (a) What do we need to know about perfectionism in youth to develop effective preventions? (b) How is perfectionism defined in children and adolescents? (c) What models of perfectionism have been tested in youth? (d) What studies inform our understanding of whether unhelpful perfectionism can be prevented? And (e) what specific recommendations does this suggest for future prevention?

What Do We Need to Know About Perfectionism in Youth to Develop Effective Preventions?

Whenever one is thinking about developing interventions, whether prevention or treatment, it is useful to start at the point of having a clear definition of the primary construct that one wants to change, along with an associated measure, as well as having a theoretical model that can parsimoniously inform which targets of an intervention are likely to effect the maximal process of change in the primary variable and any resultant outcomes (Craig et al., 2008, 2013; Medical Research Council, 2000). The process of testing the relevant theory, developing an intervention suggested by this theory, and evaluating the efficacy and long-term effectiveness of the intervention, can then inform revisions of the model.

On the one hand, all of these processes could be considered to be at an early stage in research on child and adolescent perfectionism (Morris & Lomax, 2014), thereby limiting the development of effective prevention strategies. To date, operationalization of unhelpful perfectionism in child-appropriate questionnaires has resulted in a relatively diverse range of constructs (cf. Table 13.1). Additionally, there is some debate as to the inclusion of self-oriented perfectionism (i.e., setting very high personal standards) in the category of unhelpful perfectionism. There are no youth-specific models, and very few interventions have been conducted with youth that can be used to inform models. On the other hand, the importance of proactively designing and implementing school-based preventive programs with specific components designed to enhance resilience and reduce levels of risk among young perfectionists has been highlighted as a priority (Flett & Hewitt, 2014). The purpose of this chapter is to summarize our knowledge relating to developing effective interventions in youth, and to consider what is needed in order to move forward in the development of effective universal prevention approaches for perfectionism in youth.

How is Perfectionism Defined in Children and Adolescents?

With youth, as with adults, there is a suggestion that perfectionism can be both helpful and unhelpful (Stoeber & Otto, 2006). In adults, two higher-order factors have been identified that were originally labeled "positive striving" and "maladaptive evaluation concerns" (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993), but are now commonly called "personal standards perfectionism" and "evaluative concerns perfectionism" respectively. The former is associated with healthy outcomes and the latter with unhealthy outcomes. Other manifestations of positive striving have been associated with positive outcomes in youth. For example, high standards—measured with the APS-R (see Table 13.1)—have been associated with better adjustment in adolescents (Rice, Ashby, & Gilman, 2011), personal standards and organization—measured with the FMPS (see Table 13.1)—have been associated with conscientiousness in sixth-grade children (Stumpf & Parker, 2000), and higher contingent self-esteem—measured with the AMPS (see Table 13.1)—has been associated with a more positive self-concept (Rice, Kubal, & Preusser, 2004). Evidence would suggest that the pursuit of excellence that has positive impact on self-esteem is not unhealthy, and cluster analyses in children and adolescents suggest that healthy perfectionism groups exist (Hawkins, Watt, & Sinclair, 2006; Parker, 1997; Rice et al., 2011). Such groups are typified by high scores on personal high standards but low scores on dimensions reflecting concern over mistakes, self-doubt, and discrepancy (i.e., the perception that personal high standards are not being met). In an interesting cross-sectional study of 576 adolescents (Damian, Stoeber, Negru, & Băban, 2014) using the 2 × 2 model of perfectionism (Gaudreau & Thompson, 2010) as analytic framework, four subgroups were identified from their levels of self-oriented perfectionism and socially prescribed perfectionism (i.e., perceiving that others have very high standards for oneself). Those adolescents

with high levels of self-oriented perfectionism (and low levels of socially prescribed perfectionism) showed the highest levels of positive affect and lowest levels of negative affect. Those adolescents with high levels of socially prescribed perfectionism (and low levels of self-oriented perfectionism) showed the lowest levels of positive affect and the highest levels of negative affect. Those with high levels of both types of perfectionism and non-perfectionists (low levels of self-oriented and socially prescribed perfectionism) had the second and third highest levels of positive affect respectively, whereas the former had high levels of negative affect and the latter had levels of negative affect comparable to the adolescents with high self-oriented perfectionism (and low levels of socially prescribed perfectionism).

However, there is debate in the literature as to the helpfulness of self-oriented perfectionism because it has been argued that self-oriented perfectionism is a vulnerability factor activated during times of stress and failure, and that this type of perfectionism is more costly than beneficial in most instances (Flett & Hewitt, 2014). Certainly, extreme levels of self-oriented perfectionism have several inherent features that limit its adaptiveness, including rigid and inflexible thinking and an excessive self-focus. The domain in which self-oriented perfectionism is expressed may also contribute to its maladaptiveness. For example, if it is expressed in the domain of body shape and weight, it may result in an eating disorder. Generally, we require a clearer differentiation between the functional pursuit of excellence and the dysfunctional pursuit of black-and-white, personally demanding high standards. This is an important piece of work to conduct if we are to develop effective prevention strategies with youth, as youth is a critical time when life goals are formulated and pursued. Any interventions that seek to lower standards are unlikely to be welcomed in school settings, and the goals of interventions should support the basic human motivations recognized in self-determination theory (Ryan & Deci, 2000) including competence, autonomy, and relatedness.

Definitions of unhelpful perfectionism have largely been formulated in the context of adult populations. Adults whose perfectionism leads to adverse outcomes have been described in a number of ways, for example, as people "whose standards are high beyond reach or reason, people who strain compulsively and unremittingly toward impossible goals and who measure their own worth entirely in terms of productivity and accomplishment" (Burns, 1980, p. 34); people having "high standards of performance which are accompanied by tendencies for overly critical evaluations of one's own behavior" (Frost et al., 1990, p. 450); or people having an "overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed standards" (Shafran, Cooper, & Fairburn, 2002, p. 778). Attention has also been paid to the unhelpful aspects of interpersonal dimensions of perfectionism, particularly socially prescribed perfectionism, which involves the perception that others demand high levels of performance from oneself (Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991). This type of perfectionism may be of particular relevance to youth who are more likely than adults to be influenced by expectations of parents, teachers, and peers. The role of self-criticism has also been highlighted, with the suggestion that it accounts for the impact of perfectionism on

maladjustment (Dunkley, Zuroff, & Blankstein, 2006). In summary, it appears that all definitions of unhelpful perfectionism in adults involve: (a) rigidly high standards (self-oriented and/or socially prescribed), (b) measuring self-worth entirely in terms of productivity and accomplishment, and (c) self-criticism when goals are not met.

In the absence of definitions of unhelpful perfectionism specific to youth, examination of measures of perfectionism suitable for children and adolescents can inform us of what have been considered important aspects of unhelpful perfectionism in this group. The measures of perfectionism which have been investigated with respect to validity and reliability in children or adolescents are summarized in Table 13.1. It is immediately apparent that a number of constructs have been defined as consisting of unhelpful perfectionism in youth, some of which overlap with the definitions provided in the preceding paragraph. These include the setting of very high, rigid, and all-or-nothing personal standards and the nonattainment of goals resulting in self-criticism, along with distress as a result of making errors, the need to appear perfect to others, low tolerance of display of imperfection and mistakes, perceiving others to have very high standards for oneself, the need for social approval, and the perception that personal high standards are not being met.

In a review of these measures, Morris and Lomax (2014) concluded that, whereas there is a range of tools for clinicians and researchers to choose from when assessing perfectionism in children, there were two limitations. First, for almost all of the measures, there were no validation studies or factor analyses published by independent authors (i.e., authors not involved in the construction of the measures), thus entertaining the possibility that the publications associated with these measures may have been subject to bias. Second, and of relevance to the issues explored in this chapter, the multiplicity of measures presents a problem when testing theories. Consequently, Morris and Lomax recommended that authors of the key measures collaborate to develop a single tool which can inform the development of models and interventions.

What Models of Perfectionism Have Been Tested in Youth?

Only one model examining perfectionism as a central construct has been tested in youth. This model—called the perfectionism social disconnection model (Hewitt, Flett, Sherry, & Caelian, 2006; see also Chapters 9 and 15)—originally focused on how perfectionism relates to suicidal outcomes and was tested by Roxborough et al. (2012) cross-sectionally in young adolescents (mean age = 12.9 years). Results showed that the relationships of socially prescribed perfectionism (measured with the CAPS; see Table 13.1) and perfectionistic self-presentation (measured with the PSPS-JR; see again Table 13.1) with outcomes related to suicide were mediated by experiences of social disconnection, as indicated by social hopelessness and being bullied. Of relevance to the elaboration of this model are findings showing that perceived parental expectations predicted increases in socially prescribed perfectionism over a seven- to nine-month period in a sample of adolescent

TABLE 13.1 Measures of Perfectionism Validated in Youth

Measure (authors)	*Original structure: Items, response scale, subscales*	*Tests of reliability and validity with youth*
Adaptive/Maladaptive Perfectionism Scale (AMPS; Rice & Preusser, 2002)	27 items rated on a 4-point scale: 1 (*really unlike me*) to 4 (*really like me*) (1) Sensitivity to Mistakes: distress as a result of making errors (2) Contingent Self-Esteem: based on meeting high standards (3) Compulsiveness: conscientiousness and organization (4) Need for Admiration: desire for recognition and admiration	Rice et al. (2004): In children aged 9–12 years, sensitivity to mistakes associated with decreased happiness and satisfaction, higher contingent self-esteem corresponded to more positive self-concept, compulsiveness and need for admiration were both significantly and inversely related to emotional stability. Specific patterns of results differed between boys and girls. Rice et al. (2007): Different factor structure in adolescents aged 12–16 years, three-factor solution omitting Contingent Self-Esteem items. Differences between boys and girls noted again (e.g., sensitivity to mistakes and compulsiveness accounted for significant variation in depression for girls, but not boys).
Almost Perfect Scale-Revised (APS-R; Slaney et al., 2001)	23 items rated on a 7-point scale: 1 (*strongly disagree*) to 7 (*strongly agree*) (1) High Standards: adaptive and healthy striving for high personal standards (2) Discrepancy: the perception that personal high standards are not being met (3) Order: measures preferences for order and organization (this subscale is rarely utilized)	Rice et al. (2011): In adolescents (mean age = 14.6 years), high standards were associated with better adjustment, and discrepancy was associated with psychological and academic difficulties.

TABLE 13.1 continued

Measure (authors)	*Original structure: Items, response scale, subscales*	*Tests of reliability and validity with youth*
Child–Adolescent Perfectionism Scale (CAPS; Flett et al., 2016)	22 items rated on 5-point scale: 1 (*False—not at all true of me*) to 5 (*Very true of me*) (1) Self-Oriented Perfectionism (SOP): setting very high personal standards, with nonattainment of goals leading to self-criticism (2) Socially Prescribed Perfectionism (SPP): perceiving that others have very high standards for oneself	McCreary et al. (2004) and O'Connor, Dixon, & Rasmussen (2009): Both studies (youth aged 11–12 and 15–16 years respectively) showed that a 14-item, three-factor structure was a better fit in which SPP emerged as a single factor, but SOP was better modelled as two factors, viz. SOP–striving (striving toward perfectionism) and SOP–critical (self-criticism). Invariant across gender and time, but boys reported setting higher self-standards (SOP-striving) than girls. SOP–striving associated with psychopathology in children and adolescents, including depression, anxiety, and disordered eating (Boone et al., 2010; Huggins et al., 2008; Mitchell et al., 2013; Soreni et al., 2014).
Children's Dysfunctional Attitudes Scale (CDAS; D'Alessandro & Abela, 2001), derived from the adult DAS (Beck et al., 1991)	40 items In children rated on a 4-point scale: 0 (*never true*) to 3 (*always true*) In adults rated on a 7-point scale: 1 (*totally disagree*) to 7 (*totally agree*)	Abela & Sullivan (2003) and D'Alessandro & Burton (2006): 40-item CDAS showed a one-factor solution derived from principal components analysis. McWhinnie et al. (2009): 15-item CDAS showed two-factor structure (self-critical perfectionism, personal standards perfectionism) in youth aged 6–14 years. The former factor was more strongly associated with depressive symptoms, maladaptive coping strategies, and impaired interpersonal relationships than the latter. Rogers et al. (2009): Using the DAS with 12- to 17-year-olds found a 26-item, two-factor solution (perfectionism, need for social approval). Invariant across gender and age. Both factors had moderate correlations with depression.

Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990)	35 items rated on a 5-point scale: 1 *(not at all true)* to 5 *(very true)* (1) Personal Standards (PS) (2) Concern Over Mistakes (CM) (3) Doubts About Actions (DA) (4) Parental Expectations (PE) (5) Parental Criticism (PC) (6) Organization (O) Subsequent studies found a four-factor structure combining CM with DA and PE with PC (e.g., Stöber, 1998).	Stumpf & Parker (2000): In sixth-grade children, two higher-order factors were identified across four lower-order factors (PS, CM + DA, PE + PC, and O). Healthy perfectionism (PS + O) correlated with conscientiousness and unhealthy perfectionism (CM + DA + PE + PC) correlated with low self-esteem. Hawkins et al. (2006): In 12- to 16-year-old girls, the same four lower-order factors emerged in an exploratory factor analysis applied to 33 items, but the suggestion of two higher-order factors (healthy vs. unhealthy perfectionism) was rejected.
Perfectionism Cognitions Inventory (PCI; Flett et al., 1998)	25 items rated on a 5-point scale: 0 (*not at all*) to 4 (*all of the time*)	Flett, Hewitt, et al. (2012): In older adolescents (15–19 years), the PCI showed a one-factor solution. PCI scores were significantly correlated with trait perfectionism, self-criticism, and dependency, and predicted unique variance in depression over and above trait personality measures and negative automatic thoughts.
Perfectionistic Self-Presentation Scale–Junior Form (PSPS-JR; Hewitt et al., 2011)	18 items rated on a 5-point scale: 1 (*not at all*) to 5 (*extremely*) (1) Perfectionistic Self-Promotion: the need to appear perfect to others (2) Nondisplay of Imperfection: behaviorally concealing one's imperfection (3) Nondisclosure of Imperfection: verbally concealing one's imperfection	Hewitt et al. (2011): All subscales positively correlated with psychopathy in youth aged 8–17 years. Flett, Coulter, and Hewitt (2012): Nondisclosure of imperfection had relatively low internal consistency in adolescents (mean age = 13.0 years). Significant associations between the subscales, trait perfectionism, and dysfunctional attitudes; and PSPS-JS subscales predicted unique variance in social anxiety over and above trait perfectionism.

Note: Measures are presented in alphabetical order.

high-school students aged 15–19 years (Damian, Stoeber, Negru, & Băban, 2013). No such effect was found for self-oriented perfectionism.

Three longitudinal studies have examined the way perfectionism works together with other variables to lead to higher levels of problems with body image and disordered eating, and can inform the development of models in this area. In young adolescent girls (mean age = 13.0 years), higher levels of personal standards and concern over mistakes (measured with the FMPS) have been shown to interact with higher levels of body dissatisfaction to result in significant increases in importance of weight and shape at 12-month follow-up (Boone, Soenens, & Luyten, 2014). Importance of weight and shape has been described as the "core psychopathology" of eating disorders (Cooper & Fairburn, 1993), forms part of the diagnostic criteria for both anorexia nervosa and bulimia nervosa, and predicts increased diagnostic threshold levels of disordered eating behaviors in adolescents (Wilksch & Wade, 2010).

A second study, of 12- to 15-year-old boys and girls (Boone, Vansteenkiste, Soenens, van der Kaap-Deeder, & Verstuyf, 2014), showed that higher levels of concern over mistakes (measured with the FMPS) resulted in higher levels of need frustration which, in turn, resulted in an increase of tendencies to think about, and engage in, bouts of uncontrollable overeating. Need frustration (measured with the Balanced Measure of Psychological Needs; Sheldon & Hilpert, 2012) refers to frustration of needs of competence, autonomy, and relatedness, that is, the constructs that are key to self-determination theory (Ryan & Deci, 2000). These needs are thought to be of relevance to self-critical perfectionists whose positive feelings after achievement are short-lived and replaced with a focus on the next demanding standard so that attainment of goals is often dismissed.

A third study examined longitudinal mediation pathways to the increased risk of developing disordered eating in young adolescents (Wade, Wilksch, Paxton, Byrne, & Austin, 2015). The relationship between higher levels of concern over mistakes at baseline (measured with the FMPS) and increased risk for disordered eating over time was mediated by higher levels of ineffectiveness. Risk for disordered eating was measured in two ways. The first was the importance of weight and shape, and the second was the cumulative total of weight and shape concern, depression, and negative comments about weight which have been shown to predict the development of full or subthreshold eating disorders in college women (Jacobi et al., 2011). Ineffectiveness (measured with the Eating Disorder Inventory; Garner, Olmstead, & Polivy, 1983)—which included items related to feelings of inadequacy, insecurity, worthlessness, and having no control over one's life—can be likened to the concept of low self-efficacy or difficulties with managing life and strong emotion. Perfectionistic concern over mistakes can result in feelings of ineffectiveness because of the perceived discrepancy between desired standards and abilities. Interestingly, when baseline personal standards (measured with the FMPS) were examined, there was no significant relationship with either levels of subsequent ineffectiveness or increases in the importance of weight and shape.

A clear limitation across these three studies is the lack of inclusion of the wide range of adjustment difficulties associated with perfectionism in children and adolescents. Self-oriented perfectionism has been associated with clinically diagnosed anxiety and has been shown to predict poorer treatment outcome (Mitchell, Newall, Broeren, & Hudson, 2013). Self-oriented perfectionism and socially prescribed perfectionism have been shown to predict depression and obsessive compulsive disorder (Huggins, Davis, Rooney, & Kane, 2008; Soreni et al., 2014). Socially prescribed perfectionism has been associated with suicide ideation (Boergers, Spirito, & Donaldson, 1998) and self-harm (O'Connor, Rasmussen, Miles, & Hawton, 2009). The combination of high levels of personal standards and high levels of concern over mistakes has been associated with eating disorder symptoms (Boone, Soenens, Braet, & Goossens, 2010). It should be noted, however, that self-oriented perfectionism has been associated with better goal progress in university students once the impact of self-criticism was removed (Powers, Koestner, Zuroff, Milyavskaya, & Gorin, 2011), which is of potential relevance to the development of a prevention approach for youth because such an approach should not curb adaptive goal processes. Therefore, the development of a parsimonious model predicting broad outcomes in order to improve the understanding and prevention of *unhelpful* perfectionism in youth is required.

What Studies Inform Our Understanding of Whether Unhelpful Perfectionism Can Be Prevented?

A recent overview of school-based interventions (Flett & Hewitt, 2014) came to the conclusion that the evidence to date supports the use of extensive, multifaceted interventions focused solely on perfectionism rather than multiple targets, to eliminate the negative impacts of perfectionism. This is consistent with the finding that cognitive-behavioral interventions targeting perfectionism in adult clinical populations have been shown to be associated with large decreases in perfectionism and moderate decreases in anxiety and depression (Lloyd, Schmidt, & Tchanturia, 2015; see also Chapter 14). Key themes for building resilience and decreasing perfectionism in classroom settings have been highlighted (Flett & Hewitt, 2014), including reducing the perceived importance of achieving impossible standards, seeing failures as pathways to success and growth, and promoting self-acceptance and self-compassion to counter self-criticism as well as providing stress inoculation and stress management. Table 13.2 summarizes the results of the three school-based intervention studies that have so far evaluated interventions focused directly on perfectionism.

The first of these studies (Wilksch, Durbridge, & Wade, 2008), using eight class lessons with 15-year-old girls, compared the efficacy of two interventions, one targeting perfectionism (Group 1) and the other media literacy (Group 2), compared to control classes (Group 3). At three-month follow-up, the perfectionism group showed a significant reduction in concern over mistakes (measured with the FMPS) compared to the other two groups. The perfectionism intervention group

TABLE 13.2 Three Studies: Contents of School-Based Programs Focused Directly on Perfectionism

Study	*Participants*	*Program content by lesson*
Wilksch et al. (2008)	N = 127 girls; M_{age} = 15.0 years (*SD* = 0.4)	(1) What is perfectionism? (2) What's bad about being too good (perfectionism vs. the pursuit of excellence)? (3) What leads to and maintains perfectionism? (4) How to challenge the thinking that feeds perfectionism (5) Changing behavior: rewards, incentives, and redefining success (6) Reframing failure: making mistakes is good (7) Coping with perfectionism (8) The final wrap-up (including class presentations and the take-home message)
Nehmy & Wade (2015)	*N* = 688 girls and boys; M_{age} = 14.9 years (*SD* = 1.0).	(1) Introduction, ground rules, motivational exercise; introduction to perfectionism; costs of unhelpful perfectionism; finding benefits in mistakes and failures (2) How thoughts affect feelings, identifying thinking errors associated with perfectionism, focus on flexible thinking (3) Media influences on perfectionism: becoming critical consumers of the media, ways in which the media promotes unrealistic ideals, the role of social media in promoting perfectionism, becoming a "social activist" against perfectionism (4) Learning about emotions: understanding their evolutionary function, identifying emotional urges, avoidance and exposure, identifying reactions and choosing helpful alternative behaviors (5) Learning helpful thinking: thought challenging, realistic and balanced thinking (6) Dealing with procrastination, over-commitment, negative thinking biases; gratitude (7) Stress and self-criticism; responding with self-compassion (8) Personal values and summary

Fairweather-Schmidt & Wade (2015)	N = 125 girls and boys; M_{age} = 11.6 years (SD = 0.8)	(1) Description of perfectionism (differentiating between perfectionism that causes problems from "trying your best"), the good and the bad aspects of mistakes, finishing with a message challenging overdependence of self-evaluation on the determined pursuit of personally demanding standards (e.g., "you are more than your achievements") (2) Developing skills related to dealing with self-criticism and paying attention to, and celebrating, successes, using brain-storming activities; presentation of media clips demonstrating perfectionistic behavior (and associated consequences), classroom discussion to talk through the benefits of making errors, and individual-oriented reflective exercises recollecting disappointing or success experiences in relation to personal goals or achievements

Note: Studies are presented in the sequence in which they are discussed in the text.

also had significantly lower levels of personal standards (FMPS) at follow-up compared to the media literacy intervention group. A particular focus of the two interventions was to decrease risk for disordered eating. Consequently, the participants in each group deemed to be at high risk for developing an eating disorder were also examined separately. Of the 17 high-risk participants in the perfectionism intervention group, over 50% had clinically significant reductions in both FMPS dimensions of perfectionism, weight and shape concern, and dieting at three-month follow-up. However, it should be noted that around 40% of the group experienced no change, or even experienced deterioration, with the high-risk participants only accounting for 7 to 14% of the subgroup.

The second study (Nehmy & Wade, 2015) examined a perfectionism intervention that resulted in significantly lower levels of self-critical perfectionism at 12-month follow-up after eight lessons with boys and girls (mean age = 14.9 years) compared to a control group. The focus of this intervention was on transdiagnostic outcomes, so it is of interest to note that the intervention group showed significantly lower levels of perfectionism, self-judgment, and negative affect than the control group at six-month follow-up. The presence of prevention effects were also examined in a subgroup of adolescents with low negative affect at baseline, corresponding to a "moderate" level of clinical symptoms on the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995). Those adolescents in the control group showed an increase in negative affect at six-month follow-up while the adolescents in the perfectionism intervention did not, which suggests that the intervention had a "prevention effect."

The third study (Fairweather-Schmidt & Wade, 2015) is so far the only universal program targeting perfectionism that has been evaluated in pre-adolescents. Given the absence of evaluation of programs with an explicit focus on perfectionism in children or pre-adolescents (Morris & Lomax, 2014), a "proof-of-principle" approach was taken to investigate whether results of an intervention with children (mean age = 11.6 years) supported further development and evaluation of perfectionism-focused interventions. Therefore, this pilot study explored the effectiveness of a two-lesson perfectionism intervention compared to a control condition at the end of the intervention and at one-month follow-up. Results showed that the group receiving the intervention reported significantly lower levels of self-oriented perfectionism-striving (measured with the CAPS; see O'Connor et al., 2009)—which reflects statements like "I try to be perfect in everything I do," "I want to be the best at everything I do," and "I always try for the top score in a test"—when compared to the control group at the end of the intervention and at one-month follow-up. No changes on the other CAPS subscales were detected, but there were lower levels of hyperactivity and emotional problems at the end of the intervention in the perfectionism group compared to the controls.

What can we conclude from the three studies? The first conclusion is that classroom interventions focused directly on perfectionism result in significantly lower levels of perfectionism in both children and adolescents compared to control

conditions. These effects seem to be medium- to long-term (i.e., ranging from one to 12 months) and affect the setting of very high and rigid personal standards as well as self-critical perfectionism. The second conclusion is that targeting perfectionism in children and adolescents shows a similar effect to treatment studies in adults with respect to short-term transdiagnostic outcomes (Lloyd et al., 2015), notably negative affect, negative self-judgment, weight and shape concern, dieting, and behavioral problems. The absence of longer-term effects in these types of outcomes may speak to the need for booster sessions in each year of school, tailored for specific developmental issues that are of relevance to the respective age group. The third conclusion is that, in the studies of adolescents, there appears to be a "sleeper effect" characterized by an initial absence of group differences at post-intervention after which significant differences between groups become apparent over time (Possel, Horn, Groen, & Hautzinger, 2004). The reasons for this effect are unclear, but the effect may indicate that the benefits of these interventions become apparent only once the adolescent has had a chance to use the new skills as situations of stress and challenge emerge.

Limitations in this handful of investigations of school-based interventions should be noted. All three studies were conducted by researchers from the same research group, and all three focused on similar themes and issues of relevance to perfectionism. None of the studies attempted to promote resilience and reduce perfectionism by engaging parents in the process as has been suggested (Flett & Hewitt, 2014), despite the body of research suggesting that parental factors are important in the formation of socially prescribed perfectionism and perfectionistic concern over mistakes and doubts about actions (Damian et al., 2013; Soenens et al., 2008). The challenges involved in engaging parents in school-based interventions are considerable, but could inform our understanding about the relative importance of the factors which are proposed to contribute to the development and maintenance of perfectionism (cf. Flett, Hewitt, Oliver, & Macdonald, 2002). It is also possible that a greater emphasis on equipping the child to stand up to socially prescribed perfectionism (as reflected in CAPS items like "there are people in my life who expect me to be perfect," "people expect more from me than I am able to give") from other people including parents, teachers, peers, and (social) media may result in stronger intervention effects. This suggestion is supported by the results of a longitudinal study of African American children from sixth to 12th grades (Herman, Wang, Trotter, Reinke, & Ialongo, 2013), with a mean age at study entry of 6.2 years. Over time, four developmental trajectories of socially prescribed perfectionism (measured with the CAPS) emerged representing consistently high, consistently low, increasing, or decreasing levels of perfectionism. By 12th grade, those children with consistently high levels of perfectionism had significantly higher levels of depression than those with low or decreasing levels, and those with increasing levels of perfectionism had significantly higher levels of depression than those with consistently low levels of perfectionism. Correspondingly, those with consistently high and increasing levels of perfectionism had significantly higher levels of anxiety than those with consistently low levels of perfectionism.

A further limitation of these studies to be addressed in future research is the failure to include measures related to resilience and well-being (in addition to measures of psychopathology and poor adjustment) in recognition of the general issue that the absence of poor adjustment does not necessarily indicate the presence of well-being. Studies including measures related to resilience and well-being would be particularly informative in helping us identify which measures of perfectionism in children are actually adaptive. Moreover, it would assist with the development of measures that capture functional pursuit of excellence and competence whose identification is necessary for refining our prevention programs so we can discuss what children and adolescents can safely aim for rather than what they should avoid.

What Specific Recommendations Does This Suggest for Future Prevention?

Consideration of the state of affairs in the prevention of unhelpful perfectionism in youth gives rise to a number of recommendations for future work and research. First, there is no need to generate further measures of perfectionism in youth, but rather a need for authors of the key measures to collaborate to develop a single tool which can inform the development of clinically useful models and interventions that can prevent unhelpful perfectionism in youth (Morris & Lomax, 2014), and thus impact on a wide range of transdiagnostic outcomes. This single tool could incorporate the dimensions identified as important across adult definitions of unhelpful perfectionism, including rigidly high standards (self-oriented and/or socially prescribed), the measurement of self-worth primarily in terms of productivity and accomplishment, and self-criticism when goals are not met. Such dimensions are already present across the variety of measures validated with youth (cf. Table 13.1).

Second, there needs to be agreement as to the choice of a measure of a functional need for pursuit of excellence and competence, that recognizes the damaging role of frustrated needs (Boone, Vansteenkiste, et al., 2014) and ineffectiveness (Wade et al., 2015). For example, self-determination theory (Ryan & Deci, 2000) has produced a number of measures related to competence, autonomy, and relatedness that may be of use in informing the differential impact of interventions for unhelpful perfectionism. Showing that we can decrease unhelpful perfectionism while not touching, or even improving, drives for competency and autonomy and goal-directed activity, will help justify the use of such interventions in school settings.

Third, further work is required on the development of a model that will inform optimal targets for classroom interventions focused on unhelpful perfectionism that relates to transdiagnostic outcomes, including goal pursuit and well-being, rather than outcomes in one domain such as eating disorders. Such a model will recognize different groups of perfectionism trajectories across adolescent development in order to make interventions relevant to all in the classroom. Such models can be tested and refined through evaluation of interventions. For example, it has been

suggested that "attempts to promote resilience and reduce perfectionism will engage parents in this process" (Flett & Hewitt, 2014, p. 908) in order to tackle socially prescribed perfectionism. Such an approach could be compared to one that does not involve parents, which can provide valuable information about the types of perfectionism that are most critical in promoting adverse outcomes.

Fourth, given the relationship between the prevention of perfectionism and the prevention of psychopathology more generally, it may be that we need to consider "rebranding" our perfectionism prevention interventions and their contents so they may be considered as generic interventions for well-being and resilience. This would also have the advantage of side-stepping confusion about the construct of perfectionism and its meaning in the eyes of the wider community. Furthermore, we need to address the question of whether the content of the perfectionism prevention interventions would be made more effective if integrated with other interventions, and aid in strengthening and maintaining the effects observed across the few studies so far conducted.

Finally, intervention studies in particular present good opportunities to investigate mediators and moderators (Kraemer, Wilson, Fairburn, & Agras, 2002) by examining for whom under what conditions an intervention is effective (moderators) and the mechanisms through which an intervention has its effect on outcome variables (mediators). As we conduct further intervention studies, as well as longitudinal correlational studies, opportunity should be taken to investigate mediating and moderating variables that will inform the development of theoretical and working models for an effective prevention of perfectionism in youth.

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14

COGNITIVE-BEHAVIORAL TREATMENT FOR PERFECTIONISM

Sarah J. Egan and Roz Shafran

Overview

This chapter reviews the literature relating to cognitive-behavioral therapy (CBT) for perfectionism. The core of treatment strategies being based on an individualized cognitive-behavioral formulation will be discussed. A brief outline of treatment strategies will be presented including examples from a case study. Furthermore, empirical studies supporting the efficacy of CBT for perfectionism are reviewed. Finally, directions for future research will be outlined for areas that have received little attention to date.

The Cognitive-Behavioral Model of Clinical Perfectionism

Personality-based approaches to the understanding of perfectionism have a long history but it was only relatively recently that a cognitive-behavioral approach was proposed. The cognitive-behavioral approach to perfectionism focused on one particular aspect, clinical perfectionism, which was defined as "the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed, standards in at least one highly salient domain, despite adverse consequences" (Shafran, Cooper, & Fairburn, 2002, p. 778).

This definition was proposed to focus on a specific form of perfectionism with the view that such a focus would be more likely to yield clinical benefits since no treatment interventions for perfectionism were available at the time (Shafran & Mansell, 2001). A cognitive-behavioral model was proposed to account for the factors which were hypothesized to maintain clinical perfectionism (see Figure 14.1). The model was then updated (Shafran, Egan, & Wade, 2010) with the purpose of considering behavioral factors, for example performance checking, and emotional aspects, which were not made explicit in the original account (see Figure 14.2).

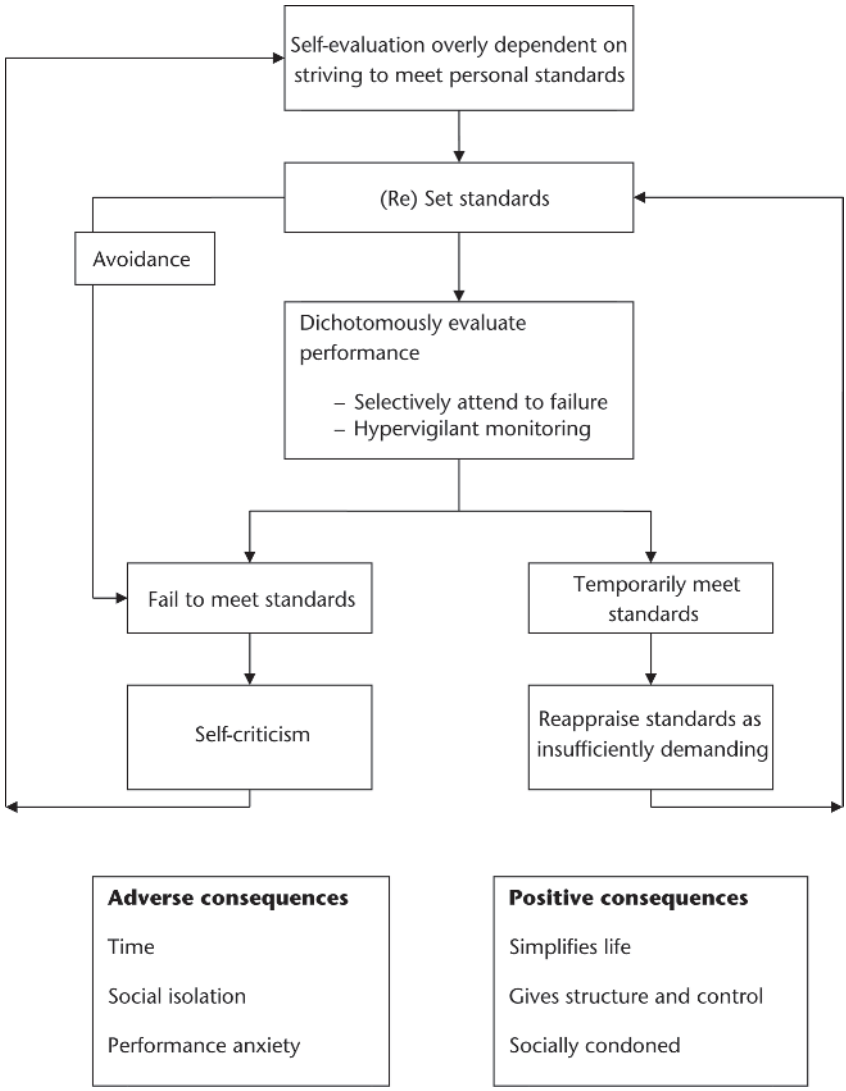

FIGURE 14.1 The original cognitive-behavioral model of clinical perfectionism, reproduced with permission from Shafran, Cooper, and Fairburn (2002), Copyright 2002 Elsevier.

The cognitive-behavioral model of perfectionism is used by the clinician to collaboratively guide clients at the start of treatment to develop their own individualized version of the model. This individualized maintenance model is then used to tailor treatment strategies to match the specific cognitive and behavioral processes that maintain perfectionism (Egan, Wade, Shafran, & Antony, 2014). At the core of the construct of clinical perfectionism is that a perfectionist

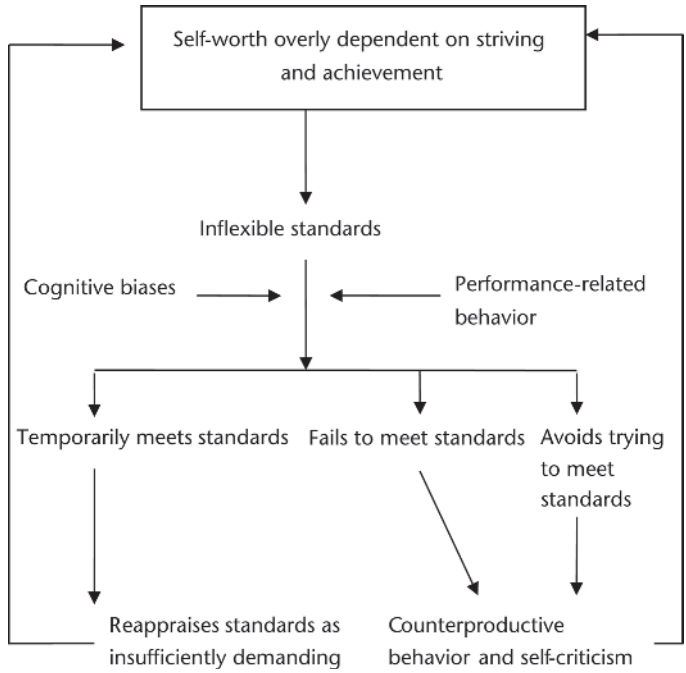

FIGURE 14.2 The updated cognitive-behavioral model of clinical perfectionism, from Shafran, Egan, and Wade (2010), reproduced with permission from Constable & Robinson.

bases his or her self-esteem on striving and achievement (Shafran et al., 2002). Hence, as can be seen in Figure 14.2, self-worth overly dependent on striving and achievement is the starting point of the model from which the setting of inflexible standards, operationalized as rigid rules, arises. If individuals with clinical perfectionism think they are only good enough as a person if they meet their goal, then they will typically set a range of rigid standards and rules concerning their performance. For example, as can be seen in Figure 14.3, a client, Emmy, based her self-worth on achieving her goals of having a perfect, neat, and tidy house and being excellent at her job as a teacher. She reported that she had a general dichotomous (all-or-nothing) rule that one should either "do something right, or not at all." An example of her inflexible standards was having a perfectly clean and tidy house (i.e., "I must always have a perfect house"). As a result of this inflexible standard, Emmy would frequently engage in dichotomous (all-or-nothing) thinking where she would think "unless I can put the time in to cleaning my house perfectly, then I will not do it at all." Due to this thinking style, Emmy would then engage in counterproductive behaviors including procrastination, and the house would become rather dirty and untidy. Emmy then looked at the house each day regarding how messy it was and engaged in intense self-criticism thinking that she was "useless" and "disgusting" which resulted in her thinking "I am a failure." This

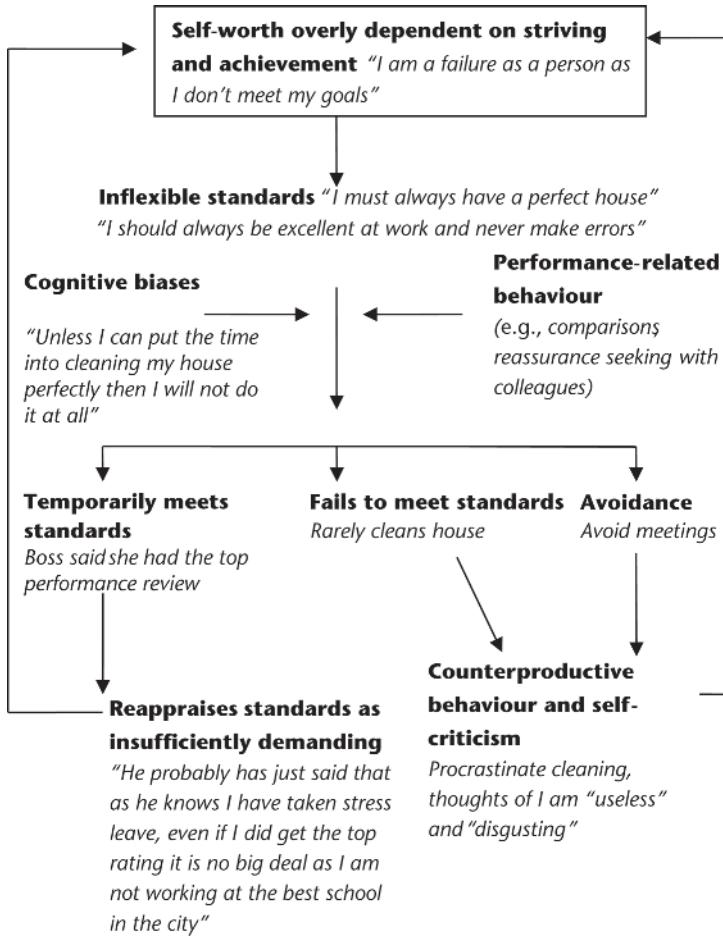

FIGURE 14.3 An example individualized formulation tailored from the cognitive-behavioral model of perfectionism (Shafran et al., 2010).

reinforced her self-worth being dependent on striving and achievement and left her in a vicious cycle of maintenance of clinical perfectionism.

Emmy reported other salient cognitive biases which are common maintenance factors in clinical perfectionism including "shoulds" and "musts" (e.g., "I must always have a perfect house"). Such biases are typically reflected in inflexible standards and selective attention, focusing on errors in performance whereas success and achievement are discounted (e.g., "I made a spelling error in one child's report therefore I am a bad example to the children"). She also demonstrated the common cognitive biases seen in perfectionism of overgeneralizing (e.g., "because I made an error in a report I am useless at my job") and double standards where the individuals hold more lenient standards for others than themselves (e.g., "I understand when

other teachers make an error in a report, but I should never do that as I expect better from myself").

Another critical aspect of the model of clinical perfectionism is the manner in which individuals judge whether they have met their personal standards for achievement. According to the cognitive-behavioral account, individuals with clinical perfectionism are often left in a no-win situation where they either fail to meet their standards and hence reinforce thinking they are "not good enough" and make their self-worth dependent on achievement, or they discount their success and set their standard higher next time. In the example of Emmy, when she failed to meet standards, for example, by rarely cleaning her house, this led to intense self-criticism and further reinforcement of her self-worth as based on achievement because she felt like a failure when her house was not perfectly tidy and clean. Another outcome regarding evaluation of standards is avoidance, where individuals with clinical perfectionism avoid evaluating their standards, usually due to a fear of failure. For example, Emmy avoided meeting with her boss for her performance review as a result of her anxiety regarding her performance and went on stress leave for a week. Commonly people with clinical perfectionism have occasional times when they temporarily meet standards. In the example of Emmy, her standard was to be excellent at work, and when she finally met her boss for her performance review, he gave Emmy feedback that she had received the top rating of all teachers at the school. The problem, however, is that often clients with perfectionism reappraise standards as insufficiently demanding when standards are met or discount their success, as demonstrated by Emmy who thought "he [her boss] probably just said that as he knows I have taken stress leave: even if I did get the top rating, it is no big deal as I am not working at the best school in the city." This reappraisal, along with her performance-related behaviors of comparisons (i.e., directly asking colleagues what their performance review results were) and reassurance seeking (i.e., seeking reassurance from colleagues regarding her performance review) reinforced her self-worth being based on achievement. Other typical performance-related behaviors in perfectionism include goal achievement behaviors which can be any behavior the person engages in in an attempt to meet their goals but that is unhelpful, for example, rewriting a paragraph over and over for many hours to get it flawless, and testing performance, where the person tests out how well they are doing at achieving a goal (Egan, Wade, et al., 2014).

The cognitive-behavioral model of clinical perfectionism has received support through several studies which have investigated hypotheses arising from the model. The resetting of standards has been investigated in several experimental studies, where for example individuals have been found to reset standards higher following failure on experimental tasks (e.g., Stoeber, Hutchfield, & Wood, 2008; Kobori, Hayakawa, & Tanno, 2009). This aspect of the model has also been demonstrated in qualitative studies. For example, Egan, Piek, Dyck, Rees, and Hagger (2013) found that, when individuals high in negative perfectionism (Terry-Short, Owens, Slade, & Dewey, 1995) were asked what they would do regarding setting of standards after failure, they reported they would set higher standards next time. In

contrast, individuals low in negative perfectionism said they would set lower standards next time. Another qualitative study (Riley & Shafran, 2005) also supported aspects of the model including self-criticism after perceived failure to meet standards, avoidance, and setting inflexible rules for performance. The cognitive biases proposed in the model have also been supported in studies. For example, the prediction that perfectionistic individuals judge standards through an all-or-nothing thinking style was supported in a study where dichotomous thinking was found to account for significant variance in negative perfectionism (Egan, Piek, Dyck, & Rees, 2007). In an experimental study, Howell et al. (2016) found support for selective attention as a maintenance factor where those with high levels of perfectionistic concern over mistakes (Frost, Marten, Lahart, & Rosenblate, 1990) exhibited an attentional bias to negative, perfectionism-relevant information when compared to those with low levels. Finally, some of the negative emotional consequences of self-criticism following failure have been demonstrated in an experimental study where individuals with elevated levels of self-oriented and socially prescribed perfectionism (Hewitt & Flett, 1991) showed higher shame and guilt following failure in an experimental task (Stoeber, Kempe, & Keogh, 2008).

Cognitive-Behavioral Treatment for Perfectionism: An Overview

Assessment and Treatment Planning

In starting CBT for perfectionism, it is suggested that, in addition to a regular clinical interview assessing psychiatric history and administering measures of psychopathology, the clinician assesses perfectionism thoroughly with questions in the interview addressing the major maintaining factors in the cognitive-behavioral model of clinical perfectionism (Shafran et al., 2002; Shafran et al., 2010) as well as self-report measures of perfectionism including the Clinical Perfectionism Questionnaire (CPQ; Fairburn, Cooper, & Shafran, 2003). Egan, Wade, et al. (2014) have outlined in detail the assessment strategy and questions to help derive the individualized cognitive-behavioral formulation of perfectionism. To conduct a comprehensive assessment and derive an individualized formulation these detailed questions should be used, so the outline presented below provides only examples of the areas that should be assessed and the questions that should be asked.

- High standards and striving: "In what areas do you set high standards?"
- Adverse consequences of clinical perfectionism: "What impact do you think striving has on your life?"
- Self-evaluation overly dependent on achievement: "How much of your self-esteem is made up of how well you are meeting your high standards?"
- Setting of inflexible standards and rules: "Do you change your standards and rules when you discover they cannot be met?"
- Cognitive biases: "When you think about your performance, what do you tend to focus on?"

- Performance-related behaviors: "Do you tend to check repeatedly to assess how well you are doing at things?"
- Evaluation of standards: "After you meet your goals, do you set even higher goals for next time?"
- Avoidance of meeting standards: "What do you avoid due to worry about your performance?"
- Self-criticism and counterproductive behaviors: "How do you feel when you make a mistake?"

(Egan, Wade, et al., 2014, pp. 114–115)

Such questions are used to derive a formulation for the individual that will be different for each client (individualized formulation) and conducted in a collaborative manner. Once the individualized formulation is complete, then the treatment plan should be derived.

CBT for perfectionism is typically conducted based on an individualized formulation with treatment strategies matched to address the particular maintaining factors for the client, and therefore it is based on the general principles of treatment with strategies utilized in a flexible manner. Treatment may follow particular formats such as pure self-help, guided self-help, and individual or group-based treatment, for each of which specific structured protocols have been developed (see Egan, Wade, et al., 2014, for details). Still, all treatment should be based on the individualized formulation rather than rigidly following a structured protocol.

Examples of Techniques in The Cognitive-Behavioral Treatment of Perfectionism

The intention of this section is to provide examples of techniques that are included in treatment. Readers who are interested in learning more how to do the treatment should consult Egan, Wade, et al. (2014).

Motivation to Change

The first step in treatment following the individualized formulation is enhancing motivation toward treatment. Motivation to change can often be difficult for perfectionists. Studies have found that, given the choice between staying perfectionistic or changing, individuals stated that they would prefer to stay perfectionistic as perfectionism was associated with more benefits (Egan et al., 2013). It is important therefore that clinicians address if there is ambivalence regarding changing perfectionism. Perfectionists commonly report specific predictions regarding what they believe may happen if they were no longer perfectionists, for example, that they will "completely let themselves go and achieve nothing at all." Addressing motivation to change involves focusing on the *importance* of change (i.e., how important it is to the client to change; the pros and cons of change) as well as clients' *confidence* in their ability to change (i.e., their self-efficacy). This is a key point as clients may rate the

importance of change as high, but their confidence in their ability to change as low, or vice versa, both of which poses problems regarding engagement in treatment. Importance and confidence can be rated on scales (e.g., from 0 = low to 10 = high), and then the clinician can ask questions regarding these ratings to help the clients understand why they may have a low rating on the importance of changing or confidence in their ability to change. Discussion regarding importance of and confidence in change can be useful in increasing motivation to change. Techniques such as motivational interviewing and examining the pros and cons of change can be useful to enhance motivation to change. However, it is important not to spend too much time hypothetically debating the pros and cons of change without translating this into action using behavioral experiments because the biggest motivator for change comes from seeing the positive benefits it brings. Behavioral experiments are therefore often used to address specific negative predictions regarding what clients fear may happen if they were to change (e.g., "others will not praise me any more for my good work").

Self-Monitoring

Self-monitoring is an important early step in the treatment of perfectionism because asking clients to monitor thoughts, behaviors, and emotions associated with perfectionism can increase their insight into the problem which may help to initiate change. Further, self-monitoring is often associated with significant decreases in the problem that is being monitored. Therefore, self-monitoring is an important technique in treatment in its own right, rather than being just a way to enhance understanding of maintenance factors for the client. Another important reason for self-monitoring is that it can increase objectivity, where clients start to see their issues with perfectionism in a more objective manner and therefore as something that they can change. The clinician should therefore try to engage the clients in regular monitoring; if possible, by recording self-monitoring of their perfectionistic thoughts and behaviors (using pen and paper, a smartphone, or any other personal electronic device). Individualized self-monitoring forms can be developed for the client, or existing self-monitoring forms can be used (see Egan, Wade, et al., 2014, and Shafran et al., 2010). Areas to self-monitor include general perfectionistic thoughts, perfectionist behaviors, self-critical thinking, avoidance, procrastination, and counterproductive behaviors. The clinician can ask clients to monitor any of the maintaining factors that have been identified in the individualized formulation. It is particularly helpful to emphasize with clients that it is most useful if they record the self-monitoring information at the time it occurs and that, if this is not possible, they should record it close to the time when the particular information occurred.

Psychoeducation

Another important area to address early in treatment is psychoeducation regarding perfectionism. There are common myths that many people high in perfectionism

hold that can serve to maintain their perfectionism and also be a barrier to change. Common myths are, for example, "the harder I work the better I will do," "to be good at something you need to dedicate your entire life to it," "practice makes perfect," and "you can do anything you want to if only you want it badly enough" (Egan, Wade, et al., 2014, p. 144). Particular strategies to address these myths can include using Socratic questioning to allow clients to think of instances when these myths may not be true. For example, to challenge the myth "the harder I work the better I will do," the clinician can ask clients to think of examples that run counter to this myth such as when staying up all night to study for an exam and not sleeping at all leads to poorer performance than when they have a few hours of sleep before an exam. The clinician can also ask the client to think of any examples where the myth may not be true in friends, colleagues, or family members, or think of general examples such as when athletes "overtrain" and do not have adequate rest periods, leading to poorer performance or injury.

Surveys

A key cognitive-behavioral strategy is the use of surveys. The main purpose of surveys is to try and gather objective information from other people to help clients challenge their specific perfectionism cognitions. A survey is usually designed specifically for the client based on his or her idiosyncratic beliefs. An example of this for the client Emmy is that she had the belief that "in order for parents not to complain, I must spend at least five hours in preparing each report for every child that I teach." The clinician asked Emmy to conduct a survey to gather data about what other teachers do in regard to how many hours they spend preparing reports, and how many parents complain about the reports. If a client is concerned about a survey coming across as "strange" to others, then the clinician and client can think of creative ways to explain this survey to others. Emmy, for example, explained to other teachers that she was addressing report writing as a professional development goal and therefore was seeking to find out more information. Example survey questions that Emmy asked her colleagues were: "How long do you spend on each report? How many times do you rewrite your reports? How many times have parents complained about your reports? If parents have complained about your reports, was this related to how much time you had spent writing them (e.g., if you had written them in a rush)?" As a result of this survey, Emmy discovered that there was great variety in the amount of time that other teachers spent writing reports, ranging from a few minutes per report to up to two hours, but no colleague was spending five hours per report. She also discovered that only one colleague engaged in rewriting reports, whereas all other colleagues said they never engaged in this behavior. To her surprise, Emmy found that most colleagues had never experienced a parent complaining to them about their reports, and there were no colleagues who said that any complaints they had were related to how much time they had spent writing the report. She was also surprised to learn that one female colleague had written in her survey that the one time she had received a complaint

from a parent about a report, she had spent much longer writing the report than usual, but this was a parent who complained about everything, so the colleague did not think the complaint had anything to do with the quality of her report. This survey helped Emmy to start shifting her belief that it is necessary to spend many hours writing each report to guard against the possibility of parents complaining about her reports, and increased her confidence in being able to engage in a behavioral experiment to further challenge this belief that was maintaining her perfectionism.

Behavioral Experiments

Behavioral experiments are a core technique in CBT and are used extensively in CBT for perfectionism in most stages of the treatment. A definition of behavioral experiments is "planned experiential activities, based on experimentation or observation, which are undertaken by patients in or between cognitive therapy sessions" (Bennett-Levy et al., 2004, p. 8). Behavioral experiments in CBT for perfectionism are a key way to get clients to challenge their unhelpful beliefs that maintain perfectionism, and consequently to change their behaviors, reduce self-critical aspects of perfectionism, and instead create new, more helpful beliefs. The use of behavioral experiments to challenge negative thinking has been linked to earlier and more generalizable belief change than the use of thought records[1] (McManus, Van Doorn, & Yiend, 2012). Moreover, behavioral experiments are considered to provide information that is of high evidential value to the client due to their specific and personal nature. Entire books have been written on how to do behavioral experiments (e.g., Bennett-Levy et al., 2004), but for the present chapter it should suffice to point out that, when designing behavioral experiments, it is important that the prediction is testable and specific, that the rationale for the purpose of the experiment is clear, and that the experiments are designed in a collaborative manner. Moreover, it is helpful to have record sheets to detail the outcome of the behavioral experiments. For example, the key steps involved in the development of behavioral experiments addressing a dysfunctional belief are as follows (adapted from Egan, Wade, et al., 2014, p. 192):

- Step 1: Consider the formulation. Collaboratively identify a dysfunctional belief that keeps the client stuck in the vicious cycle of perfectionism. Ask the client to rate how much he or she endorses the belief (0–100%).
- Step 2: Collaboratively brainstorm ideas for an experiment to test the belief. Ensure the experiment is not likely to be too challenging, but that it will likely yield useful and meaningful information. Be specific about when and where the experiment will be conducted.
- Step 3: Elicit multiple specific predictions about the outcome of the experiment and devise a method to record the outcome.
- Step 4: Anticipate problems and brainstorm solutions.
- Step 5: Conduct the behavioral experiment.

- Step 6: Review the experiment, including the predictions. Ask the client to re-rate how much he or she endorses target belief, and draw conclusions.

To have a concrete example, a behavioral experiment was conducted to test Emmy's belief regarding the amount of time that she thought needed to be spent when writing reports to guard against her feared outcome of a parent complaining. Here are the key elements and outcomes:

- Belief: The identified belief was "In order for parents not to complain, I must spend at least five hours in preparing each report for every child that I teach." The degree to which Emmy endorsed the belief was 95% on a scale from 0–100%.
- Experiment: It was agreed that Emmy would write half of her reports using her old method of spending five hours for each report, and the other half spending a maximum of 30 minutes per report.
- Specific predictions: Emmy's specific predictions, the subjective probability of which she rated on a scale from 0–100%, were that she would get a lot of complaints about the reports that she would spend little time on (probability = 95%) and very few complaints about the reports she would spend her usual amount of time on (probability = 100%), and that she would feel extremely anxious sending out the reports (probability = 95%).
- Results: Emmy did the experiment as planned. She felt very anxious, though a little less than she expected (80%). However, no parent complained about the reports, neither the ones she had done quickly (0%) nor the ones she had spent her usual amount of time on (0%).
- Re-rate belief: When asked to re-rate the degree to which she endorsed her belief ("In order for parents not to complain, I must spend at least five hours in preparing each report for every child that I teach"), Emmy gave a rating of 60%.
- Conclusions: The results of the experiment were very surprising for Emmy. She was sure she would have received complaints about the reports that she had spent less time on, but did not. This made her realize that she may have been spending too much time writing her reports and could probably reduce the time she spent on writing reports. Her new revised belief was "I can do good reports which parents do not complain about without spending so much time on them."

This is a good example of how behavioral experiments can serve to challenge a perfectionism belief and to initiate a change in the associated behavior. Had the clinician purely relied on thought records (e.g., merely asking Emmy to think of alternatives to the target belief), it would have been unlikely to help her realize that no parent would complain. Emmy had to test this out in real life to see what happened. This example also highlights that several behavioral experiments may be needed to effectively shift a particular belief. Emmy would require a few more

times of testing this experiment out in real life before she abandoned her dysfunctional belief and effectively changed her behavior in the long term.

Cognitive Strategies and Broadening Self-Evaluation

There are common thinking styles that are encountered in clients with high levels of perfectionism that can be challenged through a range of cognitive techniques. Common thinking styles to assess and challenge are selective attention (noticing the negative), discounting the positive (minimizing the importance of positive data), double standards (holding a harsher set of rules for oneself than others), overgeneralizing (such as concluding from one mistake that one is a failure overall), "should" and "must" statements (e.g., "I should always be the best at work"), and dichotomous thinking (e.g., "one spelling error in a report means the whole report is bad"). Techniques to challenge these thoughts include thought records, using orthogonal and standard continua to challenge dichotomous thinking, daily recording of positive evidence versus lack of negative evidence for regarding performance and selective attention, and turning rules in to guidelines (see Egan, Wade et al., 2014, for details).

An important target for cognitive strategies is to challenge self-critical thinking which is dominant in perfectionism. The main steps involved in challenging self-criticism are "(1) the identification of self-criticism and its pervasiveness, (2) positive beliefs about the usefulness and value of self-criticism, (3) identification of the cost of self-criticism, (4) developing a self-compassionate and respectful response, (5) practicing a new way of responding" (Egan, Wade, et al., 2014, p. 213). Numerous techniques including the use of specific analogies and ways to increase self-compassion are included. This can include seeing the self-critical thoughts from an "arm's length" view, for example, what might someone who cares about you say in response to your critical thought, and therapeutic letter writing from the point of view of a compassionate other.

Another useful technique is pie charts where clients think about which domains (i.e., areas) of their life comprise their self-evaluation. Typically, in perfectionistic clients, achievement in domains that are most valued by the individual such as work or musical ability comprise the majority of their self-evaluation. Pie charts are used to broaden the dysfunctional scheme for self-evaluation which is at the core of the problem. This technique is widely used in the treatment of eating disorders (Fairburn, 2008). In the case of Emmy, her self-evaluation was predominantly determined by achievement at work (65%), having a clean and tidy house (25%), and appearance (10%). The therapist helped Emmy to see that she had many domains in her life that were important in self-evaluation, but were not necessarily based on achievement, and that some domains had been overvalued (e.g., work). This led to the problem of her putting all of her "eggs in one basket" (viz. work) regarding her self-esteem, so that when one small problem happened at work, then this impacted on her self-view greatly. The new domains to comprise her self-worth in a more balanced manner when Emmy was asked to do a new, more

functional pie chart were work (35%), having a clean and tidy house (10%), friends (20%), volunteer charity work (20%), enjoying music (10%), and appearance (5%).

Procrastination and Time Management

There are many techniques which have been outlined in detail regarding how to change the common problem of procrastination in perfectionism. Some techniques include self-monitoring of the procrastination, conducting a "vicious cycle formulation of the link between perfectionism and procrastination" (Egan, Wade, et al., 2014), motivational interviewing, behavioral experiments, and problem-solving techniques. Ways to improve management of time (e.g., reduce avoidance) and increase pleasant events should also be addressed. Rozental, Forsell, Svensson, Andersson, and Carlbring (2015) have developed a CBT program to specifically target procrastination, for example, through psychoeducation on goal-setting techniques, addressing avoidance behavior via behavioral activation and learning to prioritize, and challenging dysfunctional cognitions related to procrastination through behavioral experiments. This program has shown to be effective when delivered via the Internet as guided and unguided self-help, and can be useful when addressing procrastination in CBT for perfectionism.

Relapse Prevention

Finally, at the end of treatment, CBT for perfectionism should also address relapse prevention strategies. This involves summarizing the main take-home messages and strategies that have been discussed and learned as well as designing an action plan and blueprint for how to deal with future problems with perfectionism.

Research Examining the Efficacy of Treatment for Perfectionism

Is there any evidence that CBT for perfectionism is effective? The answer is yes. The efficacy of treatment of CBT for perfectionism has been demonstrated in a growing number of studies, and in the next section of this chapter, we present a summary of the most important studies and their findings differentiating between studies examining non-clinical samples and studies examining clinical samples.

Nonclinical samples

Several studies have examined nonclinical samples to test techniques used in CBT for perfectionism. In an early experimental study, DiBartolo, Dixon, Almodovar, and Frost (2001) found that an eight-minute session of cognitive restructuring was more effective than distraction in reducing anxiety regarding a public speaking task in female undergraduate students with elevated levels of perfectionistic concern over mistakes. Despite the brief nature of this intervention, the study was the first to suggest that cognitive techniques are useful for treating perfectionism.

Pleva and Wade (2007) conducted the first examination of self-help CBT for perfectionism in a nonclinical sample where participants were randomly allocated to either guided self-help or pure self-help based on Antony and Swinson's (1998) book *When Perfect Isn't Good Enough*. Clinically significant reductions in obsessionality, anxiety, and depression were found in both conditions, although guided self-help was more effective. Arpin-Cribbie et al. (2008) investigated an online self-help CBT intervention in undergraduate psychology students who were randomly allocated to one of three conditions: (a) a 10-week online CBT for perfectionism plus stress management, (b) stress management, or (c) control. Whereas the participants in the stress management condition showed significant decreases in self-oriented perfectionism and perfectionistic concern over mistakes only, participants in the CBT plus stress management condition additionally showed significant decreases in socially prescribed perfectionism and depression. Furthermore, a follow-up examination of this CBT intervention found significant decreases in anxiety (Radhu, Zafiris, Arpin-Cribbie, Irvine, & Ritvo, 2012). While the results of these studies using non-clinical samples are encouraging regarding the efficacy of online CBT intervention and self-help for perfectionism, it is difficult to say if the findings generalize to individuals with psychological disorders. Consequently, we next turn to studies examining clinical samples.

Clinical Samples

There have been several studies examining the efficacy of CBT for perfectionism in clients diagnosed with eating disorders, obsessive-compulsive disorder (OCD), anxiety disorders, and depression. In an early case study of CBT for perfectionism, Shafran, Lee, and Fairburn (2004) examined a female client with elevated clinical perfectionism and binge eating disorder and found that a 10-session CBT for perfectionism intervention reduced clinical perfectionism, symptoms of binge eating disorder, and bulimic episodes as well as depressive symptoms. Moreover, these changes were maintained at five-month follow-up. Although this study gave an indication of the feasibility of CBT for perfectionism in targeting eating disorder and associated symptoms, no generalizations can be made because the study was not a randomized controlled trial (RCT).

Steele and Wade (2008) conducted a RCT with 42 participants who met criteria for an eating disorder (bulimia nervosa or eating disorder not otherwise specified) who were randomly assigned to three conditions: CBT for perfectionism, CBT for bulimia nervosa, or a "dismantled" mindfulness control.[2] The CBT for perfectionism intervention comprised six weeks of guided self-help based on Antony and Swinson's (1998) book. Even though there were no statistically significant differences between the three conditions at three-month follow-up, clients in the two CBT conditions showed reductions in anxiety and depression symptoms that corresponded to large effect sizes as measured by Cohen's *d* (Cohen, 1988). This study is important because the effect sizes seen in the CBT for perfectionism condition on a range of psychological symptoms provide support

for the proposition of Egan, Wade, and Shafran (2011) that perfectionism is a "transdiagnostic process" indicating perfectionism is implicated in the risk and maintenance of a broad range of psychological disorders (cf. Harvey, Watkins, Mansell, & Shafran, 2004). Hence, one of the main rationales for the treatment of perfectionism has been that CBT for perfectionism represents a transdiagnostic treatment that may be useful in targeting a number of symptoms of co-occurring psychological disorders at the same time (Egan et al., 2011; Egan, Wade, & Shafran, 2012).

Further studies have examined the efficacy of CBT for perfectionism in transdiagnostic clinical groups, that is, clients with a range of anxiety disorders, OCD, and depression. Glover, Brown, Fairburn, and Shafran (2007) conducted a study with nine participants diagnosed with anxiety disorders and depression using a single-case design and evaluating a ten-session CBT for perfectionism intervention. Results showed that there were clinically significant reductions in clinical perfectionism, overall perfectionism,[3] and depression. Similarly, in another study using a single-case experimental design, Egan and Hine (2008) found clinically significant reductions in perfectionistic concern over mistakes in a sample of four participants with mixed anxiety disorders and depression following eight sessions of CBT for perfectionism.

Whereas these early studies can be regarded as important pilot studies testing the feasibility of the treatment in transdiagnostic samples, several RCTs have since been published that provide stronger evidence for the efficacy of CBT for perfectionism. Riley, Lee, Cooper, Fairburn, and Shafran (2007) conducted the first RCT evaluating a ten-session individual CBT for perfectionism in 20 participants with anxiety disorders or depression who were randomly allocated to either treatment or a wait-list control. The study found statistically significant reductions in depression and anxiety that were maintained at two-month follow-up. In addition, the study found clinically significant reductions in clinical perfectionism in 75% of the treatment group. Further, the number of participants who had an anxiety disorder or depression diagnosis after treatment was reduced by 50%, compared to no change in the wait-list control group.

In the largest RCT examining CBT for perfectionism to date, Egan, van Noort, et al. (2014) compared face-to-face individual CBT for perfectionism to an eight-week pure self-help CBT for perfectionism delivered online and a wait-list control in 52 participants with anxiety, depression, and eating disorders. The CBT for perfectionism intervention in this study was based on a protocol for a manualized individual treatment (published in Egan, Wade, et al., 2014). The pure self-help CBT consisted of weekly readings from the self-help book *Overcoming Perfectionism* (Shafran et al., 2010) that were emailed to the participants of the pure online self-help group along with assigned homework exercises. The same weekly readings were also given to the participants in the face-to-face group who had a 50-minute weekly session with a therapist to work through the treatment strategies. Whereas there were no changes in any measures at post-treatment in the wait-list control group, there were statistically significant reductions in perfectionism in both

treatment groups regarding perfectionistic personal standards and concern over mistakes (Frost et al., 1990), self-criticism (Imber et al., 1990), and dysfunctional attitudes (Weissman & Beck, 1978). However, only the face-to-face group also experienced large effect size reductions in depression, anxiety, and stress and significant increases in self-esteem, but not the online self-help group.

The findings of Egan, van Noort, et al. (2014) indicate that, although the online self-help CBT for perfectionism resulted in significant reductions in perfectionism that were not statistically different from those experienced by the face-to-face CBT group at post-treatment, the online self-help CBT was not as effective as the face-to-face CBT treatment in reducing depression, anxiety, and stress symptoms, and boosting self-esteem, and these effects were maintained at six-month follow-up. Furthermore, whereas both treatment groups showed maintenance of reductions in perfectionism at six-month follow-up, the reductions were significantly larger in the face-to-face group. Consequently, it appears that—even though self-help CBT for perfectionism can reduce perfectionism—CBT for perfectionism delivered face to face has superior efficacy compared to pure self-help versions of the treatment.

CBT for perfectionism has also been found to be effective when delivered as a group treatment. Steele et al. (2013) investigated the efficacy of group CBT for perfectionism in 21 participants who had elevated perfectionism and a range of anxiety disorders, OCD and depression. There was a four-week wait-list control period, followed by four weeks of psychoeducation where participants read the first four chapters of Shafran et al.'s (2010) self-help book, and then an eight-session CBT for perfectionism group treatment, delivered in a two-hour weekly session, as outlined in Egan, Wade, et al. (2014). There was no change over the wait-list or psychoeducation periods, which suggests that psychoeducation alone is not effective. There were significant changes however after group treatment, with significant decreases in perfectionism in clinical perfectionism (Fairburn et al., 2003), self-criticism (Weissman & Beck, 1978), and personal standards and perfectionistic concern over mistakes (Frost et al., 1990). Participants also showed significant decreases post-treatment in anxiety, stress, and depression. Importantly, the large effect size reductions in perfectionism, depression, and anxiety were maintained at three-month follow-up.

An RCT of group CBT for perfectionism in 42 participants with a range of anxiety disorders, depression, OCD, and eating disorders has also showed promising results (Handley, Egan, Kane, & Rees, 2015). The treatment consisted of the same eight-session group treatment protocol (Egan, Wade, et al., 2014) found to be effective in Steele et al. (2013). Compared to the wait-list control group, those receiving group CBT for perfectionism demonstrated significant large effect size reductions at post-treatment on measures of perfectionism, and significant medium effect size reductions in anxiety, depression, and social anxiety, which were maintained at six-month follow-up.

In summary, there is substantial evidence that CBT for perfectionism delivered in a variety of treatment formats is effective. Examining the effect sizes of treatment outcomes is important as this can indicate the clinical significance of changes

(Kraemer et al., 2003). A meta-analysis (Lloyd et al., 2015) of eight studies of CBT for perfectionism (Arpin-Cribbie et al., 2012; Egan & Hine, 2008; Glover et al., 2007; Pleva & Wade, 2007; Radhu et al., 2012; Riley, Lee, Cooper, Fairburn, & Shafran, 2007; Steele et al., 2013; Steele & Wade, 2008) found large pooled effect size reductions in self-oriented perfectionism and perfectionistic personal standards and concern over mistakes, indicating reliable, large effect size reductions in perfectionism. Further, Lloyd et al. (2015) reported medium pooled effect size reductions for anxiety and depression. This meta-analysis, however, did not include the two largest RCTs to date (Egan, van Noort et al., 2014; Handley et al., 2015), which both found large effect size reductions in depression and anxiety. CBT for perfectionism has also been found to result in large effect size reductions in eating disorder symptoms (Steele & Wade, 2008) and stress (Steele et al., 2013). When these effect sizes are considered as a whole, it can be concluded that CBT for perfectionism is effective in reducing perfectionism, anxiety, depression, stress, and eating disorder symptoms. This is important also because the findings that CBT for perfectionism reduces a range of psychological disorders and symptoms provide support for perfectionism being a transdiagnostic process (i.e., a maintaining mechanism for psychopathology across disorders; Egan et al., 2011). Further, it is important to target perfectionism given it has been shown in some studies to impede standard evidence-based treatments for specific disorders. Perfectionism measured with the Dysfunctional Attitude Scale (Weissman & Beck, 1978) predicts poorer treatment response in depression (Blatt, Quinlan, Pilkonis, & Shea, 1995; Blatt et al., 1998). Lundh and Öst (2001) found that people who did not respond to social anxiety treatment had higher pre-treatment perfectionism. Ashbaugh et al. (2007) found that changes in perfectionistic concern over mistakes and doubts about actions predicted symptoms of social anxiety following group CBT, although perfectionism reduced after treatment. Similarly, Chik, Whittal, and O'Neill (2008) found that doubts about actions predicted poorer response to treatment for OCD. Pinto, Liebowitz, Foa and Simpson (2011) reported that perfectionism was the only criterion of obsessive-compulsive personality disorder to predict poorer treatment outcome in OCD. Similarly, two studies have indicated that perfectionism and uncertainty measured with the Obsessive Belief Questionnaire (Obsessive Compulsive Cognitions Working Group, 2005) predicts poorer outcome to treatment in OCD (Kyrios, Hordern, & Fassnacht, 2015; Wilhelm et al., 2015; see, however, Su et al., 2016). Overall, the findings showing perfectionism can interfere with treatment response provide some indirect evidence of perfectionism as a transdiagnostic maintaining mechanism (Egan et al., 2011).

Other Treatment Approaches

Whereas there are psychodynamic approaches for treating perfectionism (e.g., Fredtoft, Poulsen, Bauer, & Malm, 1996; Greenspon, 2008; Sorotzkin, 1998), only one study to date has examined the efficacy of psychodynamic treatment for perfectionism (Hewitt et al., 2015; see also Chapter 15). Hewitt and colleagues

conducted a study investigating the impact of 11 sessions of psychodynamic/interpersonal group psychotherapy for perfectionism, where 43 participants received treatment and were compared to 17 participants in a wait-list control group. The authors reported that the treatment group showed a large-sized reduction in self-oriented perfectionism and a medium-sized reduction in socially prescribed perfectionism compared to the control group. In addition, the treatment group showed a significant reduction in depression, but not in anxiety. However, psychological diagnoses were not assessed and, whereas the authors reported that 42% of the sample had had previous treatment for depression and 15% for anxiety, it cannot be determined if the sample included any clinical participants. Further, it was not reported if treatment impacted on psychological diagnoses.

Future Research on Treatment of Perfectionism

There are several areas of research which are important to examine in future research. First, the periods between intervention and follow-up have been relatively short in most studies, with the longest follow-up periods being six months post-treatment. To examine the durability of effects of CBT for perfectionism, longer follow-ups (e.g., 12–24 months) should be examined. Future studies examining CBT for perfectionism should also investigate the efficacy of the treatment in comparison to other active treatments, particularly disorder specific CBTs, to assess efficacy of the treatment as a first-line treatment for specific psychological disorders, given that only one study to date has compared CBT for perfectionism to an active treatment (Steele & Wade, 2008). There are also several avenues for research which would be useful to investigate, including CBT for perfectionism in children and adolescents who meet criteria for psychological disorders. While prevention approaches focused on perfectionism have been investigated in young people (see also Chapter 13), there have been no studies to date which have examined the efficacy of CBT for perfectionism in children and adolescents with psychological disorders to demonstrate that CBT for perfectionism is not only effective in reducing perfectionism and associated psychological symptoms in adults, but also in youth. Such research studies have the potential to further develop, refine, and disseminate interventions for the treatment of perfectionism across the lifespan.

Notes

1 Thought records involve recording an activating event, beliefs, and emotional consequences of the beliefs. The client records challenges to their dysfunctional beliefs to arrive at revised, more helpful beliefs (for further details, see Beck, 2011).
2 The term "dismantled mindfulness" was used as the intervention was based on adapting techniques from a book on mindfulness-based cognitive therapy for depression (Segal, Williams, & Teasdale, 2002), and the dismantled nature of the intervention suggested it should not be classified as a "mindfulness" intervention.
3 Represented by the total score of Frost et al.'s (1990) perfectionism scale.

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15

PERFECTIONISM IN THE THERAPEUTIC CONTEXT

The Perfectionism Social Disconnection Model

Paul L. Hewitt, Gordon L. Flett, Samuel F. Mikail, David Kealy, and Lisa C. Zhang

Overview

This chapter discusses the role of perfectionism in psychotherapy process and outcome and presents several studies addressing these issues. Based on the perfectionism social disconnection model (PSDM; Hewitt, Flett, & Mikail, 2017; Hewitt, Flett, Sherry, & Caelian, 2006), perfectionism (a broad personality variable that includes perfectionism traits, perfectionistic self-presentation, and perfectionism cognitions; Hewitt & Flett, 1991, 2004), although driven by inordinate needs for acceptance, results in others' negative reactions that produce alienating social disconnection. We present an extension of this model, with reference to the treatment situation, to shed light on the clinical challenges that different components of perfectionism pose in the process of seeking, initiating, and maintaining psychotherapy. Our discussion includes an explication of how perfectionism traits and self-presentational facets influence treatment negatively and an overview of research supporting the pernicious role of perfectionism in treatment.

Perfectionism and Psychological Treatment

Numerous writers have pointed out that perfectionism is a difficult issue in psychotherapy both in terms of its intransigence and its effect on the treatment process (see Blatt, 2004; Salzman 1980; Zuroff et al., 2000). It is now reasonably well established that perfectionistic individuals require intensive and often complex treatment interventions (see Blatt & Zuroff, 2002; Hewitt, Flett, & Mikail, 2017). An accrual of empirical evidence—along with a substantial clinical case report literature—attests to the deleterious effects of perfectionism on both the individual and on the clinical process itself (see Horney, 1950; Salzman, 1980).

What are some of the reasons for the difficulties in treating perfectionism? It has been established that perfectionism tends to function as a core vulnerability factor for multiple problems—often reflected in terms of comorbidity. Several studies have established that perfectionism is found typically among people who have multiple diagnosable disorders (e.g., Ayearst, Flett, & Hewitt, 2012; Bieling, Summerfeldt, Israeli, & Antony, 2004; Van Yperen, Verbraak, & Spoor, 2011; Wheeler, Blankstein, Antony, McCabe, & Bieling, 2011) and treatment challenges are more likely when perfectionism is combined with various disorders, with a complex intertwining of symptoms and syndromes (see Flett, Molnar, & Hewitt, 2016; Neely et al., 2013; Tarocchi, Aschieri, Fantini, & Smith, 2013).

Our understanding of the complexity of perfectionism as a core vulnerability factor may be facilitated by revisiting the classic views of three clinician/scholars all of whom saw perfectionism as a reflection of self and identity issues. Alfred Adler (1956) described perfectionism as a form of overcompensation for an abiding sense of inferiority by striving for superiority and perfection. Similarly, Karen Horney (1950) saw perfectionism as a reflection of "the tyranny of the should" and the neurotic pursuit of an idealized self. The key element is the presence of negative self-directed affect. Horney recounted that "while focusing on the attitude toward the self, I realized that people hated and despised themselves with the same intensity and the same irrationality with which they idealized themselves" (p. 368). The notion that perfectionism is a reaction to perceived defects in the self was discussed at length by Hilde Bruch (1988) who noted in her description of the prototypical young woman with anorexia nervosa that "all her efforts, her striving for perfection and thinness, are directed toward hiding the fatal flaw of her fundamental inadequacy" (p. 6).

Empirical contributions over the past years have expanded the work of these scholars by elaborating the complex multidimensional nature of perfectionistic behavior. Although perfectionism has been written about for over 60 years, in the early 1990s it became evident that the perfectionism construct is more complex than first realized. Different trait elements of perfectionism were conceptualized by Frost, Marten, Lahart, and Rosenblate (1990) and by Hewitt and Flett (1990, 1991). Initially, our group focused on three trait dimensions: self-oriented perfectionism (i.e., requiring perfection of the self), other-oriented perfectionism (i.e., requiring perfection of others), and socially prescribed perfectionism (i.e., perception that others require the self to be perfect). An extended view of perfectionism involved the demonstration of individual differences in automatic perfectionistic thoughts (Flett, Hewitt, Blankstein, & Gray, 1998; see also Chapter 5) as well as perfectionistic self-presentation (Hewitt et al., 2011; Hewitt et al., 2003). Perfectionistic self-presentation is the need to *appear or seem perfect* rather than to *be perfect* and has three facets: perfectionistic self-promotion (i.e., the drive to seem perfect by displaying an image of perfection), nondisplay of imperfection (i.e., the drive to conceal overt displays of shortcomings and imperfections), and the nondisclosure of imperfection (i.e., the drive never to disclose imperfections).

The Perfectionism Social Disconnection Model

The PSDM is derived from the stress generation model of perfectionism discussed by Hewitt and Flett (2002). The early version of the PSDM (Hewitt, Flett, Sherry, & Caelian, 2006) was inspired by evidence that perfectionism is associated with interpersonal problems (Hill, Zrull, & Turlington, 1997; Slaney, Pincus, Uliaszek, & Wang, 2006) and poor social networks (Shahar, Blatt, Zuroff, Krupnick, & Sotsky, 2004).

Hewitt et al. (2017) extended the PSDM by incorporating perfectionism traits, self-presentational facets, and automatic perfectionistic and self-recriminatory thoughts (Flett et al., 1998; Hewitt & Flett, 1991; Hewitt et al., 2017; Hewitt et al., 2003) as well as by discussing the development of perfectionism from early relational experiences. It was further expanded by illustrating how perfectionism is associated with distress, dysfunction, and disorders through interpersonal (i.e., relationships with others) and intrapersonal (i.e., relationship with self) means. In essence, the model attempts to capture the relational importance of perfectionism in terms of its development, its purpose in serving self- and other-relational goals, and, finally, its association with myriad difficulties by interfering with connection with others and the world more broadly.

According to the PSDM, perfectionism is driven by powerful, thwarted relational needs such as needs to be accepted, to matter, and to belong as well as to avoid rejection, ridicule, and abandonment. Perfectionism functions as a reparative attempt to obtain a sense of self-cohesion and regard, a sense of fitting in with others, and a sense of safety and security in the world. It is argued that, over the course of development, the perfectionistic individual develops an identity that is devoid of self-worth, a sense of self as defective, and models of others as either unavailable and unwilling to accept, care for, and love the person or as punishing, judging, and powerful sources of rejection. Perfectionism is thought to develop in response so as to find communion and connection with others and repair the defective sense of self. In essence, the person learns that if he or she is or appears to be perfect, then acceptance by both self and others is possible and that mattering to and fitting with others will ensue. He or she will then "be ok." Thus, perfectionism is seen as a multifarious way of being in the world that attempts to repair the self and to develop a connection and sense of belonging in the world (see Hewitt et al., 2017).

Although the perfectionistic person's behavior involves preoccupation with and requirement for perfection (or the appearance of perfection) for self- and other-relational goals, this preoccupation and striving often has deleterious consequences. For some, the requirement for perfection or appearance of perfection evokes an internal state of interpersonal sensitivity to rejection; whereas for others, this produces rebarbative or off-putting behaviors in interpersonal encounters. These features generate distance between the perfectionist and others, culminating in rejection, social withdrawal by self and/or others, alienation, and social disconnection—often with a profound sense of not only being alone but also

remaining fundamentally flawed and defective. This self-defeating behavior or "neurotic paradox" involves the perfectionism behavior itself leading to the exact outcomes the perfectionist is attempting to avoid. It is argued that the social disconnection and self- and other-alienation contributes to the cause and maintenance of many difficulties experienced by perfectionistic individuals.

The PSDM is depicted in Figure 15.1 with two pathways to negative outcomes. First, perfectionism (i.e. traits, self-presentation, cognitions/attitudes) leads to off-putting interpersonal behaviors (e.g., overt or subtle hostility or similar repellent behaviors such as coldness, aloofness, lack of engagement) that result in others recoiling, avoiding, or blatantly rejecting the person. For the perfectionistic individual this then produces internal experiences of objective and subjective social disconnection, negative affect, self-censure, and alienation, culminating in distress, dysfunction, and disorder. Objective social disconnection is also thought to occur as a result of the aversive interpersonal behaviors that perfectionists express in their relationships (Habke & Flynn, 2002; Haring, Hewitt, & Flett, 2003; Hill et al., 1997) as well as other behaviors such as distancing the self from others, self-concealment, nondisclosures, and passive aggressiveness (see Hewitt et al., 2003; Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008; Kawamura & Frost, 2004).

The second pathway suggests that perfectionism leads to interpersonal sensitivity reflected by internal processes such as anticipation of rejection, interpretations of others' behavior as indicative of lack of mattering, and judgments of others as threatening or critical. This leads to a subjective sense of social disconnection that can compel the individual to withdraw from others, again resulting in further internal experiences of disconnection, shame, and self-censure. Subjective disconnection is thought to arise as a result of perfectionists' tendency to be highly sensitive to cues of interpersonal rejection and to feel rejected more often and

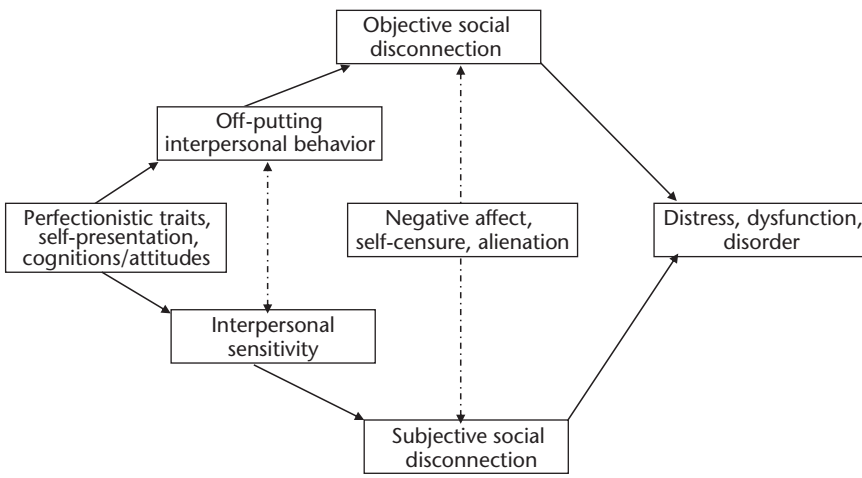

FIGURE 15.1 Perfectionism social disconnection model (adapted from Hewitt et al., 2017).

more erroneously than others (Flett, Besser & Hewitt, 2014; Flett, Hewitt, & De Rosa, 1996; Hewitt & Flett, 1991).

Both pathways of the PSDM are thought to generate problems for perfectionistic persons because disconnection—actual or perceived—generates intense self-conscious affects (shame, humiliation) and an internal dialogue that involves perfectionistic and self-denigrating themes reflecting defectiveness and unworthiness. The ensuing constriction of self-acceptance and self-compassion leaves perfectionistic individuals feeling as disconnected from themselves as they are from others.

Empirical support for aspects of the PSDM continues to accumulate. A complete review of the growing body of evidence supporting elements of this model (see Casale, Fioravanti, Flett, & Hewitt, 2014, 2015; Sherry et al., 2012) and other conceptual extensions of this model (Sherry, Mackinnon, & Gautreau, 2016) is beyond the scope of the current chapter; however, we shall discuss a few particularly relevant examples. With respect to the link between perfectionism and objective social disconnection, Roxborough and colleagues (2012) found that all three facets of perfectionistic self-presentation were linked to suicide risk and that experiences of being bullied, a marker of objective disconnection, acted as a partial mediator. Similarly, Mackinnon et al., (2012) found that objective interpersonal disconnection in the form of partner-conflict was a significant mediator between perfectionistic concerns and depression symptoms.

Several studies support the link between perfectionism and subjective social disconnection. Dunkley, Blankstein, Halsall, Williams, and Winkworth (2000) found that socially prescribed perfectionists tend to perceive lower levels of social support, which leads to psychological distress. Moreover, Sherry, Law, Hewitt, Flett, and Besser (2008) found that perceived social support mediated the link between socially prescribed perfectionism and depressive symptoms. However, socially prescribed perfectionism was not associated with low levels of actual received social support, suggesting that the internal experience of disconnection may be more important in predicting depressive symptoms than actual level of support. Roxborough and colleagues (2012) found support for the PSDM in children and adolescents using social hopelessness as a marker of subjective social disconnection. Social hopelessness partially mediated the links that perfectionistic self-promotion, nondisclosure of imperfection, and socially prescribed perfectionism showed with suicide risk, and fully mediated the link for nondisplay of imperfection. Subjective social disconnection and perfectionism have also been studied, showing the mediating effects of self-esteem and of mattering to others (Cha, 2016; Flett, Galfi-Pechenkov, Molnar, Hewitt, & Goldstein, 2012).

The PSDM in the Clinical Context

In addition to shedding light on perfectionistic individuals' relationships generally, the PSDM can be extended to the treatment context. We believe that the model can be a useful heuristic to understand how perfectionistic behavior can negatively

influence helping relationships and to alert researchers and clinicians to the kinds of behaviors that may be important to understand when providing help.

A depiction of the PSDM in the clinical context is presented in Figure 15.2. In the figure it can be seen that, as in the general PSDM, we have indicated that a patient's perfectionism can result in behaviors or interpersonal sensitivity that will have a negative impact on the therapy process. Rebarbative interpersonal behaviors are thought to have an impact on the therapist (or group in group psychotherapy) by contributing to the therapist becoming annoyed, defensive, or feeling ineffective and defeated. In individual psychotherapy, this is known as negative countertransference. If not attended to, negative countertransference experiences can potentially lead the therapist—in either a subtle or not-so-subtle manner—to withdraw from the patient or act out toward the patient, with consequent therapeutic relationship problems that may adversely affect outcome (Hayes, Gelso, & Hummel, 2011; Ligiéro & Gelso, 2002).

Similarly, the interpersonal sensitivity that can arise from perfectionism affects the treatment process in much the same way it affects other relationships. The perfectionistic individual can experience the clinical process as one fraught with possibilities of rejection, harsh judgments, and negative evaluations by therapists or group members. Thus, as described in Hewitt et al. (2017), the perfectionistic person is likely to view others (e.g., therapists or groups) as powerful sources of potential rejection—and as either unwilling to or incapable of supplying support, caring, and help. Such perceptions contribute to a sense of caution and trepidation in the process, accompanied by potentially hopeless expectations of harsh judgments, rejection, and nonsupport. Participation and engagement in the process can thus be compromised: Behaviors that are essential for psychotherapy—personal disclosures, openness with and trust in the therapist—are felt to be too risky to engage in. Such behaviors, if not attended to in treatment, can compromise the therapeutic alliance and reduce treatment efficacy. Thus, the PSDM accounts for the ways in which interpersonal and intrapersonal processes associated with perfectionism can ultimately foster disconnection in therapeutic relationships.

Critical to the prevention and amelioration of these potential treatment problems is the therapist's attention to his or her emotional responses to the patient's interpersonal sensitivity and behaviors, consistent with research suggesting that lack of awareness and management of therapist countertransference is harmful to the therapeutic alliance and the patient's progress in therapy (Kiesler, 2001; Ligiéro & Gelso, 2002). The PSDM provides a framework by which the therapist can situate such reactions in the world of the perfectionistic patient, in order that he or she may consider alternate ways of responding that can maintain or repair the therapeutic alliance.

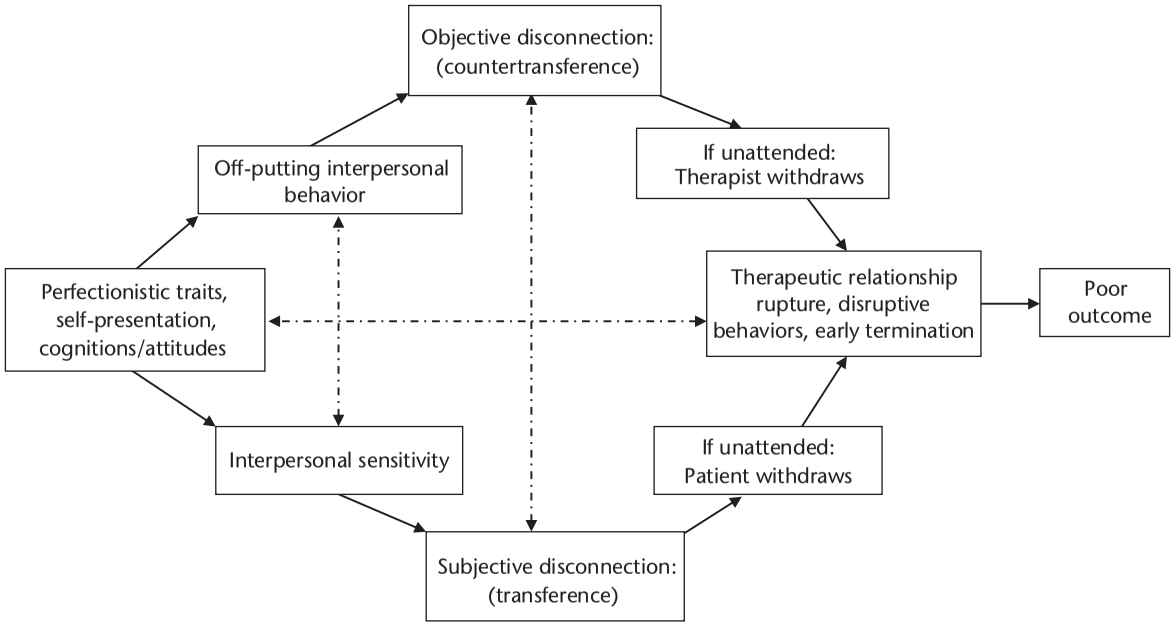

FIGURE 15.2 Perfectionism social disconnection model in the clinical process.

The Perfectionistic Individual in Psychological Treatment

It is useful to consider the clinical process as involving three components or stages, each of which can be compromised by perfectionism. The first involves the individual's decision to seek help, the second occurs during the initial evaluation or assessment of the individual's difficulties, and the third involves the psychotherapy itself. Perfectionism can impact the therapeutic process at any or each of these stages. For example, prior to the initial consultation with the clinician, the perfectionist's experience is shaped by an internal image and expectation of the therapist, the self in therapy, and the manner in which the encounter will unfold. For self-oriented and socially prescribed perfectionists, feelings of shame and self-recrimination can make the anticipated and actual encounter with the therapist a daunting, anxiety-filled experience. In contrast, other-oriented perfectionists view their difficulties as a function of others' failures, an interpersonal stance that has them ready to focus upon and point out any perceived shortcomings or limitations of the therapist. Psychotherapy cannot yield meaningful and sustained benefit in the absence of honest self-reflection and a willingness to change one's perceptions, behaviors, attitudes, or ways of relating. Yet, the internal experience of the perfectionistic individual, encompassing exquisite interpersonal sensitivity to potential rejection, non-acceptance, or perceived harsh judgments by the clinician, can become an insurmountable obstacle to therapeutic progress, not only by limiting the perfectionistic individual's openness to self-examination, but also through the mobilization of distancing interpersonal behaviors that threaten the therapeutic alliance.

Perfectionistic individuals are likely to harbor many unrealistic expectations of assessment and treatment as well as unrealistic expectations of the therapist and themselves. These expectations can result in a sense of being a failure as a patient or failing at therapy even before the patient interacts with any clinician. Indeed, it has been argued that perfectionistic individuals have a failure orientation in processing information about themselves or others. This has been described as a negative future-events schema (Andersen, Spielman, & Bargh, 1992) or negative person schema (Baldwin, 1992) that not only influences the kind of evaluative information processed (Besser, Flett, & Hewitt, 2004; Hewitt & Genest, 1990) but affects a negative bias that can turn neutral or successful events into failures (see Hewitt et al., 2017). For the self-oriented perfectionist, an implicit or explicit expectation of failure may be driven by the belief that the self is fundamentally flawed. In contrast, the other-oriented perfectionist may approach the experience with an attitude of cynicism and the expectation that the therapist will fail to offer any meaningful help, whereas the socially prescribed perfectionist imposes an expectation on the self to be the perfect patient in order to derive any benefit from the assessment and treatment. One such patient expressed this fear stating "because you are the only one who can really help me with my perfectionism, I better not screw this up. It feels like my one and only chance."

Similarly, perfectionistic individuals have an evaluative approach when considering information about themselves, extending this to the clinical context

where the approach should be one of discovery and acceptance rather than evaluation. Their immediate response to discovered elements of the self or others is to evaluate, usually negatively, which in turn triggers feelings of shame or hostility that ultimately limit the possibility of personal connection. Moreover, engagement with the clinical process is not viewed as an opportunity to improve the self but instead as a powerful marker of a failure in living. Thus perfectionism can result in significant anxiety, especially when the task of the assessment and treatment is to talk about and reveal perceived imperfections and distress (see Hewitt et al., 2008).

The perfectionist's admission to the self and to others (i.e., the therapist, receptionist, and other people in the waiting room) that he or she is in need of psychological help is often a shame-filled experience (see Gilbert, 2005, 2011; Greenspon, 2008) that can both exacerbate the pain and turmoil for the person and decrease the likelihood of actually engaging in the process (see Hewitt, Dang, Deng, Flett, & Kaldas, 2016; Hewitt et al., 2008). It is often found that highly perfectionistic patients delay the process of seeking treatment until they experience intense levels of pain and distress or have insistent "encouragements" from family members (e.g., Hewitt et al., 2017). Thus, one of the major, over-arching tasks of treatment with perfectionistic individuals involves helping them achieve self-acceptance, including acceptance of the need for help. This can be a tall order for people who have lived a life of nonacceptance and who equate self-acceptance with giving up, failing, and ultimately losing (Greenspon, 2008; Hewitt et al., 2017; Horney, 1950; Sorotzkin, 1985).

A multitude of fears and concerns are also often brought in to the clinical process by the perfectionistic patient, including fears of being stigmatized, being judged harshly, being let down by the incompetence of the therapist, not getting better, or discovering unwanted and unacceptable parts of self. These fears tend to be compounded by the excessive level of general anxiety commonly experienced by perfectionistic people seeking treatment (see Hewitt et al., 2008; Hewitt, Dang, et al., 2016), along with the aforementioned fear of failure (Conroy, Kaye, & Fifer, 2007). This fear of failure can be expressed in clinical contexts by a difficulty with or unwillingness to try new tasks or consider new perspectives or a great reluctance to even consider abandoning the pursuit of attaining perfection. Many perfectionists in treatment are fearful of the consequences of not striving for perfection. Some authors have suggested that this fear is actually a fear of mediocrity—and that abandoning the quest to be perfect is comparable to being sentenced to a life of being of little worth (see Dryden & Neenan, 2004; Grieger, 1991).

A related concern for perfectionists is the fear of being *exposed* as someone who is far from perfect. Research on perfectionistic self-presentation has shown that this style is linked with a sense of being an imposter (Hewitt et al., 2003; Thompson, Foreman, & Martin, 2000). Those who struggle with perfectionistic self-presentation tend to be overly focused on the possibility that their inadequacies and defects will become publicly exposed. Leahy (2001) observed that this orientation can fuel strong resistance that feeds into the unwillingness to no longer try to be or

seem perfect. Specifically, he noted that "it is as if the patient is saying, 'I can't give up my perfectionism because then my true helplessness will be manifested'" (p. 117). In light of these observations, it is really not surprising that one recent study found that the majority of perfectionists undergoing treatment expressed an unwillingness to forego their perfectionism (see Egan, Piek, Dyck, Rees, & Hagger, 2013; see also Chapter 14).

The presence of such anxiety and fear suggests that perfectionistic individuals are over-represented among those people who are unwilling or psychologically unable to seek help when treatment is required. Several research groups have conducted research on the negative help-seeking orientation of people with elevated levels of trait perfectionism or concerns with mistakes (e.g. Ey, Henning, & Shaw, 2000; Rasmussen, Yamawaki, Moses, Powell, & Bastian, 2013; Zeifman et al., 2015). For example, in a recent study that included both university student and community member samples, Hewitt, Dang, et al. (2016) examined perfectionism and help-seeking attitudes and fears and thoughts about engaging in psychotherapy. They found that perfectionism traits and self-presentation facets were associated broadly with increased negative attitudes toward seeking help and with increased fears and concerns about engaging in psychotherapy. The negative attitudes most consistently associated with the perfectionism variables included decreased stigma tolerance and interpersonal openness, as well as concerns about how perfectionists will appear to the therapist in psychotherapy and whether the therapist will coerce them into experiencing fearful emotions. Moreover, it was found that for participants who had sought treatment in the past, all traits and self-presentational facets were associated with increased difficulty and discomfort seeking help and continuing with the treatment to completion. This suggests that perfectionism can influence the initial seeking of help as well as the maintenance of and adherence to treatment.

Initiation of Assessment and Treatment

The interaction and engagement with the therapist also threatens to erode the clinical process for individuals with perfectionism, in that defensive efforts to provide a sense of safety and security (i.e, by avoiding scrutiny and rejection) are mobilized. This reflects the paradoxical nature of perfectionism (Hewitt et al., 2017) whereby, on the one hand, the person yearns for closeness and connection but, on the other, cannot engage in processes to actually obtain closeness and intimacy. The defensive processes limit the prospect of experiencing a meaningful and sustained intimacy necessary for a therapeutic alliance. For intimacy by its nature requires a willingness to reveal the self and the capacity to tolerate and accept differences that invariably contribute to tension, conflict, and periods of disconnection that are then followed by a willingness to engage in the work of reconciling and reconnecting. For the perfectionist, any one of these aspects of intimacy is challenging, whether in personal or therapeutic relationships. The perfectionist's defenses are intended to keep painful affects and threatening

experiences at bay. Fosha (2000) points out that "in the most profound way, affect is how the individual stays in touch with himself and with his own take on the world; it is also how he communicates to others that essential information about himself" (p. 23). Fosha goes on to say that "in the realm of core affective experience, the difference between aloneness and the sense of being integrated in the mainstream of mutuality-community is created by the act of affective communication with one other person, who is open and interested" (p. 28). It is this affective constriction that is at the heart of the perfectionist's social disconnection. It serves to distance the self from others while perpetuating a view of self as worthless and a view of intimacy as dangerous.

Emotional avoidance and ambivalence is particularly evident among individuals with pervasive feelings of shame—one of the most salient and pervasive emotions found among perfectionists undergoing treatment. Tangney (2002) has provided an analysis of shame and other self-conscious emotions in perfectionism, and several studies have now confirmed links between shame and both trait perfectionism and perfectionistic self-presentation (Ashby, Rice, & Martin, 2006; Chen, Hewitt, & Flett, 2015). The implications of shame and perfectionism in the treatment context, however, have not been fully considered. Of course, shame is distinguished by an overgeneralized sense of being inadequate and defective in ways that are known to other people. The sense of shame found among perfectionists in treatment can create a detachment that reflects the desire to avoid others and escape scrutiny. The pervasiveness of shame (see Stolorow, 2010) underscores the need for a treatment focus that is designed to restore a more accepted sense of self and an ability to engage in self-soothing, self-compassion, and self-forgiveness when people inevitably fall short of being perfect (see Gilbert, 2005).

We stated that behaviors and processes germane to perfectionism can be off-putting or reflect interpersonal sensitivity and ultimately threaten disconnection within the psychotherapeutic context. It must be underscored, however, that disconnection and therapeutic disaster is not an inevitable outcome. Although responding to the interpersonal dynamics of the perfectionist can be challenging, well-trained clinicians employing a therapeutic approach that attends to process themes—including transference and countertransference dynamics—would be able to recognize these dynamics and respond to them appropriately and therapeutically. In the following sections, we describe behaviors that individuals with perfectionism exhibit in a relational context that reflect either the overt repellent processes that contribute to objective disconnection (countertransference) and the more internal interpersonal sensitivity-related processes that lead to subjective disconnection (transference). As presented in Figure 15.2, if countertransference or transference responses are left unattended, the alliance suffers, potentially compromising therapeutic outcome (Hayes et al., 2011). It is important to note the interactional nature of such ruptures for they can arise from the patient's actions and perceptions, the therapist's responses, or, most likely, the interplay of the two.

One of the interpersonal problems associated with perfectionism is a tendency toward hostile-dominant behaviors (Habke & Flynn, 2002; Hill et al., 1997; see

also Chapter 9). For instance, self-oriented perfectionism has been associated with hostile-dominant interpersonal problems in men (e.g., ignoring others, possessing a sense of entitlement) and friendly dominant interpersonal problems (e.g., being overly responsible for others, care-taking, parentification) in women. Other-oriented perfectionism has been associated with "dark" personality traits including narcissistic grandiosity and entitlement, psychopathy, social dominance, hostility, low agreeableness, and a lack of empathy for others (e.g., Nealis, Sherry, Sherry, Stewart, & Macneil, 2015; Stoeber, Sherry, & Nealis, 2015), whereas socially prescribed perfectionism has been associated with arrogant and socially distant qualities in men and diverse interpersonal problems in women (Hill et al., 1997). Hostile-dominant behaviors can present significant challenges in psychotherapy influencing the development of therapeutic alliance (Muran, Segal, Samstag, & Crawford, 1994), lower levels of emotional resonance with the therapist in the context of individual psychotherapy, and less intimate relationships and problems with involvement with others (Gurtman, 1996).

Self-Oriented Perfectionism and Social Disconnection

The essence of self-oriented perfectionism is a relentless concern with perfection and an avoidance of imperfection at all costs. Repeated failures to realize this unattainable expectation become the foundation for such patients' hostile dominance. The hostility is particularly unique in that it is aimed primarily at the self, yet it has an indirect and unintended negative impact on others.

At first glance it may seem that the self-oriented patients' hostility toward themselves would evoke empathy and reassurance rather than social disconnection. Yet, the unyielding and extreme nature of the self-attack and self-blame communicates dismissal of the therapist's efforts to comfort and reassure. In essence, the self-rejection contributes to an unintentional rejection of the therapist that ultimately fuels mutual frustration and interpersonal distance. The therapist may find it difficult to maintain a stance of compassion in the face of the patient's unremitting self-hatred that consistently deflates the therapist's efforts to invite acceptance of the patient's humanity.

Moreover, effective psychotherapy extends beyond empathy and support. The patient must be open to exploring and altering self-limiting aspects of his life. This is achieved through the therapist's attempts to help the patient see parts of the self that have been denied or remain unrecognized. Accomplishing this requires a readiness to empathically confront and reflect upon problematic interpersonal patterns when these arise; this can be a daunting task when undertaken against a backdrop of a patient's pervasive self-attack and self-blame. Subjectively, the therapist's time with the self-oriented perfectionist is akin to walking through an emotional minefield.

Other-Oriented Perfectionism and Social Disconnection

In many ways the other-oriented perfectionist patient can be considered a mirror image of the self-oriented perfectionist patient. Although both share an expectation of perfection, the focus of the other-oriented individual is external, whereby others are expected to be unfailingly perfect. This orientation, which is often by no means subtle, is characterized by excessive blaming of others, putting others down, responding in a punitive manner, and telling others that they are wrong and are deserving of punishment. Control takes the form of taking charge of everything and insisting that others adhere to rigid expectations, telling others what to do and how to do it, or taking charge to ensure that things turn out right. Within the context of psychotherapy, the other-oriented patient tends to experience the therapist's attempts to summarize and empathize as being somewhat—or profoundly—off the mark. On the occasions that the patient considers a therapeutic reflection to be accurate, this reflection is met with responses preceded by "yes, but" or "perhaps, but what you don't realize is." With repetition, this stance can trigger therapists' feelings of therapeutic paralysis and self-doubt. It is in dealing with these patients that less seasoned clinicians are likely to scan their bookshelves and workshop announcements in search of ways to shore up therapeutic skill that feels stale or inadequate.

Socially Prescribed Perfectionism and Social Disconnection

Socially prescribed perfectionists harbor the belief that others expect them to be perfect and are constantly evaluating them. Here too, the individual's focus is predominantly external, but in contrast to the other-oriented person, the objective is to gain acceptance by pleasing others. Socially prescribed patients strive to please by deferring to the wishes of others and doing whatever they believe others want them to do. Their interpersonal stance is one of conformity and a view of self as victim. This can often be infused with overtones of resentment. Therapeutic efforts to empower the individual by pointing out their strengths are experienced as burdensome expectations. The individual is thus caught in a bind whereby he or she feels an immense pressure to be the perfect patient, yet, at the same time, feels resentment and anger build in response to being caught in yet another web of external demands that require perfection. The most viable solution is to protect their fragile self-esteem by presenting a compliant, cooperative, yet inauthentic self that perpetuates the feeling of being rejected and alone in a hostile demanding world. It is this seemingly perfect yet false self that may be experienced by others—including the therapist—as arrogant and distant, thereby exacerbating the patient's feelings of social disconnection.

Perfectionistic Self-Presentation, Perfectionism Cognitions/ Self-Recriminations and Social Disconnection

Other components of the perfectionism construct are relevant in affecting the process of psychotherapy and the therapeutic alliance. For example, all facets of

perfectionistic self-presentation involve the presentation of a facade or inauthentic self in an attempt to conceal the perceived flawed and unworthy self from others. This presentation can be aversive to people in general as well as to clinicians. In addition, the more directly concealing facets of perfectionistic self-presentation involve not displaying or not disclosing imperfections, and this can provide a sense of safety for the patient in avoiding painful affect but may cause significant frustration and feelings of ineffectiveness on the part of the therapist. Concealing the self within the therapeutic encounter can also take the form of fewer disclosures, particularly disclosures of a highly personal nature (see Flynn, Hewitt, Ko, Mikail, & Flett, 2016; Kawamura & Frost, 2004). Similarly, perfectionistic patients engage in various strategies and processes—including automatic perfectionistic thoughts and self-recriminations—that serve to deflect the therapist's efforts at exploring painful affective experiences. This can be frustrating for therapists who can feel ineffective and stymied in their attempts to elicit more affective, relational, and personal material in order to be helpful to the patient (see Salzman, 1980). Understanding such ruminative and self-recriminating thinking as a defensive process can help therapists to appreciate the patient's sense of dread, and thus avoid becoming overly frustrated at being thwarted in their therapeutic efforts.

Defensive Positions in Treatment

Finally, there are other ways that perfectionistic individuals' coping styles and defenses can interfere with therapeutic process and influence the therapeutic alliance. For example, research evaluating coping styles and perfectionism has shown that components of trait perfectionism were associated with maladaptive coping styles (Dunkley et al. 2000; Haring et al., 2003) often characterized by avoidance (Hewitt, Flett, & Endler, 1995). This work suggests that, especially in distressing contexts, perfectionistic individuals may engage in maladaptive coping to reduce negative or painful emotional states within therapeutic encounters. Moreover, research on perfectionism and ego defenses, which can operate at implicit and explicit levels, found that all three trait dimensions of perfectionism were associated with mature defenses (e.g., rationalization, sublimation) whereas other-oriented and socially prescribed perfectionism were associated with neurotic defenses (e.g., idealization, passive aggression) and immature defenses (e.g., acting out, projection). Moreover, the use of maladaptive defenses mediated the link between socially prescribed perfectionism and depression suggesting that the use of such defenses is not very effective in reducing distress (Besser et al., 2004; Flett, Besser, & Hewitt, 2005). Likewise, Dickinson and Ashby (2005) found that what they termed maladaptive perfectionism (excessive levels of discrepancy between high standards and performance) was associated with immature defenses but not with neurotic or mature defenses.

Several authors have suggested that the defensive positions that perfectionists use in psychotherapy can be problematic for therapists and the therapy process (e.g., Hewitt & Flett, 2004; Horney, 1950; Salzman, 1980). These defensive

positions can allow the perfectionist to avoid painful emotions and, given that psychotherapy is about experiencing emotional states, these positions become apparent in treatment. One, in particular, that forms part of the perfectionist's behavior is intellectualization. For example, Salzman (1980) wrote:

> The emphasis on intellectuality is another means of avoiding the potential humiliation of not being perfect. It prevents real involvements in any emotional exchange and thereby sidetracks the possibility of being influenced or affected by the therapist's interpretation or observation. Intellectualizing and philosophizing about life is a most successful device to avoid participating in it. The obsessional (perfectionist) exhibits great skill in avoiding any involvement with the therapist, although he may talk extensively about involvement and the problems of transference and counter transference. He will even talk about feelings and emotions. However, it will be a succession of words drawn from an intellectual comprehension of the issues involved, devoid of any real emotional response.
>
> *(p. 204)*

Similarly, perfectionistic individuals will seek and press the therapist for specific information, immediate solutions in the form of readings, and explanations of models of perfectionism or treatment more generally rather than focus on emotion-laden issues. An intellectualizing stance, along with the obtaining of "information" to solve problems, reinforces the patient's illusion that providing information holds the key to solving their difficulties and can be a potential source of tension throughout the therapy. This stance may also reflect a way of attempting to be a perfect patient and trying to garner approval and caring from the therapist or may serve to protect the patient from the anticipated harsh judgments of the therapist should treatment not go well. This sort of stance, especially if rigidly held, can interfere with doing the work of therapy and may induce feelings of being stymied, ineffective, and frustrated in the therapist.

Research Supporting the PSDM in a Clinical Context

Although the revised PSDM (Hewitt et al., 2017) and our extension to the clinical process are new, there are some clinical research findings that pertain to elements of the model. We have already described the work on perfectionism and the consideration and seeking of professional help (Hewitt, Dang, et al., 2016). Other findings from that study support the idea that the difficulties experienced by perfectionists while seeking treatment can also interfere with benefiting from that treatment. For example, in the two subsamples of participants who had sought help in the past in that study, we found that socially prescribed perfectionism and both perfectionistic self-promotion and nondisclosure of imperfection were associated with terminating treatment early and not benefiting from treatment. Furthermore, it was found that all traits and self-presentational facets, in combination with

discomfort seeking and continuing treatment, were associated with increased odds of dropping out early and of doing poorly in treatment.

Similarly, in terms of the interactions between clinician and patient in an assessment context, we are beginning to accumulate evidence which indicates that perfectionism is associated with patients' negative reactions to treatment and that the characteristics of the perfectionistic patient seem to elicit negative responses from their therapists. Hewitt and colleagues (2008) conducted research focused on how 90 community adults who were seeking psychiatric help responded to a clinical interview that involved them openly discussing stressful failures. Hewitt and colleagues found that high levels of concealing one's imperfections (i.e., nondisplay of imperfection) was associated with greater distress before and after the interview, a greater sense of threat prior to the interview, and greater post-interview dissatisfaction. Further, analyses of concurrent physiological responses showed that the perfectionistic self-presentation facets uniquely predicted adults' elevated heart-rate while revealing mistakes and flaws with a clinician, and these associations were still detectable beyond the variance explained by trait perfectionism.

Recently, we conducted follow-up analyses that focused on how patients' perfectionism influenced therapists' judgments and perceptions of those patients during that initial clinical interview (Hewitt, Chen, et al., 2016). Results indicated that patients' levels of perfectionism were associated with therapists' less favorable judgments of their patients. More specifically, trait perfectionism dimensions in patients were negatively related to the extent to which therapists liked their patients and wanted to work with them in the future, with socially prescribed perfectionism being associated negatively with the extent to which patients were expected to benefit from treatment. Perfectionistic self-presentation also seemed to play a role. Specifically, patients' perfectionistic self-promotion and nondisclosure of imperfection were associated negatively with the extent to which their therapists liked them, and nondisclosure of imperfection was also related to how much therapists would like to take them on as future patients. Finally, it was found that the relationship between other-oriented perfectionism and therapist's disliking of patients was mediated by patients' level of hostility.

In terms of treatment studies, findings that perfectionism-related attitudes predict poorer outcome in treatment of depression and that this relationship is mediated by therapeutic and external relationships (Blatt, Zuroff, Quinlan, & Pilkonis, 1996; Shahar et al., 2004; Zuroff et al., 2000) are consistent with our model (also see van der Kaap-Deeder, Smets, & Boone, 2016). The findings support the idea that perfectionism influences negative outcome through its effect on relationships.

In other treatment research from our University of British Columbia Perfectionism Treatment Study (see Hewitt et al., 2017; Hewitt et al., 2015), we found that perfectionism traits (self-oriented and socially prescribed perfectionism in particular) and perfectionistic self-presentation (nondisclosure in particular) were positively associated with higher levels of distress, lower levels of personal disclosures, and being less liked by group members over the course of treatment (Flynn, Hewitt

et al., 2016). Further, it was found that these perfectionism components were associated with decreased liking by the therapists and that therapists' levels of liking patients were negatively associated with treatment effectiveness.

Moreover, in another study (Kaldas, Hewitt, Mikail, & Flett, 2016), 69 residential patients who received daily intensive dynamic-relational group psychotherapy completed measures of perfectionism during the first session and measures of interpersonal problems, perceptions of therapists' interpersonal behavior, and group cohesion on five consecutive days of treatment. Over the course of the five days, trait and self-presentation components of perfectionism predicted lower group cohesion, and this relationship was mediated, in part, by the patients' interpersonal difficulties as well as their perceptions of therapists' interpersonal behavior. Overall, this study suggested that patients with excessive levels of perfectionism tend to struggle more with therapeutic alliance and other therapeutic processes in group therapy. This occurred across perfectionism components. Importantly, each dimension or facet had an impact on different process factors although, taken together, perfectionism negatively impacted all group therapy process factors under investigation.

Lastly, preliminary findings from an ongoing study examining the relationship between perfectionism and various process and outcome variables for a group treatment based on cognitive-behavioral therapy (Zhang et al., 2016) suggested that perfectionism traits and perfectionism cognitions were negatively associated with group process factors. Specifically, both self-oriented perfectionism and perfectionism cognitions were negatively associated with secure emotional expression, a measure of feelings of safety and comfort within groups (Macnair-Semands & Lese, 2000).

Overall, these studies provide preliminary support for components of the PSDM in the therapeutic context. This model may thus be considered a fruitful empirically informed guide to help clinicians understand some of the mechanisms involved in the pernicious role perfectionism can take in treatment.

Evidence Supporting the Treatment of Perfectionism

As the preceding discussion makes clear, the treatment of perfectionism in psychotherapy involves considerable attention to the patient's overt and covert behaviors, interpersonal processes, and affective states. Moreover, such treatment requires careful attention to the clinician's own emotional reactions in the context of maintaining the therapeutic alliance and responding appropriately and therapeutically to the patient's interpersonal difficulties. We thus contend that a psychodynamically informed approach—containing a dual intrapersonal and interpersonal focus—is indicated in the treatment of perfectionism in its various permutations. It is our belief that such an approach will be beneficial in making significant changes not just in symptoms the person might be experiencing but also in making fundamental changes to the person's sense of self, relationships with others, and the perfectionistic behavior itself.

We have evidence supporting the effectiveness of such a dynamic-relational treatment designed to address perfectionism. Hewitt et al. (2015) described the evaluation of this treatment in a group psychotherapy format. This research was conducted in a sample of 60 patients with elevated levels of perfectionism traits, perfectionistic self-presentation, or perfectionism cognitions. The results (pre-treatment, post-treatment, and follow-up) for the intervention group were compared with a wait-list control group. They showed that various components of perfectionism and distress were reduced at significant levels following treatment and at a four-month follow-up. Moreover, the reductions in components of perfectionism were associated with changes in symptoms. Finally, they showed evidence suggesting that the reduction in components of perfectionism was greater in those receiving treatment compared to the wait-list control group.

So what was the nature of the intervention? Our dynamic-relational group psychotherapy approach combines knowledge of critical components of interpersonal group psychotherapy (MacKenzie, 1990; Yalom & Leszcz, 2005) and key ingredients in the psychodynamic treatment of perfectionists in individual and group psychotherapy (see Hewitt et al., 2017; Tasca, Mikail, & Hewitt, 2005). The intervention focused on the relational and developmental precursors, interpersonal impact, and underlying relational processes of perfectionism rather than focusing on reducing perfectionistic behaviors *per se* (e.g., negative evaluations, stringent expectations). That is, the emphasis was on addressing perfectionism-related relational patterns manifest in interactions among group members as well as those described by members within the context of other relationships, including one's relationship with self. This approach is consistent with models of psychodynamic and interpersonal therapy (McWilliams, 2004; Sullivan, 1953) and with other psychodynamic treatments of perfectionism (e.g., Fredtoft, Poulsen, Bauer, & Malm, 1996; Greenspon, 2008; Sorotzkin, 1985). An important role for the therapists was to keep group discussion rooted in the "here and now" and to encourage group members to explore their relationships and experiences within the group. Therapists emphasized the expression of affect, interpersonal feedback among members, and interpretations of group processes. Interpretation of transference responses within the group or between group members and therapists was underscored as a means of exploring and challenging self-limiting interpersonal dynamics. There was also an explicit emphasis on relying on perfectionism as a means of creating safety or defending the self against perceived or actual abandonment, rejection, criticism, intimacy, interpersonal conflict and tension, or a lack of control over one's relational world. Finally, interpersonal transitions were also addressed throughout the sessions with an explicit focus in later sessions on the termination of group participation.

Conclusion

Overall we have argued that because perfectionism is a difficult personality variable to treat—involving negative influences on the treatment process—it is important

to understand how and why perfectionism exerts its negative impact. We presented an extension of our PSDM in an effort to understand the processes involved with perfectionism and its influence on both patient and therapist and, most importantly, on the therapeutic alliance and treatment outcome. It is hoped that outlining the model and processes that perfectionism brings to the treatment situation will stimulate further research regarding this issue. Such research can help clinicians to further understand the complexity of perfectionism in the clinical context and ultimately provide better resources and treatment options for its effective treatment.

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PART V
Conclusions

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16

THE PSYCHOLOGY OF PERFECTIONISM

Critical Issues, Open Questions, and Future Directions

Joachim Stoeber

Overview

In this concluding chapter, I follow the approach of the introductory chapter in taking a personal perspective to discuss what I see are critical issues, open questions, and future directions in perfectionism research. Because all chapters of this book address open questions and future directions, I only discuss topics that the chapters did not cover or that I would like to emphasize again. These include the definition and measurement of perfectionism, the question of whether perfectionism is a trait or a disposition, the need for more longitudinal studies, and the search for mediators and moderators. Further, I make a call for more research on perfectionism going beyond self-reports and point to three areas that I believe are "under-researched": perfectionism at work; ethnic, cultural, and national differences in perfectionism; and perfectionism across the lifespan. Moreover, I address three critical issues that I find problematic because they may present obstacles to further progress in our understanding of perfectionism: focusing on perfectionistic concerns (and ignoring perfectionistic strivings), employing cluster analyses to investigate differences in multidimensional perfectionism, and assessing perfectionism with measures that do not measure perfectionism.

Critical Issues

Focusing on Perfectionistic Concerns (and Ignoring Perfectionistic Strivings)

The first issue I find problematic (see also Stoeber & Gaudreau, 2017) is that there are studies that examine only indicators of perfectionistic concerns and do not include indicators of perfectionistic strivings, or do not report any findings they

obtained for indicators of perfectionistic strivings (cf. Chapter 1, Table 1.1). As to why this is the case, I can only speculate. Maybe the studies' focal interest was psychological maladjustment and—because perfectionistic strivings often fail to show unique positive relationships with maladjustment (Stoeber & Otto, 2006)—the studies did not include perfectionistic strivings and only examined perfectionistic concerns (which reliably show positive relationships with maladjustment). Or maybe the studies originally included perfectionistic strivings but—for the same reason as above—perfectionistic strivings did not show any significant relationships, and so they were dropped from the final analyses that were reported.

Whatever the motivation, studies that do not include perfectionistic strivings are problematic. One reason is that such studies may give a distorted view of perfectionism because they exclusively focus on its maladaptive aspects while blending out aspects that may be harmless, benign, or even adaptive (see Chapters 2, 3, 8, 11, and 12). In addition, such studies may fail to provide an accurate account of how maladaptive perfectionistic concerns are, or even severely underestimate the degree to which perfectionistic concerns are maladaptive. First, including perfectionistic strivings allows for comparisons, so readers can see how maladaptive perfectionistic concerns are relative to perfectionistic strivings. Second, perfectionistic strivings and perfectionistic concerns usually show substantial overlap. Because perfectionistic strivings tend to be less maladaptive than perfectionistic concerns, this overlap may attenuate (or "dampen") the positive relationships that perfectionistic concerns show with indicators of psychological maladjustment as well as the negative relationships they show with indicators of psychological adjustment. To investigate if this is the case, statistical analyses controlling the overlap can be employed (Stoeber & Gaudreau, 2017), and the resulting unique relationships can then be compared with the original relationships (cf. Chapter 8, Table 8.1). Third, research following the 2 × 2 model of perfectionism (Gaudreau & Thompson, 2010) has demonstrated that perfectionistic concerns tend to be more maladaptive when combined with low levels of perfectionistic strivings (see Chapter 3 for details). Fourth, it is important to note that—whereas perfectionistic strivings often do not show unique positive relationships with indicators of psychological maladjustment—there are numerous studies where they do show such relationships and explain variance in psychological maladjustment beyond perfectionistic concerns (e.g., dietary restraint in disordered eating; Bardone-Cone, 2007; Stoeber, Madigan, Damian, Esposito, & Lombardo, in press). For all these reasons, even researchers whose main interest is perfectionism and psychological maladjustment should not exclusively focus on perfectionistic concerns, but also take perfectionistic strivings into account.

Finally, and perhaps most importantly, the conceptualization of perfectionism as a multidimensional characteristic has been central to perfectionism theory and research since the 1990s. It was also responsible for the steep rise in the number of scientific publications on perfectionism and the associated progress in our understanding of perfectionism (cf. Chapter 1). Studies focusing on perfectionistic concerns (and ignoring perfectionistic strivings) represent a regression to the

one-dimensional conceptions of perfectionism that dominated the 1980s and risk discounting everything we have learned and achieved in the past 25 years.

Cluster Analyses and "Types" of Perfectionists

The second issue I find problematic is the use of cluster analyses in perfectionism research. By this, I do not mean the use of cluster analyses per se, but how they are used and how their findings are reported. Cluster analyses typically take multidimensional measures of perfectionism and then use the scores from these measures to "cluster" participants into groups that show similar patterns on these scores (cf. Hair, Black, Babin, Anderson, & Tatham, 2006, Chapter 9). However, there are problems with this approach. First, some studies employing cluster analyses suggest that the clusters represent "types" of perfectionists. However, these clusters are not discrete types in the classic sense representing different kinds of perfectionists (Meehl, 1992). They are merely groups of perfectionists representing different within-person combinations of continuous perfectionism dimensions (see also Broman-Fulks, Hill, & Green, 2008).

Second, some studies use cluster analyses to examine perfectionism against the theoretical frameworks of two models of perfectionism: the tripartite model of perfectionism differentiating healthy perfectionists, unhealthy perfectionists, and non-perfectionists (Parker, 1997; Stoeber & Otto, 2006), and the 2 × 2 model of perfectionism differentiating pure personal standards perfectionism, pure evaluative concerns perfectionism, mixed perfectionism, and non-perfectionism (Gaudreau & Thompson, 2010; see Chapter 3). This too is problematic for a number of reasons.[1] For example, the clusters frequently show significant differences in more than one perfectionism dimension (e.g., healthy perfectionists showing not only lower perfectionistic concerns than unhealthy perfectionists, but also lower perfectionistic strivings). In these cases, it is unclear which dimension is responsible for the differences between clusters (e.g., why healthy perfectionists show lower adjustment problems than unhealthy perfectionists). If researchers want to investigate whether data conform to the tripartite model or the 2 × 2 model of perfectionism, I would recommend they use variable-centered approaches such as multiple regressions and then test for significant differences between non-perfectionism and pure evaluative concerns perfectionism (Gaudreau, 2012). If the two show no significant differences, the data support the tripartite model. If they show significant differences, the data support the 2 × 2 model (Stoeber, 2014).

Third, the results of cluster analyses are often not comparable between studies. Even when studies find the same number of clusters, the clusters usually show different perfectionism profiles (e.g., healthy perfectionists in one study show higher perfectionistic strivings and concerns than healthy perfectionists in another study). Fourth, cluster analyses do not allow to probe for interactions between different perfectionism dimensions (e.g., interactions between perfectionistic strivings and concerns), and they cannot differentiate common, unique, and interactive effects of the different dimensions (see also Stoeber & Gaudreau, 2017, Appendix A).

A final problem is that studies employing cluster analyses often fail to report the bivariate correlations between the perfectionism dimensions and the key variables of interest. Instead, they report only differences between the clusters they created. This is problematic not only because crucial information is missing (i.e., what correlations the clusters are based on), but also because the studies are of limited use for secondary data analyses such as quantitative literature reviews and meta-analyses (cf. Hill & Curran, 2016; Gotwals, Stoeber, Dunn, & Stoll, 2012). Consequently, my recommendation is to follow good research practice and *always report bivariate correlations*. This goes not only for studies employing cluster analyses, but for all studies employing multivariate analyses based on correlations or covariances such as multiple regressions, structural equation modeling, and factor analyses as well as latent class and latent profile analyses.

Measures of Perfectionism Not Measuring Perfectionism

The third issue I find problematic is what can be described as "measures of perfectionism not measuring perfectionism." In particular, I see two problems. The first (and most frequently encountered) concerns the use of the Positive and Negative Perfectionism Scale (PANPS; Terry-Short, Owens, Slade, & Dewey, 1995). The PANPS has a number of shortcomings. First and foremost, the items of the positive perfectionism subscale do not capture perfectionistic strivings, but characteristics, feelings, and behaviors that people high in perfectionistic strivings are expected to show if they feel positive about themselves and their accomplishment (e.g., "I enjoy the glory gained by my successes"). Consequently, the subscale captures positive consequences of perfectionistic strivings that Terry-Short and colleagues associate with "positive perfectionism," but this is not perfectionism (see also Flett & Hewitt, 2006). The items of the negative perfectionism subscale are less problematic because many are similar to items from established measures of perfectionistic concerns (see Chapter 1, Table 1.1). A few items, however, are similar to items other measures use to capture perfectionistic strivings (e.g., "I set impossibly high standards for myself"). Hence it comes as no surprise that the PANPS has shown problems with factorial validity. Haase and Prapavessis (2004) had to discard 21 of the 40 items before a two-factorial structure emerged differentiating positive and negative perfectionism. Similar problems were reported by Egan, Piek, Dyck, and Kane (2011). Moreover, Egan and colleagues found that positive perfectionism showed positive relationships with depressive symptoms, and Haase, Prapavessis, and Owens (1999) found positive relationships with disordered eating. Both findings contradict Terry-Short et al.'s conceptualization of positive perfectionism. Hence, the PANPS cannot be regarded as a reliable and valid measure of perfectionism differentiating perfectionistic strivings and perfectionistic concerns.

The second (less frequently encountered) problem concerns the use of scales and items capturing self-criticism as measures of perfectionism. Examples are the self-criticism subscale of the Depressive Experiences Questionnaire (Blatt, D'Afflitti, & Quinlan, 1976) and the self-critical items from the Dysfunctional

Attitude Scale (Weissman & Beck, 1978). This is problematic because they are measures of self-criticism, not measures of perfectionism or perfectionistic concerns (cf. Chapter 1). Neither are they measures of self-critical perfectionism, because self-critical perfectionism is a hybrid form of perfectionism that is typically assessed by *combining* measures of self-criticism with measures of perfectionistic concerns (Dunkley, Zuroff, & Blankstein, 2003; Smith, Saklofske, Stoeber, & Sherry, 2016; see also Chapters 9 and 11). Self-criticism is not an indicator, proxy, or defining component of perfectionism or perfectionistic concerns, but a separate psychological construct that should be differentiated from perfectionism and perfectionistic concerns (e.g., Dunkley, Blankstein, Masheb, & Grilo, 2006; Sherry, Stoeber, & Ramasubbu, 2016). I am aware that the multitude of measures used in perfectionism research can be confusing, but researchers who use scales or items measuring self-criticism should be clear in their publications that they measured self-criticism, not perfectionism (cf. Stoeber, Hutchfield, & Wood, 2008).

Open Questions

The Definition and Measurement of Perfectionism: Too Many Perfectionisms?

There are two open questions that I would like to discuss which the individual contributions have not discussed. The first question is: Are there "too many perfectionisms" in perfectionism theory and research, that is, more definitions, models, and measures of perfectionism than are healthy for the discipline? This question reflects two issues that are sometimes lamented in perfectionism research. One is that there is no commonly agreed definition of perfectionism. The other is that there are so many different models and measures of perfectionism.

As regards the first issue, I am not sure how problematic this is. True, there is no commonly agreed definition of perfectionism. And because perfectionism researchers like to disagree about specific aspects of perfectionism (as alluded to in Chapter 1), I see little chance for a commonly agreed definition in the near future. On the positive side, I think that most perfectionism researchers are in tacit agreement about the core components that define perfectionism. To support this view, I have only anecdotal evidence. In our publications, for example, we usually define perfectionism as "a personality disposition characterized by striving for flawlessness and setting exceedingly high standards of performance accompanied by overly critical evaluations of one's behavior" (e.g., Stoeber, Haskew, & Scott, 2015, p. 171) or use similar definitions along these lines. These definitions have never been seriously challenged in peer review, which to me suggests that the core elements of these definition are widely agreed. And I get the same impression from the discussions we have at conferences and symposia when presenting papers and posters on perfectionism.

As regards the second issue, I agree that the many models and measures of perfectionism that have been developed over the past 25 years must be confusing

for anyone who is not an expert in perfectionism research. But how to address this issue? One suggestion has been to follow the example of the Obsessive Compulsive Cognitions Working Group (OCCWG, 1997) and get all the leading perfectionism researchers together, discuss and agree the core elements of perfectionism, and develop a commonly agreed measure of perfectionism as did the OCCWG with obsessive-compulsive beliefs (OCCWG, 2001). However, when this suggestion was made at the last Perfectionism Network Meeting (University of Kent, 12–13 July 2016)—a meeting where most of the leading perfectionism researchers were present—the response was muted. Consequently, I also see little chance for a commonly agreed measure of perfectionism in the near future.

But are there really too many measures? I personally do not think so. First, the vast majority of research on perfectionism is based on only two measures—the Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990) and the Hewitt–Flett Multidimensional Perfectionism Scale (HF-MPS; Hewitt & Flett, 1991)—followed by the Almost Perfect Scale–Revised (Slaney, Rice, Mobley, Trippi, & Ashby, 2001) in a distant third place. This means that most perfectionism research is based on three measures only (or short forms and adaptations of these measures). Second, all widely used multidimensional measures of perfectionism have subscales capturing perfectionistic strivings and perfectionistic concerns, the two higher-order dimensions of the two-factor model of perfectionism (see Chapter 1). Consequently, the two-factor model provides a common conceptual framework to understand and compare the findings from different studies using different measures of perfectionism (Stoeber & Otto, 2006; see also Gotwals et al., 2012; Jowett, Mallinson, & Hill, 2016).

Further, there are good reasons why we have so many different measures of perfectionism. Perfectionism can affect all domains of life, but most perfectionists are not perfectionistic across all domains of life (Stoeber & Stoeber, 2009). Instead, perfectionism is often domain-specific, meaning that perfectionists are usually more perfectionistic in some domains than in others (Dunn, Gotwals, & Causgrove Dunn, 2005; McArdle, 2010). Consequently, it makes sense to have not only general measures of perfectionism, but also measures that assess perfectionism in specific domains such as sport, dance, exercise, parenting, physical appearance, or sex (Snell, Overbey, & Brewer, 2005; Stoeber, Harvey, Almeida, & Lyons, 2013; Stoeber & Madigan, 2016; Yang & Stoeber, 2012). Moreover, domain-specific measures of perfectionism are useful because they have been shown to explain variance in specific populations or specific variables beyond general measures of perfectionism (e.g., sport perfectionism → body image in athletes: Dunn, Craft, Causgrove Dunn, & Gotwals, 2011; physical appearance perfectionism → eating disorder symptoms in students: Stoeber & Yang, 2015). Further note that most domain-specific measures of perfectionism are adaptations of general measures of perfectionism (like the FMPS and HF-MPS) or were inspired by these measures (cf. Stoeber & Madigan, 2016). Consequently, the many different measures we see in perfectionism research often share the same underlying models and have comparable dimensions.

Finally, theory and research on perfectionism are still evolving and developing, and this includes the expansion of extant models of dispositional perfectionism, perfectionistic self-presentation, and perfectionism cognitions (including the expansion in new domains). In addition, there is a continued development of further models of perfectionism including new, hybrid forms of perfectionism. All this evolution, expansion, and development requires reliable and valid measures (e.g., Ferreira, Duarte, Pinto-Gouveia, & Lopes, in press; Flett, Nepon, Hewitt, Molnar, & Zhao, in press; Smith et al., 2016). Furthermore, perfectionism research has a strong tradition of revisiting established measures of perfectionism for a critical reexamination of their psychometric properties (e.g., De Cuyper, Claes, Hermans, Pieters, & Smits, 2015; Stöber, 1998) as well as developing reliable and valid short forms of these measures (e.g., Burgess, Frost, & DiBartolo, in press; Stoeber, in press). Consequently, I do not see the multitude of perfectionism models and measures that we have (and the continued development of further models and measures) as a problem or a sign of weakness. To me, they signify that perfectionism theory and research is alive and well, and flourishing.

Perfectionism: Trait or Disposition?

The second open question I would like to discuss (but discuss more concisely), is whether perfectionism is a personality trait or a personality disposition. Like the first question, this question is not easy to answer, and other researchers may have views and preferences different from the ones presented here. Following Allport (1937), personality traits are commonly defined as broad descriptions of individual differences between people that are relatively general and enduring and are responsible for consistent patterns—consistent across time and consistent across situations—in the way individuals behave, feel, and think (McAdams, 2006; Pervin, Cervone, & John, 2005). Prominent trait models of personality include the five-factor model and the HEXACO model described in Chapter 4. Some of these models include perfectionism on the facet level (i.e., as a facet of a broad personality trait), most notably Cloninger's model of personality (where perfectionism is a facet of persistence) and the HEXACO model of personality (where it is a facet of conscientiousness) (Cloninger, Przybeck, Svrakic, & Wetzel, 1994; Lee & Ashton, 2004). But is perfectionism itself a trait?

Whereas the chapters in this book use the terms "trait perfectionism" and "dispositional perfectionism" interchangeably, I prefer to regard perfectionism as a disposition rather than a trait. There are a number of reasons. In research on personality and individual differences, the term "trait" usually refers to stable individual differences with high cross-situational consistency that have a neurobiological basis and are to a significant extent inherited. Like most individual differences, perfectionism has a genetic component (see Iranzo-Tatay et al., 2015, for a review). Developmental models of perfectionism, however, suggest that—whereas the child's temperament may play a role in the development of perfectionism—individual differences in perfectionism are mostly learned and

shaped by children's and adolescents' experiences and expectations (Flett, Hewitt, Oliver, & Macdonald, 2002; Rice, Lopez, & Vergara, 2005; Stoeber, Edbrooke-Childs, & Damian, in press). Social-cognitive theories of personality development that regard stable individual differences as learned and shaped by the environment, however, tend to regard these differences as dispositions, not as traits (cf. Fleeson, 2012; Mischel, Shoda, & Ayduk, 2007). Further, there are questions about the generality and stability of perfectionism. As already mentioned, only a few perfectionists are perfectionistic across all domains of life (Stoeber & Stoeber, 2009). Instead, perfectionism is often domain-specific (e.g., Dunn et al., 2005; McArdle, 2010). Moreover, longitudinal studies have shown that perfectionism—while relatively stable—may show changes over fairly short periods of time and that these changes are the result of individual differences in perceptions, expectations, and experiences (Damian, Stoeber, Negru, & Băban, 2013; Damian, Stoeber, Negru-Subtirica, & Băban, in press; Soenens et al., 2008). Consequently, I find that perfectionism has more characteristics of a personality disposition than a personality trait.

Future Directions

Longitudinal Studies

The final section of this chapter discusses some areas that, from my view, future research should take on if we want to continue making progress in our understanding of perfectionism. First and foremost, I think we need more longitudinal studies on perfectionism. This includes prospective studies as well as diary studies and other methods of ecological momentary assessment (Bolger, Davis, & Rafaeli, 2003; Shiffman, Stone, & Hufford, 2008). All such studies have more than one measurement point and thus allow us to investigate the temporal relationships between perfectionism and key variables of interest, providing stronger evidence for causal influences and the direction of these influences. Unfortunately, the vast majority of published research on perfectionism still uses cross-sectional designs (all measurements are taken at one point of time). Such studies, however, are limited because they cannot tell us whether perfectionism is an antecedent or a consequence of a variable of interest, whether the two show reciprocal relationships, or whether they are mere correlates. Regarding the question of perfectionism as an antecedent, longitudinal studies are important to examine the effects of perfectionism because only such studies can determine if perfectionism predicts changes in an outcome variable over time (e.g., Madigan, Stoeber, & Passfield, 2015). In addition, if they comprise three or more measurement points, longitudinal studies allow for modeling between-person as well as within-person changes (e.g., Madigan, Stoeber, & Passfield, 2016; see also Chapter 11). Furthermore, only longitudinal studies with three or more measurement points can properly test mediation effects (Cole & Maxwell, 2003). Regarding the question of perfectionism as a consequence, longitudinal studies are important to understand the development of perfectionism.

This is an area of research where we have various theoretical models suggesting developmental antecedents of perfectionism (e.g., Flett et al., 2002; Stoeber et al., in press) but only very few longitudinal studies actually examining developmental antecedents of perfectionism (e.g., Damian et al., 2013; Damian et al., in press; Soenens et al., 2008; Stoeber, Otto, & Dalbert, 2009).

Furthermore, it is important that longitudinal studies test for reciprocal effects, because these tests can yield important new (and sometimes surprising) insights. For example, Gautreau, Sherry, Mushquash, and Stewart (2015) conducted a 12-month, three-wave study examining self-critical perfectionism and social anxiety. Results showed that self-critical perfectionism did not predict increases in social anxiety. Instead, social anxiety predicted increases in self-critical perfectionism, suggesting that social anxiety may contribute to the development of perfectionistic concerns. As another example, Damian et al. (in press) conducted a nine-month, three-wave study examining perfectionism and academic achievement. Differently from what was expected, perfectionistic strivings did not predict increases in academic achievement. Instead academic achievement (and academic self-efficacy) predicted increases in perfectionistic strivings, suggesting that students who are high achievers and believe in their academic abilities may develop perfectionistic strivings. Finally, it is important to note that longitudinal studies do not have to be "long." Any study on perfectionism using more than one measurement point qualifies as a longitudinal study, and any findings from such a study are likely to provide valuable new insights into perfectionism. Moreover, short-term longitudinal studies (also known as "shortitudinal" studies) may have higher statistical power for finding longitudinal effects than studies with longer intervals between measurement points (Dormann & Griffin, 2015), which is something worth keeping in mind.

Mediators and Moderators

Second, more research examining mediators and moderators of the relationships and effects of perfectionism is needed.[2] Research on mediators is important because we need to know *how* perfectionism, as a relatively stable personality disposition, affects an outcome X (perfectionism → mediator → X). However, not all variables qualify as mediators, and not all research designs are suitable for testing mediation effects. According to Cole and Maxwell (2003), "a mediator is a mechanism of action, a vehicle whereby a putative cause has its putative effect" (p. 559). Consequently, only variables that represent actions or processes qualify as mediators (not stable individual differences, personality dispositions, or traits). Further, Cole and Maxwell point out that "a mediator cannot be concurrent with X" (p. 561). Consequently, proper mediation analyses require longitudinal studies. Whereas a full mediation design requires three measurement points (perfectionism at Time 1 → mediator at Time 2 → outcome at Time 3), it is worth pointing out that also studies with two measurement points can be used to test mediation effects by employing a so-called "half-mediation model." In this model, the

predictor–mediator relationships (perfectionism at Time 1 → mediator at Time 2) and mediator–outcome relationships (mediator at Time 1 → outcome at Time 2) are tested separately to establish longitudinal mediation (see Cole and Maxwell, 2003, for details). I am not aware of any perfectionism studies applying this model, but would like to encourage researchers to give this model a try if they have studies with two measurement points including potential mediators.

Researchers should also continue looking for possible moderators of perfectionism–outcome relationships, that is, variables that show significant interactions with perfectionism when predicting an outcome X (see also Chapter 8). Research on moderators is important because they show that the relationships (or effects) of perfectionism are dependent on a third variable. Important questions in the search for moderators are, for example, whether there are any variables buffering the negative effects of perfectionistic concerns (e.g., daily coping; Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Stoeber & Janssen, 2011) or what the circumstances are under which perfectionistic strivings are adaptive versus maladaptive (see Chapter 3, Figure 3.3). However, there is a problem. Interactions between naturally occurring individual differences (e.g., perfectionism × daily coping) are usually smaller in size than interactions between experimental conditions (which can be manipulated to provide large-sized differences). Consequently, interactions between naturally occurring individual differences tend to be difficult to detect and may require large sample sizes (McClelland & Judd, 1993). This could also be the reasons why we seldom find significant interactions between perfectionistic strivings and perfectionistic concerns (cf. Hill, 2013; Stoeber & Yang, 2010). Still, these difficulties should not deter researchers from probing for interactions between perfectionism and possible moderators, or between perfectionistic strivings and perfectionistic concerns (see also Gaudreau, 2012).

Going Beyond Self-Reports

Finally, I think that perfectionism research needs more studies including data that are not from self-reports. Don't get me wrong. Self-reports in psychological research are invaluable. They provide reliable and valid information about people's thoughts, feelings, and behaviors, and they are practical, economical, and easy to interpret (Paulhus & Vazire, 2007). Moreover, because only self-reports have an inside perspective, they can provide "information no one else knows" (Baldwin, 2000). Still, we would be missing essential parts of the perfectionism puzzle if we only examined self-reported antecedents, self-reported correlates, and self-reported consequences of perfectionism. Perfectionism research needs to go beyond inner experiences, and take a look at what perfectionism does in the outside world.

Whereas most studies examining perfectionism do not go beyond self-reports, there are notable exceptions. First, a significant number of studies have included objective measures of academic performance (e.g., students' grade point average). Other studies have examined perfectionism and objective performance in aptitude

tests and laboratory tasks or sports. These studies have provided valuable new insights into perfectionism indicating that only perfectionistic strivings show consistent positive relationships with performance whereas perfectionistic concerns usually show no relationships (see Stoeber, 2012, for a review). In addition, a number of studies have included observer ratings (also known as observer reports or informant reports). Self-reports and observer ratings have been described as the "counterpoint of personality assessment" (McCrae, 1994). Applied to perfectionism research, they show us how perfectionists see themselves and how others see them (see Chapter 9 for an illustrative example). Furthermore, some studies have begun to go beyond self-reported stress and included physiological measures of stress (e.g., Albert, Rice, & Caffee, 2016; Richardson, Rice, & Devine, 2014). Finally, there are two longitudinal studies examining how perfectionism predicts what is perhaps the ultimate objective outcome: mortality. Unfortunately, the studies' findings were inconclusive. Whereas the first study found that self-oriented perfectionism predicted lower survival rates (Fry & Debats, 2009), the second study found the opposite: Self-oriented perfectionism predicted higher survival rates (Fry & Debats, 2011). Clearly more research including observer ratings and objective measures of stress, health, and well-being is needed to address the complex associations among perfectionism, stress, health behaviors, health, and, ultimately, mortality (see also Chapter 10).

Under-Researched Areas

Perfectionism at Work

Finally, I would like to draw attention to three areas that I think are under-researched. The first is perfectionism at work. We know that work comes out top when people are asked what domains of life perfectionism affects most (Slaney & Ashby, 1996; Stoeber & Stoeber, 2009). For example, Stoeber and Stoeber (2009) investigated how perfectionistic people are across a list of 22 domains of life. They found that 58% of a university student sample and 53% of an Internet sample indicated they were perfectionistic at work, putting work at the first position on both lists. Consequently, perfectionism at work should be an important research topic. Yet, compared to the number of studies examining perfectionism in students, relatively few studies have examined perfectionism in employees and how perfectionism relates to variables that are of key interest in the domain of work such as workaholism (e.g., Stoeber, Davis, & Townley, 2013; Tziner & Tanami, 2013) or job burnout (e.g., Childs & Stoeber, 2010; Li, Hou, Chi, Liu, & Hager, 2014). Beyond workaholism and job burnout, there is even less research on perfectionism at work. In particular, we do not know how perfectionism affects people's social relations at work and their work performance (individual performance and team performance). Both questions would be important to investigate given that perfectionism is linked with interpersonal problems (see Chapters 9 and 15) and has been associated with higher-quality performance, but

reduced productivity and efficiency (Sherry, Hewitt, Sherry, Flett, & Graham, 2010; Stoeber & Eysenck, 2008). Consequently, perfectionism research may profit from further research on perfectionism at work. In addition, because many jobs require team work, this research should go beyond individual-level aspects of perfectionism and also examine group-level aspects like "team perfectionism" (Hill, Stoeber, Brown, & Appleton, 2014), that is, the level of perfectionism in teams and how this level influences the team (e.g., team relationships and coherence, team performance). Whereas we found team perfectionism to predict higher performance in sport (Hill et al., 2014), team perfectionism may have different effects at work, but until we investigate perfectionism at work, we will not know.

Ethnic, Cultural, and National Differences

Another question I think is under-researched is the question of ethnic, cultural, and national differences in the relationships that perfectionism shows with key variables of interest such as psychological adjustment and maladjustment. Note that I am not referring to differences in levels of perfectionism (e.g., whether Group A shows higher or lower levels of perfectionism compared to Group B). I am referring to differences in the relationships of perfectionism (e.g., whether perfectionism in Group A shows stronger or weaker relationships with psychological adjustment and maladjustment compared to perfectionism in Group B) and differences in the effects of perfectionism (e.g., whether perfectionism in Group A has more adaptive or more maladaptive effects compared to perfectionism in Group B). For example, it is conceivable that socially prescribed perfectionism—the belief that striving for perfection and being perfect are important to others—is less dysfunctional in collectivistic cultures where people tend to have an interdependent conception of the self and conforming to expectations from others is the norm. In comparison, socially prescribed perfectionisms may be more dysfunctional in individualistic cultures where people have an independent conception of the self and expectations are primarily self-focused (cf. Markus & Kitayama, 1991; Stoeber, Kobori, & Tanno, 2013).

Unfortunately, systematic research on ethnic, cultural, and national differences in perfectionism is lacking. More studies are needed comparing the relationships and effects of perfectionism across samples from different nations (e.g., Sherry et al., 2016), different ethnicities (e.g., C. Chen, Hewitt, & Flett, 2017), and different cultures (e.g., Stoeber, Kobori, & Tanno, 2013). In this endeavor, however, there are three important points to consider. First, when comparing perfectionism across cultures, researchers need to make sure that their measures are equivalent across cultures so they do not compare "chopsticks with forks" (F. F. Chen, 2008). Second, researchers should not only look for differences, but also for similarities. And they should make sure they publish studies that find more similarities than differences as well as studies that do not find any differences (cf. Sherry et al., 2016; Smith, Saklofske, Yan, & Sherry, 2016). This is to avoid biasing the published literature in a direction suggesting there are more differences than similarities.

Publishing only studies that find significant differences is a serious problem in psychological science (e.g., Ferguson & Heene, 2012). As is the case with gender differences (Hyde, 2005), it may be that the similarities between different nations, ethnicities, and cultures regarding perfectionism are much greater and more important than any differences. And if we find differences, we need to demonstrate that these differences are reliable and replicate in other studies and samples. In addition, we need theories than can *explain* these differences.

Perfectionism Across the Lifespan

Concluding this section, another question I think deserves more attention is the question of how perfectionism develops across the life span. When I give talks about perfectionism, one question that is frequently asked is if we know what happens with perfectionism when people get older. In particular, do people become less perfectionistic when they get older? Unfortunately, the answer to these questions is: We don't know. Whereas numerous studies have investigated how major personality traits develop across the life span (e.g., McCrae et al., 1999; Roberts, Walton, & Viechtbauer, 2006), I am not aware of any studies that have investigated how perfectionism develops across the lifespan.

There are, however, a few studies suggesting that perfectionism declines with age. For example, Landa and Bybee (2007) examined the dimensions of perfectionism from Frost et al.'s (1990) model comparing undergraduates of a sorority (mean age = 19.9 years) with alumnae of the same sorority (mean age = 33.7 years). They found that the alumnae showed significant lower levels of perfectionism regarding personal standards, concerns over mistakes, doubts about actions, and parental expectations, suggesting that both perfectionistic strivings and perfectionistic concerns decline with age. Stoeber and Stoeber (2009) examined self-oriented and socially prescribed perfectionism from Hewitt and Flett's (1991) model in an Internet sample including adults from below 20 to above 70 years of age. Both self-oriented and socially prescribed perfectionism showed small negative correlations with age, again suggesting that perfectionistic strivings and perfectionistic concerns decline with age. In comparison, Hewitt and Flett (2004) examined a large community sample of adults from 18 to over 45 years of age and found that older adults showed lower levels of socially prescribed perfectionism (but not self-oriented or other-oriented perfectionism), suggesting that perfectionistic concerns decline with age, but not perfectionistic strivings. Taken together, the findings point in the direction of perfectionism showing declines over the lifespan, particularly perfectionistic concerns (cf. Hewitt & Flett, 2004; Landa & Bybee, 2007). Because perfectionistic concerns are closely linked with trait neuroticism (e.g., Stoeber & Otto, 2006), this would be in line with findings from research on personality across the lifespan showing that levels of neuroticism decline across the life span, with particularly steep declines in the first decades of adulthood (McCrae et al., 1999; Roberts et al., 2006). What is unclear, however, is why perfectionistic strivings also seem to decline even though perfectionistic

strivings are closely linked with trait conscientiousness, and conscientiousness shows *increases* across the lifespan (McCrae et al., 1999; Roberts et al., 2006). Clearly there are important questions on how perfectionism and its various aspects, forms, and dimensions develop across the lifespan, and what explains these developments. I hope that future research will engage with these questions and provide answers.

Concluding Comments

I have the same hope for the other open questions addressed in this chapter as well as the open questions that the other chapters of this book addressed. But looking back at the past 25 years of research on multidimensional perfectionism and all that has been achieved in these years—and also looking at the individual contributions in this book that not only reflect past achievements, but also point toward future achievements—I am confident that the next 25 years will see all these questions answered, and more.

Notes

1 See also Chapter 3 for a detailed discussion of why cluster analyses should not be used to examine the 2 × 2 model of perfectionism.
2 See Baron and Kenny's (1986) classic article for an explanation of mediators and moderators.

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AUTHOR INDEX

Numbers in **bold** denote tables; numbers in *italic* denote figures; n denotes notes.

SUBJECT INDEX

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