

Measures of Perfectionism

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The development of two multidimensional perfectionism measures at the start of the 1990's facilitated exponential growth in research on perfectionism. Until then, perfectionism had been assessed with unidimensional measures. The Burns Perfectionism Scale came from the depression literature and assessed dysfunctional perfectionistic attitudes (Burns, 1980) and perfectionism was assessed in the eating disorder context with the six-item perfectionism subscale from the Eating Disorder Inventory (EDI; Garner, Olmstead, & Polivy, 1983).

We now know, over two decades later, that perfectionism is a multidimensional construct and there is a much better understanding of this complex personality orientation. There is increasing evidence that perfectionism is associated with consequential outcomes, in keeping with demonstrations of how personality contributes to consequential life outcomes that matter (see Ozer & Benet-Martinez, 2006). One of the clearest illustrations is the apparent role played by trait perfectionism dimensions in early mortality (see Fry & Debats, 2009). This link between perfectionism and early mortality has provided the impetus for a thriving line of investigation on the role of perfectionism in health problems.

While it is clear that perfectionism is related to the five-factor model (see Hill, McIntire, & Bacharach, 1997), it is also evident both conceptually and empirically that perfectionism has unique elements that distinguish it from broad traits such as conscientiousness and neuroticism. We have argued repeatedly, for instance, that extreme self-oriented perfectionism is a form of hyper-conscientiousness that goes beyond normal conscientiousness because it is a compulsive form of needing things and the self to be perfect and exact. Similarly, the concept of socially prescribed perfectionism incorporates the emotional instability that is the essence of trait neuroticism, but there are unique elements associated with feeling like others or society in general has imposed unfair demands on the self to be perfect.

The vast array of measures of perfectionism posed a particular problem for us in writing this chapter. We limited our scope by focusing on the most widely used measures while acknowledging that there are other suitable measures that merit consideration depending on the particular interests of the potential user. The measures reviewed in this chapter were selected on the basis of several criteria. First, and foremost, they had to be measures that are used broadly and this use extends substantially beyond the lab where the measures were created. Second, in order to address the psychometric themes covered in this and other chapters in this book, extensive information about the instrument had to be available. Several intriguing new measures have emerged in the past several years but we simply need more information about them. Finally, the decision to exclude some measures was based, in part, on unresolved issues that remain to be addressed. Two particular examples come to mind here. First, a measure of clinical perfectionism based on a unidimensional framework appears to actually consist of more than one factor (see Dickie, Surgenor, Wilson, & McDowall, 2012). As another example, a measure of positive perfectionism (reflecting 'good perfectionism') and negative perfectionism (reflecting 'bad perfectionism') was used in a recent study involving a clinical sample of anxious and depressed people. Egan, Piek, Dyck, and Kane (2011) found that positive 'good' perfectionism was robustly correlated with greater depression ($r = .50$) in the clinical group. Their results point to the possibility that perhaps positive perfectionism can be functional at one point in someone's life but it can be quite negative when clinical dysfunction is evident or

when challenging life circumstances are encountered. This would be in keeping with our fundamental belief that perfectionism is a diathesis that is activated in stressful contexts (see [Hewitt & Flett, 2002](#)).

MEASURES REVIEWED HERE

The measures reviewed in this chapter differ substantially in the themes that are captured and in associated item content. Each of these inventories is described in terms of their conceptualization, development, psychometric properties, and location. The following measures are reviewed:

1. Frost Multidimensional Perfectionism Scale ([Frost, Marten, Lahart, & Rosenblate, 1990](#))
2. Hewitt and Flett Multidimensional Perfectionism Scale ([Hewitt & Flett, 1991; 2004](#))
3. Almost Perfect Scale – Revised ([Slaney, Rice, Mobley, Trippi, & Ashby, 2001](#))
4. Perfectionism Cognitions Inventory ([Hewitt, Flett, & Sherry, 2003](#))
5. Perfectionistic Self-Presentation Scale ([Flett et al., 1998](#))

OVERVIEW OF THE MEASURES

No measure of perfectionism is psychometrically perfect (though this claim applies broadly to all social-personality measures). Each measure has positive features and some issues that must be addressed. We begin with the two perfectionism inventories that share the same name – the Multidimensional Perfectionism Scale.

Multidimensional Perfectionism Scale (FMPS)

([Frost et al., 1990](#)).

Variable

Perfectionism was defined by [Frost et al. \(1990\)](#) as ‘high standards of performance which are accompanied by tendencies for overly critical evaluations of one’s behavior’ (p. 450) including overconcern with mistakes to the extent that performance is either perfect or worthless and minor flaws represent failure. The evaluative tendencies of perfectionists also include a sense of doubt about the quality of one’s performance. Self-evaluations are also linked inextricably with excessively high standards that cannot be attained, and not having met parental expectations results in loss of parental love and acceptance. Finally, perfectionism includes an overemphasis on precision, order, and organization.

Description

Initially, an item pool was compiled with 67 items. All items were responded to on a 5-point Likert-type scale ranging from ‘1’ (strongly disagree) to ‘5’ (strongly agree). Items were reduced to 47 based on reliability analyses. Item intercorrelations of the remaining 47 items were subjected to a principal axis factor analysis which yielded six factors. The first factor was labeled: Concern over mistakes (COM) followed by an Organization factor. Across a number of factor analyses, four other hypothesized factors also emerged (i.e., Parental criticism, Parental expectations, Personal standards, and Doubts about actions). [Frost et al. \(1990\)](#) noted that COM was the central perfectionism factor in each analysis. The final version of the Frost MPS (FMPS) has 35-items and comprises six dimensions as well as providing a total score (see [Frost et al., 1990](#)). No items are worded in the negative direction. The Organization factor was dropped because it did not often correlate significantly with the other five subscales. However, [Lundh, Saboonchi, and Wangby \(2008\)](#) identified a subgroup of participants with a distinct profile characterized by high scores across all six original FMPS subscales, including the Organization factor. Subsequently, the 7-item personal standards subscale was reduced by two items so that it assesses ‘pure personal standards’ (see [DiBartolo, Frost, Chang, LaSota, & Grills, 2004](#)).

Sample

The first samples ([Frost et al., 1990](#)) comprised 232 and 178 female undergraduates, respectively, enlisted primarily to evaluate the FMPS factor structure. Mean scores were reported by [Juster et al. \(1996\)](#) for 61 patients with social phobia and 39 community volunteers. Higher scores for the clinical group were found on three

measures (labeled: concern over mistakes, doubts about actions, and parental criticism) while they exhibited significantly lower scores on the organization factor. The respective scores for individuals with social phobia versus community volunteers were as follows: concern over mistakes ($M = 25.6$, $SD = 7.5$ versus $M = 20.3$, $SD = 6.7$), doubts about actions ($M = 10.9$, $SD = 3.7$ versus $M = 9.0$, $SD = 3.5$), personal standards ($M = 23.1$, $SD = 5.8$ versus $M = 23.4$, $SD = 4.9$), organization ($M = 20.1$, $SD = 5.4$ versus $M = 23.1$, $SD = 5.0$), parental expectations ($M = 12.7$, $SD = 6.0$ versus $M = 12.5$, $SD = 3.9$), and parental criticism ($M = 9.3$, $SD = 3.9$ versus $M = 7.8$, $SD = 3.1$). Parker (2002) reported the FMPS results for 820 academically talented students in Grade 6 who were classified via cluster analyses into groups of non-perfectionists, adaptive perfectionists, and maladaptive perfectionists. The maladaptive perfectionists exhibited significantly higher scores across all FMPS factors. The means for the maladaptive perfectionism group were as follows: concern over mistakes ($M = 25.1$, $SD = 5.0$), doubts about actions ($M = 10.8$, $SD = 3.1$), personal standards ($M = 26.5$, $SD = 3.9$), organization ($M = 21.5$, $SD = 4.6$), parental expectations ($M = 16.9$, $SD = 4.0$), and parental criticism ($M = 8.8$, $SD = 3.2$).

Reliability

Internal Consistency

Cronbach alpha coefficients from the initial Frost et al. (1990) sample ranged from .77 to .93 across the FMPS subscales with an alpha coefficient of .90 for the overall scale. Subscale alpha coefficients were reported in 58 of these studies (Ha, Lee, & Puig, 2010). The mean alpha coefficients across settings were: personal standards (.77), organization (.86), concern over mistakes (.84), doubts about actions (.71), parental expectations (.77), and parental criticism (.75). The total score exhibited an alpha coefficient of .87 (cf. Boyle, 1991).

Test–Retest

Rice and Dellwo (2001) found evidence indicating that the Frost MPS subscales have moderate stability when assessed twice over a 10-week period in a sample of undergraduates, with test–retest coefficients across the subscales ranging from .62 to .88. Cox and Enns (2003) examined the stability of subscale scores in 105 clinically depressed patients who were re-assessed one year later after remission of their depression. Test–retest coefficients were found to be .68 for personal standards, .70 for concern over mistakes, .60 for doubts about actions, .71 for parental expectations, .72 for parental criticism, and .72 for organization. Based on a sample of 40 university students, Gelabert et al. (2011) reported stability coefficients over a one month interval ranging from .82 to .92.

Validity

Convergent/Concurrent

Frost et al. (1990) reported positive correlations between total FMPS scores and scores on three measures of perfectionism (the Burns Perfectionism Scale, the Irrational Beliefs Test high standards scale) and the EDI perfectionism subscale (r 's ranging from .57 to .85). Frost, Heimberg, Holt, Mattia, and Neubauer (1993) established substantial associations between the respective subscales of the FMPS and the Hewitt and Flett Multidimensional Perfectionism Scale (HFMPMS), showing substantial communality. Hill et al. (2004) created the Perfectionism Inventory (PI) with eight subscales, including alternative measures tapping concern over mistakes, organization, striving for excellence, high standards for others, and perceived parental pressure. The PI was administered along with both FMPS inventories to a sample of 613 university students. Corresponding subscales exhibited strong correlations, attesting to concurrent validity. For instance, the personal standards subscale exhibited a strong association with PI striving for excellence ($r = .72$) while the subscales assessing parental expectations and parental criticism exhibited positive correlations with the perceived parental pressure subscale of .85 and .60, respectively. Stairs, Smith, Zapolski, Combs, and Settles (2012) administered many perfectionism measures to 687 students to identify the underlying components of the perfectionism construct. Their 61-item nine factor scale is entitled: Measures of Constructs Underlying Perfectionism. Significant correlations between the FMPS and some of the underlying constructs were as follows: personal standards (.67 with high standards), organization (.85 with order), concern over mistakes (.72 with reactivity to mistakes), doubts about actions (.66 with dissatisfaction), parental expectations (.54 with perceived pressure), and parental criticism (.38 with perceived pressure).

Divergent/Discriminant

The study by Stairs et al. (2012) provided extensive illustrations of the discriminant validity of the FMPS subscales. For instance, doubt about actions had minimal links with high standards ($r = .17$) and perfectionism

toward others ($r = .15$). The measures of parental expectations and parental criticism were unrelated to several measures developed by [Stairs et al. \(2012\)](#), including order and satisfaction (r 's ranging from $-.02$ to $.10$).

The FMPS clearly has discriminant group validity, which is particularly important in perfectionism research due to the premise that perfectionism is elevated among people with more extreme forms of dysfunction and disorder. Accordingly, we will provide illustrations of discriminant group validity for all of the measures that have available information. Evidence in support of the FMPS was provided by [Wheeler, Blankstein, Antony, McCabe, and Bieling \(2011\)](#). They compared five groups (nonpsychiatric groups, depressed patients, socially anxiety patients, panic disorder with agoraphobia patients, and obsessive-compulsive disorder patients) on several measures including the FMPS and HFMP (reviewed next). The group comparisons revealed significant differences for concern over mistakes and doubts about actions. Three groups (depressed, socially anxious, and OCD groups) exhibited significantly higher scores than the control participants and the panic disorder with agoraphobia groups. Comparisons of anorexic patients with normal controls, established that the anorexic patients had higher mean levels of personal standards, concern over mistakes, doubts about actions, and parental criticism ([Bastiani, Rao, Weltzin, & Kaye, 1995](#)). Another investigation found that currently ill with bulimia nervosa and recovered bulimics exhibited comparatively higher FMPS subscale scores on all measures except on the organization factor ([Lilienfeld, Stein, & Bulik, 2000](#)).

Construct/Factor Analytic

Factor analyses of the FMPS items tend to divide into two groups. The initial factor analyses reported by [Frost et al. \(1990\)](#) were conducted with 232 and 178 female undergraduates. A principal factor solution supported a 6-factor solution with concern over mistakes being the largest factor (also see [Gelabert et al., 2011](#); [Rheume, Freeston, Dugas, Letarte, & Ladouceur, 1995](#)). Parker and associates also supported the 6-factor solution for both 278 college students ([Parker & Adkins, 1995](#)) and for 885 academically talented children ([Parker & Stumpf, 1995](#)). [Parker and Adkins \(1995\)](#) utilized a principal-factor solution with factors rotated orthogonally with a varimax solution. Six factors were also identified by [Siegel and Shuler \(2000\)](#) who factor analyzed the intercorrelations of the item responses of 391 gifted and talented students in Grades 6 to 8. They conducted a principal components analysis with varimax rotation. [Parker and Stumpf \(1995\)](#) also reported two higher-order factors supported via confirmatory factor analysis that have been given various labels, including maladaptive evaluative concerns perfectionism and personal standards perfectionism. Typically, the personal standards and organization subscales comprise the 'personal standards perfectionism' composite, while the other four factors comprise the 'maladaptive evaluative concerns' perfectionism composite.

Other analyses suggest that the FMPS comprises fewer than six factors, with the most common pattern being that the two parental factors combine into one factor and the concern over mistakes and doubts about actions items tend to load together (e.g., [Chan, 2009](#); [Harvey, Pallant, & Harvey, 2004](#); [Hawkins, Watt, & Sinclair, 2006](#); [Lee & Park, 2011](#); [Yang, 2007](#)). As noted below, evidence also suggests that the scale can be reduced in the interest of a replicable factor structure. [Stöber \(1998\)](#) examined the item responses to the FMPS provided by a sample of 243 university students. Use of Horn's parallel analysis suggested four factors with one factor that combined concern over mistakes and doubts about actions and another factor that combined parental expectations and parental criticism. [Stöber \(1998\)](#) noted that several items had secondary loadings and were loaded complexly by more than one factor. [Purdon, Antony, and Swinson \(1999\)](#) identified three factors based on item analyses from a clinical sample of 322 patients. They used principal axis factoring that restricted the solution to six factors with oblique rotation. The first factor, labeled 'fear of mistakes,' combined concern over mistakes, doubts about actions, and items from the personal standards subscale. The second factor labeled goal/achievement orientation included the remaining items from the personal standards scale and the items from the organization subscale. The third factor labeled perceived parental pressure combined the items from the two parental factors. [Stallman and Hurst \(2011\)](#) used various factor analytic techniques to explore the FMPS responses of almost 6500 students from two Australian universities. Analyses suggested that the inventory should be reduced from 35 to 29 items. A confirmatory factor analysis established that a five factor solution was optimal. The authors cautioned that despite high item loadings, '... many of the inter-item correlations for the organization and parenting factors were poorly captured relative to the other factors' (p. 232). [Cox, Enns, and Clara \(2002\)](#) conducted exploratory and confirmatory factor analyses that resulted in reducing the scale to 22 items comprising a 5-factor solution. The factors were labeled: Concern over mistakes (5 items), Doubts about actions (3 items), Parental perceptions (5 items), Personal standards (5 items), and Organization (4 items). [Seipel and Apigian \(2005\)](#) concluded that the best fitting model was the one proposed by [Cox et al. \(2002\)](#). The same conclusion was reached by [Anshel and Seipel \(2006\)](#) who conducted a confirmatory factor analysis of the item responses of 186 undergraduates.

Khawaja and Armstrong (2005) suggested that the FMPS could be reduced to 24 items but their analyses with data from an Australian sample yielded only four factors.

Conceptually and in terms of clinical applications, it seems important to retain the distinction between concern over mistakes from doubts about actions, and to retain the distinction between the parental factors to help distinguish between parents who pressure their children despite varying in how critical they can be.

Criterion/Predictive

Rice, Ashby, and Slaney (2007) administered the FMPS, the HFMP, the Almost Perfect Scale – Revised, the NEO-Five Factor Inventory-Form S, and measures of self-esteem and depression to 204 undergraduates. Hierarchical regression analyses predicting depression and self-esteem showed that trait perfectionism dimensions were significant predictors of unique variance after other personality trait measures had been entered. In both instances, the concern over mistakes subscale predicted unique variance beyond the variance attributable to neuroticism and conscientiousness. Validity data in the sports context were reported by Frost and Henderson (1991). A sample of 40 women in varsity athletics completed the FMPS, along with measures assessing sports self-confidence, sports competition anxiety, thoughts before competitions, specific reactions to mistakes during competition, and the presence of a sports success orientation (e.g., 'I feel a sense of pride when I play a good game') versus a failure orientation (e.g., 'My mistakes usually interfere with my play'). They found that the concern over mistakes subscale was associated with several negative outcomes, including sport competition anxiety ($r = .47$), low sport confidence ($r = -.61$), failure orientation ($r = .70$), and reports of negative reactions to mistakes during competition, including disappointment ($r = .64$). Athletes high in personal standards perfectionism had higher levels of both success orientation ($r = .68$) and failure orientation ($r = .37$), difficulty concentrating while performing ($r = .47$), dreams of perfection ($r = .43$) and worries about the reactions of the audience ($r = .31$).

Frost et al., 1995, Frost et al., 1997 established the validity of the concern over mistakes subscale by conducting detail analyses of people with high scores on this dimension. Frost et al. (1995) exposed people who were either high or low on concern over mistakes to an experimental computer task designed to elicit either frequent mistakes or a task that typically resulted in few mistakes being made. Those who were high in concern over mistakes and in the high mistakes condition were differentiated by more negative affect, lower confidence in their ability to do the task and great belief in the likelihood of others judging them in a harsh manner. Frost et al. (1997) contrasted individuals who were high versus low on concern over mistakes in terms of their reactions to mistakes made in daily life circumstances. Participants were asked to keep a daily mistakes journal for five days. Individuals in the high concern over mistakes group were more bothered by and had more negative affect in response to their mistakes. They also rated their mistakes as being higher in importance. Contemporary research on elevated concern over mistakes has established links with neural markers of responses to error and anticipated error feedback (Tops, Koole, & Wijers, 2013). Also, research on performers (golfers, dart throwers, and cricket players) suffering from 'the yips' (an involuntary motor skill control problem) established that they had higher levels of concern over mistakes and personal standards when compared with performers not suffering from 'the yips' (Roberts, Rotherham, Maynard, Thomas, & Woodman, 2013).

Location

Frost, R.O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14, 559–572.

Results and Comments

The FMPS is the most widely used perfectionism measure. However, concerns have been raised about whether the parental expectations and parental criticism subscales are antecedents or part of the perfectionism construct, so this likely accounts for why some investigators opt to use only two subscales (concern over mistakes, doubts about actions). One limitation when using the FMPS in clinical and counseling settings is the lack of published norms; however, discriminant group validity is clearly evident. Also, items require only a Grade 5 reading level. Indeed, the FMPS has been used in research with children and adolescents, so it has a broad scope of applicability.

FROST MULTIDIMENSIONAL PERFECTIONISM SCALE

Listed below are a number of statements concerning personal characteristics and traits. Read each item and decide whether you agree or disagree and to what extent. If you strongly agree, circle 5; if you strongly disagree, circle 1; if you feel somewhere in between, circle any one of the numbers between 1 and 5. If you neither agree nor disagree, the midpoint is 3.

	1	2	3	4	5
	Strongly disagree		Neither agree nor disagree		Strongly agree
1. My parents set very high standards for me	1	2	3	4	5
2. Organization is very important to me	1	2	3	4	5
3. As a child I was punished for doing things less than perfect	1	2	3	4	5
4. If I do not set very high standards for myself, I am likely to end up a second rate person	1	2	3	4	5
5. My parents never tried to understand my mistakes	1	2	3	4	5
6. It is important to me that I am thoroughly competent in everything I do	1	2	3	4	5
7. I am a neat person	1	2	3	4	5
8. I try to be an organized person	1	2	3	4	5
9. If I fail at work or school, I am a failure as a person	1	2	3	4	5
10. I should be upset if I make a mistake	1	2	3	4	5
11. My parents wanted me to be the best at everything	1	2	3	4	5
12. I set higher goals than most people	1	2	3	4	5
13. If someone does a task at work or at school better than I, then I feel like I failed the whole task	1	2	3	4	5
14. If I fail partly, it's as bad as being a complete failure	1	2	3	4	5
15. Only outstanding performance is good enough in my family	1	2	3	4	5
16. I am very good at focusing my efforts on attaining a goal	1	2	3	4	5
17. Even when I do something very carefully, I often feel that it is not quite right	1	2	3	4	5
18. I hate being less than the best at things	1	2	3	4	5
19. I have extremely high goals	1	2	3	4	5
20. My parents have expected excellence from me	1	2	3	4	5
21. People will probably think less of me if I make a mistake	1	2	3	4	5
22. I never felt like I could meet my parents' expectations	1	2	3	4	5
23. If I do not do as well as other people, it means I am an inferior human being	1	2	3	4	5
24. Other people seem to accept lower standards from themselves than I do	1	2	3	4	5
25. If I do not do well all the time, people will not respect me	1	2	3	4	5
26. My parents have always had higher expectations for my future than I have	1	2	3	4	5
27. I try to be a neat person	1	2	3	4	5
28. I usually have doubts about the simple everyday things I do	1	2	3	4	5
29. Neatness is very important to me	1	2	3	4	5

30. I expect higher performance in my daily tasks than most people do	1	2	3	4	5
31. I am an organized person	1	2	3	4	5
32. I tend to get behind in my work because I repeat things over and over	1	2	3	4	5
33. It takes me a long time to do something 'right'	1	2	3	4	5
34. The fewer mistakes I make, the more people will like me	1	2	3	4	5
35. I never felt I could meet my parents' standards	1	2	3	4	5

Notes:

Scoring:

Personal Standards	Sum of 4, 6, 12, 16, 19, 24, 30
Pure Personal Standards	Sum of 12, 16, 19, 24, 30
Organization	Sum of 2, 7, 8, 27, 29, 31
Parental Expectations	Sum of 1, 11, 15, 20, 26
Parental Criticism	Sum of 3, 5, 22, 35
Concern over Mistakes	Sum of 9, 10, 13, 14, 18, 21, 23, 25, 34
Doubts about Actions	Sum of 17, 28, 32, 33

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Multidimensional Perfectionism Scale (HFMPs)

(Hewitt & Flett, 1991; 2004).

Variable

Hewitt and Flett (1991) demonstrated the need to consider both personal and interpersonal components of perfectionism. Their conceptualization introduced three trait dimensions – self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. While self-oriented perfectionism focuses on extreme personal standards, other-oriented perfectionism involves demanding that other people meet extreme standards. Socially prescribed perfectionism is the perception, veridical or not, that other people or perhaps society in general is imposing demands for perfection on the self. Perfectionism is conceptualized here as a personality style that has cognitive and motivational elements. Self-oriented perfectionism incorporates the tenacious and relentless striving of people driven to be perfect and socially prescribed perfectionism reflecting a lack of motivation due to the sense of helplessness and hopelessness that is often found among people who are exposed to unrealistic and unfair expectations. Subsequent research has highlighted the different motivational and goal orientations linked with self-oriented versus socially prescribed perfectionism (e.g., Powers, Koestner, & Topciu, 2005; Verner-Filion & Gaudreau, 2010).

Description

A large item pool was established for each dimension, and factor analyses were conducted to reduce the number of items. The final version of the Hewitt and Flett Multidimensional Perfectionism Scale (HFMPs) has three 15-item subscales. Respondents make 7-point Likert-type ratings of statements. Each subscale has several reverse-worded items. The HFMPs overlaps to some degree with the FMPS but each measure has unique features. Self-oriented perfectionism is relevant to the high standards and organization FMPS subscales. Other-oriented perfectionism is unique to the HFMPs. Socially prescribed perfectionism is more general than the FMPS measures of high parental expectations and parental criticism, but both measures clearly have an emphasis on social expectations and pressure that originates from outside the self.

Sample

Initial item analyses performed on the large pool of HFMPs items were based on responses from 156 psychology students. The next phase of scale development was conducted with 1106 university students and 263 psychiatric patients. Means for the various subscales for these samples and five other samples are displayed in Table 1 of the original scale development paper (Hewitt & Flett, 1991). Norms are also available in the test manual (Hewitt & Flett, 2004).

Reliability

Internal Consistency

Hewitt and Flett (1991) reported Cronbach alpha coefficients of .88, .74, and .81 for self-oriented, other-oriented, and socially prescribed perfectionism, respectively, in a sample of 263 psychiatric patients (also see Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991).

Test–Retest

Hewitt and Flett (1991) reported results for 49 clinical outpatients who completed the HFMPs on two occasions over a three-month interval. The test–retest reliability coefficients were .69 for self-oriented perfectionism, .66 for other-oriented perfectionism, and .60 for socially prescribed perfectionism. Data from a small student sample yielded test–retest coefficients of .88 for self-oriented perfectionism, .85 for other-oriented perfectionism, and .75 for socially prescribed perfectionism (Hewitt & Flett, 1991). Cox and Enns' (2003) study of patients with current and remitted depression revealed relative stability across the three HFMPs trait dimensions. Further evidence of temporal stability emerged from a recent longitudinal study of perfectionism and sleep with university students in Portugal (see Maia, Soares, & Pereira, 2011).

Validity

Convergent/Concurrent

Extensive evidence of the validity of the subscales is summarized in the HFMPs manual (see Hewitt & Flett, 2004). Table 2 in the original scale development article by Hewitt and Flett (1991) displays much of the initial validity evidence with student samples. Also, Hewitt et al. (1991) reported data from 60 psychiatric patients showing that both self-oriented perfectionism and socially prescribed perfectionism were associated robustly with another measure of high standards and with various measures of self-punitiveness (i.e., self-criticism, overgeneralization, and perseveration). In addition, Burns Perfectionism Scale scores were positively associated with self-oriented perfectionism ($r = .62$) and socially prescribed perfectionism ($r = .69$). Regarding the FMPS subscales, self-oriented perfectionism had the expected high correlation with the personal standards subscale ($r = .64$) and it also linked with concern over mistakes and doubts about actions, but it was not associated with the other subscales. Frost et al. (1993) demonstrated substantial associations between the respective subscales of the FMPS and the HFMPs. Flett, Sawatzky, and Hewitt (1995) established that self-oriented perfectionism in particular was associated with greater reported commitment to various perfectionism goals (e.g., perfect performance, perfect appearance, perfect manners, etc.). The study by Hill et al. (2004) also included the HFMPs. The largest correlation of self-oriented perfectionism was associated strongly with striving for excellence ($r = .79$). Other-oriented perfectionism was linked with high standards for others ($r = .62$). Socially prescribed perfectionism had its strongest associations with concern over mistakes ($r = .62$), rumination ($r = .61$), and perceived parental pressure ($r = .58$). The study by Stairs et al. (2012) also included the HFMPs. Significant correlations for the HFMPs included the following: self-oriented perfectionism (r of .60 with high standards), other-oriented perfectionism (r of .62 with perfectionism toward others), and socially prescribed perfectionism (r of .54 with dissatisfaction and r of .67 with perceived pressure).

Shafran, Cooper, and Fairburn (2002) suggested that 'the core psychopathology of perfectionism is expressed as a morbid fear of failure and relentless pursuit of success' (p. 779). Self-oriented perfectionism has been linked empirically with an inability to tolerate failure (Flett et al., 1991) and fear of failure (Flett, Blankstein, Hewitt, & Koledin, 1992). Conroy, Kaye, and Fifer (2007) with a sample of 372 students showed that a latent fear of failure construct comprised of multiple subscales from Conroy's (2001) Performance Failure Appraisal Inventory was linked with all three HFMPs factors, but only socially prescribed perfectionism still had an association after controlling for the other HFMPs subscales.

Initial psychometric work on the HFMPs included a focus on the link between self-reports and observer ratings (see Hewitt & Flett, 1991; Study 2). Substantial concordance was found but this work was based on relatively

small samples of university students ($n = 25$) and psychiatric patients ($n = 21$). Evidence of concordance was also obtained in a study by [Vieth and Trull \(1999\)](#) using a larger sample of university students and their parents. [Flett, Besser, and Hewitt \(2005\)](#) examined the correspondence between self-reports on the HFMPs and informant reports in 220 pairs of participants (i.e., young adults and their friends). As was the case in the [Hewitt and Flett \(1991\)](#) study, concordance was greatest for socially prescribed perfectionism and lowest for self-oriented perfectionism (correlations ranging from .27 to .40). [Mushquash, Sherry, Sherry, and Allen \(2013\)](#) investigated abbreviated five-item measures of self-oriented and socially prescribed perfectionism that became part of separate latent constructs involving other perfectionism measures. For instance, the self-oriented composite factor also included a five-item measure from the FMPS personal standards subscale and four items from the EDI perfectionism subscale. Their sample consisted of 242 undergraduate women, 218 mothers, and 160 fathers. The student self-reports of self-oriented perfectionism were positively associated with maternal ratings of self-oriented perfectionism (.53) and paternal ratings of self-oriented perfectionism (.38). Similarly, the student self-reports of socially prescribed perfectionism were associated with maternal ratings of socially prescribed perfectionism (.35) and paternal ratings of socially prescribed perfectionism (.23). [Cockell et al. \(2002\)](#) conducted a comparative study of 21 women with anorexia nervosa, 17 women in the psychiatric control group, and 21 women without a psychiatric history. [Cockell et al. \(2002\)](#) found that self-oriented perfectionism was associated with interview-rated self-oriented perfectionism ($r = .77$) and socially prescribed perfectionism ($r = .61$). Socially prescribed perfectionism was also associated with interview-rated self-oriented perfectionism ($r = .83$) and socially prescribed perfectionism ($r = .83$).

Divergent/Discriminant

The [Cockell et al. \(2002\)](#) study of patients with anorexia nervosa provided evidence of discriminant validity. As expected, other-oriented perfectionism was unrelated to the interview ratings of self-oriented and socially prescribed perfectionism (respective r 's of $-.12$ and $.05$). This study also established that the women with anorexia nervosa had substantially higher levels of self-oriented and socially prescribed perfectionism relative to the psychiatric and normal groups. The mean score for self-oriented perfectionism ($M = 93.4$) for women with anorexia is among the highest group mean ever recorded for self-oriented perfectionism. The study by [Wheeler et al. \(2011\)](#) also yielded significant group differences in levels of self-oriented and socially prescribed perfectionism. Three groups (depression, socially anxious, and OCD groups) had significantly higher self-oriented perfectionism scores than the control participants. The panic disorder with agoraphobia groups and two groups (depression, socially anxious) had higher mean levels of socially prescribed perfectionism.

Construct/Factor Analytic

Originally, [Hewitt and Flett \(1991\)](#) reported principal component analyses of data from 1106 university students and 263 psychiatric patients. In both instances, a Cattell scree test ([Cattell, 1978](#); [Cattell & Vogelmann, 1977](#)) indicated the presence of three components. All 15 self-oriented perfectionism items comprised the first component with loadings ranging from .45 to .66. The second component consisted of all 15 socially prescribed perfectionism items with loadings ranging from .39 to .63. The third component consisted of 13 items tapping other-oriented perfectionism with loadings ranging from .38 to .63. Similar analysis with the data from psychiatric patients yielded high coefficients of congruence when considered along with the results for students but the overall results were not as clearcut. The first component consisted of 14 self-oriented perfectionism items and the second component consisted of 14 socially prescribed perfectionism items. The other two items loaded on the third component along with 10 other-oriented perfectionism items. The other five other-oriented perfectionism subscales were loaded complexly on this component and on the self-oriented perfectionism first component.

[Cox et al. \(2002\)](#) evaluated the HFMPs by conducting confirmatory factor analyses (CFAs) on the data from 412 adult clinical outpatients and 288 first year students. A three-factor model was evaluated and none of the evaluative criteria provided a good fit. Instead, [Cox et al. \(2002\)](#) proposed and tested a revised model consisting of five items from each of the subscales and reported an adequate fit across the two samples. One concern about the [Cox et al. \(2002\)](#) CFA results is they did not take into account a possible wording factor due to several test items being worded in the negative direction. This aspect distinguishes the HFMPs from most other perfectionism measures. Method factors involving item wording should be taken into account when evaluating factor structures using CFAs (see [Woods, 2006](#)). Consider, for instance, how item wording plays a role in analyses of the Fear of Negative Evaluation Scale, which is a construct that is related to socially prescribed perfectionism (see [Rodebaugh et al., 2004](#)). One illustration of this concern is that [Cox et al. \(2002\)](#) constructed brief five-item HFMPs subscales and all five items comprising the abbreviated measure of other-oriented perfectionism were

negatively worded items. Still, the Cox et al. (2002) findings suggest that briefer subscales can be created for the HFMPs.

Campbell and Di Paula (2002) suggested on the basis of their analysis of self-beliefs in perfectionism that socially prescribed perfectionism is comprised of two facets known as conditional acceptance and other's high standards. They then reported that on the basis of factor analyses of university student responses to the 15 items that comprise the socially prescribed perfectionism the two factors tapping conditional acceptance and others' high standards were identified with conditional acceptance being the maladaptive facet. In addition, factor analyses by Campbell and Di Paula (2002) of the 15 items assessing self-oriented perfectionism also yielded two factors, each loading on five items. The factors were labeled 'Importance of being perfect' and 'Perfectionistic striving.' Along with the factor of Self-oriented perfectionism, they further indicated that the Perfectionistic striving factor is largely adaptive and relates to positive affect, while the Importance of being perfect factor is associated with positive self-esteem. Note that the authors did not provide specific details of their factor analytic methodology.

Recently, we assessed the replicability of the Campbell and Di Paula (2002) results. Our findings across four large samples (945 university students, 846 adults from the general community, 933 chronically ill adults, and 1109 psychiatric patients) utilizing confirmatory factor analyses did not support the notion of facets within HFMPs dimensions. Our analyses suggest that both self-oriented and socially prescribed perfectionism should be treated empirically and regarded conceptually as intact dimensions contributing to a multidimensional framework (Flett, Molnar, & Hewitt, 2014).

Criterion/Predictive

Research compared the ability of the HFMPs subscales and dysfunctional attitudes measures of perfectionism and dependency to predict unique variance in depressive symptoms in a sample of 280 university students and a clinical sample of 70 patients (see Sherry, Hewitt, Flett, & Harvey, 2003). As expected, perfectionistic dysfunctional attitudes were correlated significantly with both self-oriented and socially prescribed perfectionism in the student sample (respective r 's of .23 and .51 for men and .32 and .62 for women) and in the total clinical sample (respective r 's of .53 and .62). Subsequent hierarchical regression analyses found that the HFMPs indices accounted for substantial unique variance in depression over and above the variance attributable to dysfunctional attitudes for both university men and women. The significant individual predictor was socially prescribed perfectionism. It appears that despite being highly correlated with other perfectionism measures, socially prescribed perfectionism often emerges as a unique predictor. Also, a key consideration is whether there is validity evidence involving behavioral measures. Kobori and Tanno (2012) compared 20 students from Japan with high levels of self-oriented perfectionism (75 or higher) and 20 students from Japan with low levels of self-oriented perfectionism (56 or lower). Results from a Stroop task showed that when presented with failure and neutral words, the group high in self-oriented perfectionism did not take longer to respond to failure words than neutral words, in contrast to one of the main hypotheses of this study. But group comparisons showed that they took longer to respond to failure words than did the participants in the low perfectionism group. These data support the validity of this subscale in terms of the proposed tendency for perfectionists to be sensitive to failure.

Location

Hewitt, P.L., & Flett, G.L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456–470.

Hewitt, P.L., & Flett, G.L. (2004). *The Multidimensional Perfectionism Scale: Manual*. Toronto: Multi-Health Systems, Inc.

Results and Comments

The HFMPs has items that are high in face validity. The HFPS is unique with its focus on other-oriented perfectionism and socially prescribed perfectionism, and there is a growing literature attesting to the destructive impact of high socially prescribed perfectionism. The measure is well-supported in terms of norms for various populations (see Hewitt & Flett, 2004). While the scale requires only a sixth grade reading ability, there are several reverse-worded items on each subscale and subsequent revisions of the measure could simplify the instrument by reducing the number of these items.

HFMPs SAMPLE ITEMS

- | | |
|--|--|
| 1. Self-Oriented Perfectionism | 5. Socially Prescribed Perfectionism |
| 2. One of my goals is to be perfect in everything I do | 6. My family expects me to be perfect |
| 3. Other-Oriented Perfectionism | |
| 4. If I ask someone to do something, I expect it to be done flawlessly | <i>Note:</i> Reproduced with permission. |

Almost Perfect Scale—Revised (APS-R)

(Slaney et al., 2001).

Variable

Perfectionism is defined as having both positive and negative aspects. Positive aspects are deemed to reflect two elements – high standards and orderliness. Discrepancy is the negative aspect. According to Slaney et al. (2001), discrepancy is ‘... the central and defining negative aspect of perfectionism’ (p. 133). They defined discrepancy as ‘the perceived discrepancy or difference between the standards one has for oneself and one’s actual performance’ (p. 133).

Description

The APS-R grew out of earlier work with an earlier version (see Johnson & Slaney, 1996; Slaney & Johnson, 1992). Six items from the order subscale of the original measure were retained. They also retained six items from the original high standards subscale but seven more items were written to strengthen this subscale ‘... while retaining an emphasis on the positive aspects of having high standards’ (Slaney et al., 2001, p. 134). Overall, 20 new items were written to assess discrepancy. Respondents make 7-point Likert-type ratings with options ranging from ‘strongly disagree’ to ‘strongly agree.’ The initial APS-R item pool consisted of 39 items. Item and factor analyses of responses from various samples of participants involving several stages reduced the final version to 23 items (see Slaney, Rice, & Ashby, 2002). The final APS-R has 7 items assessing standards, 4 items assessing order, and 12 items assessing discrepancy.

Sample

Means found in samples of 178 university students and 208 university students were as follows: high standards ($M = 38.14$, $SD = 7.02$ and $M = 39.61$, $SD = 6.37$), discrepancy ($M = 43.63$, $SD = 13.61$ and $M = 40.15$, $SD = 14.51$), and order ($M = 19.83$, $SD = 5.13$ and $M = 19.94$, $SD = 4.85$). The APS-R has seldom been used with clinical samples, but Argus and Thompson (2008) found the following means in 141 clinically depressed inpatients (high standards, $M = 39.91$, $SD = 6.58$; discrepancy, $M = 61.94$, $SD = 16.60$), and order ($M = 21.28$, $SD = 5.14$).

Reliability

Internal Consistency

Initial results for the APS-R indicated that each subscale has Cronbach alpha coefficients of .85, .86, and .92 for the high standards, order, and discrepancy subscales, respectively (Slaney et al., 2001). Mobley, Slaney, and Rice (2005) evaluated a sample of 251 African American university students and reported alpha coefficients of .75 for high standards, .91 for order, and .88 for discrepancy. Ulu, Tezer, and Slaney (2012) found in a large sample of undergraduates from Turkey that alpha coefficients were .78 for high standards, .85 for discrepancy, and .86 for order. Alpha coefficients reported for a sample of Japanese students were .81 for high standards, .90 for discrepancy, and .73 for order (Nakano, 2009).

Test–Retest

Grzegorek, Slaney, Franze, and Rice (2004) reported test–retest reliabilities over a three-week period of .72 for high standards, .80 for order, and .83 for discrepancies. Rice and Aldea (2006) reported Test–Retest reliabilities of .76 for high standards, .87 for order, and .86 for discrepancy across a 10-week interval. Rice, Leever, Christopher, and Porter (2006) focused only on high standards and discrepancy. The 10-week stability coefficients

were .59 for the high standards subscale and .81 for the discrepancy subscale. Sherry, Mackinnon, Macneil, and Fitzpatrick (2013) conducted longitudinal research over a 130-day period that yielded stability coefficients ranging from .78 to .81.

Validity

Convergent/Concurrent

Validity evidence was summarized in Slaney et al. (2002). Rice et al. (2007) found in a sample of 207 university students that the APS-R high standards scale correlated .68 with self-oriented perfectionism, and .65 with personal standards. In the sample assessed by Stairs et al. (2012), the APS-R order factor exhibited the expected high correlation with the order factor ($r = .84$), but the APS-R high standards factor exhibited a correlation of only .36 with the order factor. There was also a strong positive association between order and the FMPS organization factor ($r = .87$). Discrepancy was associated significantly ($r = .47$ or greater) with socially prescribed perfectionism, concern over mistakes, doubts about actions, and parental criticism. Stairs et al. (2012) found that the high standards scale was linked with self-oriented perfectionism and personal standards. Discrepancy had its strongest links with dimensions tapping dissatisfaction ($r = .78$), reactivity to mistakes ($r = .66$), and black and white thinking ($r = .46$). A moderate positive correlation of .37 was found between high standards and discrepancy in the Wang, Slaney, and Rice (2007) sample of Taiwan university students.

Divergent/Discriminant

Examination of performance on a proof-reading task showed a clear distinction between the discrepancy and high standards subscales (see Stoeber & Eysenck, 2008). The discrepancy subscale, after controlling for high standards, correlated negatively with correctly reporting errors ($r = -.21$) and hesitancy in reporting detected errors ($r = -.21$), suggesting that high scorers are quite cautious. High standards showed a negative correlation with efficiency ($r = -.27$) due to a tendency for high scorers to find fault when mistakes did not really exist.

Regarding discriminant group validity, Slaney et al. (2001) have focused on the identifying and contrasting adaptive perfectionists (i.e., high standards and low discrepancy), maladaptive perfectionists (i.e., high standards and high discrepancy) and people who are not perfectionists (i.e., low on both). Numerous studies have supported this distinction with participants of various ages and backgrounds (e.g., Chan, 2009; Hawkins et al., 2006; Mobley et al., 2005; Wang et al., 2007). In clinical settings, some evidence suggests that the discrepancy subscale can differentiate among women who vary in levels of eating disorder (Patterson, Wang, & Slaney, 2012) but it does not significantly differentiate these women on the high standards subscale. This finding contrasts with the exceptionally high levels of self-oriented perfectionism among women with anorexia (Cockell et al., 2002). The APS-R high standards subscale also does not differentiate employees in a control group versus those suffering from clinical burnout, anxiety, depression, or co-morbid conditions. However, the discrepancy scores are significantly higher in these groups versus employees in the control group (see Van Yperen, Verbraak, & Spoor, 2011).

Construct/Factor Analytic

Confirmatory factor analyses conducted by Slaney et al. (2001) using a sample of 809 college students provided strong support for three distinguishable factors. These factors have generally been replicated in subsequent confirmatory factor analyses, including studies conducted with translated versions (Nakano, 2009; Wang et al., 2007). Administration of the APS-R to 383 undergraduates from Turkey also yielded a three-factor solution that supported the multidimensionality of the APS-R based on confirmatory factor analysis (Ulu et al., 2012). Mobley et al. (2005) established similarly via a confirmatory factor analysis that the three-factor solution fit the data for a sample of 251 African American students and a sample of 314 European American students.

Criterion/Predictive

Rice et al. (2007) examined the FFM correlates of the APS-R in two university student samples. The second sample also completed the FMPS, the HFMP, and various measures including depression and self-esteem. The APS-R high standards subscale was associated with conscientiousness (r s of .46 and .48), and order was also associated with conscientiousness (r s of .55 and .58). Discrepancy had modest but negative associations with conscientiousness (r s of $-.22$ and $-.32$), as well as strong associations with neuroticism (r s of .59 and .62). Two APS-R subscales predicted unique variance in self-esteem beyond the variance attributable to the FMPS, HFMP, neuroticism, and conscientiousness. Discrepancy was associated uniquely with lower self-esteem while the high standards factor was associated uniquely with higher self-esteem.

Location

Slaney, R.B., Rice, K.G., Mobley, M., Trippi, J., & Ashby, J.S. (2001). The Almost Perfect Scale – Revised. *Measurement and Evaluation in Counseling and Development*, 34, 130–145.

Results and Comments

The APS-R distinguishes between adaptive and maladaptive perfectionism. The measure has some overt unique features and item content that distinguish it from the FMPS and HFMPs (one clear difference is that the word ‘perfect’ never actually appears in the APS-R item content). The high standards subscale may assess a less extreme form of perfectionism that is more akin to excellence striving because it is evident that certain APS-R items could be more extreme in their focus (e.g., I have high expectations for myself. I have a strong need to strive for excellence). Indeed, [Slaney et al. \(2001\)](#) reported that the high standards subscale had a more positive association with self-esteem than did the FMPS personal standards and the HFMPs self-oriented perfectionism subscales. Similarly, [Stairs et al. \(2012\)](#) reported that the APS-R high standards subscale, despite being linked robustly with the corresponding FMPS and HFMPs subscales, has a much smaller association with reactivity to mistakes. Moreover, the APS-R high standards subscale is linked positively with a measure of satisfaction but is not associated with dissatisfaction, but both self-oriented perfectionism and personal standards perfectionism are linked jointly and simultaneously with indices of satisfaction and dissatisfaction.

Clearly, a key contribution of the APS-R is its emphasis on discrepancies. A significant issue for the next generation of perfectionism research is to consider discrepancy from a broader construct validation perspective. Is it best considered an element of the perfectionism construct or is it more representative of a form of self-evaluation and a self-evaluation continuum rather than perfectionism *per se*?

Finally, it should be noted that [Rice, Richardson, and Tueller \(2014\)](#) have developed brief 4-item subscale measures of standards and discrepancy. The four items in each subscale that comprise this promising measure are asterisked below.

ALMOST PERFECT SCALE – REVISED

Instructions: The following items are designed to measure certain attitudes people have toward themselves, their performance, and toward others. It is important that your answers be true and accurate for you. In the space next to the statement, please enter a number from ‘1’ (strongly disagree) to ‘7’ (strongly agree) to describe your degree of agreement with each item.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree

- ___ 1. I have high standards for my performance at work or at school.
- ___ 2. I am an orderly person.
- ___ 3. I often feel frustrated because I can’t meet my goals.
- ___ 4. Neatness is important to me.
- ___ 5. If you don’t expect much out of yourself you will never succeed.
- ___ 6. My best just never seems to be good enough for me.
- ___ 7. I think things should be put away in their place.
- ___ 8. I have high expectations for myself.*
- ___ 9. I rarely live up to my high standards.
- ___ 10. I like to always be organized and disciplined.
- ___ 11. Doing my best never seems to be enough.*
- ___ 12. I set very high standards for myself.*
- ___ 13. I am never satisfied with my accomplishments.
- ___ 14. I expect the best from myself.*
- ___ 15. I often worry about not measuring up to my own expectations.
- ___ 16. My performance rarely measures up to my standards.*
- ___ 17. I am not satisfied even when I know I have done my best.

- ___18. I try to do my best at everything I do.
 ___19. I am seldom able to meet my own high standards for performance.
 ___20. I am hardly ever satisfied with my performance.*
 ___21. I hardly ever feel that what I've done is good enough.
 ___22. I have a strong need to strive for excellence.*
 ___23. I often feel disappointment after completing a task because I know I could have done better.*

Notes:

Scoring:

High Standards	Sum of 1, 5, 8, 12, 14, 18, 22 (short form: 8, 12, 14, 22)
Order	Sum of 2, 4, 7, 10
Discrepancy	Sum of 3, 6, 9, 11, 13, 15, 16, 17, 19, 20, 21 (short form: 11, 16, 20, 23)

Asterisks indicate items in short form version.

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Perfectionism Cognitions Inventory (PCI)

(Flett, Hewitt, Blankstein, & Gray, 1998).

Variable

Perfectionism is conceptualized as the frequency of automatic thoughts about the need to be perfect that is presumed to be due to the activation of a perfectionistic ideal self and experiences that result in perfectionists experiencing thoughts about needing to perfect and related concerns about not being perfect.

Description

The PCI is a unifactorial measure that consists of 25 self-report items in the form of thoughts that reflect activation of a perfectionistic self-schema (Flett et al., 1998). There are no reverse-coded items. The PCI assesses perfectionism '... from a unique cognitive perspective' (Enns & Cox, 2002, p. 50). The PCI focuses on *the frequency of thoughts* involving themes of perfection and imperfection (i.e., the degree of cognitive activity) that has occurred during the previous week. The PCI specifically identifies the self-reported automatic thoughts associated with perfectionism over the past seven days.

The PCI item content reflects direct thoughts about the need to be perfect and thoughts of an individual's cognitive awareness of his or her imperfections. Several thoughts on the PCI such as 'I should be perfect,' 'I should never make the same mistake twice,' and 'I must be efficient at all times' are very much in keeping with general observations about an irrational thinking component to perfectionism. The PCI is also more 'state-like' than existing trait measures; automatic thoughts, relative to dysfunctional attitudes and other personality vulnerabilities, operate at a surface level and vary according to situational contexts. PCI scores should fluctuate somewhat as a reflection of current concerns and referents. Indeed, Lakey and Tanner (2013) showed that the reported frequency of PCI thoughts varied when the PCI was used to assess the thoughts experienced and associated with being in the presence of specific target individuals. Besser et al. (2008) showed that the PCI can be adapted into a state version by changing the timeframe (i.e., by indicating thoughts that were experienced in the current situation) and slightly modifying the item content to include only those perfectionism thoughts that could possibly be experienced in the situation. Similarly, Appleton, Hall, and Hill (2011) altered the general instructions so that elite junior athletes could report the frequency of their perfectionistic thoughts during practice and competition.

Sample

The initial samples used to evaluate the PCI consisted of 234 undergraduates and a separate sample of 747 undergraduates (Flett et al., 1998). The first sample completed a 36-item version derived from a pool of 55 items. Items were deleted if they seemed to duplicate other items or were low in clarity. Eleven items were removed after not being loaded by the large first component in a principal components analysis. The PCI means in sample one were 35.41 ($SD = 23.19$) for men and 38.25 ($SD = 22.01$) for women. The PCI means in sample two were 43.08 ($SD = 17.98$) for men and 43.91 ($SD = 19.18$) for women. Flett, Hewitt, Whelan, and Martin (2007) examined the

PCI in 258 psychiatric patients. The overall mean in this sample was 46.79 ($SD = 24.49$). Another sample of 80 adults recovering from alcoholism had an elevated mean of 53.59 ($SD = 22.80$). The mean reported for a sample of 250 adolescents was 45.2 ($SD = 19.4$) (Flett et al., 2012). Lo and Abbott (2013) compared three groups of perfectionists (non-perfectionists, adaptive perfectionists, and maladaptive perfectionists) and found respective PCI means of 36.2 ($SD = 15.9$), 45.5 ($SD = 15.5$), and 62.8 ($SD = 19.9$).

Reliability

Internal Consistency

The Cronbach alpha coefficient obtained for the initial student sample was .96 and the mean interitem correlation was .49. Flett et al. (2007) found in their large clinical sample that the PCI exhibited a very high Cronbach alpha coefficient of .95 (cf. Boyle, 1991).

Test–Retest

Flett et al. (1998) reported a three-month test–retest reliability of .85. Mackinnon, Sherry, and Pratt (2013) administered the PCI to 127 students over an interval of 130 days and the test–retest reliability was found to be .76. Wimberly and Stasio (2013) observed that perfectionistic automatic thoughts could become incorporated into enduring cognitive structures which become relatively stable over time.

Validity

Convergent/Concurrent

Flett et al. (1998) using a sample of 311 students found that the PCI correlated significantly with self-oriented perfectionism ($r = .66$), other-oriented perfectionism ($r = .26$), and socially prescribed perfectionism ($r = .35$). The study by Flett et al. (1998) with 62 psychiatric patients described above revealed strong associations between the PCI and both self-oriented perfectionism ($r = .52$) and socially prescribed perfectionism ($r = .65$). The PCI was also associated with all of the FMPS dimensions except the organization subscale. Khawaja and Armstrong (2005) also linked the PCI with scores on a composite FMPS measure of 'dysfunctional perfectionism' ($r = .74$), while Sturman (2011) associated the PCI with feelings of defeat. Flett et al. (2008) had the 80 people recovering from alcoholism complete several measures including the PCI, the Hewitt and Flett MPS, and the Cognitive Self-Management Test (CSMT; Rude, 1989). The CSMT included a measure of 'inflexible perfectionism' which was associated strongly with the PCI ($r = .51$). Inflexible perfectionism was also linked with self-oriented perfectionism ($r = .43$) and to a lesser degree, socially prescribed perfectionism ($r = .26$). The PCI was associated robustly with frequent thoughts about procrastination ($r = .52$) and it was also associated with a fear of failure measure ($r = .44$) (Flett et al., 2012).

Divergent/Discriminant

Flett et al. (2012) examined the correlates of the PCI in a sample of 94 university students. The PCI was unrelated to a measure of conscientiousness. Bardone-Cone, Sturm, Lawson, Robinson, and Smith (2010) compared women who currently had an eating disorder versus healthy controls and those who had partially or fully recovered. Much higher mean PCI scores were found among women who had a current eating disorder or who had only partially recovered, relative to those who were in the control group or who had fully recovered.

Construct/Factor Analytic

Various principal components analyses without rotation have supported the unidimensional structure of the PCI with most items having significant loadings (see Flett et al., 1998). Initial analyses were conducted with data from samples of 234 and 747 university students. Flett et al. (2008) examined the psychometric qualities of the PCI in a sample of 258 psychiatric patients. Comparable results were found for data from 250 adolescents (Flett et al., 2012). Item loadings were generally quite high, with most items having loadings higher than .50 and all but two items having loadings higher than .40. Appleton et al. (2011) also carried out a principal components analysis and found a single large component. Overall, 20 items had loadings of .50 or higher and another four items had loadings between .40 and .50. Analyses were guided by the conceptualization of the PCI as primarily reflecting a unidimensional construct tapping various themes.

Criterion/Predictive

Hill and Appleton (2011) linked scores on the PCI with athlete burnout in youth rugby players. This study also included indices of trait perfectionism (i.e., self-oriented perfectionism and socially prescribed perfectionism)

and Hill and Appleton (2011) showed that the PCI predicted a significant amount of unique variance in athlete burnout (3–4%) over and above the variance attributable to trait perfectionism. Collectively, there is extensive evidence that the PCI accounts for unique variance in psychological distress beyond variance attributable to trait perfectionism (Flett et al., 1998, 2008, 2012). Some 56 student participants completed the PCI and recorded their thoughts in diaries over a three day period. Subsequent scoring of the diary entries by trained raters revealed a significant positive association ($r = .41$) with the number of spontaneously produced perfectionistic thoughts (Flett et al., 1998). Flett, Madorsky, Hewitt, and Heisel (2002) administered the PCI to a sample of 65 university students and showed that perfectionistic cognitions were positively predictive of intrusive cognitions following a stressful event ($r = .28$) and with the ruminative response style described by Nolen-Hoeksema (1991) that contributes to the persistence of depression ($r = .48$). Subsequent research has linked high PCI scores in students to elevated levels of overall anxiety sensitivity ($r = .41$), as well as various facets such as fears of cognitive dyscontrol ($r = .42$) (see Flett, Greene, & Hewitt, 2004). Ferrari (1995) examined the correlates of the PCI in a sample of 65 adults with a reported history of diagnosed obsessive-compulsive symptoms. Strong links were found between the PCI and both obsessions ($r = .69$) and compulsions ($r = .67$). The PCI was also correlated positively in a second sample of 262 students with self-reports of obsessions ($r = .44$), compulsions ($r = .44$), and anger-in ($r = .35$). Besser et al. (2008) reported that while in a negative mood state, individuals with high PCI scores exhibited enhanced recognition memory for negative words. The PCI was used in another experiment and predicted spending more time persisting in trying to solve unsolvable anagrams ($r = .39$) (see Lo & Abbott, 2013). Significant associations involving the PCI were still found after controlling for maladaptive perfectionism using the APS-R discrepancy subscale according to supplementary analyses provided to us by the authors.

Location

Flett, G.L., Hewitt, P.L., Blankstein, K.R., & Gray, L. (1998). Psychological distress and the frequency of perfectionistic thinking. *Journal of Personality and Social Psychology*, 75, 1363–1381.

Results and Comments

The PCI is a unique measure with its focus on the frequency of thoughts rather than self-ratings of the degree of trait perfectionism. It can be used as a predictor variable but can also be used as a dependent measure for those who are interested in evaluating whether cognitive-behavioral interventions are useful in reducing perfectionistic tendencies. Flett et al. (1998) noted that the PCI consists mostly of self-oriented thoughts and a key future research issue is whether it is possible to develop a multidimensional version. Such a measure has been developed by one team of researchers (see Kobori & Tanno, 2004; Stoeber, Kobori, & Tanno, 2010) and it remains to be determined whether it will prove useful across a variety of contexts.

PERFECTIONISM COGNITIONS INVENTORY

Listed below are a variety of thoughts that pop into people's heads. Please read each thought and indicate how frequently, if at all, the thought has occurred to you *over the last week*. Please read each item carefully and circle the appropriate number.

	1	2	3	4	5
	Not at all	Sometimes	Moderately often	Often	All the time
1. Why can't I be perfect?	1	2	3	4	5
2. I need to do better	1	2	3	4	5
3. I should be perfect	1	2	3	4	5
4. I should never make the same mistake twice	1	2	3	4	5
5. I've got to keep working on my goals	1	2	3	4	5
6. I have to be the best	1	2	3	4	5
7. I should be doing more	1	2	3	4	5
8. I can't stand to make mistakes	1	2	3	4	5
9. I have to work hard all the time	1	2	3	4	5
	1	2	3	4	5

10. No matter how much I do, it's never enough					
11. People expect me to be perfect	1	2	3	4	5
12. I must be efficient at all times	1	2	3	4	5
13. My goals are very high	1	2	3	4	5
14. I can always do better, even if things are almost perfect	1	2	3	4	5
15. I expect to be perfect	1	2	3	4	5
16. Why can't things be perfect?	1	2	3	4	5
17. My work has to be superior	1	2	3	4	5
18. It would be great if everything in my life were perfect	1	2	3	4	5
19. My work should be flawless	1	2	3	4	5
20. Things are seldom ideal	1	2	3	4	5
21. How well am I doing?	1	2	3	4	5
22. I can't do this perfectly	1	2	3	4	5
23. I certainly have high standards	1	2	3	4	5
24. Maybe I should lower my goals	1	2	3	4	5
25. I'm too much of a perfectionist	1	2	3	4	5

Notes:

Scoring: Total score = the sum of all 25 items (no reverse-coded items)

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Perfectionistic Self-Presentation Scale (PSPS)

(Hewitt et al., 2003).

Variable

Perfectionistic self-presentation can be construed as being similar to the highly idealized self-presentation described by Goffman (1959) in his classic work *The Presentation of Self in Everyday Life*. While trait perfectionism indicates one's disposition, perfectionistic self-presentation represents the defensive process of needing to appear perfect or to not to appear imperfect to others. Perfectionistic self-presentation is correlated with trait perfectionism dimensions such as socially prescribed perfectionism (see Hewitt et al., 2003). It is possible to distinguish two types of socially prescribed perfectionists. Some people respond to social pressures to be perfect by rebelling and 'refusing to play the game.' These people would be relatively low in perfectionistic self-presentation. However, others respond to the pressure to be perfect by doing their utmost to seem as perfect as possible in public situations, and, in all likelihood, avoiding situations that will put their imperfections on display.

Description

The 27-item Perfectionistic Self-Presentation Scale (PSPS) assesses three facets labeled: perfectionistic self-promotion (i.e., the need to appear perfect to others – 10 items), the nondisplay of imperfection (i.e., the need to avoid appearing imperfect to others – 10 items), and nondisclosure of imperfection (i.e., the need to avoid disclosing imperfections to others – 7 items) (Hewitt et al., 2003).

Sample

The original sample of 661 students had mean scores of 37.95 ($SD = 10.64$) for perfectionistic self-promotion, 41.68 ($SD = 10.36$) for non-display of imperfections, and 22.17 ($SD = 7.50$) for nondisclosure of imperfections. A clinical sample of 1041 patients had mean scores of 43.29 ($SD = 12.55$) for perfectionistic self-promotion, 45.26 ($SD = 12.76$) for non-display of imperfections, and 25.87 ($SD = 8.89$) for nondisclosure of imperfections. Levels of perfectionistic self-presentation are comparable when the inventory is administered via the Internet versus via paper-and-pencil measures (Pettit, 2002).

Reliability

Internal Consistency

Cronbach alpha coefficients were reported for 13 samples. All alpha coefficients for the perfectionistic self-promotion and nondisplay of imperfection factors were .83 or higher. Lower alpha coefficients were found for the nondisclosure of imperfections factor because it has fewer items (alpha coefficients ranged from .72 to .88). Ferrari and Thompson (2006) reported alpha coefficients ranging from .75 to .88 in their study of imposter fears.

Test–Retest

Three-week test–retest reliability coefficients were computed based on the responses of 47 students. Respective stability coefficients were .83, .84, and .74 for perfectionistic self-promotion, nondisplay of imperfections, and nondisclosure of imperfections (see Hewitt et al., 2003). A longer time period (four months) was used to examine test–retest correlations for 104 adults participating in a self-help organization for people with a history of depression. Stability coefficients were .81, .81, and .79, respectively, for perfectionistic self-promotion, nondisplay of imperfections, and nondisclosure of imperfections.

Validity

Convergent/Concurrent

Stairs et al. (2012) reported that all three PSPS facets correlated positively (.28 or greater) with factors representing perceived pressure, dissatisfaction, and reactivity to mistakes.

Divergent/Discriminant

Ferrari and Thompson (2006) established that perfectionistic self-presentation overlaps minimally with general impression management tendencies. Correlations between impression management and the PSPS facets were $-.14$ for perfectionistic self-promotion, $-.24$ for nondisplay of imperfection, and $-.09$ for nondisclosure of imperfection. Sherry et al. (2007) reported that use of an abbreviated PSPS yielded group differences in perfectionistic self-promotion and socially prescribed perfectionism with elevated scores among women with a history of cosmetic surgery.

Construct/Factor Analytic

Hewitt et al. (2003) undertook a principal components analysis with varimax rotation on the intercorrelations of the 40 PSPS items using a sample of over 600 university students. The Scree test (Cattell, 1978; Cattell & Vogelmann, 1977) suggested a three-component solution was suitable. Items were retained if they had a loading of .40 or higher on the intended component and they did not have a significant loading on an unintended component. This further reduced the scale to 27 items. A second sample of 501 community members completed the 27-item PSPS and the HFMPs. Once again a three-component solution was tested with the same procedures employed. Coefficients of congruence for the three factors were: .98, .97, and .94 indicating a high degree of similarity across the two samples. A clinical sample of 1041 adult psychiatric patients completed the 27-item PSPS. This sample was composed mainly of outpatients with affective, anxiety, and adjustment disorders. The same procedures were used and a three-component solution showed a high degree of congruence of the PSPS subscales between the clinical and student samples and between the clinical and community samples, with coefficients ranging from .94 to .98. A CFA was conducted on a version of the PSPS scale administered to Korean students (Lee, Suh, & Lee, 2011). They reported an acceptable fit to the data after reducing the PSPS to 20 items. This CFA did not consider item wording, even though a disproportionate number of reverse-worded items were dropped in this 20-item version.

Criterion/Predictive

Perfectionistic self-presentation is empirically distinguishable from trait perfectionism and has incremental validity in predicting unique variance in various indicators of psychological distress (Hewitt et al., 2003). It was found that the PSPS predictor block accounted for an additional 15% of the variance in predicting social interaction anxiety and 13% of the variance in predicting social performance anxiety beyond the variance attributable to the HFMPs subscales. Research on dysfunctional personality tendencies also attests to the predictive ability of the PSPS subscales. Perfectionistic self-presentation has been linked with a chameleon-like form of Machiavellianism focused on concealing imperfections and projecting confidence that is fuelled by a sense that others tend to be hostile and controlling (Sherry, Hewitt, Besser, Flett, & Klein, 2006). Correlations between

Machiavellianism and the three facets ranged from .28 to .32 for women but only .14 to .20 for men. Sherry et al. (2007) showed in two large samples of undergraduates that perfectionistic self-presentation predicts relatively large amounts of significant variance in personality pathology when considered along with the HFMPSP trait dimensions. Jain and Sudhir (2010) reported that adults with social phobia, relative to a group of 30 community volunteers, exhibited significantly higher levels of nondisplay of imperfections, and marginally higher levels of perfectionistic self-promotion. Cockell et al. (2002) reported that women with anorexia nervosa obtained substantially higher scores on all three PPSP facets as compared with psychiatric and normal groups. Patterson et al. (2012) also found substantially higher scores on all three PPSF facets for a clinical eating disorder group versus subclinical and asymptomatic groups. Likewise, Bardone et al. (2010) found that mean scores on the three PPSF factors were elevated for participants who currently had an eating disorder or were only partially recovered.

Ferrari and Thompson (2006) confirmed that all facets of perfectionistic self-presentation are associated with lower self-deception (*r*s ranging from $-.23$ to $-.40$) and perfectionistic self-promotion and non-display of imperfection were linked strongly with greater impostor fears (*r*s of .40 and .57). Penkal and Kurdek (2007) linked overall levels of perfectionistic self-presentation with greater body dissatisfaction ($r = .24$) and physique anxiety ($r = .31$), while all three PPSF facets have been predictive of physical appearance perfectionism (*r*s ranging from .35 to .49) (Yang & Stoeber, 2012). Hewitt et al. (2003) using two large samples (222 students; 90 clinical patients) reported that all three PPSF facets were predictive of informant ratings. Most correlations were .30 or greater in the student sample and considerably stronger correlations were found between patient self-reports and clinician ratings. The strongest association ($r = .63$) was found between clinician rated and self-reported nondisplay of imperfection self-reports. Hewitt et al. (2008) reported that high PPSF scores were predictive of extreme physiological responses (readiness to respond with anxious arousal) when required to discuss past mistakes in a clinical interview.

Location

Hewitt, P.L., Flett, G.L, Sherry, S.B., et al. (2003). The interpersonal expression of perfection: Perfectionistic self-presentation and psychological distress. *Journal of Personality and Social Psychology*, 84, 1303–1325.

Results and Comments

The PPSF uniquely reflects the stylistic expression of perfection. While scores on the PPSF subscales tend to be correlated substantially with trait perfectionism dimensions, it is possible for an individual who has not internalized a need to be perfect into their self-identity to score high on the scale because the PPSF taps a need to seem perfect and avoid seeming imperfect. One potential use of the scale that has not been explored thus far is that it could conceivably be used as a response style measure by researchers developing a scale and there is a concern that items in this new instrument are susceptible to creating an idealized image.

PERFECTIONISTIC SELF-PRESENTATION SCALE

Listed below are a group of statements. Please use the rating scale shown below to indicate your degree of agreement or disagreement with each of the statements.

	1	2	3	4	5	6	7
	Strongly disagree		Neither strongly agree nor disagree			Agree	
1. It is okay to show others that I am not perfect	1	2	3	4	5	6	7
2. I judge myself based on the mistakes I make in front of others	1	2	3	4	5	6	7
3. I will do almost anything to cover up a mistake	1	2	3	4	5	6	7
4. Errors are much worse if they are made in public rather than in private	1	2	3	4	5	6	7
5. I try always to present a picture of perfection	1	2	3	4	5	6	7
6. It would be awful if I made a fool of myself in front of other people	1	2	3	4	5	6	7
7. If I seem perfect, others will see me more positively	1	2	3	4	5	6	7

8. I brood over mistakes that I have made in front of others	1	2	3	4	5	6	7
9. I never let others know how hard I work on things	1	2	3	4	5	6	7
10. I would like to appear more competent than I really am	1	2	3	4	5	6	7
11. It doesn't matter if there is a flaw in my looks	1	2	3	4	5	6	7
12. I do not want people to see me do something unless I am very good at it	1	2	3	4	5	6	7
13. I should always keep my problems to myself	1	2	3	4	5	6	7
14. I should solve my own problems rather than admit them to others	1	2	3	4	5	6	7
15. I must appear to be in control of my actions at all times	1	2	3	4	5	6	7
16. It is okay to admit mistakes to others	1	2	3	4	5	6	7
17. It is important to act perfectly in social situations	1	2	3	4	5	6	7
18. I don't really care about being perfectly groomed	1	2	3	4	5	6	7
19. Admitting failure to others is the worst possible thing	1	2	3	4	5	6	7
20. I hate to make errors in public	1	2	3	4	5	6	7
21. I try to keep my faults to myself	1	2	3	4	5	6	7
22. I do not care about making mistakes in public	1	2	3	4	5	6	7
23. I need to be seen as perfectly capable in everything I do	1	2	3	4	5	6	7
24. Failing at something is awful if other people know about it	1	2	3	4	5	6	7
25. It is very important that I always appear to be 'on top of things'	1	2	3	4	5	6	7
26. I must always appear to be perfect	1	2	3	4	5	6	7
27. I strive to look perfect to others	1	2	3	4	5	6	7

Notes:

Scoring:

Reverse scored items	1, 11, 16, 18, 22
Perfectionistic Self-Promotion	sum of 5, 7, 11, 15, 17, 18, 23, 25, 26, 27
Nondisplay of Imperfection	sum of 2, 3, 4, 6, 8, 10, 12, 20, 22, 24
Nondisclosure of Imperfection	sum of 1, 9, 13, 14, 16, 19, 21

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FUTURE RESEARCH DIRECTIONS

We have provided psychometric reviews for five of the most important perfectionism measures. With but a few noteworthy exceptions in the perfectionism field (e.g., [Gotwals & Dunn, 2009](#)), there is still a need for the multi-method multi-trait analyses advocated originally by pioneers in the assessment field – [Campbell and Fiske \(1959\)](#). Lingering questions about the FMPS factor structure and the extensive number of negatively worded items in the HFMPs are just two reasons why these measures should be re-examined and updated. While measures have factors with titles that seem to be assessing the same thing, this is likely not the case. This was

illustrated recently in meta-analytic work by Sirois (2013) which established that the APS-R high standards factor was unrelated to Neff's measure of self-compassion, thus replicating findings reported by Neff (2003) in her original scale development paper. However, the HFMPs self-oriented perfectionism factor was associated negatively with self-compassion across several samples! This pattern of results raises the possibility that the HFMPs self-oriented perfectionism subscale allows for the assessment of a more extreme form of self-oriented perfectionism.

There is an impressive number of articles on aspects of perfectionism that have arisen from countries such as China and Japan, and research is beginning to address the nature of perfectionism from a cross-cultural perspective (see DiBartolo & Rendón, 2012). What seems particularly lacking is the kind of exemplary cross-cultural work evaluating other constructs that involves samples from multiple countries in the same study. This kind of work seems essential in the perfectionism field in order to not only evaluate measure equivalence but also to get a much better understanding of the meaning and significance of perfectionism around the world and what the implications are for the perfectionism construct.

One final issue is the rapid emergence of domain-specific perfectionism measures. For instance, we now have measures tapping romantic relationship perfectionism (Matte & Lafontaine, 2012), sexual perfectionism (Stoeber et al., 2013), physical appearance perfectionism (Yang & Stoeber, 2012), and a revised multidimensional sports perfectionism scale (Gotwals & Dunn, 2009). The creation of these domain-specific measures is an important development because it is through such advances that interest and understanding of this exceedingly complex construct will continue to grow.

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