Behaviour Change

Positive and Negative Perfectionism and the Big Five Personality Factors

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Perfectionism has been argued to have both positive and negative aspects. Negative perfectionism has a robust positive correlation with psychopathology. This study explored the personality pattern of a group of clinical participants and a group of athletes in relation to positive and negative perfectionism. The results indicated negative perfectionism is related to neuroticism and agreeableness in both clinical and non-clinical groups. Negative perfectionism was most strongly associated with low agreeableness but had no significant relationship with conscientiousness or extraversion in the clinical sample. In the athlete sample, higher negative perfectionism was most strongly related to higher neuroticism but was also associated with lower extraversion and conscientiousness. In order to more fully understand these relationships and their clinical implications, more studies using validated measures of positive and negative perfectionism with larger samples are required. It would be useful to determine if personality factors of agreeableness and competence could be increased in order to ameliorate the distress associated with negative perfectionism.

■ *Keywords:* perfectionism, personality, neuroticism, agreeableness

Perfectionism has various definitions; however, multidimensional definitions of the construct include key aspects of striving for high personal standards and concern over mistakes (Bieling, Israeli, & Antony, 2004). The two most common measures are the Multidimensional Perfectionism Scales (MPS). The Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990) consists of six subscales: personal standards (PS), concern over mistakes (CM), doubts about actions (DA), parental expectations (PE), parental criticism (PC) and organisation (O). The Hewitt Multidimensional Perfectionism Scale (HMPS; Hewitt & Flett, 1991) has subscales of self-oriented perfectionism (SOP): striving for personal standards; socially-prescribed perfectionism (SPP): thinking others hold high standards for the individual; and other-oriented perfectionism (OOP): belief others should be perfect. Factor analyses have found a consistent two-factor structure: positive achievement striving (SOP, PS, O, OOP) and maladaptive evaluative concerns (CM, DA, PC, PE, SPP; e.g., Bieling et al., 2004). There have also been specific measures designed to capture these 'positive' and 'negative' aspects of perfectionism, including the Positive and Negative Perfectionism Scale (PANPS; Terry-Short, Owens, Slade, & Dewey, 1995). Positive achievement striving has been found to be correlated with positive outcomes in some studies (see Stoeber & Otto, 2006, for a review), while maladaptive evaluative concerns represents the negative aspects of perfectionism, which include concern over mistakes and believing others expect one to be perfect, and is related

robustly to negative outcomes and psychopathology (see Egan, Wade, & Shafran, 2011, for a review).

A number of studies have explored the relationship between perfectionism and personality, with most focusing on the Big Five model, representing five dimensions of normal personality: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness (Costa & McCrae, 1992). There have been some arguments that perfectionism is in itself a personality trait (e.g., Zuroff, 1994); others have argued that it is a process that consists of cognitive and behavioural elements (see Egan, Wade et al., 2011) and that negative aspects of perfectionism can be reduced through cognitive-behavioural treatment (Shafran, Egan, & Wade, 2010; Egan, Wade, Shafran, & Antony, 2014). This argument that perfectionism can be reduced through treatment lends support to the idea that perfectionism is not a personality trait per se.

It has been well established that perfectionism is correlated with neuroticism; for example, socially prescribed perfectionism is positively correlated with neuroticism (Cruce, Pashak, Handal, Munz, & Gfeller, 2012; Dunkley, Blankstein, & Flett, 1997). Furthermore, a number of studies have found that higher perfectionism is related to lower agreeableness (Dunkley et al., 1997; Dunkley, Sanislow, Grilo, & McGlashan, 2004; Zuroff, 1994) with only one study finding no relationship (Stumpf & Parker, 2000). Numerous studies have found conscientiousness is positively correlated with perfectionism, including personal standards on the FMPS (Cruce et al., 2012; Dunkley et al., 1997; Dunkley, Blankstein, Zuroff, Lecce, & Hui, 2006; Stumpf & Parker, 2000). Studies utilising the Dysfunctional Attitudes Scale (DAS; Weissman & Beck, 1978) to measure perfectionism, have found positive correlations between neuroticism and perfectionism and negative correlations between extraversion and perfectionism (Dunkley et al., 1997; Dunkley et al., 2004; Zuroff, 1994).

There is a paucity of literature, however, that has specifically considered positive and negative perfectionism in relation to personality. Stumpf and Parker (2000) argued that negative perfectionism was associated with neuroticism due to the positive correlation they found between neuroticism and CM and DA. They further argued that positive perfectionism was associated with conscientiousness, due to the positive correlation found with PS.

There are several problems, however, with interpreting the results of the relationship between positive and negative perfectionism and personality from the studies reviewed. The studies by Dunkley and colleagues (e.g., Dunkley et al., 1997; Dunkley et al., 2004) used the DAS as the measure of perfectionism, and while the DAS is thought to be primarily a measure of negative perfectionism, it is hard to interpret results in terms of negative and positive perfectionism, as the DAS was not designed to measure perfectionism or to distinguish types of perfectionism. While a number of studies have utilised the FMPS and HMPS to investigate personality, these measures are not specifically designed to make a distinction between positive and negative perfectionism, unlike specific measures such as the PANPS (Terry-Short et al., 1995).

It would be useful for research to consider which aspects of personality may be related specifically to positive and negative perfectionism. This is because it may help us to understand the differences between groups where striving for achievement is seen as a more healthy pursuit and positive trait, and those groups where it is associated with negative outcomes such as anxiety and depression. Further understanding these differences may help to inform treatment of perfectionism and prevention approaches aimed at identifying those at risk of negative outcomes due to perfectionism.

The aim of this research was to utilise a specific measure that distinguishes positive and negative perfectionism to examine personality in individuals high or low on positive and negative perfectionism. Athletes have been found to score lower on negative perfectionism than other groups (Terry-Short et al., 1995) and so may be hypothesised to differ from a clinical group on personality traits. Athletes who scored low on negative perfectionism and a group of persons seeking treatment for a psychological disorder who scored high on negative perfectionism were included as comparison groups. We expected a significant negative relationship between negative perfectionism and agreeableness and between negative perfectionism and extraversion in both groups, and a significant positive association between positive perfectionism and these facets in both athlete and clinical samples. As no research has examined differences in personality facets between athletes and a clinical group, between-group differences in personality were exploratory.

Method

Participants

There were 39 participants from two groups: 19 individuals with a diagnosis of an anxiety disorder and/or depression attending an outpatient clinic (85% females) with a mean age of 40.5 years ($SD = 6.6$), and 20 athletes (60% females) with a mean age of 40.4 years ($SD = 14.3$). Although there were more males in the athlete group than the clinical group, this difference was not significant, $\chi^2(1) = 2.82$, *ns*. The athletes were recruited from a mail-out to members of the Triathlon Association of Western Australia. The 111 respondents represented a response rate of 24%. After administering the PANPS to all participants, the 20 who obtained the lowest negative perfectionism score were selected for this study.

The clinical participants were recruited from the Psychology Clinic at Curtin University. The inclusion criteria were a DSM-IV (American Psychiatric Association, 1994) diagnosis of an anxiety or depressive disorder, and no suicidal ideation or a psychotic disorder. In most cases (68%), participants had two or more disorders. Common disorders included major depression (58%), obsessive compulsive disorder (42%), generalised anxiety disorder (37%), social phobia (32%), panic disorder with and without agoraphobia (11%), post-traumatic stress disorder (11%) and alcohol abuse (5%). Across the sample, the severity of depression was mild on the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), $M = 19.5$, $SD = 13.25$.

Measures

The Positive and Negative Perfectionism Scale (PANPS; Terry-Short et al., 1995). The PANPS is a 40-item self-report scale that was used to measure positive and negative perfectionism. It has good internal consistency in samples of athletes, ranging from .83 to .84 for positive perfectionism and .81 to .88 for negative perfectionism (Haase & Prapavessis, 2004; Haase, Prapavessis, & Owens 1999, 2002).

Structured Clinical Interview for DSM-IV Axis I Disorders and Personality Disorders (SCID-I/P, Version 2.0; First, Spitzer, Gibbon, & Williams, 1996; SCID-II, Version 2.0; First, Spitzer, Gibbon, Williams, & Lorna, 1994). The SCID I/P was used to determine the axis I DSM-IV (APA, 1994) diagnoses for the clinical participants and the SCID-II was used to determine their Axis II diagnoses. They are

widely used as a diagnostic measure and the SCID-I/P has moderate reliability, with a moderate test–retest reliability of .69, and a moderate interrater reliability of .68 (Zanarini et al., 2000).

Beck Depression Inventory — Second Edition (BDI-II; Beck et al., 1996). The 21-item BDI-II was used to assess depression in the clinical sample, and was not administered to the athlete sample. It has good internal consistency (alpha = .92) and test–retest reliability (.93; Beck et al.).

The NEO Personality Inventory-Revised (NEO-PI-R; Costa & McCrae, 1992). The NEO-PI-R is a 240-item measure of the five-factor model of normal personality consisting of: Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A) and Conscientiousness (C) and has excellent reliability and validity (Costa, McCrae, & Dye, 1991).

The Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). The BSI is a 53-item brief self-report symptom measure designed for clinical and non-clinical populations. The BSI was included in the study to ensure that the athlete sample was not suffering from significant psychological distress. The BSI has good reliability, with the overall scale having test–retest reliability of 0.90, and acceptable internal consistency (range = 0.71–0.85; Derogatis & Melisaratos, 1983).

Procedure

All participants completed an information and consent form and the research was approved by the Curtin University Ethics Committee. The athletes returned completed questionnaires via mail, and the clinical group returned questionnaires at the clinic.

Results

Between Group Comparisons of Positive Perfectionism, Negative Perfectionism, Psychological Distress and Personality

The mean scores on the GSI, perfectionism measure and NEO-PI-R domains for each group are shown in Table 1. Analysis of variance indicated no significant difference in positive perfectionism between the clinical and athlete group, $F(1, 37) = .0001$, $p = .98$. However, it can be seen from Table 1 that the clinical group had significantly higher negative perfectionism than athletes with a large effect size, $F(1, 37) = 127.74$, $p = .0001$, partial $\eta^2 = .77$. There was also a significant difference between Global Severity Index (GSI) t-scores, $F(1, 37) = 42.11$, $p = .0001$, partial $\eta^2 = .53$. Table 1 shows the clinical group had a mean GSI score in the clinical range, whereas the athletes were in a normal range. Consequently, it can be concluded that the clinical and athlete group were from different populations, in terms of negative perfectionism and psychological distress.

When comparing the mean scores on each of the NEO domain and facet scores, it can be seen that the clinical group had a higher degree of neuroticism than the athlete group, $F(1, 37) = 63.62$, $p = .0001$, partial $\eta^2 = .63$, and the athlete group had significantly higher scores on extraversion than the clinical group, $F(1, 37) = 14.27$, $p = .001$, partial $\eta^2 = .27$. The only other significant difference was in conscientiousness, where the athlete group had significantly higher conscientiousness than the clinical group, $F(1, 37) = 4.95$, $p = .03$, partial $\eta^2 = .11$. There were no significant group

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TABLE 1

Mean Scores (*SD*) and Range on PANPS, GSI and NEO-PI-R Domains

	Clinical group		Athlete group	
	Mean *SD*	Range	Mean *SD*	Range
Positive P	72.21 (10.21)		72.15 (8.88)	
Negative P	74.21 (12.01)		40.95 (5.25)	
Neuroticism	66.57 (11.72)	high	41.60 (7.46)	low
Extraversion	46.57 (10.84)	average	59.10 (9.85)	high
Openness	53.15 (8.42)	average	52.75 (12.58)	average
Agreeableness	47.89 (12.22)	average	50.10 (8.08)	average
Conscientiousness	45.10 (17.21)	average	55.35 (11.01)	high
GSI (t-score)	63.0 (10.12)	clinical range	45.2 (6.21)	normal range

Note: Openness = Openness to Experience.

TABLE 2

Correlations Between Age, Gender, Personality Domains, Positive Perfectionism and Negative Perfectionism in the Clinical and Athlete Groups

	N	E	O	A	C	Positive P	Negative P
Clinical							
Age	−.11	−.13	−.25	.36	.15	−.34	−.21
Gender	−.45*	−.05	−.23	.16	.29	−.26	−.21
Athlete							
Age	.19	−.01	−.12	.21	−.03	−.53*	−.36
Gender	.23	−.10	.10	−.04	−.06	−.37	.29

Note: N = Neuroticism; E = Extraversion; O = Openness to Experience; A = Agreeableness; C = Conscientiousness; Positive P = positive perfectionism; Negative P = negative perfectionism.
*$p < .05$

differences on openness to experience, $F(1, 37) = .01$, $p = .90$, partial $\eta^2 = .0001$, and agreeableness, $F(1, 37) = .44$, $p = .50$, partial $\eta^2 = .01$.

The athlete group showed a significantly higher level of achievement striving ($M = 56.46$, $SD = 12.75$) than the clinical group ($M = 46.94$, $SD = 13.32$), $F(1, 37) = 6.13$, $p = .02$, partial $\eta^2 = .14$. There was also a significant difference between groups found on the facet of competence, where the athletes had higher scores ($M = 53.80$, $SD = 9.75$) than the clinical group ($M = 44.84$, $SD = 16.90$), $F(1, 37) = 4.16$, $p = .01$, partial $\eta^2 = .10$. There were no significant differences found on the facet of order between athletes ($M = 54.20$, $SD = 13.88$) and the clinical group ($M = 50.10$, $SD = 18.39$), $F(1, 37) = .64$, $p = .42$.

Relationships Between Age, Gender, Personality Domains, and Positive and Negative Perfectionism

It can be seen in Table 2 that there was a significant correlation between gender and neuroticism in the clinical group, indicating that females in the clinical

TABLE 3

Correlations Between NEO-PI-R Domains, Positive Perfectionism and Negative Perfectionism in the Clinical and Athlete Groups

Clinical sample							
Measure	1	2	3	4	5	6	7
1. Positive P	—	.39*	.24	.10	.24	− .19	.19
2. Negative P		—	.44*	.08	.43*	− .59*	.13
3. Neuroticism			—	− .28	.28	− .40*	− .16
4. Extraversion				—	.24	.20	.20
5. Openness					—	− .34	− .41*
6. Agreeableness						—	.29
7. Conscientiousness							—
Athlete sample							
Measure	1	2	3	4	5	6	7
1. Positive P	—	.29	− .26	.16	− .03	− .23	.10
2. Negative P		—	.53*	− .45*	.08	− .41*	− .40*
3. Neuroticism			—	− .51*	− .03	− .24	− .63**
4. Extraversion				—	.50*	.09	.70**
5. Openness					—	− .03	.10
6. Agreeableness						—	.21
7. Conscientiousness							—

Note: *$p \le .05$, **$p < .01$ (1-tailed).

group had higher neuroticism than males. The only other significant correlation was a negative correlation between age and positive perfectionism in the athlete group. This indicated that younger age was related to higher positive perfectionism.

Correlations Between Personality, Positive Perfectionism and Negative Perfectionism

The results of bivariate correlations between the five personality domains, positive perfectionism and negative perfectionism for both groups can be seen in Table 3. For the clinical group, positive perfectionism had no significant relationship with any of the personality domains. In contrast, a significant negative correlation was found between negative perfectionism and agreeableness, indicating that lower agreeableness is related to higher negative perfectionism. There were also significant positive correlations between negative perfectionism and neuroticism and openness to experience.

There were also several significant associations found between the variables in the athlete group, although as with the clinical group, there were no significant associations between positive perfectionism and the five personality domains. For negative perfectionism, there was a significant positive correlation with neuroticism. Furthermore, significant negative correlations were found

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between negative perfectionism and the domains of extraversion, agreeableness, and conscientiousness.

Discussion

The majority of our predictions regarding relationships between negative perfectionism and personality were supported. As expected, higher negative perfectionism was associated with higher neuroticism and lower agreeableness in both the athlete and clinical groups. Our prediction that negative perfectionism would be negatively correlated with extraversion was supported in the athlete group only. We also found that higher negative perfectionism in the athletes was associated with lower conscientiousness. None of our predictions concerning positive perfectionism and personality were supported. The major finding of this study is that negative perfectionism is associated with distinct personality profiles that appear to differ between clinical versus non-clinical populations. In addition, the results of this study suggest that out of the two subtypes of perfectionism (positive and negative), negative perfectionism may be the more important variable to investigate, given its strong association with different aspects of personality.

This study confirmed the well-established pattern of higher neuroticism and lower extraversion in clinical compared to non-clinical populations (Costa & McCrae, 1992). Between-group differences are, however, of more interest. Athletes scored significantly higher on conscientiousness than the clinical group, specifically on the facets of achievement-striving, competence and order. These results fit with descriptions of athletes as being high in positive achievement striving (Gould, Dieffenbach, & Moffett, 2002). While we did not find a significant relationship between positive perfectionism and conscientiousness, in contrast to previous studies using PS (Stumpf & Parker, 2000) and self-oriented perfectionism (Hill, McIntire, & Bacharach, 1997), it is likely that the measure of positive perfectionism was insufficient to detect between-group differences. Although the positive perfectionism subscale has been found to have good internal consistency, there are some mixed findings regarding validity (see Egan, Piek, Dyck, & Kane, 2011). Further work comparing the positive perfectionism subscale to measures of achievement-striving would be valuable, as some authors have argued this is the critical aspect that distinguishes negative from positive perfectionism and that the literature should be using the term *positive achievement striving* rather than *positive perfectionism* (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993).

It was also interesting to note that competence was higher in athletes. This result is not surprising as competence measures feelings of being capable and effective (Costa & McCrae, 1992) and is related to self-esteem (Costa et al., 1991), and the clinical group would be expected to be lower on self-esteem. One explanation of the differences in competence scores is that individuals high in negative perfectionism avoid starting tasks due to thinking they may not be able to achieve their high standard. This fits with Shafran, Cooper, and Fairburn's (2002) explanation of avoidance as a key maintaining factor of clinical perfectionism. This suggests that cognitions regarding competence may be a particularly important aspect to target in treatments for people high in negative perfectionism.

The finding that negative perfectionism was associated with neuroticism in both samples is consistent with extensive evidence linking this personality trait with psychopathology (Costa & McCrae, 1992). It could be argued that the present findings simply reflect the difference between clinical and non-clinical groups, with clinical

groups being high on neuroticism and low on extraversion, rather than reflecting differences in high and low negative perfectionism. However, this argument is unlikely because, although neuroticism was highly correlated with agreeableness, the association between negative perfectionism and agreeableness was stronger in both samples. This suggests that negative perfectionism may account for relationships with other personality factors beyond neuroticism. Future studies could test the unique contribution of negative perfectionism in predicting psychological distress and personality variables such as agreeableness and conscientiousness. Further research could also include only a clinical group and select from within this group individuals who score high and low on negative perfectionism. This would make it easier to determine the nature of relationships between personality and negative perfectionism without the confound of a clinical versus non-clinical group.

The other significant relationship between Big Five personality factors and negative perfectionism in both groups was that higher negative perfectionism was related to lower agreeableness. Individuals who score low on agreeableness are described as egocentric, antagonistic, tough-minded, low in altruism, and competitive rather than cooperative (Costa & McCrae, 1992). One explanation of the results is that agreeableness may be an indicator of complexity of psychopathology. This is based on research showing significantly lower agreeableness in individuals with a diagnosis of a personality disorder (Saulsman & Page, 2004; Saulsman, Page, & Egan, 2003). Furthermore, recent research has found that low agreeableness is related to perfectionism and relationship distress in couples (Egan, Vinciguerra, & Mazzucchelli, 2015). One hypothesis to explain our results is that when negative perfectionism is high, individuals are likely to create interpersonal difficulties due to their rigidity about completing tasks perfectly. For example, others may react with frustration to a negative perfectionist being rigid about needing a task to be performed well, which increases interpersonal difficulties. Future research may examine if negative perfectionism is a common factor in personality dysfunction.

There are several limitations of the study. First, it was correlational; therefore, no conclusions can be made regarding the causal nature of relationships between perfectionism and personality. Second, the sample size was small; while it was sufficient to examine between group differences with the statistical methods used, the study was underpowered and significant differences may not have been detected due to this. Finally, while the PANPS has shown good reliability and validity of the negative perfectionism subscale, the current findings add support to the idea that the positive perfectionism subscale may have questionable validity (Egan, Piek et al., 2011). Hence the measure of perfectionism used may not have been ideal in determining the differences in personality between groups that were of interest.

In summary, despite having similar levels of positive perfectionism, athletes had higher conscientiousness, achievement striving, competence and order. Personality differences between groups were best explained by differences in scores on negative as opposed to positive perfectionism. In our clinical sample, negative perfectionism was most strongly associated with low agreeableness while in athletes, negative perfectionism was most strongly related to neuroticism but also associated with extraversion and conscientiousness. Future research should determine if targeting personality factors such as increasing agreeableness or competence in clinical groups with elevated perfectionism may be useful in reducing the negative impact of perfectionism and associated psychopathology.

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