Clarifying the construct of perfectionism

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Abstract

The construct of perfectionism is related to many important outcome variables. However, the term "perfectionism" has been defined in many different ways, and items comprising the different existing scales appear to be very different in content. The overarching aim of the present set of studies was to help clarify the specific unidimensional personality constructs that contribute to perfectionistic behavior. First, trained raters reliably sorted items from existing measures of perfectionism into nine dimensions. An exploratory factor analysis, followed by a confirmatory factor analysis on an independent sample, resulted in a 9 scale, 61 item measure, called the Measure of Constructs Underlying Perfectionism (M-CUP). The nine scales were internally consistent and stable across time, and they were differentially associated with relevant measures of personality in theoretically meaningful ways.

Keywords

perfectionism; personality traits; factor analysis; scale development

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Perfectionism is an important psychological construct. However it is measured, increased levels of perfectionism are found in anorexia nervosa (Bastiani, Rao, Weltzin, & Kaye, 1995), bulimia nervosa (Vohs, Bardone, Joiner, Abramson, & Heatherton, 1999), social phobia, panic disorder (Saboonchi, Lundh, & Ost, 1999), anxiety (Klibert, Langhinrichsen-Rohling, & Saito, 2005), depression (Rice & Dellwo, 2001), and obsessive-compulsive disorder (Frost, Marten, Lahart, & Rosenblate, 1990). Prospective research has found that higher levels of perfectionism predict eating disorders (Lilenfeld, Wonderlich, Riso, Crosby, & Mitchell, 2006) and depression (Hewitt, Flett & Ediger, 1996; Rice & Dellwo, 2001), suggesting that the construct may play a role in the etiology of these disorders. Interestingly, perfectionism also appears to be related to positive outcomes and characteristics, such as self-efficacy (Mills & Blankstein, 2000) and achievement motivation (Klibert et al., 2005).

Numerous researchers have measured personality traits thought to underlie perfectionistic behavior, and there is a growing consensus that there are many different traits that contribute to such behavior (Frost et al., 1990; Hewitt, Flett, Besser, Sherry, & McGee, 2003; Hill et al., 2004). Examples of individual scales are those measuring high Personal Standards (the tendency to set very high standards and to place importance on the achievement of those standards for self-evaluation: Frost et al., 1990) or Self-Oriented Perfectionism (the tendency to set high standards, strictly evaluate behaviors, and to have the motivation to attain perfection: Hewitt, Flett, Besser, et al., 2003); Concern over Mistakes (the tendency to react negatively to mistakes and to interpret mistakes as meaning failure: Frost et al., 1990);

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and Discrepancy (the subjective perception that one is not meeting one's goals or standards, or that one's actual self is lacking as compared to one's ideal self: Slaney, Rice, Mobley, Trippi, & Ashby, 2001). There are many others. Interested readers may consult work by Flett & Hewitt (2002) and Shafran & Mansell (2001) for a more complete review of the research on perfectionism.

The intent of the current study is to summarize, and build on, this existing research by developing a comprehensive, multidimensional tool that includes measures of each trait construct thought to contribute to perfectionistic behavior. This work was based on the following premises. First, there are many different personality traits that contribute to perfectionistic behavior (Frost et al., 1990; Hewitt, Flett, Besser et al., 2003). Second, the extensive existing research in this domain has likely identified the full range of relevant constructs: Our comprehensive instrument was developed to represent each identified personality trait in a single instrument. Third, each relevant trait should be measured by its own, unidimensional scale; that is, single scores on a measure should not represent composites of more than one construct (McGrath, 2005; Smith, McCarthy, & Zapolski, 2009). Fourth, it is necessary to distinguish between traits likely to contribute to perfectionistic behavior (e.g., the Personal Standards scale from Frost et al., 1990) and measures of possible causes of such traits (such as the Parental Criticism scale from Frost et al., 1990: parental criticism may lead to the development of personality traits that dispose one to perfectionistic behavior, but does not represent such a trait). Fifth, it is useful to distinguish between traits that are likely to contribute to perfectionistic behavior (such as high Personal Standards) and traits that have many different correlates, including perfectionistic behavior, but are unlikely to underlie perfectionism specifically (such as Neuroticism).

We proceeded as follows. We examined the existing definitions of perfectionism, 15 existing measures of perfectionism, and the specific items in each measure. We identified nine different trait content domains that, we judged, reflected all of the personality traits underlying perfectionistic behavior represented in the existing instruments. We describe this process in more detail below. Trained raters sorted items from all existing measures of perfectionism onto those nine trait domains. We then constructed a new measure of perfectionism to measure those nine traits. Doing so involved modifying existing items with the goal of maximizing the unidimensionality and representativeness of each item. We then subjected the items to exploratory factor analysis in one sample, refined items further, and then conducted a confirmatory factor analysis on a second sample. We called the resulting 61 item scale the Measure of Constructs Underlying Perfectionism (M-CUP). Once the measure was developed, our second step was to examine the external validity of the resulting scales by examining the relationships of each scale to a comprehensive model of personality, the five factor model (Costa & McCrae, 1992).

Study One

Method

Measures—In order to examine the different personality dimensions underlying perfectionistic behavior represented in the existing scales of perfectionism, the following scales, and the literature on these scales, were examined:

Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990): The FMPS is a 35-item self-report measure of perfectionism consisting of six scales: Concern over Mistakes, Doubts about Actions, Personal Standards, Organization, Parental Expectations, and Parental Criticism. Internal consistency of the subscales ranges from .77 to .93 (Frost et al., 1990).

Hewitt Multidimensional Perfectionism Scale (HMPS; Hewitt & Flett, 1991): The HMPS is a 45-item measure of perfectionism consisting of three scales: Self-Oriented Perfectionism, Socially Prescribed Perfectionism, and Other Oriented Perfectionism. Internal consistencies range from .74 to .88 for the subscales (Hewitt & Flett, 1991).

Almost Perfect Scale-Revised (APS-R; Slaney et al., 2001): The APS-R is an empirically and factor analytically derived measure of perfectionism consisting of 23 items. It consists of three scales: Discrepancy, High Standards, and Order, and internal consistency ranges from .82 to .92 for the subscales (Slaney et al., 2001).

Perfectionism Questionnaire (PQ; Rheaume et al., 2000): The PQ is a 34 item measure of perfectionism that consists of two scales: perfectionistic tendencies (Healthy Perfectionism) and negative outcomes associated with perfectionism (Dysfunctional Perfectionism; Rheaume, personal communication, April 3, 2008). It attempts to parse out obsessive-compulsive symptoms from its measurement of perfectionism.

Positive and Negative Perfectionism Scale (PANPS; Terry-Short, Owens, Slade, & Dewey, 1995): The PANPS is a 40-item measure of perfectionism that was intended to measure positive and negative perfectionism as described by Terry-Short et al. (1995). Internal consistency for the subscales ranges from .81 to .83 (Haase & Prapavessis, 2004).

Burns Perfectionism Scale (BPS; Burns, 1980): The BPS is a 10-item measure of perfectionism that consists of one scale based on the Burns' (1980) conceptualization of perfectionism. Internal consistency of the scale has been found to range from .70 (Hewitt & Dyck, 1986) to .83 (Arrindell, de Vlaming, Eisenhardt, van Berkum, & Kwee, 2002).

Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976): The DEQ is a 66-item measure of cognitions hypothesized to be characteristic of individuals who are depressed. In the initial development of the scale, three factors emerged: Dependency, Self-Criticism, and Efficacy. The Self-Criticism factor has been used to measure self-criticism as an aspect of perfectionism (Dunkley, Zuroff, & Blankstein, 2003). A concern with the DEQ has been that the high intercorrelation of the three factors may suggest that they may not be independent factors (Bagby, Parker, Joffe, & Buis, 1994). For the present study, only items used in the Bagby et al. (1994) revision, items used in the Santor, Zuroff, & Fielding (1997) revision, and items judged by the present author to be relevant to one of the nine hypothesized dimensions were used.

Setting Conditions for Anorexia Nervosa Scale Perfectionism Scale (SCANS; Slade & Dewey, 1986): The SCANS is a factor-analytically derived measure developed to measure two dimensions of functioning which were hypothesized to contribute to the development of anorexia nervosa: general dissatisfaction with life and perfectionism. For the present study, only the Perfectionism scale was used, which consists of 10 items.

Neurotic Perfectionism Questionnaire (NPQ; Mitzman, Slade, & Dewey, 1994): The NPQ is a 42-item measure of perfectionism developed to specifically measure neurotic perfectionism. Internal consistency of the scale was .95 (Mitzman et al., 1994).

Adaptive/Maladaptive Perfectionism Scale (AMPS; Rice & Preusser, 2002): The AMPS is a 27-item measure of perfectionism that was developed to measure both adaptive and maladaptive aspects of perfectionism in children and adolescents. A factor analysis on a child sample revealed four factors: Sensitivity to Mistakes, Contingent Self-Esteem,

Compulsiveness, and Need for Admiration. Internal consistencies for the four scales ranged from .73 to .91.

Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978): The DAS is a 40-item measure of dysfunctional attitudes purported to play a role in depression. For the present study, only the 15 items found to load on the perfectionism factor by Imber and colleagues (1990) were used; these items had an internal consistency of .91 (Imber et al., 1990).

HEXACO Personality Inventory-Revised Perfectionism Facet (HEXACO-PI-R; Lee & Ashton, 2004): The HEXACO-PI-R is a measurement of the six factor model of personality. The Perfectionism facet is a part of the Conscientiousness domain and assesses one's tendency to be thorough and to be concerned with details. Internal consistency for the perfectionism facet was .79 (Lee & Ashton, 2004).

Perfectionistic Self Presentation Scale (PSPS; Hewitt, Flett, Sherry et al., 2003): The PSPS is a 27-item measure designed to measure the tendency to present oneself as perfect. It is composed of three factor analytically derived subscales: Perfectionistic Self-Promotion, Nondisplay of Imperfection, and Nondisclosure of Imperfection (Hewitt, Flett, Sherry et al., 2003). Internal consistency for the subscales ranged from .78 to .86 (Hewitt, Flett, Sherry, et al., 2003).

Perfectionism Cognitions Inventory (PCI; Flett, Hewitt, Blankstein, & Gray, 1998): The PCI is a 25-item measure designed to assess individual differences in the frequency of perfectionistic cognitions. It consists of one unidimensional factor (Flett et al., 1998). Internal consistency was .95 (Flett, Hewitt, Whelan, & Martin, 2007).

Eating Disorders Inventory-2 Perfectionism scale (EDI; Garner, 1991): The EDI-2 is a self-report measure consisting of 8 scales measuring different aspects of eating disorder symptoms and eating disorder risk factors. In the present study, only the Perfectionism scale was used.

Procedure—First, we conducted a review of each item on each existing perfectionism-related measure, to identify content domains reflecting personality traits likely to underlie perfectionistic behavior. We understood a personality trait to be any enduring tendency in thinking, feeling, or behaving (Allport, 1966). Thus, the concept of trait encompasses "perceptual response dispositions, personal constructs, and cognitive styles" (Allport, 1966, pg. 3) as well as affective tendencies. The first two authors reviewed the literature on the definition and measurement of perfectionism-related traits, considered the content of each item on the 15 scales, and from this made determinations of the trait content domains present in the 15 measures. This step resulted in the consensual identification of 9 trait dimensions underlying perfectionistic behavior.

The second step was to train three graduate student raters on the nine hypothesized dimensions and their definitions. The raters were blind to which scales items originally came from, and also to which items were hypothesized to reflect each dimension. Raters were trained on one domain at a time. After training on a domain, they rated each item from all 15 existing perfectionism scales on the domain they had just been trained on. After completing ratings on one domain, they were trained on another domain, and so on. Ratings were on a scale of 1 to 5, a rating of 5 implying that an item is prototypical of the dimension and a rating of 1 implying that an item does not seem related at all to the dimension. We then analyzed the rate of agreement among the raters using intra-class correlations. We used a two-way mixed model and examined absolute agreement between raters.

Results

Item domains that were included—First, we identified several dimensions underlying perfectionism on which we felt there was a general consensus in the literature, in that the dimension or a very similar dimension was described as a factor on several multidimensional measures of perfectionism, especially if the factor structure of those scales had been supported in the literature. That process led to the identification of five dimensions: (1) *High Standards*, or the tendency to set high standards for oneself and to push oneself to work hard to attain those standards. The FMPS Personal Standards scale, the HMPS Self-Oriented Perfectionism scale, the APS-R Standards scale, and the PI Striving for Excellence scale all reflect this dimension; (2) *Order*, or the tendency to prefer organization, neatness, and order in one's environment and physical surroundings. Items on the FMPS Organization scale, the APS-R Order scale, the Perfectionism Inventory (PI; Hill et al., 2004), and some items on the AMPS Compulsiveness scale appear to reflect this dimension; (3) *Perfectionism toward Others*, or the tendency to expect high performance and perfection from others and to strictly evaluate others' performance. This dimension reflects typical items on the Other Oriented Perfectionism scale of the HMPS as well as the PI High Standards for Others scale; (4) *Reactivity to Mistakes*, or the tendency to experience negative affect in response to having made, or perceiving to have made, a mistake. This dimension is reflected on the FMPS Concern over Mistakes scale, the AMPS Sensitivity to Mistakes scale, and the PI Concern over Mistakes scale; and (5) *Perceived Pressure from Others*, or the tendency to feel that others have high expectations, expect one to be perfect, or are critical of one's performance. This dimension appears similar to the HMPS Socially Prescribed Perfectionism scale, and overlaps with the PI Perceived Parental Pressure scale, and the FMPS Parental Expectations and Parental Criticism scales (although the latter have a specific focus on parents).

Second, we identified four more dimensions that were represented by only one or two measures of perfectionism or which appeared to be present following an extensive item level analysis of perfectionism measures: (6) *Dissatisfaction*, or the tendency to feel that one is not meeting one's standards, to feel that something is never 'good enough' or 'right', and to feel that something is always 'wrong', from the FMPS Doubts about Actions scale and the APS-R Discrepancy scale; (7) *Details and Checking*, or the tendency to be thorough, to be concerned with details in one's work, and to check and re-check one's work, from the HEXACO-PI-R Perfectionism facet, defined in an almost identical manner, and the AMPS Compulsiveness scale; (8) *Satisfaction*, or the ability or tendency to experience satisfaction and positive affect when completing something or having accomplished something, overlaps with Positive Perfectionism in the PANPS and the AMPS Contingent Self-Esteem scale (e.g. "Once I do well at something I am pleased", Rice & Preusser, 2003, pg. 215); and (9) Lastly, *Black and White Thinking*, or the tendency to think that if something is not perfect, it is all bad or a failure, and that if one cannot do something perfectly, there is little point in doing it at all. This dimension was identified following the recognition that items on several scales of perfectionism are reflective of dichotomous or all-or-none thinking. Each of these 9 dimensions fit the definition of a personality trait.

Item domains that were excluded—As described above, we initially identified several dimensions that we judged either did not reflect personality traits, but were rather precursors of traits, or that did not appear to underlie perfectionism. An example of the first exclusionary basis is that although one's childhood experiences may be related to the development of personality traits, they do not reflect a trait itself (Shafran & Mansell, 2001, make a similar point). Accordingly, items measuring retrospective evaluations that one's parents or one's family had high standards or were critical of one were not included. An example item excluded on this basis is, "As a child, I was punished for doing things less

than perfect" (Frost et al., 1990). Examples of trait content domains thought not to underlie perfectionism are constructs reflecting (a) concern about others' opinions, (b) self-efficacy, (c) neuroticism and other, related constructs, such as rumination, that reflect a general tendency toward negative affectivity, and (d) dependency. Sample excluded items include "At times I feel hollow and empty inside" and "I often feel lonely/isolated" (NPQ: Mitzman, et al., 1994). These content domains have been shown to have a wide range of external correlates and were not judged by us to reflect specific personality dimensions underlying perfectionistic behavior, although they likely correlate with such dimensions. In addition, we did not include a dimension of perfectionistic cognitions, as defined by the PCI (Flett et al., 1998), because we felt that the items on the measure represented multiple content domains; instead we considered the content of each item on the PCI separately. In a similar fashion, we considered the content of each item on the PSPS rather than the broad concept of perfectionistic self-presentation, as we felt that the items on the PSPS represented several content domains. Items from each of these measures are represented on the 9 dimensions we identified.

Agreement in Placing Items from Existing Perfectionism Scales onto the Nine Dimensions—Intra-class correlations for the nine hypothesized dimensions were the following: High Standards: .83; Order: .95; Details and Checking: .84; Dissatisfaction: .78; Perceived Pressure from Others: .88; Perfectionism toward Others: .90; Reactivity to Mistakes: .90; Satisfaction: .82; Black and White Thinking: .91. Thus, there was strong agreement among the raters in identifying the constructs represented by the items.

Study One Discussion

We identified nine trait content domains that were (a) represented in existing perfectionism measures and (b) judged to reflect personality traits likely to underlie perfectionistic behaviors, rather than causes or correlates of such traits. Inter-rater agreement for each trait domain was .78 or higher, and above .80 for eight of the nine domains. In conclusion, items from 15 existing measures of perfectionism were able to be reliably sorted onto the nine hypothesized personality traits relevant to perfectionism.

Study Two: Part One

The goal of the first part of study two was to construct a new measure of perfectionism which measures the nine traits that we hypothesize underlie perfectionistic behavior and to examine the internal validity of the new measure. We called the new scale the Measure of Constructs Underlying Perfectionism, or the M-CUP.

Method

Participants—This study was approved by the Institutional Review Board of the University of Kentucky. Participants were 1465 undergraduate psychology students taking part in a screening conducted for all psychology 100 students. Demographic information was available for approximately half the sample, and indicated that 65.3% of participants were women, and with respect to ethnicity, 86.9% were Caucasian, 8.3% were African American, and 4.8% reported some other ethnic affiliation.

Procedure

Development of the item pool: There were two considerations in choosing items. First, based on the ratings made by the raters in study one, we considered items for each dimension that were rated to represent that dimension highly (a rating of 5 on the 1 to 5 scale by at least one rater) and were judged not to represent any other domain highly (rated a 1 or 2 on all other domains by all raters). Second, if two items were judged to be almost

identical in content, only one item was chosen for inclusion. Based on these criteria, 72 items (8 per dimension) were chosen.

Item modifications and additions: Each of these 72 items was rewritten in order to maximize how well the item represented the appropriate trait dimension, to maximize the unidimensionality of each dimension's item set, and minimize any potential ambiguity in item interpretation. In other words, in rewriting items, we reworded parts of items that were judged to reflect content other than the trait dimension the item was felt to represent. For example, the item "I like the challenge of setting very high standards for myself" (PANPS item 40, hypothesized to reflect the dimension of High Standards) was rewritten to state "I tend to set very high standards for myself" because the phrase "I like the challenge" was judged to add content other than an individual having high standards for themselves. In addition, because some dimensions had fewer than 8 items representing them, new items were written for these dimensions. This was done so that each dimension would be equally represented when entered into a factor analysis. Because these new items had not previously been rated to represent each content domain and had not been used in previous measures of perfectionism, more than one item was written for each dimension for which new items were written. The items rewritten from other perfectionism scales and the new items resulted in an initial item pool consisting of 86 items. Item responses were on a 5-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neutral, 4 = somewhat agree, 5 = strongly agree).

Data analysis: We divided the sample in half and conducted exploratory factor analysis on the first half ($n = 733$) and confirmatory factor analysis, based on the solution derived from the exploratory analysis, on the second half ($n = 732$). For the exploratory factor analysis, common factor analysis with oblique rotation was conducted, because it was not presumed that the underlying personality dimensions would be orthogonal to each other. The best-fitting solution was chosen using the following criteria: eigenvalues greater than 1, scree plot indications that a set of factors is predominant, and confirmation that factors could not have emerged by chance through parallel analysis. Because a goal of the present study was to construct a scale measuring unidimensional traits that contribute to perfectionistic behavior, items were considered representative of an extracted factor if they loaded highly on their respective factor and not highly on other factors. We considered an item to load on a factor if the loading was .40 or greater, and we used the rule that items must load at least .20 higher on their respective factor than on any other factor. Because item responses were on a five point scale, we also tested whether the EFA results were the same using polychoric correlations, rather than Pearson correlations.

For the confirmatory factor analysis (CFA) on the second half of the sample, four fit indices were used: the Comparative Fix Index (CFI) and the Tucker-Lewis index (TLI) are relative fit indices and are based on a comparison of the chi-square value for the model with the chi-square value for a baseline model in which all variables are independent. The other two are absolute fit indices: the root mean square error of approximation (RMSEA) reflects the discrepancy between the covariances implied by the model and the observed covariances per degree of freedom, and the standardized root mean square residual (SRMR) reflects the average discrepancy between the correlation matrices of the observed sample and the hypothesized model. Overall evaluation of model fit is made by considering the values of each of the four fit indices. Guidelines vary: CFI and TLI values of either .90 or greater (Kline, 2005) or .95 or greater (Hu & Bentler, 1999) are thought to represent very good fit. RMSEA values of .06 or less are thought to indicate a close fit, .08 a fair fit, and .10 a marginal fit and SRMR values of approximately .09 or less tend to indicate good fit (Browne & Cudeck, 1993; Hu & Bentler, 1999). The use of many items in a CFA, as was the case here, results in a decline in the relative fit indices but not in the absolute fit indices

for accurate models (Cook, Kallen, & Amtmann, 2009; Kenny & McCoach, 2003; Marsh, Hau, Balla, & Grayson, 1998). We therefore expected the strongest indications of good fit from the RMSEA and SRMR statistics.

Because there were no significant differences between individuals who were missing data and those who were not missing data on any demographic variables, it was concluded that data were missing at random. Missing values were imputed using the expectation-maximization (EM) procedure (Enders, 2006).

Results

Exploratory Factor Analysis—Examination of the scree plot and eigenvalues greater than one suggested a 14 factor solution; eigenvalues for all 14 factors exceeded the 95th percentile of eigenvalues for factors derived from random data using parallel analysis (O'Connor, 2000). The fourteen factors explained 63.75% of the variance in the items. Eigenvalues of the first two factors extracted were 17.42 and 13.14 and explained 20.25% and 15.28% of the variance in the items, respectively. Examination of the item loadings on these first two factors revealed, however, that very few items loaded strongly on either of these two factors. For the first extracted factor, only eight items had factor loadings above .2 in the rotated solution. For the second factor, only four items had factor loadings above .2 in the rotated solution. It was also true that many items had similar loadings on these two factors. These two factors did not represent any clearly definable content domain; we considered the possibility that these represented higher order factors.

Items loading on factor 3 represented a tendency to prefer order and organization and were consistent with the originally hypothesized dimension of Order (the two highest loading items were "I like things to always be organized" (.90) and "I like things to be neat" (.89)). Items loading on factor 4 represented a tendency to experience positive affect after completing or accomplishing something and were consistent with the originally hypothesized dimension of Satisfaction (the two highest loading items were "I experience positive feelings after I achieve something" (.73) and "I get excited when I do a good job" (.70)).

Items loading on factor 5 represented a tendency to check one's work to make sure the details are correct or there are no mistakes; this was consistent with the originally hypothesized dimension of Details and Checking (the two highest loading items were "I may check my work several times to make sure the details are correct" (.87) and "It takes me a long time to do something because I check my work many times" (.70)). Items loading on factor 6 represented a tendency to have high standards and expectations for others and were consistent with the originally hypothesized dimension of Perfectionism toward Others (the two highest loading items were "I have high standards for the people who are important to me" (.71) and "I always want high quality work from others" (.57)).

Items loading on factor 7 represented a tendency to have high goals and to set high standards for oneself and were consistent with the originally hypothesized dimension of High Standards (the two highest loading items were "I definitely have high standards" (.76) and "I tend to set very high standards for myself" (.75)). Items measure both setting merely high standards and setting "extremely" high standards. Items loading on factor 8 represented a tendency to not engage in tasks if one cannot do them perfectly. Although this was mostly consistent with the originally hypothesized dimension of Black and White Thinking, the items loading on factor 8 represented a more restricted content domain than originally hypothesized. This factor was thus named Black and White Thinking about Tasks and Activities (the two highest loading items were "I have to do things perfectly-or I should not do them at all" (.84) and "I will not do something if I cannot do it perfectly" (.78)).

Items loading on factor 9 represented a tendency to feel that others have high expectations for oneself or expect one to be perfect; this was consistent with the originally hypothesized dimension of Perceived Pressure from Others (the two highest loading items were "People expect high levels of performance from me" (.70) and "People expect me to succeed at everything I do" (.68)). Items loading on factor 13 represented a tendency to feel that one is not meeting one's own goals and standards or to feel that one's performance is not good enough and were consistent with the originally hypothesized dimension of Dissatisfaction (the two highest loading items were "I feel I often fall short of the kind of person I want to be" (.62) and "I often feel dissatisfied with my own work/performance" (.60)).

There were no items loading on factor 2 which met criteria for loading on the respective factor at least .2 higher than their loading on any other factor. Examination of items loading on factors 1, 10, 11, 12, and 14 revealed that items loading on these five factors all represented a tendency to react with negative affect to mistakes or when not having done something perfectly. This was consistent with the originally hypothesized dimension of Reactivity to Mistakes. It was hypothesized that this dimension may have split into several factors due to method variance—for example, items loading on factor 14 were all negatively keyed while items loading on factor 11 mentioned failure. Initial analysis of all the items loading on these five factors revealed that a scale composed of all these items would nonetheless have high internal consistency (Coefficient α = .86, with inter-item correlations ranging from .36 to .60 (median = .44)). Thus, we grouped these items into a scale named Reactivity to Mistakes. The two items with the highest corrected item-total correlations for this scale were "I become upset if I make a mistake" (.66) and "I feel like a complete failure if I do not do something perfectly" (.62).

A table providing the loading of each of the 86 items on each of the 14 factors was judged too lengthy to include, but it is available from the authors. The EFA findings presented here are from Pearson correlations; however, the EFA findings, including the factors identified and the items that loaded on the factors, were essentially the same when polychoric correlations were used instead of Pearson correlations.

Further Reduction of the Item Pool—Using the items meeting our criteria for loading on each scale as the starting point for scale construction, we then dropped items from a scale if their inclusion detracted from internal consistency. Using this rule, 9 items were retained for the Order scale, 9 for the Satisfaction scale, 5 for the Details and Checking scale, 6 for the Perfectionism toward Others scale, 6 for the High Standards scale, 4 for the Black and White Thinking about Tasks and Activities scale, 6 for the Perceived Pressure from Others scale, 9 for the Dissatisfaction scale, and 7 for the Reactivity to Mistakes scale. The items for the final measure are provided below, in Table 1.

Exploratory analysis of two higher order factors—In light of evidence that there are two higher order perfectionism-related traits (often called adaptive and maladaptive; Dunkley et al., 2003; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Rice & Preusser, 2002), we conducted an EFA using common factor analysis with oblique rotation on the 9 extracted scales. Examination of the scree plot and eigenvalues greater than one suggested a two factor solution. The first extracted factor had an eigenvalue of 3.09 and explained 34.37% of the variance in the scales while the second extracted factor had an eigenvalue of 2.10 and explained 23.39% of the variance in the scales. Factor 1 was comprised of the scales Order, Satisfaction, Details and Checking, Perfectionism toward Others, and High Standards. Factor 2 was comprised of Black and White Thinking about Tasks and Activities, Perceived Pressure from Others, Dissatisfaction, and Reactivity to Mistakes. Factor loadings of the scales onto the higher order factors were relatively high, ranging from .47 to .85. Results were essentially the same using polychoric correlations.

Confirmatory Factor Analysis—CFAs were conducted on the second half of the sample. First, we conducted a separate CFA on Reactivity to Mistakes, because that scale was based on items from multiple factors. The CFA showed good fit for a single factor: CFI = .97; TLI = .95; RMSEA = .08; SRMR = .03. Next, we tested the 9 factor model. Items were allowed to covary with the scale to which they were assigned, and their loadings on all other scales were constrained to zero. All indices indicated good fit, and as anticipated, the strongest indicators of good fit were the absolute indices (CFI = .90, TLI = .90, RMSEA = .04, SRMR = .05). Loadings of the items on each of the nine factors are presented in Table 1 and showed that all items loaded very highly on their respective factors; with the exception of seven items, all factor loadings were .60 or above and the lowest factor loading was .47.

We next tested whether the two higher order factors identified in the first half of the sample were present in the second half of the sample. A CFA was run with the 9 scales as measured variables, in which we specified that Order, Satisfaction, Details and Checking, Perfectionism toward Others, and High Standards loaded on the first higher order factor and Black and White Thinking about Tasks and Activities, Perceived Pressure from Others, Dissatisfaction, and Reactivity to Mistakes loading on the second higher order factor. Fit indices for this model indicated good fit (CFI = .89, TLI = .89, RMSEA = .05, SRMR .08). Scale loadings onto the higher order factors were all above .50 (presented in Table 2). The correlation between the two higher order factors was .27, indicating that the factors do not share a substantial amount of variance. The difference in the chi-squared statistic between this model and the base, nine factor model was significant, indicating this model fit the data significantly worse than the base model (χ^2 difference = 302.63, df = 26; p < .001). However, the difference in other indices of fit between these two models was negligible.

Because the scales loading onto the first higher order factor appeared to measure dimensions underlying perfectionism which are likely embraced by individuals and which did not appear to involve subjective distress, the first higher order factor was labeled Ego-Syntonic Perfectionism Traits. The scales loading onto the second higher order factor appeared to measure dimensions underlying perfectionism which are likely more distressing to individuals; thus, the second higher order factors was named Ego-Dystonic Perfectionism Traits.

We contrasted these models with three others. The first was a two factor model in which each item loaded on either Ego-Syntonic or Ego-Dystonic (thus, we specified two factors of items, rather than two factors of scales). This test was not a hierarchical one; rather, it was a test of whether the 61 items could be explained with 2 factors. Fit indices indicated poor fit (CFI = .56, TLI = .54, RMSEA = .09, SRMR = .12). The overall characterizations of ego-syntonic and ego-dystonic are not sufficient to represent the patterns of variation in responses to the scales of the M-CUP.

Second, confirmatory factor analyses were run to rule out the hypothesis of the existence of an overarching latent factor of 'perfectionism'. A model in which all 9 scales were constrained to load onto one higher order factor showed less than adequate fit (CFI = .87, TLI = .86, RMSEA = .05, SRMR = .13). Factor loadings of the 9 scales onto the higher order factor ranged from .02 (suggesting the higher order factor accounted for less than 1% of the variance in the scale) to .98, and factor loadings for 5 scales were less than .3: the higher order factor accounted for less than 9% of the variance in those 5 scales. We also tested a model in which all 61 items were constrained to load onto one factor, as another way of ruling out the possibility of a single perfectionism trait factor. This model showed very poor fit (CFI = .33, TLI = .31, RMSEA = .11, SRMR = .17). Factor loadings for 15 items were less than .2, suggesting the broad factor accounted for less than 4% of the variance in the item (lowest factor loading = -.042). Factor loadings for a further 13 items

were less than .3, suggesting the broad factor accounted for less than 9% of the variance in the item. Thus, it does not appear to be the case that the 9 factors, and the content encompassed in the items on those factors, are representative of a single trait of perfectionism; instead, perfectionism appears better explained by several underlying traits.

Examination of Scale Internal Consistency—Estimates of internal consistency for the 9 scales were calculated for the entire sample ($n = 1465$). With the exception of Perfectionism toward Others ($\alpha = .79$), coefficient alpha for all other scales was above .80 (Order $\alpha = .96$, Satisfaction $\alpha = .88$, Details and Checking $\alpha = .90$, High Standards $\alpha = .92$, Black and White Thinking about Tasks and Activities $\alpha = .85$, Perceived Pressure from Others $\alpha = .87$, Dissatisfaction $\alpha = .89$, Reactivity to Mistakes $\alpha = .86$). Corrected item-total correlations were above .70 for all items in the Order and High Standards scales, above .60 for all items in the Details and Checking and Black and White Thinking about Tasks and Activities scales, and above .50 for all items the Satisfaction, Perceived Pressure from Others, Dissatisfaction, and Reactivity to Mistakes scales. Corrected item-total correlations for the Perfectionism toward Others scale ranged from .46-.61. Overall, these statistics indicate good internal consistency and reliability.

Study Two: Part One Discussion

The nine trait dimensions identified in study one were recovered in both exploratory and confirmatory factor analyses in study two. These analyses were conducted on two different samples. The scales comprising the new multidimensional measure, the M-CUP, were all internally consistent. By focusing on personality traits contributing to perfectionistic behavior, we excluded some content domains included on past measures that do have concurrent predictive value (such as perfectionistic self-presentation). Their exclusion did not reflect a conclusion on our part that they are not important, but rather that they were not personality trait contributors to perfectionism; we address this matter further below. Two higher order factors, labeled Ego-Syntonic and Ego-Dystonic Perfectionism Traits, reflect a distinction between two classes of perfectionism-related traits that has been identified in the past as adaptive and maladaptive traits, respectively (Aldea & Rice, 2006; Dunkley et al., 2003; Frost et al., 1993). We chose the labels we did for these higher-order factors because (a) the traits labeled ego-syntonic are likely embraced by individuals, whereas those labeled ego-dystonic involve subjective distress; and (b) past research has shown that perfectionism traits labeled "adaptive" are sometimes associated with negative outcomes (Beiling, Israeli, & Antony, 2004; Hewitt, Flett, & Ediger, 1995). A model with items loading directly onto these two higher order factors, removing differentiations among the 9 scales, provided a poor fit to the data. This finding suggests that although research, including the present study, has consistently found the presence of two such higher order factors, one should not consider these two factors as representing unidimensional constructs. Rather, it appears that these two higher order dimensions appear to describe one common element to the scales that load on them. Lastly, there was no evidence for the presence of a single perfectionism personality trait.

Study Two: Part Two

The aim of part two of study two was to begin to establish external validity for the scales of the M-CUP. We tested correlations between the 9 scales of the M-CUP and the set of existing perfectionism measures. We anticipated good evidence for convergent validity between the M-CUP scales and existing scales measuring similar content. While we had taken effort to create unidimensional items and scales, we anticipated uneven evidence for discriminant validity, because many existing scales were developed prior to recent psychometric writing emphasizing the need for construct homogeneity within measures

(McGrath, 2005; Smith et al., 2009), and so may include content from multiple domains within a single scale score or even within a single item. To the degree that is true, some existing perfectionism scales would be expected to correlate with more than one M-CUP scale.

We also investigated how the nine traits of the M-CUP can be understood within the framework of one comprehensive model of personality, the five factor model: we used the NEO PI-R measure of the five factor model, which includes six trait scales within each of the five personality domains (Costa & McCrae, 1992), as well as a measure of extreme, maladaptive levels of Conscientiousness (Haigler & Widiger, 2001). We hypothesized that the Ego-Syntonic scales would be related to the facets of Conscientiousness on the NEO PI-R but would not be related to the facets of Neuroticism. We were unsure whether to expect the Ego-Syntonic scales to relate to the facets of the maladaptive Conscientiousness scale. We also hypothesized that the Ego-Dystonic scales would be related to the facets of Neuroticism and the facets of the maladaptive Conscientiousness scale, and less so to NEO PI-R Conscientiousness. These hypotheses were based on research that perfectionism scales loading onto an unhealthy or maladaptive factor correlate most strongly with neuroticism, while scales which tend to load on the healthy factor correlate most strongly with conscientiousness (Enns, Cox, Sareen, & Freeman, 2001; Hill McIntire, & Bacharach, 1997; Rice, Ashby, & Slaney, 2007; Stumpf & Parker, 2000).

Method

Participants—Participants were 687 undergraduate psychology students who completed the questionnaires as part of a class research requirement. A subset of this sample ($n = 483$) had also completed part 1 of this study, allowing for estimation of test-retest reliability of the M-CUP at various time intervals. Participants that completed Part 1 of the study enrolled in the study in the Fall semester. Those who enrolled in the study early in the semester scored higher on Conscientiousness, a maladaptive version of the Conscientiousness personality domain (described below), and were more often women ($p < .01$ in each case). This was true in both semesters. The participants new to Part 2 were enrolled early in the Spring semester, and did not differ from participants enrolled early in the fall semester (comparable mean levels of Conscientiousness and maladaptive Conscientiousness, and a comparable proportion of women). Participants from whom we have test-retest data were taken from across the semester, and so represent the sample as a whole. Participants in this sample consisted of 69.9% women, and was 85.6% Caucasian, 7.6% African American, 2.2% Asian American, 2.2% Hispanic American = 2.2%, and 2.5% who listed other ethnic backgrounds. Most (63.7%) were in their first year of college, 22.2% were in their second year, 8.7% were in their third year, 3.1% were in their fourth year, and 2.3% were in their fifth year or greater. The average age of the participants was 18.93. Reported education level of participants' mothers was the following: college graduate = 43.1%, some college = 23.4%, high school graduate or GED = 16.2%, post college education = 16.2%, and no high school diploma or GED = 1.2%. Reported education level of participants' fathers was the following: college graduate 42.0%, high school graduate of GED = 18.8%, post college education = 18.8%, some college = 17.2%, and no high school diploma or GED = 3.2%.

Means and standard deviations of the 9 subscales of the M-CUP are shown in Table 3 for the overall sample as well as for men and women separately. Independent samples t-tests showed that females scored significantly higher than males on Organization ($t_{(685)} = 2.11$, $p = .04$) and Satisfaction ($t_{(1, 685)} = 3.60$, $p < .01$), but significantly lower than males on Black and White Thinking about Tasks and Activities ($t_{(1, 685)} = 2.27$, $p = .02$) and Dissatisfaction ($t_{(1, 685)} = 3.25$, $p < .01$). Analyses of variance revealed no significant differences in M-CUP subscale scores based on race or year in college.

Measures

Demographics questionnaire: The demographics questionnaire asked participants to report their gender, age, years of college completed, their mother's and father's occupation, and their race.

Measures of perfectionism: Participants completed all previously described measures. In the present study, coefficient alpha estimates of reliability for the previously described measures of perfectionism and their subscales were the following: FMPS .78 (Doubts about Actions) to .96 (Organization); HMPS .78 (Other Oriented Perfectionism) to .90 (Self-Oriented Perfectionism); APS-R .88 (Standards) to .95 (Discrepancy); PQ .95; PANPS .90 (Positive Perfectionism) and .92 (Negative Perfectionism); BPS .86; DEQ .89 (Santor et al., 1997 scoring) and .85 (Bagby et al., 1994 revision); SCANS .75; NPQ .96; AMPS .70 (Compulsiveness) to .84 (Sensitivity to Mistakes); DAS .93; HEXACO-PI-R Perfectionism facet .79; PSPS .82 (Nondisclosure of Imperfection) to .89 (Perfectionistic Self-Promotion and Nondisplay of Imperfection); PCI .95; and EDI-2 Perfectionism scale .76.

In addition, participants completed the following measures:

Measure of Constructs Underlying Perfectionism (M-CUP): The M-CUP is the new measure of constructs underlying perfectionism that was developed in the pilot study and part 1 of the present study.

Perfectionism Inventory (PI; Hill et al., 2004): The PI is a factor-analytically derived 59-item scale measuring several facets of perfectionism. It was developed in order to capture more of the content domain underlying perfectionism than either the HMPS and FMPS. It consists of eight scales: Concern over Mistakes, High Standards for Others, Need for Approval, Organization, Perceived Parental Pressure, Planfulness, Rumination, and Striving for Excellence. Coefficient alpha for the eight scales ranged from .75 to .91 (Hill et al., 2004). In the present study, coefficient alpha for the PI subscales ranged from .86 (Striving for Excellence) to .92 (Perceived Parental Pressure).

Measures of personality

Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992): The NEO-PI-R is a 240 item measure assessing the personality traits in the FFM. It is composed of five domains—Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness—which are divided into six facets each. The NEO-PI-R is a popularly used measure of personality which has demonstrated good internal and external validity (Costa & McCrae, 1992). In the present study, coefficient alpha for each facet of the NEO-PI-R ranges from .47 (Actions facet of Openness) to .82 (Depression facet of Neuroticism) while coefficient alpha for each domain was the following: Neuroticism .90, Extraversion .89, Openness .85, Agreeableness .86, Conscientiousness .90. In previous research internal consistencies for the facets ranged from .56 (Tender-Mindedness facet of Agreeableness) to .81 (Depression facet of Neuroticism) while coefficient alpha for each domain was the following: Neuroticism .92, Extraversion .89, Openness .87, Agreeableness .86, Conscientiousness .90 (Costa & McCrae, 1992).

Experimentally manipulated version of the Conscientiousness scale of the NEO-PI-R (EXP-C; Haigler & Widiger, 2001): The maladaptive revision of the Conscientiousness scale of the NEO-PI-R was created by rewriting each item to be opposite in the direction in which the item was originally keyed. Ninety percent of the items in the Conscientiousness domain were rewritten to represent maladaptive versions of the behaviors assessed. For example the item "I think things through before coming to a decision" was rewritten as "I

think about things too much before coming to a decision." Thus, this questionnaire measures an extreme level of conscientiousness that is maladaptive. In support of the validity of the EXP-C, in a sample of psychiatric outpatients, scores on this scale correlated much more highly with obsessive-compulsive personality disorder than did scores on the Conscientiousness scale of the NEO-PI-R. In the present study, coefficient alpha for the facets of the EXP-C ranged from .53 to .70.

Results

Reliability of the M-CUP

Internal consistency: Coefficient alpha for all the scales was above .80, with five scales above .90. Corrected item-total correlations were above .70 for all items for four scales, above .60 for all items for two scales, and above .50 for all items for two scales. For the remaining scale (Perfectionism Toward Others), values ranged from .45 to .70.

Test-retest reliability: Test-retest reliability coefficients across various follow-up intervals are presented in Table 4. With the exception of three coefficients (Perfectionism Toward Others over 7–9 weeks: .45; Satisfaction over 7–9 weeks: .52; Details and Checking over 10–13 weeks: .55), all test-retest reliability coefficients were above .60.

Intercorrelations Between M-CUP Scales: Correlations between the M-CUP scales are presented in Table 5. Scales within each of the two higher-order factors tended to correlate more highly with each other than they did with scales within the other higher-order factor. Overall, the scales share relatively little variance with each other: the median inter-correlation was .30, or 9% shared variance.

Relationships of the 9 scales with existing measures of perfectionism: Table 6 presents the correlations between the M-CUP scales and the other measures of perfectionism administered in this study. As hypothesized, convergent validity was excellent: the scales of the M-CUP correlated most highly with scales on other measures of perfectionism which purport to measure similar constructs. Also as hypothesized, discriminant validity was supported, but not uniformly so. For example, in support of both convergent and discriminant validity, the M-CUP Satisfaction scale correlated with a large effect size only with the PANPS Positive Perfectionism scale, which measures a construct very closely related to Satisfaction. An example of good convergent validity without good discriminant validity is that the M-CUP Reactivity to Mistakes correlated highly with the FMPS Concern over Mistakes scale, the AMPS Sensitivity to Mistakes scale, and the PI Concern over Mistakes scale, all of which measure a tendency to be concerned with or react with negative affect to mistakes or not being perfect. However, it also correlated with other scales, including the PANPS Negative Perfectionism scale, the HMPS Socially Prescribed Perfectionism scale, and the PI Rumination scale.

Relationships of the 9 M-CUP Scales with the dimensions of personality: The correlations between the M-CUP scales, the NEO PI-R, and the maladaptive revision of the Conscientiousness scale of the NEO PI-R are presented in Table 7. Our hypotheses were supported. The pattern of correlations was striking and clear. First, the five scales loading onto the Ego-Syntonic higher order factor were consistently correlated with the facets and domain of Conscientiousness (median $r = .47$) and with the facets and domain of maladaptive Conscientiousness (median $r = .30$), but not with the facets and domain of Neuroticism (median $r = .12$). For example, in support of both convergent and discriminant validity, the Order scale was correlated with every facet of Conscientiousness and most highly with the NEO PI-R trait called Order (.71), but did not have any significant correlations with any facet from any other domain. Similarly, Details and Checking was also

correlated with every facet of Conscientiousness but not with facets from any other domain. Discriminant validity, though strong, was not perfect. For example, M-CUP Satisfaction and High Standards both correlated significantly with the Anxiety facet of the Neuroticism domain.

Second, the four scales loading onto the Ego-Dystonic higher order factor consistently showed significant and high correlations with facets of the Neuroticism domain (median r = .44) and tended to also correlate significantly with facets of the maladaptive revision of the Conscientiousness domain of the NEO-PI-R (median r = .35) but not with the original NEO-PI-R Conscientiousness domain facets (median r = .11). For example, M-CUP Reactivity to Mistakes correlated significantly and with at least a medium effect size with Anxiety, Angry Hostility, Depression, Self-Consciousness, and Vulnerability, as well as maladaptive Competence, maladaptive Dutifulness, maladaptive Achievement Striving, maladaptive Self Discipline, and maladaptive Deliberation. In contrast, it correlated significantly with only one of six NEO PI-R Conscientiousness facets (achievement striving).

Examination of correlations for specific facets provided further evidence for the validity of the M-CUP scales. For example, although the four scales loading onto the Ego-Dystonic higher order factor had a substantial median correlation with Neuroticism, none of the scales correlated significantly with the Impulsiveness facet of the Neuroticism domain. This supports discriminant validity, because none of those scales are theoretically related to Impulsiveness, which involves difficulty controlling cravings and urges. Consistent with the trait definitions, High Standards shared much more variance with NEO PI-R Achievement Striving (33.64%) than with NEO PI-R Order (6.25%). Similarly, Dissatisfaction shared much more variance with NEO PI-R Depression (43.56%) than with the two very different facets of Neuroticism -- Impulsiveness (1.44%) and Angry Hostility (8.41%). There are many such examples in Table 6. It is also true that discriminant validity was not supported in all cases; for example, the M-CUP Satisfaction, High Standards, and Dissatisfaction scales correlated significantly with the NEO Extraversion domain.

Study Two: Part Two Discussion

The research described in part two of study two provided the following information. First, the nine scales of the M-CUP proved internally consistent and stable over time. Second, the scales are only moderately related to each other: each scale has substantial variance that is reliable but not shared with the other eight scales. The scales of the M-CUP measure different constructs from each other. Third, the scales of the M-CUP had very good convergent validity: scores on them covaried highly with scores on measures of similar construct domains. Fourth, the scales had reasonably good discriminant validity; this was apparent even though some existing measures include content from multiple construct domains. Fifth, there are important distinctions among the scales with respect to personality. The Ego-Syntonic scales consistently related to measures of adaptive and maladaptive components of Conscientiousness, but not to Neuroticism. In contrast, the Ego-Dystonic scales related to maladaptive Conscientiousness and to Neuroticism, but generally not to adaptive Conscientiousness. Within each of those two broad domains, different M-CUP scales had different patterns of correlations with the different facets of Conscientiousness, Neuroticism, and Maladaptive Conscientiousness.

General Discussion

After a detailed review of the items on 15 different perfectionism measures, we identified nine unidimensional personality traits represented in those measures that contribute to perfectionistic behavior (Order, Satisfaction, Details and Checking, Perfectionism toward

Others, High Standards, Black and White Thinking about Tasks and Activities, Perceived Pressure from Others, Dissatisfaction, and Reactivity to Mistakes). We developed a measure of those nine constructs, called the M-CUP; we understand this set of nine constructs to represent a summary of existing research on personality traits contributing to perfectionistic behavior.

This research adds to the literature on the assessment of perfectionism in the following ways. First, the M-CUP is intended to be comprehensive: it includes all personality traits identified by the present authors as important for understanding perfectionistic behavior in a single instrument. Second, it is specific: the M-CUP measures personality traits and excludes (a) contributors to the development of personality traits, (b) non-trait correlates of perfectionistic behavior, and (c) measures of related but different constructs, such as self-esteem and neuroticism. Third, each scale was constructed to be homogeneous and unidimensional. Whereas previous measures sometimes included multiple content domains under a single scale label, the M-CUP was shown to include only homogeneous scales through content-based test construction and through replicated factor analysis. Evidence for the success of this effort is that the M-CUP scales are very modestly correlated with each other, they correlate highly with measures of similar constructs, and they have good discriminant validity, within the constraint that some past measures may not have been homogeneous themselves. Fourth, each trait measure was identified by EFA on one sample, confirmed by CFA on another sample, and was internally consistent and stable over time.

Fifth, we described the nine identified personality dimensions with reference to a comprehensive model of personality, the five factor model (Costa & McCrae, 1992). Broadly, the five ego-syntonic traits did not correlate with scales measuring components of Neuroticism, but they did consistently correlate with aspects of Conscientiousness. Interestingly, they also correlated with measures of extreme, maladaptive conscientiousness. Perhaps there are traits (such as high personal standards and the pursuit of order) that individuals embrace but that also do dispose individuals to extreme, maladaptive, levels of conscientiousness (as measured by the maladaptive revision of the Conscientiousness domain of the NEO-PI-R). In contrast, the four ego-dystonic traits (e.g., black and white thinking and reactivity to mistakes) are associated with Neuroticism, appear to involve subjective distress, and relate only to extreme, maladaptive levels of conscientiousness.

One a more precise level, different traits within the ego-syntonic and ego-dystonic categories had different personality correlates. For example, high standards shares 34% of its variance with achievement striving and only 6% with the personality trait of order. In contrast, the M-CUP order scale shares 49% of its variance with the basic personality trait of order, and only 16% with achievement striving.

Sixth, it appears clear from this research that there is no single perfectionism personality trait. A factor model that specified a single, higher-order construct did not fit the data well, nor did a model that viewed each item of the M-CUP as an alternate expression of a single, underlying personality trait. The multidimensional nature of constructs contributing to perfectionism has been recognized by many authors (cf. Hewitt, Flett, Besser et al., 2003; Frost et al., 1990), and the present study adds further evidence for this view. We want to emphasize that the M-CUP does not offer measurement of new, previously unidentified traits. Rather, it offers precise, comprehensive, externally valid measures of perfectionism-related traits.

It appears to be the case that the labels ego-syntonic and ego-dystonic, like past, similar labels such as healthy - unhealthy, positive - negative, or adaptive - maladaptive are descriptive terms, rather than explanatory terms. The scales underlying each higher order

factor are not alternate expressions of the same construct, but rather represent different constructs that share variance with each other. For example, the construct of Order is different from the construct of Perfectionism toward Others. In addition, different traits within each higher order domain have different patterns of covariation with each other. For example, neither Satisfaction nor Perfectionism toward Others were significantly related to Order, even though other traits within the ego-syntonic domain were. Thus, the higher-order terms describe a similarity between separate but related constructs.

However, there are also proponents of a unidimensional approach, namely the recent promotion of the concept of 'clinical perfectionism', 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", which is most closely assessed by Personal Standards (FMPS), Self Oriented Perfectionism (HMPS) and some items on Concern over Mistakes (Shafran, Cooper, and Fairburn, 2002, pg. 776). Like Hewitt et al. (2003), we feel that such an approach excludes important traits that do contribute to perfectionistic behavior.

It is not appropriate to use a single score to reflect perfectionism-related personality traits, nor is it appropriate to use a single score to reflect Ego-Syntonic traits or Ego-Dystonic traits. With respect to overall perfectionism, two people could have the same total score, even though one person is high on the Ego-Syntonic scales and low on the Ego-Dystonic scales, and the other person has the opposite pattern. Thus, two people could have the same overall perfectionism score yet have fundamentally different psychological experiences. The same is true within each of the two broad domains. Two individuals could have the same Ego-Syntonic perfectionism score, yet one could be high on Order and low on Perfectionism Toward Others, and the other person could have the opposite pattern. Giving the same score to people with these different trait patterns can be misleading and obscure important distinctions (McGrath, 2005; Smith et al., 2009). For that reason, we did not compute or report overall, composite scores.

The current research should be understood in the context of its limitations. First, some researchers may disagree with our decisions to include or exclude certain constructs from our measure, many of which do appear important in prediction of various phenomena and psychopathology. Some may argue that developmental factors such as experience of parental criticism (FMPS, Frost et al., 1990) are important and should be included in a measure of factors underlying perfectionism. Some may question the inclusion of a dimension of Order, given its low correlations with other dimensions on previous measures (e.g. Frost et al., 1990). A third criticism may be that we did not place enough emphasis on the motivational aspects of perfectionism and that our High Standards dimension does not really tap into the concept of striving (compulsively or relentlessly) to attain one's high standards. Perhaps striving may be seen in the future as another, separate, aspect underlying perfectionism. Fourth, we do not include dimensions of perfectionistic cognitions or perfectionistic self-presentation in our measure, even though we did consider items from the PCI and PSPS in the development of the M-CUP (and a few items on the M-CUP were adapted from the PCI).

Further limitations include the following: First, there is a need to replicate the current findings with the M-CUP on additional samples. Second, this research was conducted on college undergraduates (with a majority being Caucasian), so we cannot know whether similar findings would occur in samples representing other populations. We found significant differences across sex in scores on some of the subscales of the M-CUP, suggesting that more research may be warranted examining possible sex differences in factor structure and in relationships to other measures of personality and other criterion

variables. While research in other populations is needed, our finding a lack of significant differences in M-CUP subscale scores across race leads to the preliminary assertion that results will generalize to groups other than Caucasians. Third, we did not use a clinical sample, so we do not know how fully the current findings apply to individuals seeking clinical help. Fourth, we used only self-report, paper and pencil measures. Thus, all measures used in the present study share method variance, which could lead to overestimation of relationships. We do not yet know whether the same pattern of findings would be observed across different methods of assessment.

In summary, tremendous progress has been made by researchers in identifying several different personality traits that contribute to perfectionistic behavior. The current study provides a new measure, the M-CUP, which represents each personality trait identified in previous research in a single measure. We hope that use of the individual scales on this measure will facilitate further understanding of the underpinnings of perfectionistic behavior.

Acknowledgments

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Table 1

Confirmatory factor analysis: Loadings of items on factors.

	Order	Satis faction	Details and Checking	Perf. Toward Others	High Standards	Black/ White Thinking	Perceived Pressure	Dissatisfa ction	React ivity to Mistak es
2. I like things to be neat (APS-R 4)	.84								
7. Neatness is of great importance to me (FMPS 29)	.81								
13. Things should always be put away in their place (APS-R 7)	.76								
21. I want things to always be in order (AMPS 4)	.79								
28. I like things to always be organized (FMPS 2)	.88								
35. I like to be orderly in the way I do things (APS-R 2)	.85								
41. I try to be a very neat person (FMPS 27)	.89								
45. I try to always be very organized (FMPS 8)	.91								
52. I feel that I am an organized person (FMPS 31)	.85								
4. I feel great when I do well at something (AMPS 1)		.61							
9. I feel great satisfaction when I feel I have perfected something (PANPS 30)		.59							
16. After completing a task, I feel happy (AMPS 20)		.63							
23. I get excited when I do a good job (AMPS 8)		.71							
30. Doing a great job is really rewarding (PANPS 9)		.72							
42. I feel satisfied when I accomplish something (New)		.74							
48. I experience positive feelings after I achieve something (New)		.68							
54. I feel pleasure when I complete tasks (New)		.62							
58. I feel satisfied with my work after I do something well (New)		.63							
8. I often check my work carefully to make sure there are no mistakes (HEXACO 161)			.84						
14. I often check my work several times to find any mistakes (HEXACO 17)			.86						
36. It takes me a long time to do something because I check my work many times (AMPS 5)			.81						
46. When I look over something, I often check over the small details (New)			.66						
53. I may check my work several times to make sure the details are			.84						

	Order	Satisfaction	Details and Checking	Perf. Toward Others	High Standards	Black/White Thinking	Perceived Pressure	Dissatisfaction	Reactivity to Mistakes
correct (New)									
3. I expect others to excel at whatever they do (HMPS 45)				.61					
15. It is important to me that the people I am close to are successful (HMPS 3)				.67					
22. I really don't like to see people close to me make mistakes (HMPS 27)				.47					
29. I have high standards for the people who are important to me (HMPS 16)				.68					
37. I always want high quality work from others (HMPS 7)				.69					
47. I expect a lot from my friends (HMPS 24)				.54					
1. I am a person who sets high standards for myself (SCANS 6)					.79				
12. I have very high goals (EDI 63)					.83				
27. I tend to set very high standards for myself (PANPS 40)					.80				
34. I definitely have high standards (PCI 23)					.84				
40. I expect high levels of performance from myself (APS-R 8)					.78				
44. I set extremely high standards for myself (APS-R 12)					.83				
20. I will not do something if I cannot do it perfectly (PANPS 38)						.76			
26. I have to do things perfectly-or I shouldn't do them at all (EDI 52)						.80			
33. I won't do things if I can't do them perfectly (PQ 18)						.70			
39. There's no point in doing something if I cannot do it perfectly (BPS 3)						.78			
6. I often feel that people make excessive demands of me (NPQ 27)							.59		
11. Others expect me to be perfect (PCI 11)							.81		
19. People expect perfection of me (PANPS 17)							.83		
25. People expect me to succeed at everything I do (HMPS 18)							.81		
32. People expect high levels of performance from me (HMPS 39)							.77		
59. People expect a lot from me (HMPS 41)							.68		
5. I often don't live up to my own standards (DEQ 7)								.59	
10. I rarely feel that what I have done is good enough (APS-R 21)								.63	
17. No matter how well I do, I still feel that I could have done better								.55	

	Order	Satisfaction	Details and Checking	Perf. Toward Others	High Standards	Black/White Thinking	Perceived Pressure	Dissatisfaction	Reactivity to Mistakes
(NPQ 17)									
24. It feels like my best is never good enough (NPQ 36)								.77	
38. My performance rarely meets my standards (APS-R 16)								.69	
49. I feel I often fall short of the kind of person I want to be (NPQ 9)								.65	
55. I often feel dissatisfied with my work/performance (New)								.70	
56. I feel like my best is never good enough for other people (PANPS 8)								.76	
61. I always feel like there is something wrong in my work/performance (New)								.77	
18. When I make a mistake, I feel really bad (AMPS 10)									.60
31. I become upset when I make a mistake (BPS 4)									.65
43. I become very frustrated when I do not do something perfectly (New)									.67
50. I feel crushed after I make a mistake (New)									.65
51. If one thing goes wrong, I feel that I cannot do anything right (AMPS 9)									.74
57. I feel like a complete failure if I do not do something perfectly (NPQ 14)									.76
60. If I notice I made a mistake in my work, I feel like I failed the whole task (FMPS 13)									.72

Note. n = 732. Abbreviations in parentheses after each item indicate where the item originally came from, using the abbreviation of the scale followed by the item number. New: indicates the item was newly written.

Table 2

Loadings of the scales onto two higher order factors obtained from confirmatory factor analysis.

	Factor 1	Factor 2
Order	.64	
Satisfaction	.50	
Details and Checking	.66	
Perfectionism Toward Others	.65	
High Standards	.77	
Black and White Thinking about Tasks and Activities		.72
Perceived Pressure from Others		.52
Dissatisfaction		.83
Reactivity to Mistakes		.99

Note. For all loadings, $n = 732$.

Table 3

Means and standard deviations for the 9 M-CUP scales for the overall sample and by sex

	Overall sample (N = 687) Mean (SD)	Males (N = 207) Mean (SD)	Females (N = 480) Mean (SD)
Organization	34.20 (7.42)	33.29 (6.95)	34.59 (7.59)
Satisfaction	40.04 (4.70)	39.06 (4.74)	40.46 (4.63)
Details and Checking	16.31 (4.30)	15.92 (4.18)	16.48 (4.35)
Perfectionism toward Others	20.68 (3.88)	20.27 (3.87)	20.86 (3.88)
High Standards	24.55 (4.63)	24.07 (4.68)	24.76 (4.59)
Black and White Thinking	8.26 (3.43)	8.71 (3.62)	8.07 (3.33)
Perceived Pressure from Others	18.50 (5.07)	18.35 (4.73)	18.57 (5.22)
Dissatisfaction	23.80 (7.10)	25.13 (7.04)	23.23 (7.05)
Reactivity to Mistakes	17.04 (5.53)	17.04 (5.68)	17.04 (5.47)

Note. SD = Standard deviation.

Table 4

Test-retest reliability for the M-CUP scales across different time intervals in study two

	One week (*n* = 70)	Two – Three week (*n* = 103)	Five –Six week (*n* = 71)	Seven – Nine week (*n* = 124)	Ten – Thirteen week (*n* = 115)	Combined Sample (*n* =483)
Order	.90	.86	.80	.79	.77	.82
Satisfaction	.81	.63	.66	.52	.61	.62
Details/Checking	.81	.76	.65	.67	.55	.69
Perf. Toward Others	.80	.60	.72	.45	.67	.63
High Standards	.83	.72	.73	.64	.75	.72
Black/White Thinking	.75	.80	.64	.62	.67	.69
Perceived Pressure	.82	.74	.70	.65	.76	.73
Dissatisfaction	.77	.78	.74	.66	.70	.72
Reactivity to Mistakes	.73	.73	.67	.65	.77	.70

Table 5

Correlations between M-CUP scales in study two

	Order	Satisfaction	Details/Checking	Perf. Toward Others	High Standards	Black/White Thinking	Perceived Pressure	Dissatisfaction
Order	1.00							
Satisfaction	.31 *	1.00						
Details/Checking	.50 *	.29 *	1.00					
Perf. Toward Others	.25*	.33 *	.32 *	1.00				
High Standards	.40 *	.52 *	.43 *	.39 *	1.00			
Black/White Thinking	.10 *	-.07	.15 *	.15 *	.11	1.00		
Perceived Pressure	.17 *	.13 *	.19 *	.39 *	.37 *	.31 *	1.00	
Dissatisfaction	.02	.01	.07	.10	.04	.50 *	.32 *	1.00
Reactivity to Mistakes	.13 *	.09	.23 *	.21 *	.18 *	.67 *	.37 *	.71 *

Note. n = 687;

*
p < .01.

Table 6

Correlations between the M-CUP scales and other measures of perfectionism

	Order	Satisfaction	Details and Checking	Perf. Toward Others	High Standards	Black/White Thinking	Perceived Pressure	Dissatisfaction	Reactivity to Mistakes
SCANS	.51*	.34*	.53*	.36*	.69*	.24*	.40*	.13	.31*
PSPS-SP	.30*	.18*	.28*	.29*	.36*	.43*	.41*	.39*	.47*
PSPS-Nondisp	.12	.14*	.19*	.19*	.16*	.45*	.27*	.50*	.56*
PSPS-Nondisc.	.09	-.00	.09	.10	.09	.44*	.28*	.51*	.48*
PANPS-P	.31*	.55*	.37*	.38*	.60*	.10	.36*	.09	.21*
PANPS-N	.17*	.08	.23*	.24*	.26*	.61*	.51*	.73*	.75*
NPQ	.11	.06	.13	.15*	.16*	.53*	.41*	.73*	.69*
PQ-PT	.39*	.34*	.47*	.34*	.55*	.33*	.36*	.29*	.42*
PQ-NO	.26*	.14*	.30*	.19*	.31*	.57*	.42*	.64*	.69*
HEXACO	.47*	.28*	.76*	.28*	.46*	.15*	.24*	.11	.25*
HMPS-SOP	.42*	.32*	.46*	.33*	.60*	.36*	.44*	.29*	.45*
HMPS-OOP	.22*	.18*	.20*	.62*	.36*	.20*	.37*	.09	.26*
HMPS-SPP	.16*	.05	.17*	.26*	.26*	.44*	.67*	.54*	.56*
FMPS-CM	.11	.07	.16*	.18*	.19*	.58*	.40*	.64*	.72*
FMPS-PS	.33*	.32*	.39*	.34*	.67*	.26*	.45*	.26*	.36*
FMPS-DA	.15*	.08	.32*	.15*	.17*	.42*	.31*	.66*	.63*
FMPS-O	.85*	.21*	.44*	.19*	.31*	.05	.12	-.03	.10
FMPS-PE	.10	.08	.04	.25*	.23	.20*	.54*	.31*	.31*
FMPS-PC	.05	-.02	.04	.12	.06	.31*	.38*	.48*	.40*
EDI-P	.22*	.20*	.24*	.33*	.48*	.39*	.56*	.43*	.50*
DAS	.07	.01	.13	.13*	.13	.60*	.35*	.63*	.67*
DEQ-T	.07	.08	.10	.13	.13	.44*	.35*	.68*	.62*
DEQ-S	.07	.09	.10	.14*	.15*	.43*	.35*	.68*	.62*

	Order	Satisfaction	Details and Checking	Perf. Toward Others	High Standards	Black/White Thinking	Perceived Pressure	Dissatisfaction	Reactivity to Mistakes
DEQ-B	.02	.03	.07	.10	.05	.43*	.31*	**.68**_*_	**.57**_*_
BPS	.13*	.14*	.20*	.18*	.25*	**.52**_*_	.36*	**.57**_*_	**.61**_*_
APSR-S	**.36**_*_	**.38**_*_	**.40**_*_	**.34**_*_	**.67**_*_	.11	**.31**_*_	.10	.20*
APSR-O	**.84**_*_	.21*	**.44**_*_	.20*	**.32**_*_	.07	.14*	-.01	.10
APSR-D	.10	.09	.13	.14*	.15*	**.46**_*_	**.35**_*_	**.78**_*_	**.66**_*_
AMPS-SM	.14*	.08	.21*	.18*	.18*	**.53**_*_	**.35**_*_	**.60**_*_	**.75**_*_
AMPS-CSE	.14*	**.42**_*_	.14*	.13	.22*	**.34**_*_	-.11	**-.41**_*_	**-.32**_*_
AMPS-C	**.64**_*_	**.32**_*_	**.56**_*_	.23*	**.39**_*_	.22*	.20*	.12*	**.32**_*_
AMPS-NA	.22*	.25*	.24*	.29*	**.33**_*_	**.35**_*_	**.40**_*_	**.38**_*_	**.47**_*_
PCI	.23*	.18*	.29*	.24*	**.33**_*_	**.42**_*_	**.39**_*_	**.50**_*_	**.59**_*_
PI-CM	.15*	.07	.19*	.17*	.20*	**.54**_*_	**.35**_*_	**.60**_*_	**.70**_*_
PI-HSO	.20*	.14	.23*	**.44**_*_	.28*	**.34**_*_	**.39**_*_	.31*	**.38**_*_
PI-NA	.18*	.17*	.27*	.21*	.24*	**.37**_*_	**.34**_*_	**.51**_*_	**.55**_*_
PI-O	**.83**_*_	.20*	**.43**_*_	.19*	.29*	.08	.10	-.01	.10
PI-PP	.05	.11	.09	.29*	.26*	.18*	**.54**_*_	.33*	.31*
PI-P	**.37**_*_	.26*	**.43**_*_	.29*	**.36**_*_	.19*	.20*	.16*	.24*
PI-R	.16*	.17*	.26*	.24*	.27*	**.46**_*_	**.38**_*_	**.58**_*_	**.67**_*_
PI-SE	**.30**_*_	.20*	**.43**_*_	.26*	**.45**_*_	**.43**_*_	**.42**_*_	.41*	**.55**_*_

Note. $N = 687$ for all correlations except those with the PI, for which $N = 545$.

*
$p < .001$ two-tailed; correlations above .3 (medium effect size) are presented in bold; correlations above .5 (large effect size) are presented in bold and underlined.

SCANS: Total SCANS Perfectionism Scale score; PSPS-SP: Perfectionistioc Self Presentation Scale; PSPS-Nondisp: Perfectionistioc Self Presentation Scale Nondisplay of Imperfection Scale; PSPS-Nondisc: Perfectionistioc Self Presentation Scale Nondisclosure of Imperfection scale; PANPS-P: Positive and Negative Perfectionism Scale Positive perfectionism; PANPS-N: Positive and Negative Perfectionism Scale Negative Perfectionism; NPQ: Neurotic Perfectionism Questionnaire Total score; PQ-PT: Perfectionism Questionnaire Perfectionistic Tendencies; PQ-NO: Perfectionism Questionnaire Negative Outcomes; HEXACO: HEXACO Perfectionism facet; HMPS-SOP: Hewitt Multidimensional Perfectionism Scale Self Oriented Perfectionism; HMPS-OOP: Hewitt Multidimensional Perfectionism Scale Other Oriented Perfectionism; HMPS-SPP: Hewitt Multidimensional Perfectionism Scale Socially Prescribed Perfectionism; FMPS-CM: Frost Multidimensional Perfectionism Scale Concern over Mistakes; FMPS-PS: Frost Multidimensional Perfectionism Scale Personal Standards; FMPS-DA: Frost Multidimensional Perfectionism Scale Doubts about Actions; FMPS-O: Frost Multidimensional Perfectionism Scale Organization; FMPS-PE: Frost Multidimensional Perfectionism Scale Parental Expectations; FMPS-PC: Frost Multidimensional Perfectionism Scale Parental Criticism; EDI-P: Eating Disorders Inventory Perfectionism scale; DAS: Dysfunctional Attitudes Scale Self Criticism scale according to Imber et al. (1990) scoring; DEQ-T: Depressive Experiences Questionnaire items thought relevant to constructs underlying perfectionism; DEQ-S: Depressive Experiences Questionnaire self criticism scale according to Santor et al. (1997) scoring; DEQ-B: Depressive Experiences Questionnaire self cricitism scale according to Bagby et al. (1994) scoring; BPS: Burns Perfectionism Scale total score; APSR-S: Almost Perfect Scale-Revised Standards

subscale; APSR-O: Almost Perfect Scale-Revised Order subscale; APSR-D: Almost Perfect Scale-Revised Discrepancy subscale; AMPS-SM: Adaptive and Maladaptive Perfectionism Scale Sensitivity to Mistakes scale; AMPS-CSE: Adaptive and Maladaptive Perfectionism Scale Contingent Self-Esteem scale; AMPS-C: Adaptive and Maladaptive Perfectionism Scale Compulsiveness scale; AMPS-NA: Adaptive and Maladaptive Perfectionism Scale Need for Admiration scale; PI-CM: Perfectionism Inventory Concern over Mistakes scale; PI-HSO: Perfectionism Inventory High Standards for Others scale; PI-NA: Perfectionism Inventory Need for Approval scale; PI-O: Perfectionism Inventory Organization scale; PI-PP: Perfectionism Inventory Perceived Parental Pressure scale; PI-P: Perfectionism Inventory Planfulness scale; PI-R: Perfectionism Inventory Rumination scale; PI-SE: Perfectionism Inventory Striving for Excellence scale; PCI: Perfectionism Cognitions Inventory Total scale score.

Table 7

Correlations between the M-CUP scales and the facets and domains of the NEO-PI-R and the Maladaptive version of the Conscientiousness domain.

	Order	Satisfaction	Details and Checking	Perf. Toward Others	High Standards	Black/White Thinking	Perceived Pressure	Dissatisfaction	Reactivity to Mistakes
Anxiety	.16	.22*	.15	.11	.23*	.15	.21*	.32*	.42*
Angry hostility	.06	.00	.02	.12	.03	.24*	.21*	.29*	.35*
Depression	.01	.07	.03	.07	.07	.35*	.31*	.66*—	.60*—
Self-consciousness	.05	.08	.15	.15	.14	.32*	.26*	.44*	.51*—
Impulsivity	.00	.05	-.06	.02	.02	.08	.05	.12	.15
Vulnerability	.00	.04	.04	.07	.02	.22*	.17	.43*	.41*
Competence	.31*	.25*	.25*	.23*	.31*	-.01	.16	-.29*	-.06
EXP Competence	.34*	.22*	.35*	.28*	.37*	.26*	.28*	.19	.35*
Order	.71*—	.18	.37*	.17	.25*	.10	.17	-.05	.10
EXP Order	.71*—	.21*	.41*	.24*	.27*	.16	.12	.07	.22*
Dutifulness	.35*	.33*	.37*	.22*	.37*	.13	.18	-.05	.17
EXP Dutifulness	.33*	.18	.44*	.22*	.30*	.31*	.27*	.18	.37*
Achievement Striving	.40*	.38*	.41*	.25*	.58*—	.15*	.29*	-.03	.23*
EXP Achievement Striving	.42*	.29*	.47*	.31*	.56*—	.32*	.41*	.23*	.46*
Self Discipline	.34*	.20*	.32*	.19*	.36*	.00	.13	-.26*	-.06
EXP Self Discipline	.46*	.26*	.42*	.30*	.46*	.27*	.31*	.15	.39*
Deliberation	.37*	.22*	.41*	.19*	.24*	.11	.08	-.08	.10
EXP Deliberation	.21*	.09	.32*	.18	.19	.31*	.17	.28*	.37*
NEO Neuroticism	.07	.11	.08	.13	.12	.33*	.29*	.55*—	.58*—
NEO Extraversion	.15	.23*	.09	.11	.19*	-.13	-.01	-.22*	-.08
NEO Openness	-.06	.18	-.01	.01	.03	-.19*	.01	-.04	-.04

	Order	Satisfaction	Details and Checking	Perf. Toward Others	High Standards	Black/White Thinking	Perceived Pressure	Dissatisfaction	Reactivity to Mistakes
NEO Agreeableness	.12	.12	.14	-.01	.02	-.17	-.19*	-.17	-.13
NEO Conscientiousness	**.57**_*_	**.35**_*_	**.49**_*_	.28*	**.47**_*_	.11	.22*	-.17	.11
EXP-NEO-PI-R Conscientiousness	**.54**_*_	.27*	**.53**_*_	.33*	**.46**_*_	**.36**_*_	**.34**_*_	.24*	**.47**_*_

Note. N = 343 for all correlations with NEO-PI-R and EXP-NEO-PI-R; EXP: Maladaptive version of the Conscientiousness of the NEO-PI-R; correlations above .3 (medium effect size) are presented in bold; correlations above .5 (large effect size) are presented in bold and underlined.

*
$p < .001$;