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Perfectionism and Interpersonal Problems Revisited

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Abstract

In 1997, Hill and colleagues published a seminal study investigating the interpersonal quality of self-oriented, other-oriented, and socially prescribed perfectionism using the interpersonal circumplex as a framework. Findings indicated the three forms of perfectionism showed different relationships with both interpersonal traits and interpersonal problems, but also suggested that these relationships were gender-specific. Revisiting Hill et al.'s findings, the present study reexamined how the three forms of perfectionism related to interpersonal traits and problems, and tested whether the relationships also showed reliable gender differences, in a sample of 391 Prolific workers (195 men, 196 women; mean age = 37.1 years). Circumplex analyses confirmed the three forms of perfectionism showed different relationships with interpersonal traits and problems. However, the relationships with interpersonal traits were stronger and more differentiated than those with interpersonal problems, and only socially prescribed perfectionism showed elevated levels of interpersonal distress. Whereas only few reliable gender differences were observed, self-oriented perfectionism had a distinctive interpersonal quality (assured–dominant) in men, but not in women. Results are discussed in relation to theory and research on perfectionism and personality, the expanded perfectionism social disconnection model, and conceptions of other-oriented perfectionism as a "dark" form of perfectionism.

Keywords: perfectionism; personality; interpersonal circumplex; interpersonal traits; interpersonal problems; gender

1. Introduction

1.1. Perfectionism and interpersonal problems

In 1997, Hill and colleagues published a seminal study investigating perfectionism and interpersonal problems using interpersonal circumplex measures (Hill, Zrull, & Turlington, 1997). The study made a significant contribution to our understanding of perfectionism because it was the first to examine perfectionism and interpersonal problems using a circular model of personality called the "interpersonal circumplex" (Wiggins, 1979). Further, the study adopted a multidimensional perspective of perfectionism and examined three distinct forms: self-oriented, other-oriented, and socially prescribed perfectionism (Hewitt & Flett, 1991). All three forms of perfectionism are associated with beliefs that it is important to strive for perfection, but the interpersonal nature and direction of these beliefs differ. Self-oriented perfectionists believe it is important that they strive for perfection. Self-oriented perfectionists have exceedingly high personal standards and expect to be perfect. In contrast, people high in other-oriented perfectionism believe it is important that others strive for perfection. Other-oriented perfectionists have exceedingly high standards for others and expect them to be perfect. Finally, socially prescribed perfectionists believe that others expect them to strive for perfection, hold them to exceedingly high standards, and expect them to be perfect—and thus will be disappointed in them, disapprove of them, and look down on them if they are not (Hewitt & Flett, 1991; Hewitt, Flett, & Mikail, 2017).

Hill et al. (1997) found that all three forms of perfectionism showed significant interpersonal quality. Moreover, they showed differential relationships with the interpersonal circumplex measures they employed, and some of the relationships also suggested gender differences, as we will detail in Section 1.3. Before we do so, we first provide readers unfamiliar with the interpersonal circumplex with a brief overview of the interpersonal circumplex model

and the relevant measures and analyses (for comprehensive overview, see Gurtman, 1992, 1993; Gurtman & Balakrishnan, 1998; Gurtman & Pincus, 2003: Wiggins & Broughton, 1985, 1991).

1.2. The interpersonal circumplex

The interpersonal circumplex is a two-dimensional model where interpersonal characteristics are ordered around a circle defined by two principal axes: love/nurturance versus indifference (LOV) representing the x axis, and dominance versus submission (DOM) representing the y axis (Figure 1). Originally, the interpersonal circumplex was divided into 16 segments (indexed with the letters A to P) but later—for parsimony and measurement reasons—adjacent segments were aggregated (P with A, B with C, etc.) so the interpersonal circumplex is now defined by eight octants (indexed with the respective two-letter combinations PA, BC, etc.) that are equally spaced around a circle with their centers each separated by 45° (Figure 1).

The interpersonal quality of these octants depends on whether we look at interpersonal *traits* or interpersonal *problems*. The most widely used circumplex measure of interpersonal traits is the revised Interpersonal Adjective Scales (IAS-R; Wiggins, Trapnell, & Phillips, 1988). Hence, the IAS-R octants capture personality differences in how warm–agreeable, gregarious–extraverted, assured–dominant, arrogant–calculating, cold-hearted, aloof–introverted, unassured–submissive, and unassuming–ingenuous people are. In contrast, the Inventory of Interpersonal Problems-Circumplex (IIP-C; Alden, Wiggins, & Pincus, 1990) is based on a measure used in clinical and counseling psychology to assess interpersonal attitudes and behaviors indicating interpersonal distress (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). Hence, the IIP-C octants capture individual differences in how overly nurturant, intrusive, domineering, vindictive, cold, socially avoidant, nonassertive, and exploitable people are, reflecting interpersonal problems (Figure 1).

Because octants immediately adjacent to each other on the circumplex correlate highly with

each other, and correlations decrease the further away octants are from one another (with octants opposite each other showing the lowest correlations), psychological constructs that have significant interpersonal quality will show a correlation profile with the eight circumplex octants that approximates a sinusoidal curve with the x axis representing the polar angles of the octants shown in Figure 1 (0° = LM, 45° = NO, etc.). Figure 2 shows such a curve including the three key parameters that define the curve: displacement, amplitude, and elevation. Displacement represents the angular shift from 0° for the peak of the profile curve; amplitude represents the difference between the peak value of the curve and the mean level of the curve; and elevation represents the mean level of the curve.

Constructs that have a distinct interpersonal quality display pronounced profile correlation curves with clearly discernable "peaks" and "valleys" and a significant amplitude. In contrast, constructs that have no distinct interpersonal quality display rather "flat" curves with no significant amplitude, but they can still show a significant elevation. Elevation, however, is only interpretable when examining interpersonal problems using the IIP-C, but not when examining interpersonal traits using the IAS-R. With the IAS-R, correlations around the octants are usually positive and negative, and opposite octants show comparable correlations but with opposing signs (e.g., people high in trait dominance usually show low trait submission). With the IIP-C, this is different. Whereas correlations around the octants are expected to be higher and lower following a sinusoidal curve, correlations are not necessarily positive and negative, but can all be positive (e.g., people can report problems with being overly domineering, and problems with being overly submissive). Consequently, elevations of IIP-C scores are not expected to be zero, but can be significant reflecting interpersonal distress (Gurtman & Balakrishnan, 1998).

Whereas elevation is computed by simply averaging the eight octant correlations, the calculation of displacement and amplitude requires vector analyses (Wiggins & Broughton, 1985,

1991). The first step in vector analyses is to compute dominance (DOM) and love/nurturance (LOV) from the construct's correlations with the octant scores (see Appendix A for details). This provides the x and y coordinates for the vector projections in the interpersonal circumplex, with LOV representing the x axis and DOM representing the y axis (cf. Figure 1). The vector projection has two parameters: angle and vector length. The angle (which corresponds to displacement in Figure 2) identifies the construct's substantive content, that is, its characteristic blend of DOM and LOV. The vector length identifies whether the construct has a substantive projection in interpersonal circumplex space, that is, whether the construct has a significant interpersonal quality.

1.3. Hill et al.'s (1997) findings

To investigate the interpersonal correlates of self-oriented, other-oriented, and socially prescribed perfectionism, Hill et al. (1997) examined their relationships with the IAS-R and IIP-C in a sample of 357 White US undergraduate students (113 men, 244 women) with a mean age of 19.0 years (*SD* = 1.8). Because Hill et al. found the perfectionism scores to differ between men and women (men scored significantly higher on other-oriented perfectionism than women), data were analyzed separately for men and women.

Regarding interpersonal traits (IAS-R) and focusing on the key parameters provided by their vector analyses (see their Table 2 and Figure 2), Hill et al. found that (a) self-oriented perfectionism projected in the BC octant (arrogant–calculating) in men, but in NO (gregarious-extraverted) in women; (b) other-oriented perfectionism projected in BC in both men and women; and (c) socially prescribed perfectionism projected in DE (cold-hearted) in men, but in FG (aloof–introverted) in women. Moreover, the vector lengths of these projections were larger for men (ranging from .25 to .34) than for women (ranging from .14 to .16), suggesting that perfectionism had stronger interpersonal quality in men than in women, which also showed in the

correlation profile plots where women appeared to have much flatter curves than men (see Hill et al.'s Figure 1). Finally, as theoretically expected, all elevations were near-zero or very small (ranging from .00 to .09).

Regarding interpersonal problems (IIP-C) and focusing again on the vector analyses (see their Table 4 and Figure 4), Hill et al. found that (a) self-oriented perfectionism projected on the border between PA (domineering) and BC (vindictive) in men, but in LM (overly nurturant) in women; (b) other-oriented perfectionism projected in PA in both men and women; and socially prescribed perfectionism projected in PA in men, but in NO (intrusive) in women. Again, the vector lengths of all projections were larger for men (ranging from .15 to .28) than for women (ranging from .06 to .16) which also was observed in the correlation profile plots where women again had flatter curves than men (see Hill et al.'s Figure 3). Finally, and importantly, in both men and women self-oriented and other-oriented perfectionism showed only small elevations (ranging from .03 to .05) whereas socially prescribed perfectionism showed significant elevations (.18 in men, .23 in women) indicating that only socially prescribed perfectionism was associated with interpersonal distress.

1.4. The present study

Hill et al.'s (1997) findings make a significant contribution to the perfectionism literature by indicating that all three forms of perfectionism have distinct interpersonal qualities and may be associated with specific interpersonal problems. Moreover, their study was the first to demonstrate that the interpersonal circumplex is a useful framework providing a "nomological net" (Gurtman, 1992) to capture, interpret, and understand these qualities.

But Hill et al.'s findings also had some limitations and left a number of open questions. First, the decision to analyze the perfectionism–circumplex relationships separately for men and women suggests that there were significant gender differences in the relationships of

perfectionism with interpersonal traits and interpersonal problems, but this was never formally tested. Furthermore, because Hill et al. provided separate analyses for men and women, we still do not know what relationships perfectionism shows with interpersonal traits and problems across gender. Second, Hill et al. examined undergraduate students with a very restricted age range (see Section 1.3) so it would be prudent to reexamine the relationships in a non-student adult sample with a greater age diversity. Finally, Hill et al.'s study is still the only study examining self-oriented, other-oriented, and socially prescribed perfectionism from the perspective of the interpersonal circumplex including traits and problems, so clearly further research expanding on their findings is needed.[1] Consequently, we aimed to conduct a study that would address the limitations and open questions of Hill et al.'s (1997) study and explore which findings from this seminal study would replicate, and which findings may require reconsideration.

2. Method

2.1. Participants and Procedure

Participants were recruited via Prolific restricting participation to US workers who indicated their sex and gender identity as either "male" or "female" and had at least 100 previous submissions on Prolific with an approval rate of at least 95%. Participants were paid USD 1.25 and were informed that the survey contained attention checks (and that they would not be paid if they failed the checks). The study was pilot-tested with 22 workers, followed by the main study for which we recruited a sample of 400 workers. Both the pilot and the main study were sampled with a 50:50 gender distribution, and—because the pilot data showed no problems requiring

[1]A further study is reported by Habke and Flynn (2002), but unfortunately provides only limited information (see Appendix B).

changes to the protocol—pilot and main study data were combined. Participants completed all measures online via the Qualtrics® platform of the first author's school, and were required to respond to all questions (to prevent missing data) which was approved by the relevant ethics committee.

Of the 422 participants who signed up for our study, 419 completed all measures, but 14 failed the attention check and a further 14 were excluded because they represented multivariate outliers (see Section 2.3). As such, the final sample comprised 391 participants (195 male, 196 female). Mean age of the final sample was 37.1 years (*SD* = 12.5; range = 18-72 years). Using the categories provided by Prolific, participants reported their ethnicity as White (79%), Black/African American/Caribbean (9%), Latino/Hispanic (6%), Mixed (3%), and other (3%).

2.2. Measures

We used the same measures that Hill and colleagues (1997) used, except that the measures were presented as an online survey rather than in the original paper-and-pencil format.

2.2.1. Perfectionism

The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991) was used to measure perfectionism. It is comprised of 45 statements of which 15 each capture self-oriented perfectionism (e.g., "I demand nothing less than perfection of myself"), other-oriented perfectionism ("If I ask someone to do something, I expect it to be done flawlessly"), and socially prescribed perfectionism ("People expect nothing less than perfection from me"). Statements were presented with the MPS's standard instruction ("Listed below are a number of statements concerning personal characteristics and traits…") and the standard response format from 1 (*strongly disagree*) to 7 (*strongly agree*).

2.2.2. Interpersonal Traits (IAS-R)

The IAS-R (Wiggins et al., 1988) was used to measure interpersonal circumplex traits. It is

comprised of 64 adjectives (e.g., Kind, Cold-hearted, Dominant) of which 8 each capture an octant of the circumplex. Because the original paper-and-pencil form of the IAS-R has a glossary attached with a brief explanation of each adjective (e.g., "Kind: thoughtful and caring for others"), we presented all adjectives in the glossary form as is customary when administering the IAS-R online (Aaron Pincus, personal communication, 26 March 2019). Adjectives were presented with the IAS-R's standard instruction adapted for online presentation ("On the following page is a list of words that are used to describe people's personal characteristics…") and the standard response format from 1 (*extremely inaccurate*) to 8 (*extremely accurate*).

2.2.3. Interpersonal Problems (IIP-C)

The IIP-C (Alden et al., 1990) was used to measure interpersonal circumplex problems. It is comprised of 64 statements of which 39 are described as "things you may find hard to do with other people" (e.g., "Trust other people") and 35 as "things you may do too much" ("I fight with other people too much"). Each octant of the circumplex is captured with 8 statements. Statements were presented with the IIP-C's standard instruction ("People have reported having the following problems relating to other people…") and the standard response format from 0 (*not at all*) to 4 (*extremely*).

2.3. Data screening

We included three attention checks in the online questionnaire—one in each measure (e.g., "This is an attention check, select: 2")—and excluded 14 participants who failed any attention check. Next we computed the 19 scale scores (three for the MPS, and eight each for the IAS-R and IIP-C) by averaging responses across items. Because multivariate outliers distort the results of correlation and regression analyses, we excluded a further 14 participants with a Mahalanobis distance larger than $\chi^2(20) = 43.82$, $p < .001$ regarding the 20 variables of our study (19 scale scores and gender) indicating they were highly significant multivariate outliers (Tabachnick &

Fidell, 2007). Next, we examined the internal reliabilities of the scale scores all of which were satisfactory (Cronbach's alphas ≥ .78; see Supplementary Material, Table A which also shows the means, standard deviations, and intercorrelations of all measures).

2.4. Analytic strategy

Because Hill et al. (1997) analyzed the relationships of the three forms of perfectionism with the interpersonal circumplex examining both correlation profile plots and vector projections for interpersonal traits (IAS-R) and interpersonal problems (IIP-C), we did the same in the present analyses. Additionally, we conducted a series of moderated regression analyses to test for gender differences in these relationships.

3. Results

3.1. Interpersonal traits (IAS-R)

First, we examined the relationships between the three forms of perfectionism and the interpersonal circumplex traits. In the first step, we computed the correlations between the perfectionism scores and the IAS-R octant scores (Table 1) and then plotted the respective correlation profile curves (Figure 3, Panel A). Self-oriented and other-oriented perfectionism showed similar curves—both having the highest correlations with PA (assured–dominant) and the lowest with JK (unassuming–ingenuous)—except that other-oriented perfectionism showed a more pronounced curve including significant positive correlations with BC (arrogant–calculating) and DE (cold-hearted) and a significant negative correlation with LM (warm–agreeable) whereas self-oriented perfectionism showed a significant positive correlation with NO (gregarious–extraverted). In comparison, socially prescribed perfectionism—while also having the lowest correlation with JK—showed a curve having the highest correlation with DE. In addition, socially prescribed perfectionism showed significant negative correlations with NO and LM.

In the second step, we conducted vector analyses. Using the formulas provided by Gurtman (1993; see Appendix A), we computed the relevant parameters (Table 2) and then plotted the vectors in the interpersonal circumplex (Figure 4, Panel A).[2] Self-oriented perfectionism showed a significant positive dominance (DOM) score and a positive, but nonsignificant love/nurturance (LOV) score. Consequently, self-oriented perfectionism projected in the PA octant (assured–dominant), but veering toward NO (gregarious–extraverted) because of the positive correlation with NO. In contrast, other-oriented perfectionism showed a significant positive DOM score and a significant negative LOV score. However, the former was about twice the size of the latter in absolute terms, and so other-oriented perfectionism projected in BC (arrogant–calculating) close to the border region toward PA. Socially prescribed perfectionism showed a significant negative LOV score and a near-zero DOM score. Consequently, socially prescribed perfectionism projected in the middle of DE (cold-hearted). Moreover, the projections of all three forms of perfectionism showed a highly significant vector length indicating that the projections were meaningful and interpretable. As theoretically expected, all three elevation scores were near-zero and nonsignificant.

3.2. Interpersonal problems (IIP-C)

Next, we examined the relationships between the three forms of perfectionism and the interpersonal circumplex problems. First, we again computed the correlations between perfectionism and octant scores (Table 1) and then plotted the correlation profile curves (Figure 3, Panel B). This time, all three forms of perfectionism showed markedly different curves. Self-oriented perfectionism showed the highest correlation with LM (overly-nurturant) and the lowest

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[2]Note that the vector analyses take all eight octant correlations into account, so the angular location of the vector projections may differ from the "peak" of the correlation profiles curves.

correlation with HI (nonassertive), but only the positive correlation with LM was significant (Table 1) and the curve was overall rather flat. In contrast, other-oriented perfectionism showed a pronounced curve, and it showed the highest correlations with PA (domineering) and BC (vindictive) and the lowest correlation with JK (exploitable). Like self-oriented perfectionism, socially prescribed perfectionism showed a rather flat curve, but—in stark contrast to the other two forms of perfectionism—it showed significant positive correlations with all octants with a rather flat "peak" distributed across PA, BC, and DE (cold) and had the lowest correlation with HI.

Next we conducted vector analyses, again computing all the relevant parameters (Table 2) and plotting the vectors in the interpersonal circumplex (Figure 4, Panel B). Self-oriented perfectionism projected in the NO octant (intrusive) toward the region bordering at PA (domineering) whereas both other-oriented and socially prescribed perfectionism projected in the BC octant (vindictive) bordering at PA. Note, however, that both self-oriented and socially prescribed perfectionism showed nonsignificant dominance (DOM) and love/nurturance (LOV) scores and nonsignificant vector lengths. Only other-oriented perfectionism showed a significant positive DOM score and a significant vector length. Consequently, only other-oriented perfectionism had a projection that was meaningful and interpretable. Further note that—whereas self-oriented and other-oriented perfectionism showed no significant elevation—socially prescribed perfectionism showed a significant positive elevation indicating interpersonal distress.

3.3. Gender Differences

Finally, we examined whether there were significant gender differences in the relationships of perfectionism with interpersonal traits (IAS-R) and interpersonal problems (IIP-C) by conducting a series of moderated regression analyses (Aiken & West, 1991; Cohen et al., 2003) with the three forms of perfectionism including gender and the interaction of perfectionism and

gender (see Supplementary Material, Table B). Results indicated reliable gender differences in the relationships that self-oriented perfectionism showed with PA and BC regarding interpersonal traits (IAS-R), and the relationships that socially prescribed perfectionism showed with PA and BC regarding interpersonal problems (IIP-C). Consequently, we computed all previous statistics for men and women separately (Tables 1-2), and also created separate plots for men and women regarding correlation profile curves and vector projections (Figures 5-7).

As regards interpersonal traits (IAS-R), self-oriented perfectionism showed significantly larger positive correlations with PA (assured–dominant) and BC (arrogant–calculating) in men than in women, and the women's positive correlation with BC was near-zero (Table 1). Moreover, self-oriented perfectionism in men showed a much more pronounced correlation profile curve than in women (Figure 5, Panel A). Accordingly, self-oriented perfectionism had a significant dominance (DOM) score and a significant vector length in men, but not in women (Table 2); and consequently the circumplex projection of self-oriented perfectionism in the PA octant (assured–dominant) should be considered reliable and meaningful only for men (Figure 7, Panel A). In contrast, other-oriented perfectionism and socially prescribed perfectionism showed similar statistics for men and women and quasi-identical plots (Tables 1-2; Figure 5, Panels B-C; Figure 7, Panel A).

As regards interpersonal problems (IIP-C), the analyses showed that socially prescribed perfectionism had significantly larger positive correlations with PA (assured–dominant) and BC (arrogant–calculating) in men than in women, but all correlations were large and highly significant (Table 1). Else, the correlations were near-identical and so were the correlation profile curves (Figure 6, Panel C). In comparison, self-oriented and other-oriented perfectionism showed very similar correlations and curves for men and women across all octants (Table 1; Figure 6, Panels A-B), and consequently also the vector statistics (Table 2) and the vector projection plots

(Figure 7, Panel B) were very similar (if we disregard the nonsignificant vector projections of self-oriented perfectionism). Across the analyses, the only notable difference emerging was that other-oriented perfectionism in men projected in PA (domineering) near the border to BC (vindictive) whereas other-oriented perfectionism in women projected in BC near the border to PA (Figure 7, Panel B).[3] Else, all statistics were similar, near-identical, or even identical between men and women (and also when compared to those of the total sample). In particular, socially prescribed perfectionism showed the same significant positive elevation in men and women indicating that interpersonal distress associated with socially prescribed perfectionism was the same for both genders.

4. Discussion

4.1. The present findings

Expanding on Hill et al.'s (1997) seminal study on perfectionism and interpersonal problems using the interpersonal circumplex as a framework, our findings confirm that self-oriented, other-oriented, and socially prescribed perfectionism all have significant interpersonal quality. Moreover, the three forms of perfectionism have different projections in the interpersonal circumplex regarding interpersonal traits, with our findings suggesting that (a) self-oriented perfectionists tend to be assured–dominant, (b) other-oriented perfectionists arrogant–calculating, and (c) socially prescribed perfectionists cold-hearted. As regards interpersonal problems, our findings were less clear-cut suggesting that only other-oriented perfectionism had a distinctive interpersonal quality, with other-oriented perfectionists reporting attitudes and behaviors representing a mixture of excessive dominance and excessive indifference that is regarded as

[3]This is because socially prescribed perfectionism in men showed the lowest correlation with HI, but in women the lowest correlation was with JK (see Table 2 and Figure 6, Panel B).

vindictive (Alden et al., 1990). Self-oriented perfectionism had no distinct interpersonal quality with self-oriented perfectionists reporting few, if any significant interpersonal problems. In contrast, socially prescribed perfectionism—while also showing no distinct interpersonal quality—had significant positive correlations with *all* attitudes and behaviors defining the interpersonal circumplex for interpersonal problems, suggesting that socially-prescribed perfectionism is associated with a general propensity to experience interpersonal distress.

Moreover, our findings indicated a number of significant gender differences, but not as many as suggested by Hill et al.'s (1997) findings. As regards interpersonal traits, only self-oriented perfectionism showed meaningful gender differences suggesting a distinct interpersonal quality in men, but not in women: Only male self-oriented perfectionists tended to be assured–dominant. As regards interpersonal problems, our findings showed overall no qualitative differences between men and women—except that male other-oriented perfectionists' specific attitude and behavior problems could be regarded as more domineering than vindictive, whereas female other-oriented perfectionists' as more vindictive than domineering.

4.2. Personality, social disconnection, and the dark triad

The findings have implications for our understanding of multidimensional perfectionism regarding personality, social disconnection, and other-oriented perfectionism as a "dark" form of perfectionism. As regards personality, research with the Big Five model of personality (John, 1990) examining the relationships with the two distinctively interpersonal dimensions of the Big Five—extraversion and agreeableness—found self-oriented and other-oriented did not present any consistent positive or negative relationships with extraversion, and socially prescribed perfectionism showed only a weak negative relationship. In contrast, both other-oriented and socially prescribed perfectionism showed strong and consistent negative relationships with agreeableness (Smith et al., 2019; Stoeber, Smith, Corr, & Saklofske, 2018). Note that in

interpersonal circumplex analyses, agreeableness tends to project in the border region between the JK (unassuming–ingenuous) and LM (warm–agreeable) octant (e.g., Barford, Zhao, & Smillie, 2015; McCrae & Costa, 1989). This study found that other-oriented perfectionism projected in BC (arrogant–calculating) which is the octant opposite JK, suggesting that other-oriented perfectionism is characterized by low agreeableness combined with dominance. In comparison, socially prescribed perfectionism projected in DE (cold-hearted) which is the octant opposite LM, suggesting that socially prescribed perfectionism is characterized by low agreeableness combined with indifference (low love/nurturance). Consequently, it appears as if the interpersonal traits circumplex can help qualify the difference between low agreeableness in other-oriented perfectionism and low agreeableness in socially prescribed perfectionism.

Furthermore, the present findings have implications for the expanded perfectionism social disconnection model (PSDM; Sherry, Mackinnon, & Gautreau, 2016). Originally the PSDM focused on socially prescribed perfectionism (Hewitt, Flett, Sherry, & Caelian, 2006), but was recently expanded to also include self-oriented and other-oriented perfectionism (Sherry, Mackinnon, & Gautreau, 2016; see also Hewitt, Flett, & Mikail, 2017). According to the expanded PSDM, all three dimensions of perfectionism are associated with social disconnection. The present findings provide support for the expanded PSDM regarding other-oriented and socially prescribed perfectionism, but not self-oriented perfectionism (cf. Stoeber, Noland, Mawenu, Henderson, & Kent, 2017). Only other-oriented and socially prescribed perfectionism had significant negative relationships with the love/nurturance dimension of the interpersonal circumplex indicating social indifference. Furthermore, only other-oriented and socially prescribed perfectionism were associated with interpersonal problems reflecting a lack of love/nurturance whereas self-oriented perfectionism showed a small positive correlation with being overly nurturant. Self-oriented perfectionism may be associated with other problems

causing social disconnection and frictions with others (e.g., hypercompetitiveness, putting work before social relationships; Sherry, Mackinnon, & Gautreau, 2016), but not with social indifference as captured by the interpersonal traits circumplex and the attitudes and behaviors of the interpersonal problems circumplex (but see Section 4.2).

Finally, the present findings dovetail with research that has described other-oriented perfectionism as a "dark" form of perfectionism (Stoeber, 2014, 2015) because of its positive associations with the traits forming the dark triad of personality: narcissism, Machiavellianism, and psychopathy (Paulhus & Williams, 2002). Research on the dark triad using the interpersonal circumplex as a conceptual framework has shown that narcissism, Machiavellianism, and psychopathy all project in the quadrant of the interpersonal circumplex defined by high dominance and low love/nurturance (indicating interpersonal indifference) somewhere between 100° and 160° (Jones & Paulhus, 2010, Figure 1)—which is exactly where other-oriented perfectionism projected in the present study regarding both interpersonal traits and interpersonal problems. In particular, other-oriented perfectionism has shown consistent significant and unique relationships with narcissism (Sherry, Gralnick, Sherry, Hewitt, & Flett, 2014; Stoeber, 2014); and in the present study, other-oriented perfectionism projected in the very angular location where the majority of studies on the dark triad and the interpersonal circumplex have projected narcissism (see again Jones & Paulhus, 2010, Figure 1), which presents further supporting evidence that our circumplex projections of other-oriented perfectionism are valid.

4.2. Limitations and future studies

Whereas our study confirmed Hill et al.'s (1997) finding that all three forms of perfectionism have significant interpersonal quality and that all three show different projections in the interpersonal circumplex, not all of the projections for men and women we found in our study replicated—or were close to the locations of—the projections that Hill et al. found in their

study as detailed in Section 1.3 (cf. our Figure 7, Panel A and B with Hill et al.'s Figures 2 and 4). The reason for this is unclear and difficult to determine because our study was not an exact replication (Brandt et al., 2014). Whereas the mean levels of perfectionism observed in the two studies were comparable (see Supplementary Material, Table A, Note a), Hill et al. examined a sample of US undergraduate students using a paper-and-pencil questionnaire who participated in exchange for course credit, and our study examined a more diverse sample of US adults recruited on the Internet using an online questionnaire who were paid for their participation (and were aware the questionnaire included attention checks). Consequently, there may have been differences in the data quality of the two studies in addition to sample differences (cf. Gosling, Vazire, Srivastava, & John, 2004) limiting the comparability of the findings.

There are further limitations. First, as with Hill et al.'s (1997) study, all present findings are based on self-report measures. Self-reports are invaluable in personality research and may provide "information no one else knows" (Baldwin, 2000), but there are limitations to the self-report method that may cause interpretation problems (Paulhus & Vazire, 2007). In the present case, the finding that only other-oriented perfectionism had clear projections in the interpersonal problems circumplex, and only socially prescribed perfectionism was associated with interpersonal distress in the self-report of interpersonal problems could be interpreted as suggesting that only other-oriented and socially prescribed perfectionists are aware of their interpersonal problems—whereas self-oriented perfectionists are not, even though others may experience them as socially disconnected (Sherry, Mackinnon, & Gautreau, 2016). Consequently, future studies may profit from including observer reports or observational methods in the circumplex analyses of interpersonal problems (Paulhus & Vazire, 2007).

Second, like Hill et al.'s (1997) participants, the participants of our study were all from the US and—while not exclusively White as was the case in Hill et al.'s study—they were

predominantly White which is a limitation because research has found national and ethnic differences in perfectionism relationships (e.g., Sherry, Stoeber, & Ramasubbu, 2016; Stoeber, Kobori, & Tanno, 2013). Consequently, future studies may reinvestigate the present relationships in other nationalities and ethnicities to examine to what degree our findings generalize to people from other nationalities and ethnicities.

Finally, future research on perfectionism and interpersonal problems may profit from looking beyond Hewitt and Flett's (1991) multidimensional model of perfectionism and consider other forms of perfectionism that have shown to be related to interpersonal problems such as self-critical and narcissistic perfectionism (see Sherry, Mackinnon, & Nealis, 2018; Smith, Saklofske, Stoeber, & Sherry, 2016).

4.4. Conclusions

This is the first study to expand on Hill et al.'s (1997) seminal study on perfectionism and interpersonal problems using the interpersonal circumplex as a framework that examined differences between self-oriented, other-oriented, and socially prescribed perfectionism in a large gender-balanced adult sample which allowed to test for gender differences. Our findings confirm that all three forms of perfectionism show differential relationships with interpersonal traits and interpersonal problems demonstrating that the interpersonal circumplex is a useful framework for analyzing the specific interpersonal quality of different dimensions of perfectionism and different kinds of perfectionists (cf. Slaney, Pincus, Uliaszek, & Wang, 2006). Furthermore, our findings confirm that all three forms of perfectionism have significant interpersonal quality, including self-oriented perfectionism, and that the interpersonal quality of latter may be particularly pronounced in men, which demonstrates the importance of testing gender differences in the relationships of multidimensional perfectionism.

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Appendix A

Formulas

Following Gurtman (1993, Formula 2), dominance (DOM) = (.25) ∗ Σ[r_i ∗ sin(angle$_i$)] with r_i = the eight correlations with the circumplex octants and angle$_i$ = their eight angles (0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°) which expands to DOM = .25 ∗ [(r_{LM} ∗ 0) + (r_{NO} ∗ .7071) + (r_{PA} ∗ 1) + (r_{BC} ∗ .7071) + (r_{DE} ∗ 0) + (r_{FG} ∗ –.7071) + (r_{HI} ∗ –1) + (r_{JK} ∗ –.7071)] with .25 a correction factors limiting resulting values to values between +1 and –1.

Following Formula (3), love/nurturance (LOV) = (.25) ∗ Σ[r_i ∗ cos(angle$_i$)] which expands to LOV = .25 ∗ [(r_{LM} ∗ 1) + (r_{NO} ∗ .7071) + (r_{PA} ∗ 0) + (r_{BC} ∗ –.7071) + (r_{DE} ∗ –1) + (r_{FG} ∗ –.7071) + (r_{HI} ∗ 0) + (r_{JK} ∗ .7071)].

Following Formula (4), angle = arctan(DOM/LOV) in radians with 1 radian = 180/π degrees.

Following Formula (5), vector length (VL) = $(DOM^2 + LOV^2)^{½}$ or $\sqrt{DOM^2 + LOV^2}$.

Finally, elevation is the average of the eight correlations *ri*, that is, elevation = (r_{LM} + r_{NO} + r_{PA} + r_{BC} + r_{DE} + r_{FG} + r_{HI} + r_{JK})/8.

Appendix B

Habke and Flynn (2002)

In their book chapter on interpersonal aspects of trait perfectionism, Habke and Flynn (2002) report a study with 115 undergraduate students (47 men, 68 women) examining how self-oriented, other-oriented, and socially prescribed perfectionism relate to interpersonal traits (IAS-R) and interpersonal problems (IIP-C). Like Hill et al. (1997), the study analyzed relationships separately for men and women, but vector projections are presented only for the IAS-R and only in graphical form (see Habke & Flynn, 2002, Figure 6.1). The figure suggests marked gender differences for self-oriented perfectionism: Self-oriented perfectionism in men projected in the BC (arrogant–calculating) octant in the region bordering on DE (cold-hearted) whereas in women it projected in the NO (gregarious–extraverted) octant in the region bordering on LM (warm–agreeable). In contrast, the other two forms of perfectionism displayed similar projections in men and women: Other-oriented perfectionism in men projected in the DE octant's region bordering on BC, and in women it projected in the BC octant's region bordering on DE; and socially prescribed perfectionism projected in the BC octant in both men and women. However, no numerical information is presented and the figure has no scale or metric so the length (and significance) of the vector projections is unclear; and with 47 and 68 participants, the subsamples of men and women are rather small, so it is questionable if the vector projections—and the suggested gender differences for self-oriented perfectionism—are reliable (cf. Maxwell, 2004).

Table 1

Interpersonal Traits (IAS-R) and Interpersonal Problems (IIP-C): Correlations of Self-Oriented (SOP), Other-Oriented (OOP), and Socially Prescribed Perfectionism (SPP) With the Circumplex Octants

	Total sample (N = 391)			Men (n = 195)			Women (n = 196)		
Octant	SOP	OOP	SPP	SOP	OOP	SPP	SOP	OOP	SPP
Interpersonal traits (IAS-R)									
LM: Warm–agreeable	.10	–.14**	–.15**	.15*	–.14*	–.15*	.02	–.14	–.17*
NO: Gregarious–extraverted	.15**	.07	–.13**	.21*	.12	–.15*	.09	.03	–.13
PA: Assured–dominant	.26***	.37***	.07	.39***	.40***	.14	.17*	.34***	.04
BC: Arrogant–calculating	.08	.19***	.16**	.24***	.19**	.15*	.01	.19**	.21**
DE: Cold-hearted	–.07	.15**	.22***	–.01	.18*	.29***	–.09	.11	.18*
FG: Aloof–introverted	–.09	–.07	.17***	–.12	–.10	.20**	–.05	–.04	.17*
HI: Unassured–submissive	–.10*	–.28***	.03	–.14	–.29***	.03	–.10	–.27**	.02
JK: Unassuming–ingenuous	–.14**	–.38***	–.19***	–.23**	–.37***	–.10	–.13	–.39***	–.27***

(Table continued on next page)

(Table continued from previous page)

Interpersonal problems (IIP-C)									
LM: Overly nurturant	.13*	–.12*	.28***	.10	–.08	.26***	.13	–.15*	.28***
NO: Intrusive	.04	.02	.28***	.07	.04	.29***	.00	.01	.28***
PA: Domineering	.08	.17***	.31***	.12	.17*	.39***	.05	.17*	.26***
BC: Vindictive	.06	.17***	.32***	.13	.17*	.39***	–.01	.16*	.28***
DE: Cold	.00	.03	.32***	.04	.03	.34***	–.05	.04	.32***
FG: Socially avoidant	.01	–.10*	.27***	–.04	–.15*	.25***	.04	–.04	.30***
HI: Nonassertive	–.06	–.24***	.16**	–.13	–.26***	.12	–.04	–.20**	.18*
JK: Exploitable	.03	–.21***	.19***	–.02	–.15*	.15*	.03	–.25***	.22**

Note. Significant gender differences are highlighted (see Supplementary Material, Table B).

*$p < .05$, **$p < .01$, ***$p < .001$.

Table 2

Interpersonal Traits (IAS-R) and Interpersonal Problems (IIP-C): Vector Analyses of Self-Oriented (SOP), Other-Oriented (OOP), and Socially Prescribed Perfectionism (SPP)

	Total sample (N = 391)			Men (n = 195)			Women (n = 196)		
Parameter	SOP	OOP	SPP	SOP	OOP	SPP	SOP	OOP	SPP
Interpersonal traits (IAS-R)									
Dominance (DOM)	.17***	.29***	.02	.27***	.31***	.01	.12	.27***	.04
Love/nurturance (LOV)	.04	–.15**	–.21***	.02	–.14	–.22**	.03	–.15*	–.22**
Angle	75.7°	117.4°	175.0°	88.9°	114.1°	177.1°	77.3°	119.7°	170.4°
Vector length	.18***	.33***	.21***	.27***	.34***	.22**	.12	.31***	.23**
Elevation	.02	–.01	.02	.06	.00	.05	–.01	–.02	.01
Interpersonal problems (IIP-C)									
Dominance (DOM)	.05	.19***	.06	.11	.20**	.12	.01	.17*	.03
Love/nurturance (LOV)	.03	–.08	–.03	.01	–.05	–.05	.04	–.11	–.02
Angle	55.8°	113.6°	117.6°	85.4°	104.4°	115.2°	11.6°	121.6°	123.7°

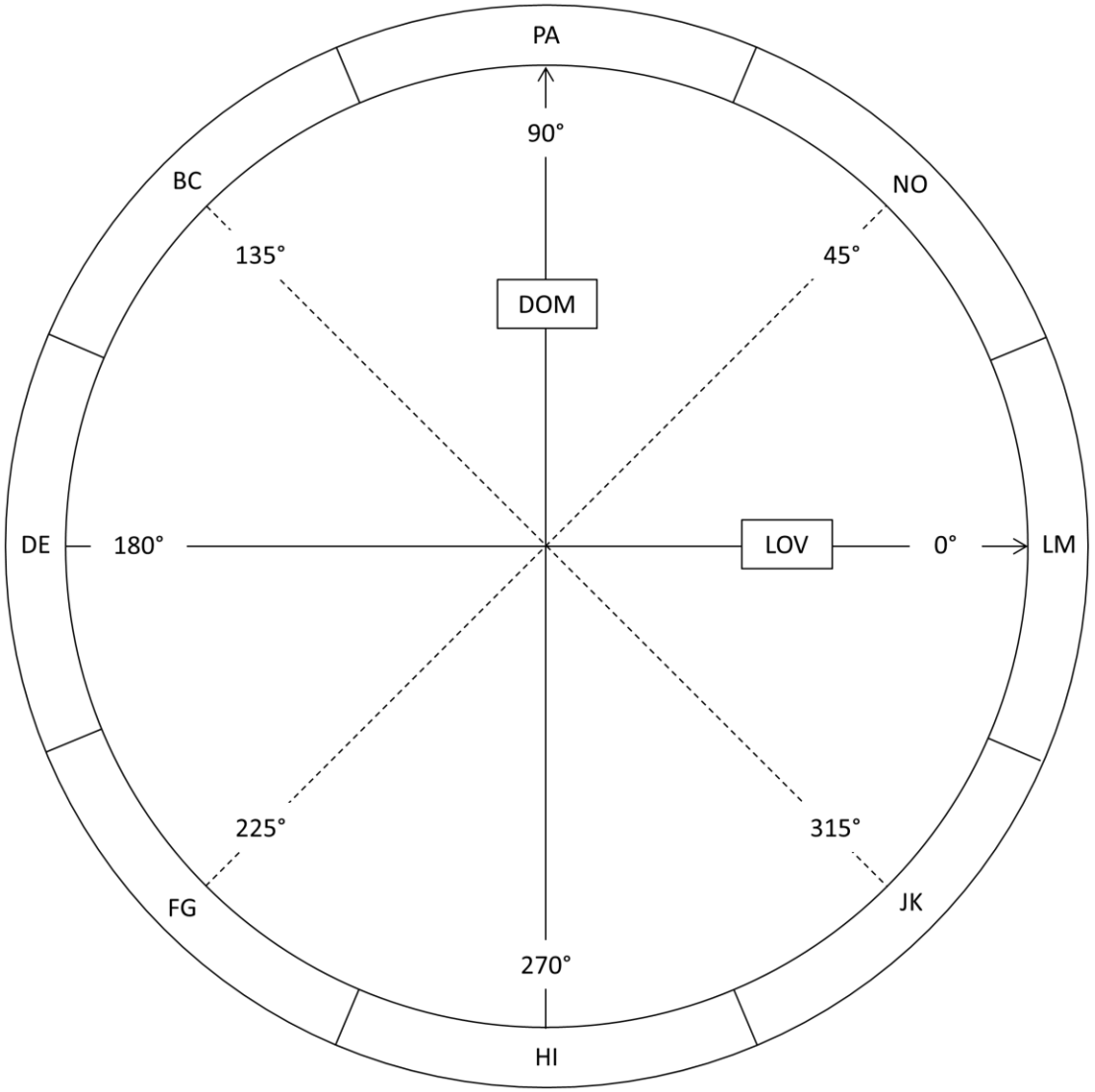
(Table continued on next page)

(Table continued from previous page)

Vector length	.06	.21***	.07	.11	.20**	.13	.04	.20**	.04
Elevation	.04	–.03	.27***	.04	–.03	.27***	.02	–.03	.27***

Note. Parameters: see Appendix. Angle = displacement, vector length = amplitude (see Figure 2).

*$p < .05$, **$p < .01$, ***$p < .001$



Interpersonal Traits (IAS-R)

LM: Warm–agreeable

NO: Gregarious–extraverted

PA: Assured–dominant

BC: Arrogant–calculating

DE: Cold-hearted

FG: Aloof–introverted

HI: Unassured–submissive

JK: Unassuming-ingenuous

Interpersonal Problems (IIP-C)

LM: Overly nurturant

NO: Intrusive

PA: Domineering

BC: Vindictive

DE: Cold

FG: Socially avoidant

HI: Nonassertive

JK: Exploitable

Figure 1. The interpersonal circumplex. LOV = the love/nurturance dimension (representing the x axis), DOM = the dominance dimension (representing the y axis). Note that each octants spans 45° so the eight octants span the following angular locations: LM (337.5°-22.5°), NO (22.5°-67.5°), PA (67.5°-112.5°), BC (112.5°-157.5°), DE (157.5°-212.5°), FG (212.5°-247.5°), HI (247.5°-295.5°), and JK (295.5°-337.5°). Further note that 0° = 360° which is important for understanding the correlation profile curves (Figures 3, 5, and 6).

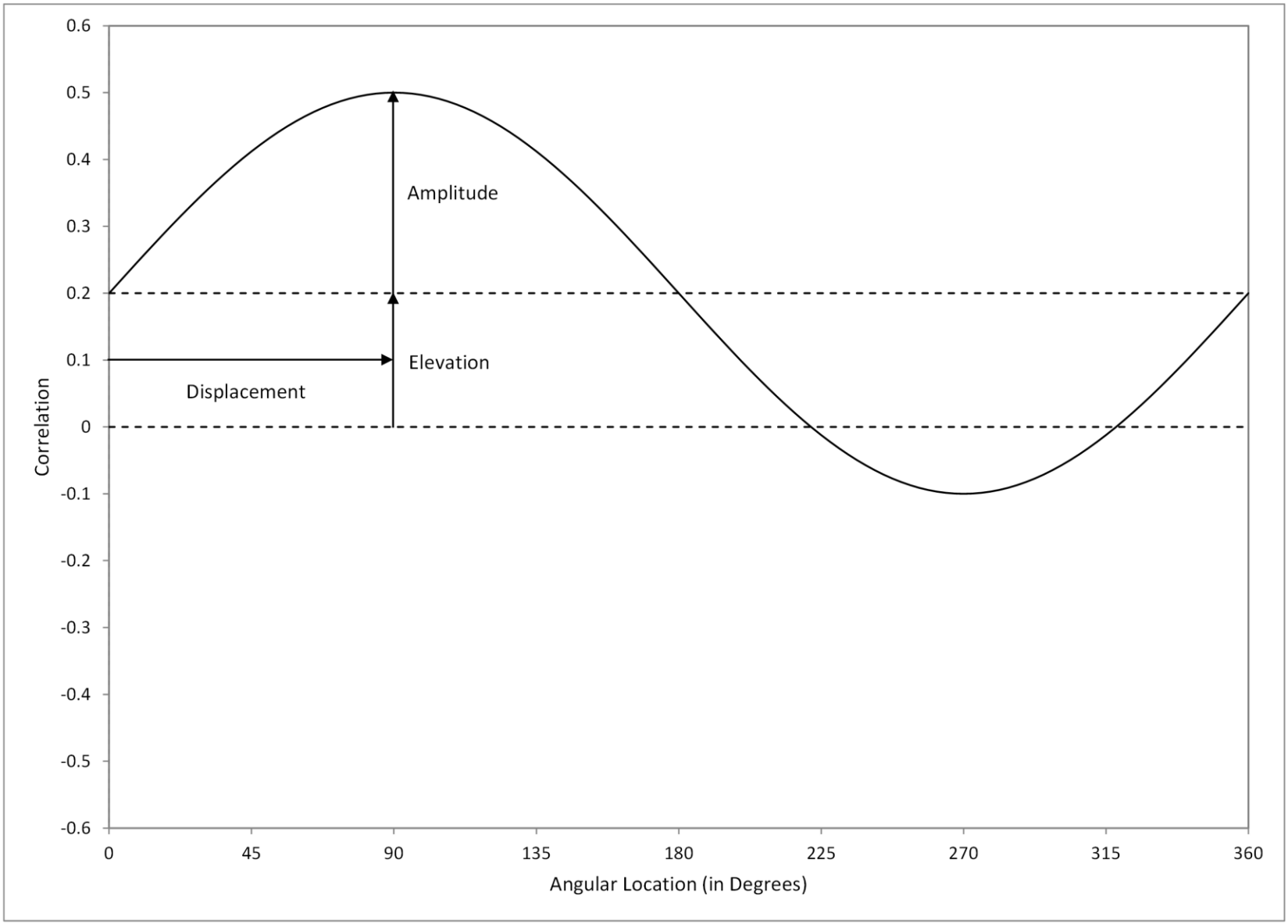
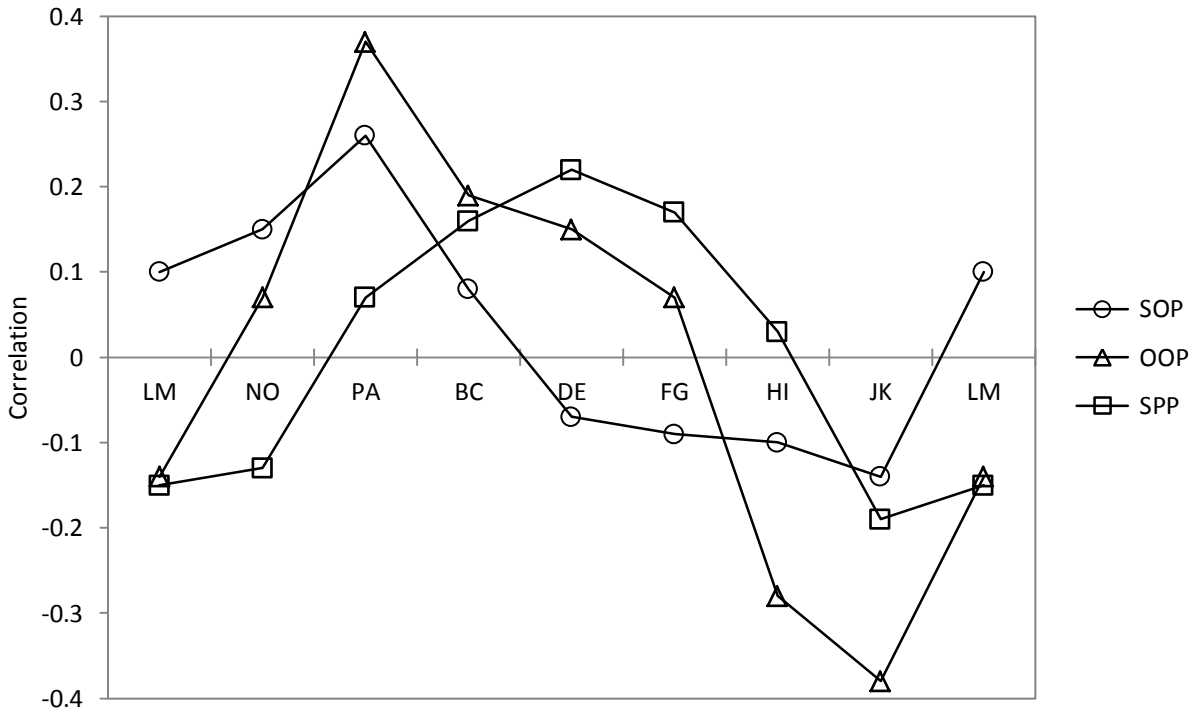

0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
Correlation
Amplitude
Elevation
Displacement
0
45
90
135
180
225
270
315
360
Angular Location (in Degrees)

Figure 2. Example of a sinusoid correlation profile curve with the three parameters: amplitude, elevation, and displacement (showing for illustration purposes amplitude = .30, elevation = .20, and displacement = 90°). The angular locations correspond to Figure 1 with 0° = LM, 45° = NO, 90° = PA, 135° = BC, 180° = DE, 225° = FG, 315 = HI, and 360° = 0° = LM. (Note that amplitude = vector length and displacement = angle in Table 2.)

Panel A: Interpersonal Traits (IAS-R)



Panel B: Interpersonal Problems (IIP-C)

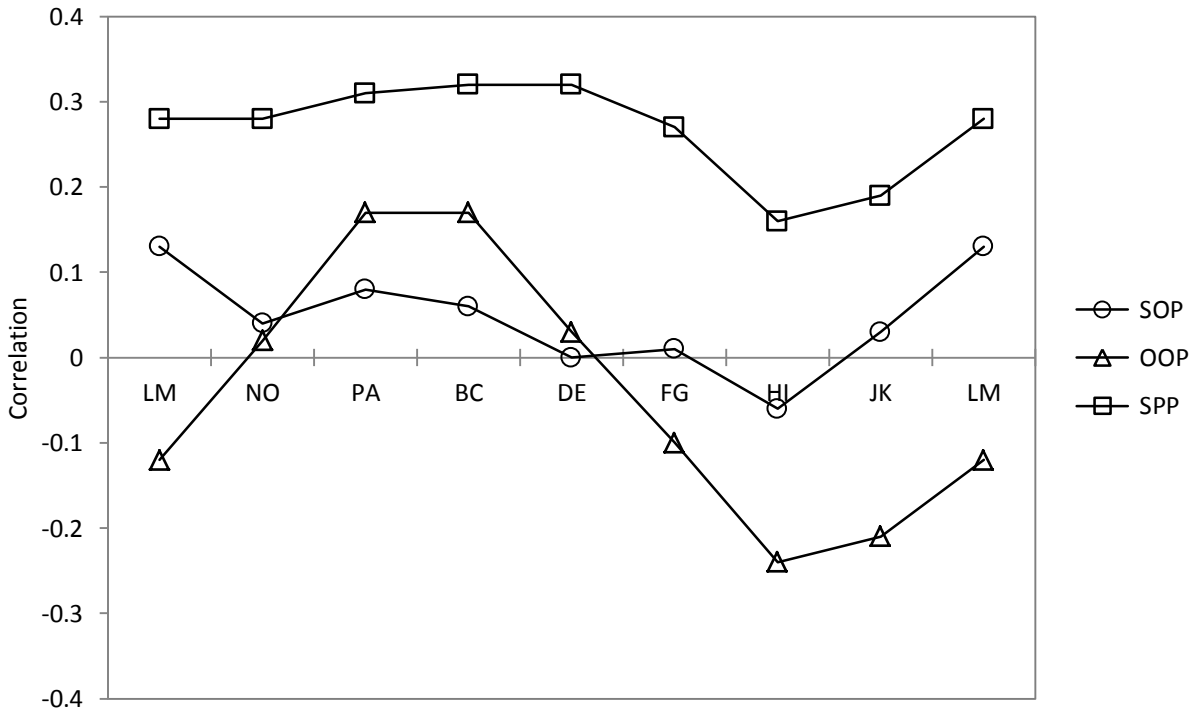
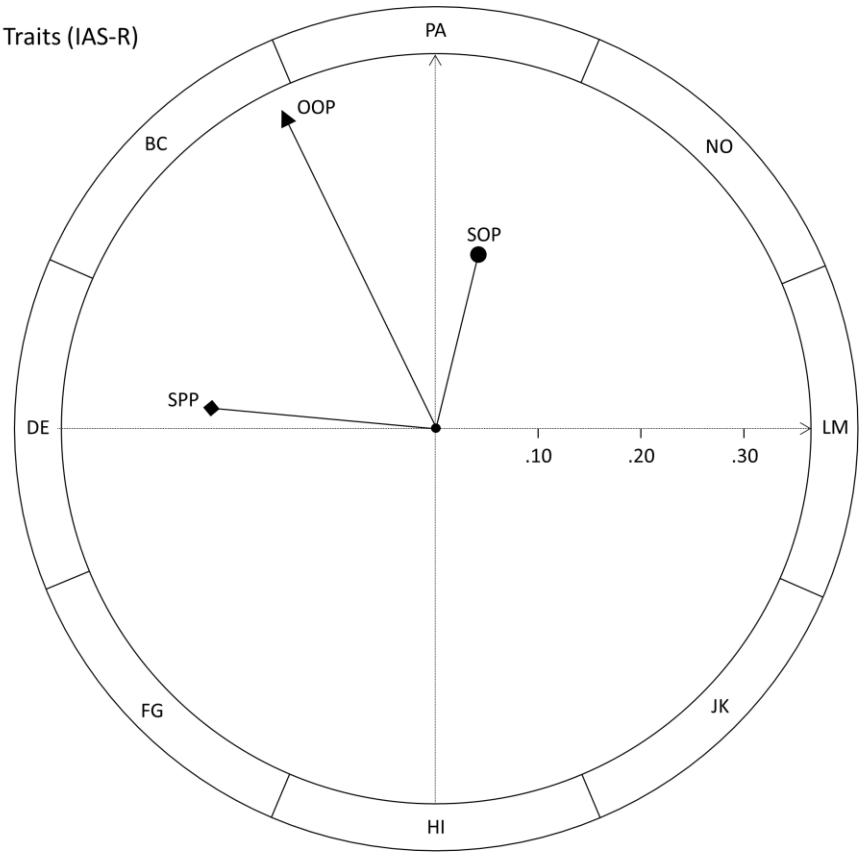


Figure 3. Correlation profile curves of self-oriented (SOP), other-oriented (OOP), and socially prescribed perfectionism (SPP) with the circumplex octant scores for the total sample (see Table 1). Panel A: Interpersonal traits (IAS-R) with LM = warm–agreeable, NO = gregarious–extraverted, PA = assured–dominant, BC = arrogant–calculating, DE = cold-hearted, FG = aloof–introverted, HI = unassured–submissive, JK = unassuming–ingenuous. Panel B: Interpersonal problems (IIP-C) with LM = overly nurturant, NO = intrusive, PA = domineering, BC = vindictive, DE = cold, FG = socially avoidant, HI = nonassertive, JK = exploitable.

Panel A:
Interpersonal Traits (IAS-R)



Panel B:
Interpersonal Problems (IIP-C)

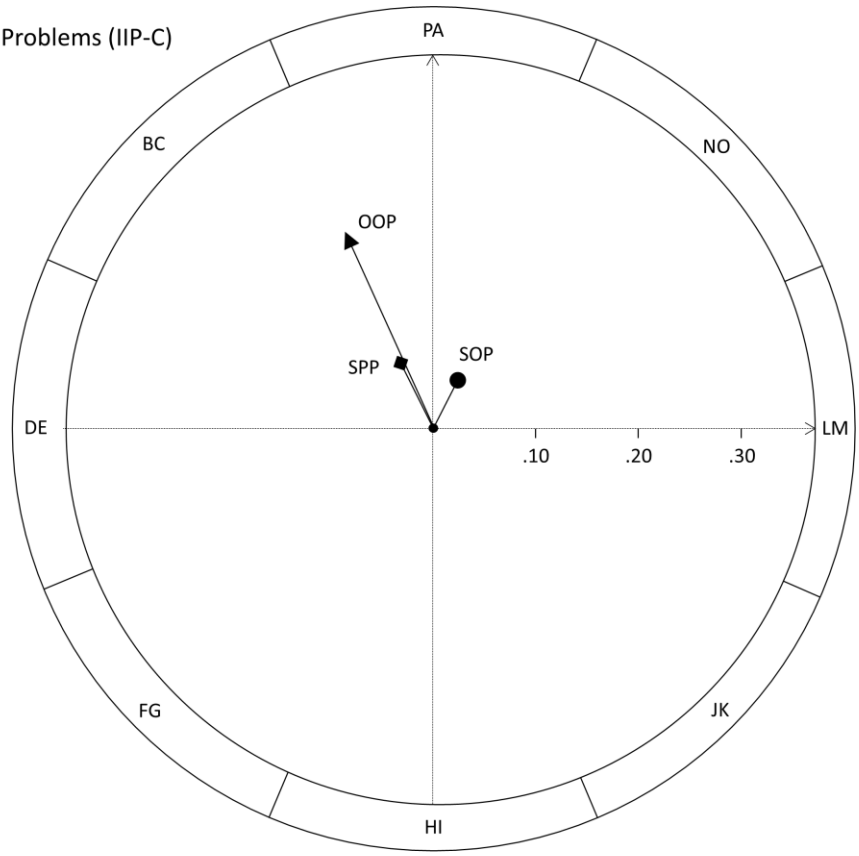
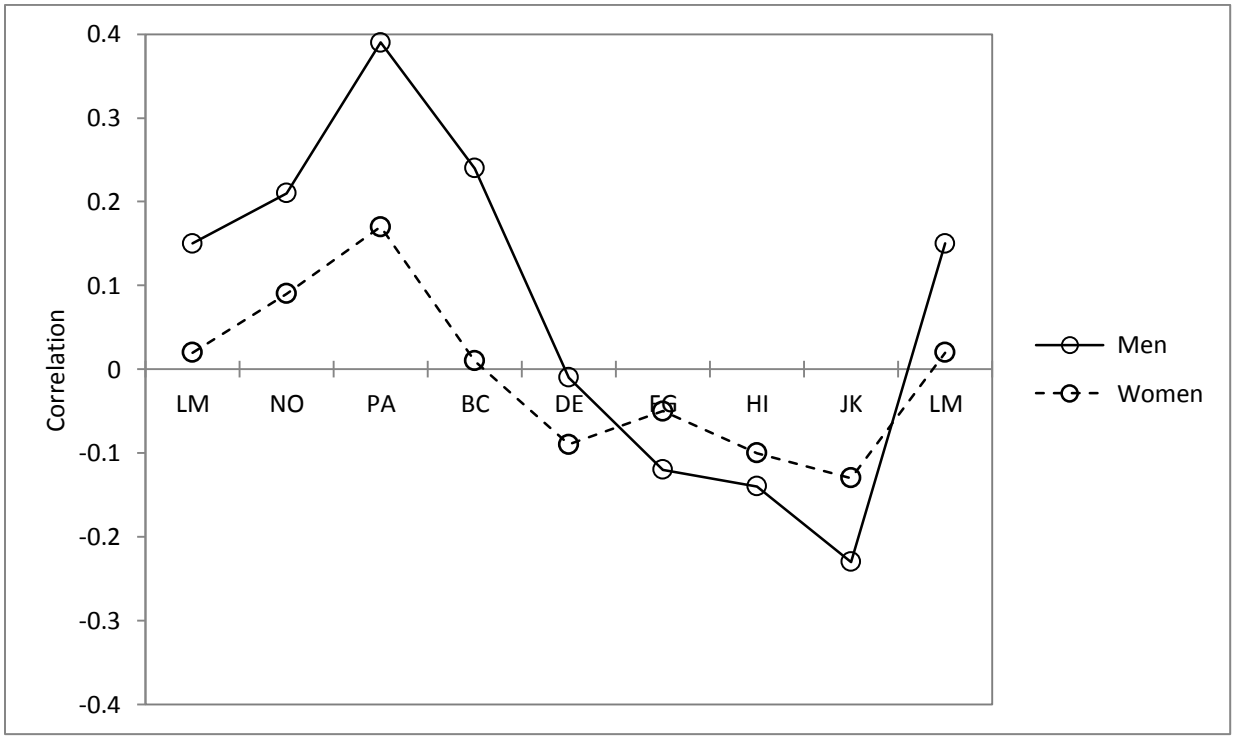
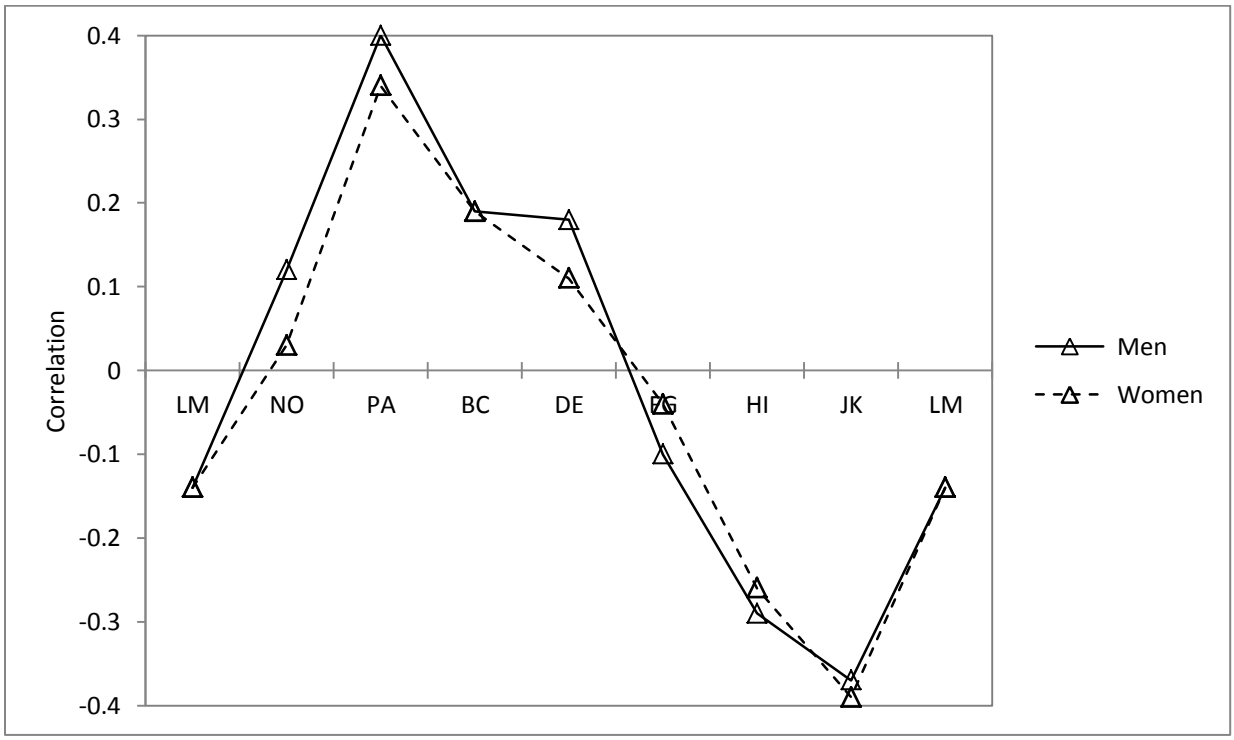


Figure 4. Vector projections of self-oriented, other-oriented, and socially prescribed perfectionism in the interpersonal circumplex for the total sample (see Table 2). Panel A: Interpersonal traits (IAS-R) with LM = warm–agreeable, NO = gregarious–extraverted, PA = assured–dominant, BC = arrogant–calculating, DE = cold-hearted, FG = aloof–introverted, HI = unassured–submissive, JK = unassuming–ingenuous. Panel B: Interpersonal problems (IIP-C) with LM = overly nurturant, NO = intrusive, PA = domineering, BC = vindictive, DE = cold, FG = socially avoidant, HI = nonassertive, JK = exploitable.

Panel A: Self-oriented perfectionism



Panel B: Other-oriented perfectionism



Panel C: Socially Prescribed Perfectionism

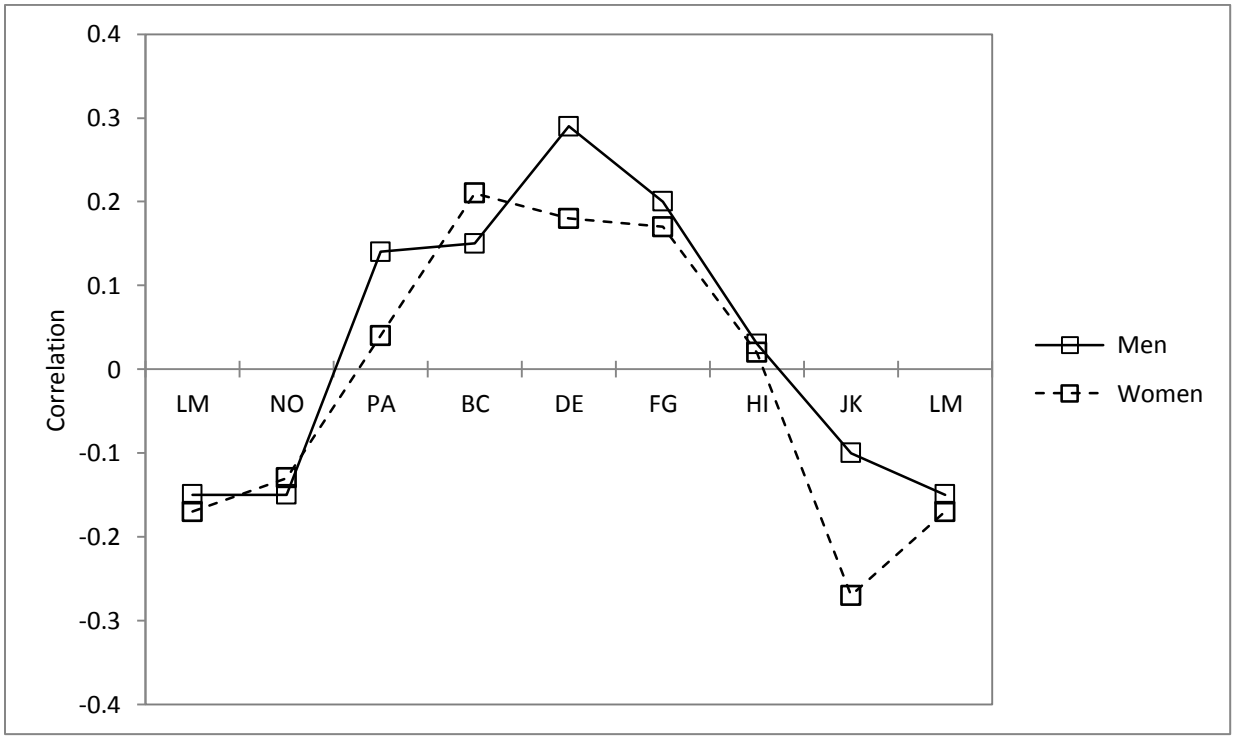
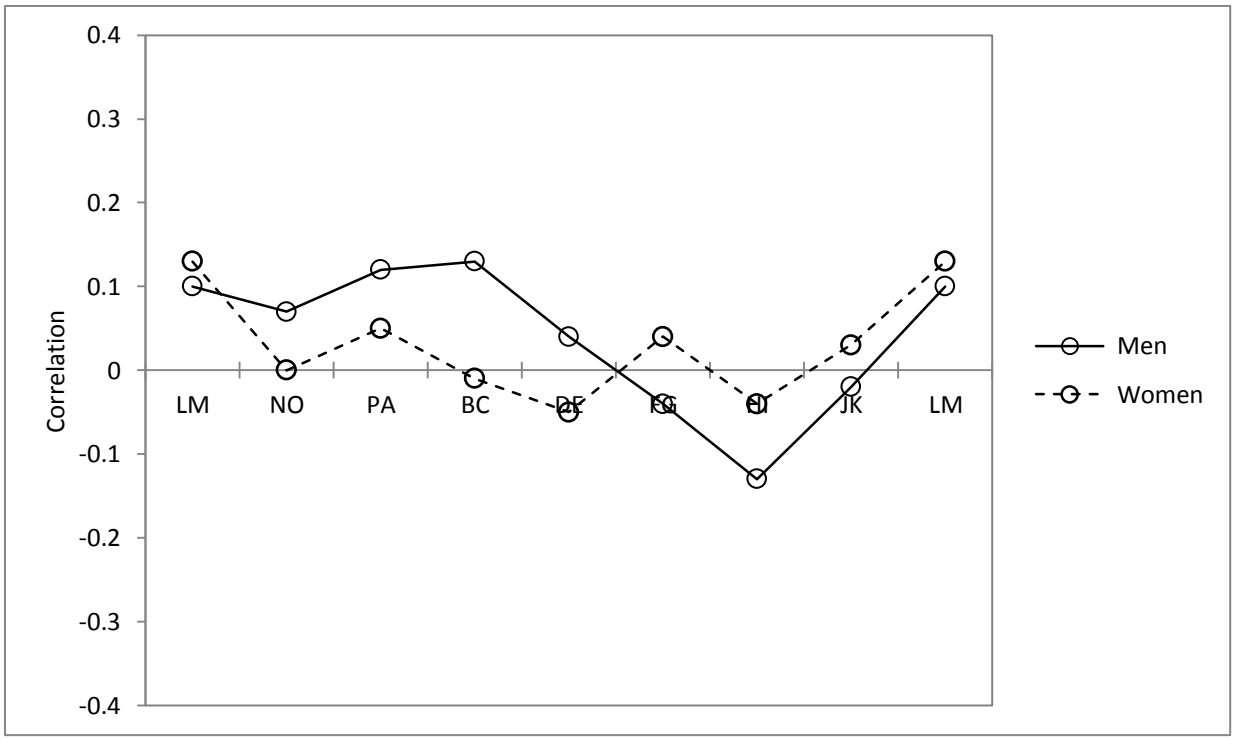
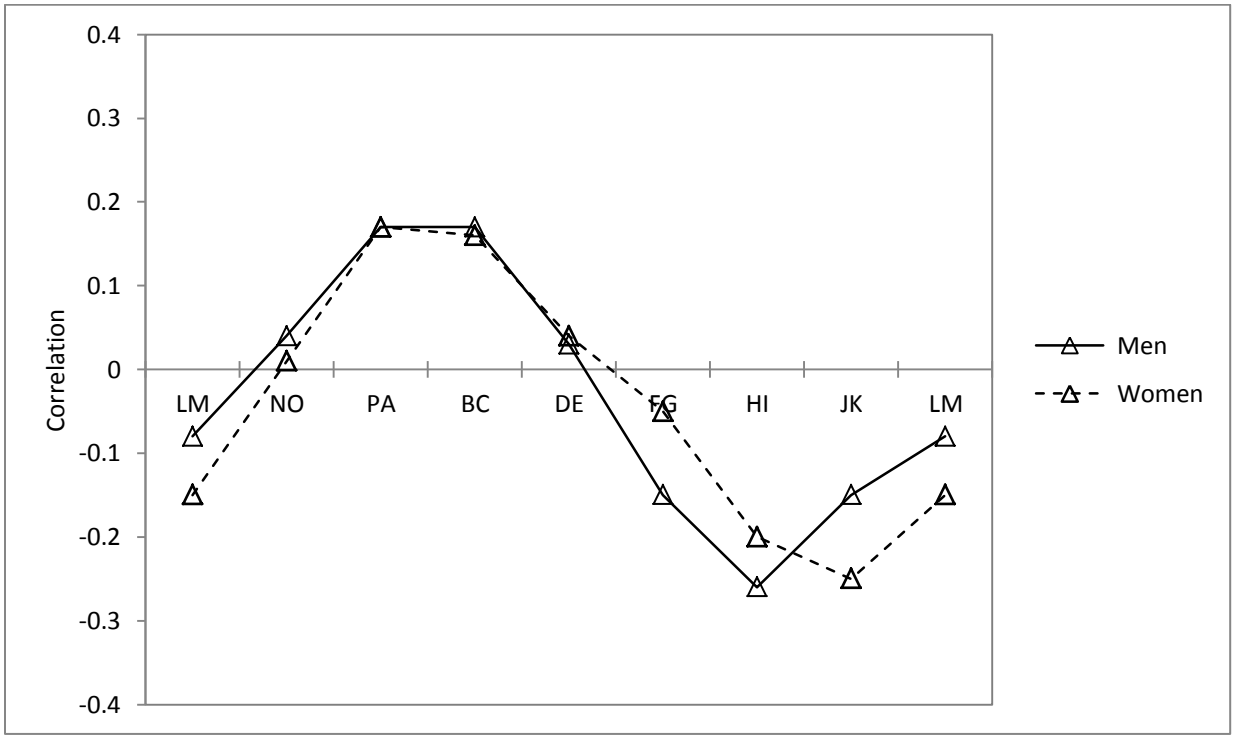


Figure 5. Interpersonal traits (IAS-R) and gender: Correlation profile plots for self-oriented perfectionism (Panel A), other-oriented perfectionism (Panel B), and socially prescribed perfectionism (Panel C) with the circumplex octant scores by gender. LM = warm–agreeable, NO = gregarious–extraverted, PA = assured–dominant, BC = arrogant–calculating, DE = cold-hearted, FG = aloof–introverted, HI = unassured–submissive, JK = unassuming–ingenuous.

Panel A: Self-Oriented Perfectionism



Panel B: Other-Oriented Perfectionism



Panel C: Socially Prescribed Perfectionism

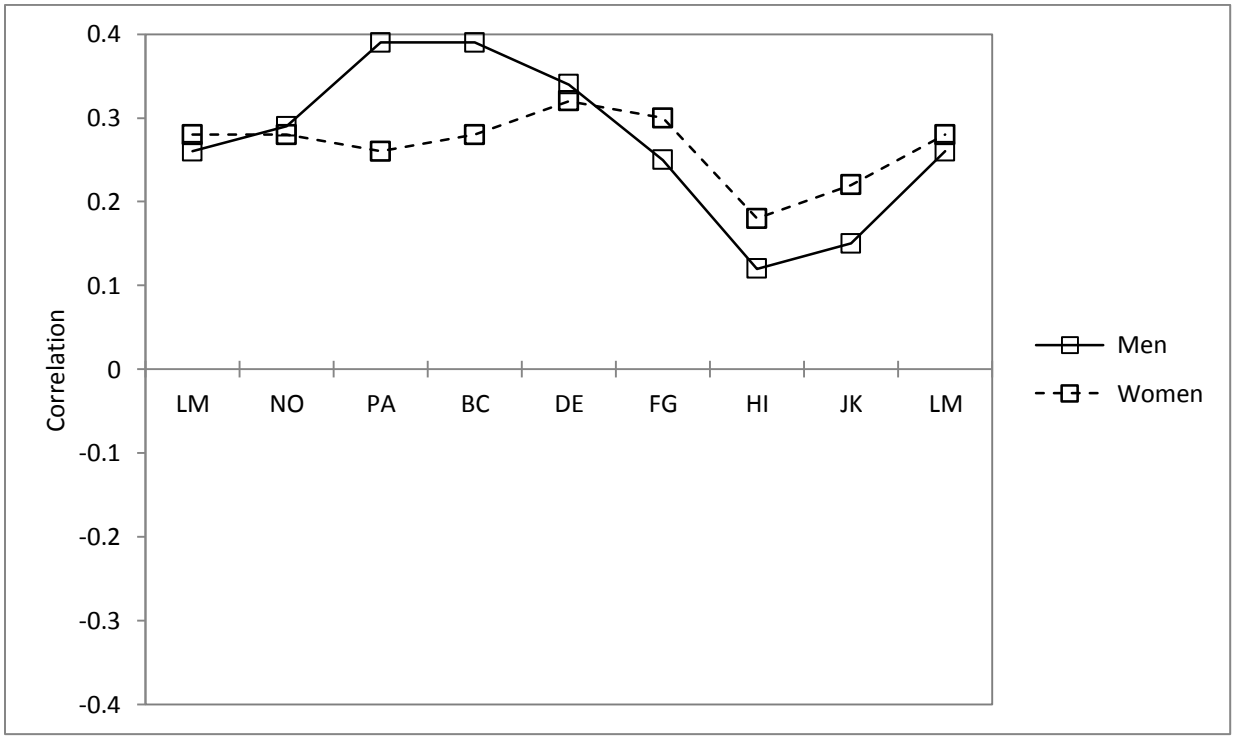
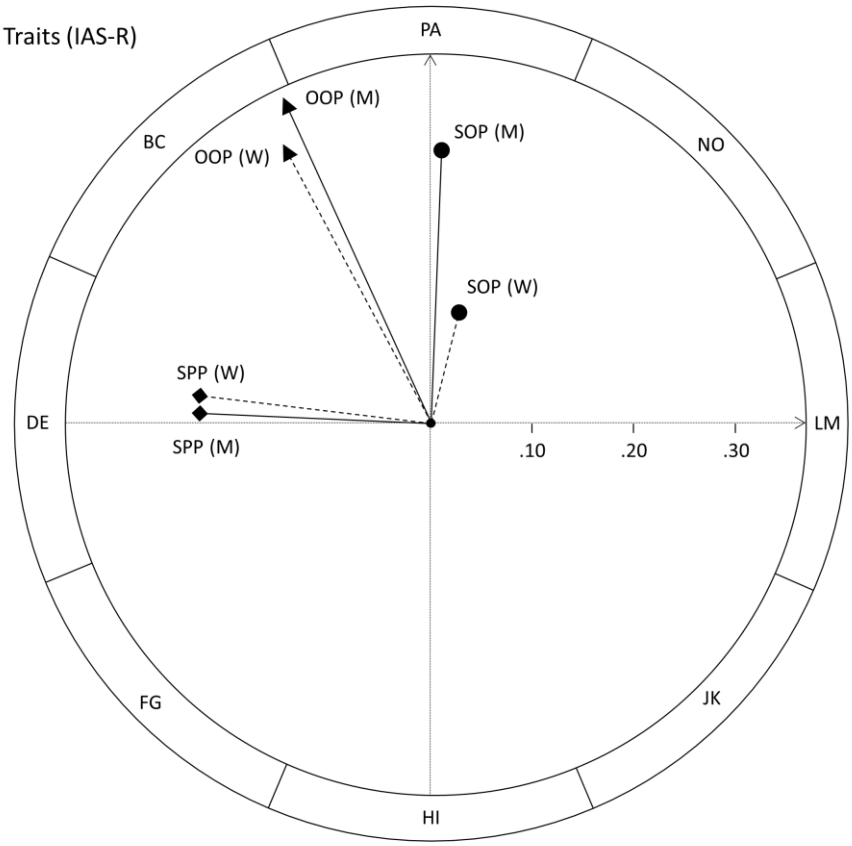


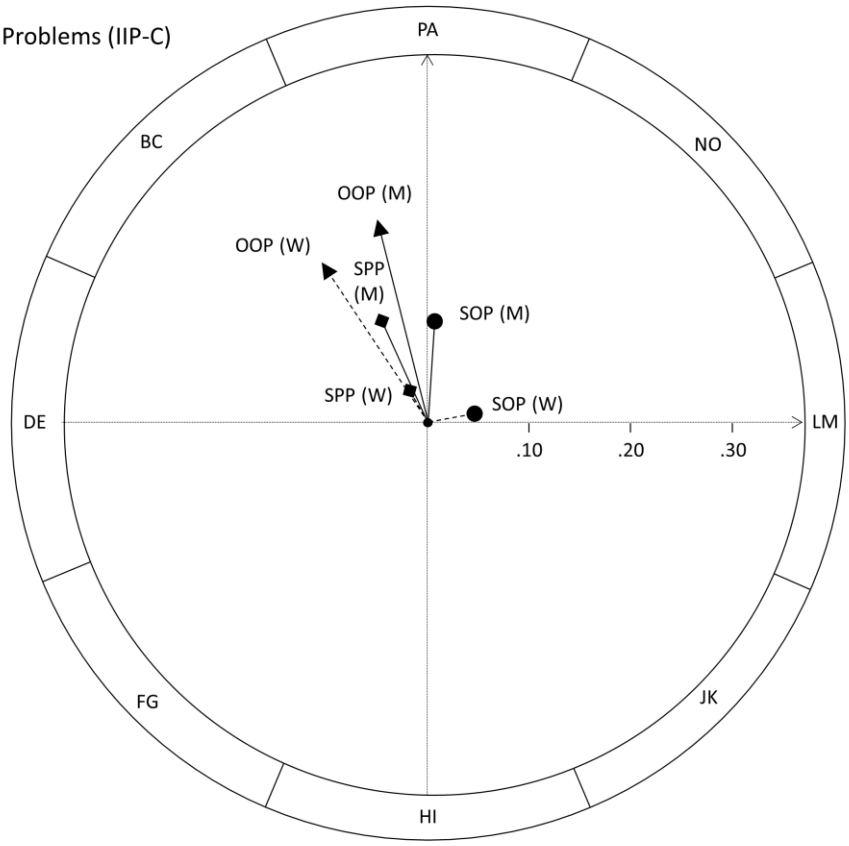
Figure 6. Interpersonal problems (IAS-R) and gender: Correlation profile plots for self-oriented perfectionism (Panel A), other-oriented perfectionism (Panel B), and socially prescribed perfectionism (Panel C) with the circumplex octant scores by gender. LM = overly nurturant, NO = intrusive, PA = domineering, BC = vindictive, DE = cold, FG = socially avoidant, HI = nonassertive, JK = exploitable.

Panel A:
Interpersonal Traits (IAS-R)



M = Men
W = Women

Panel B:
Interpersonal Problems (IIP-C)



M = Men
W = Women

Figure 7. Vector projections of self-oriented, other-oriented, and socially prescribed perfectionism in the interpersonal circumplex by gender (see Table 2). Panel A: Interpersonal traits (IAS-R) with LM = warm–agreeable, NO = gregarious–extraverted, PA = assured–dominant, BC = arrogant–calculating, DE = cold-hearted, FG = aloof–introverted, HI = unassured–submissive, JK = unassuming–ingenuous. Panel B: Interpersonal problems (IIP-C) with LM = overly nurturant, NO = intrusive, PA = domineering, BC = vindictive, DE = cold, FG = socially avoidant, HI = nonassertive, JK = exploitable.

Table A. Correlations and Descriptive Statistics (Including Correlations With Gender)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
Perfectionism[a]												
1. Self-oriented perfectionism (SOP)												
2. Other-oriented perfectionism (OOP)	.52***											
3. Socially prescribed perfectionism (SPP)	.53***	.36***										
Interpersonal traits (IAS-R)												
4. LM: Warm–agreeable	.10	–.14**	–.15**									
5. NO: Gregarious–extraverted	.15**	.07	–.13**	.58***								
6. PA: Assured–dominant	.26***	.37***	.07	.01	.44***							
7. BC: Arrogant–calculating	.08	.19***	.16**	–.32***	.00	.43***						
8. DE: Cold-hearted	–.07	.15**	.22***	–.68***	–.39***	.17***	.48***					
9. FG: Aloof–introverted	–.09	–.07	.17***	–.42***	–.74***	–.31***	.18***	.54***				
10. HI: Unassured–submissive	–.10*	–.28***	.03	.12*	–.36***	–.64***	–.22***	.04	.51***			
11. JK: Unassuming–ingenuous	–.14**	–.38***	–.19***	.34***	.00	–.39***	–.55***	–.20***	.12*	.57***		
Interpersonal problems (IIP-C)												
12. LM: Overly nurturant	.13*	–.12*	.28***	.30***	.03	–.23***	–.16**	–.11*	.07	.32***	.24***	
13. NO: Intrusive	.04	.02	.28***	.01	.04	.00	.15**	.17***	.05	.03	–.05	.58***
14. PA: Domineering	.08	.17***	.31***	–.24***	–.12*	–.21***	.31***	.40***	.21***	–.07	–.19***	.37***
15. BC: Vindictive	.06	.17***	.32***	–.36***	–.29***	.03	.27***	.50***	.38***	.08	–.16**	.23***
16. DE: Cold	.00	.03	.32***	–.28***	–.37***	–.12*	.14**	.41***	.46***	.23***	–.02	.32***
17. FG: Socially avoidant	.01	–.10*	.27***	–.14**	–.50***	–.43***	–.03	.22***	.61***	.52***	.14**	.48***
18. HI: Nonassertive	–.06	–.24***	.16**	.09	–.28***	–.56***	–.22***	–.03	.33***	.57***	.35***	.61***
19. JK: Exploitable	.03	–.21***	.19***	.20***	–.06	–.42***	–.17***	–.09	.17**	.47***	.32***	.78***
20. Gender (male = 1, female = 0)	–.11	.05	–.05	–.14**	–.06	.12*	.33***	.18**	.04	–.12*	–.23***	–.13**
M	4.47	3.66	3.52	5.87	4.75	4.34	3.42	2.39	3.65	4.07	4.13	1.27
SD	1.23	0.89	0.91	1.28	1.31	1.17	1.22	1.12	1.46	1.30	1.23	0.81
Cronbach's alpha	.94	.85	.86	.92	.88	.83	.85	.85	.88	.83	.79	.86

Note. $N = 391$ (195 men, 196 women). IAS-R = revised Interpersonal Adjective Scales, IIP-C = Inventory of Interpersonal Problems–Circumplex (Short Form).

[a]When sum scores were computed: SOP ($M = 67.04$, $SD = 18.52$), OOP ($M = 54.96$, $SD = 13.39$), SPP ($M = 52.87$, $SD = 13.70$); cf. Hill et al. (1997, Table 1). *$p < .05$, **$p < .01$, ***$p < .001$.

[Table A, continued]

Variable	13	14	15	16	17	18	19
Perfectionism[a]							
1. Self-oriented perfectionism							
2. Other-oriented perfectionism							
3. Socially prescribed perfectionism							
Interpersonal traits (IAS-R)							
4. LM: Warm–agreeable							
5. NO: Gregarious–extraverted							
6. PA: Assured–dominant							
7. BC: Arrogant–calculating							
8. DE: Cold-hearted							
9. FG: Aloof–introverted							
10. HI: Unassured–submissive							
11. JK: Unassuming–ingenuous							
Interpersonal problems (IIP-C)							
12. LM: Overly nurturant							
13. NO: Intrusive							
14. PA: Domineering	.68***						
15. BC: Vindictive	.54***	.73***					
16. DE: Cold	.43***	.57***	.76***				
17. FG: Socially avoidant	.31***	.33***	.47***	.64***			
18. HI: Nonassertive	.33***	.19***	.28***	.44***	.74***		
19. JK: Exploitable	.45***	.21***	.16**	.31***	.57***	.78***	
20. Gender (male = 1, female = 0)	–.01	.04	.06	.01	–.11*	–.22***	–.18***
M	0.77	0.66	0.88	1.11	1.55	1.64	1.28
SD	0.64	0.58	0.65	0.81	0.91	0.92	0.72
Cronbach's alpha	.78	.79	.79	.85	.88	.90	.81

[See previous page for table notes.]

*$p < .05$,**$p < .01$,***$p < .001$.

Table B. Moderated Regression Analyses Examining Gender × Perfectionism Interaction Effects

	Interpersonal traits (IAS-R)								Interpersonal problems (IIP-C)							
Model	LM	NO	PA	BC	DE	FG	HI	JK	LM	NO	PA	BC	DE	FG	HI	JK
Step 1: R^2	.03**	.03**	.09***	.12***	.03**	.01	.03**	.08***	.03**	.00	.01	.08	.00	.01	.06***	.03**
SOP	.08	.15**	.38***	.11*	–.05	–.09	–.12*	–.17***	.12*	.04	.09	.07	.00	.00	–.09	.01
Gender	–.13*	–.04	.15**	.34***	.17***	.03	–.13*	–.25***	–.12*	–.01	.05	.07	.01	–.11*	–.23***	–.18***
Step 2: ΔR^2	.00	.00	.01*	.01*	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
SOP × gender	.09	.09	.16*	.15*	.05	–.05	–.03	–.05	–.02	.06	.06	.11	.06	–.06	–.07	–.03
Step 1: R^2	.04***	.01	.15***	.14***	.05***	.01	.09***	.19***	.03**	.00	.03**	.03**	.00	.02*	.10***	.07***
OOP	–.14**	.07	.37***	.18***	.14**	–.07	–.28***	–.37***	–.12*	.02	.17***	.16**	.03	–.09	–.23***	–.20***
Gender	–.13*	–.07	.10*	.32***	.17***	.04	–.10*	–.21***	–.13*	–.02	.03	.05	.01	–.11*	–.21***	–.17***
Step 2: ΔR^2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OOP × gender	–.01	.07	.06	.01	.06	–.05	–.02	.04	.06	.02	.03	.04	.00	–.08	–.05	.07
Step 1: R^2	.04***	.02*	.02*	.14***	.08***	.03**	.01	.09***	.09***	.08***	.10***	.11***	.10***	.08***	.07***	.07***
SPP	–.16**	–.14**	.08	.17***	.23***	.18***	.02	–.20***	.27***	.28***	.32***	.33***	.32***	.27***	.15**	.18***
Gender	–.14**	–.07	.12*	.34***	.19***	.05	–.11*	–.24***	–.12*	.00	.05	.08	.03	–.10*	–.22***	–.17***
Step 2: ΔR^2	.00	.00	.00	.00	.01	.00	.00	.01	.00	.00	.02**	.02**	.00	.00	.00	.00
SPP × gender	–.01	–.03	.08	–.01	.12	.06	.01	.10	.00	.07	.16**	.16**	.09	.02	–.01	–.02

Note. N = 391 (195 men, 196 women). Gender (1 = male, 0 = female). For explanations of the abbreviations (IAS-R, IIP-C, LM to JK, SOP, OOP, SPP), see Table A. Significant gender × perfectionism interactions effects are highlighted.
*p < .05,**p < .01,***p < .001.