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Hill, Andrew P. ORCID:

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5 A comparative examination of the correlates of self-oriented perfectionism and
6 conscientious achievement striving in male cricket academy players.

7
8 Andrew P. Hill¹, Howard K. Hall¹, & Paul R. Appleton²

9 ¹York St. John University, UK

10 ²University of Birmingham, UK

11
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14
15 Andrew P. Hill

16 Faculty of Health and Life Sciences

17 York St. John University

18 Lord Mayor's Walk

19 York, YO31 7EX

20 UK

21 e-mail:a.hill1@yorks.ac.uk

22 Tel: 01904-876707

1 Abstract

2 *Objectives:* Recent research suggests that self-oriented perfectionism may be similar
3 to conscientious achievement striving. Flett and Hewitt (2006) have argued, however,
4 that despite some similarities, there are also critical theoretical differences. The
5 purpose of the current investigation was to examine differences between self-oriented
6 perfectionism and conscientious achievement striving in terms of their relationship
7 with core dimensions of perfectionism.

8 *Method:* A sample comprising 255 male cricket players (age $M = 15.51$ $SD = 1.63$)
9 from British county cricket academies completed measures of self-oriented
10 perfectionism, conscientious achievement striving and various other dimensions of
11 perfectionism (e.g., high standards, perfectionistic striving, self-criticism, and fear of
12 failure).

13 *Results:* Analyses indicated that self-oriented perfectionism and conscientious
14 achievement striving shared an association with high standards and perfectionistic
15 striving. However, self-oriented perfectionism was also positively related to concern
16 over mistakes, a fear of failure and negative reactions to imperfection. Further, the
17 relationship between self-oriented perfectionism and both high standards and
18 perfectionistic striving remained significant after controlling for conscientious
19 achievement striving.

20 *Conclusion:* The findings suggest that these two achievement related personality
21 factors are distinct and are likely to have divergent consequences for junior athletes.

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1 A comparative examination of the correlates of self-oriented perfectionism and
2 conscientious achievement striving in male cricket academy players.

3 Few athletes are equipped to cope with the intense physical and psychological
4 demands associated with striving for elite status. For the majority of athletes, this
5 process is characterised by intense investment, frustration and personal failure. Based
6 upon research examining the characteristics of world class performers, some sport
7 psychologists have suggested that perfectionism may be a hallmark quality of elite
8 athletes (Anshel & Eom, 2002; Dunn, Causgrove Dunn, & Syrotuik, 2002; Hardy
9 Jones, & Gould, 1996). However, Flett and Hewitt (2005) have argued that despite the
10 necessity for perfect performance in some sports, performance and psychological
11 difficulties are likely to be experienced by those characterised by high levels of
12 perfectionism. Consequently, because the motivational influence of perfectionism
13 may have widely differing consequences (see Hall, 2006), it remains unclear if
14 perfectionism is a characteristic that should be actively encouraged in sports
15 performers or whether it should be effectively managed in order to avoid any
16 potentially deleterious effects (Flett & Hewitt, 2005; Hall, 2006).

17 One of the reasons why it is unclear whether perfectionism is likely to foster
18 or undermine athletic development is because there is currently no agreed definition
19 of perfectionism (Hall, 2006). It is generally accepted, however, that perfectionism is
20 a broad multidimensional personality characteristic and that it energises the pursuit of
21 exceedingly high standards (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt &
22 Flett, 1991). Early theorists considered perfectionism to be a largely undesirable and
23 debilitating quality that contributes to numerous psychological difficulties because
24 goal pursuit is underpinned by irrational beliefs and accompanied by harsh self-
25 critical appraisal (Burns, 1980; Hollander, 1965; Pacht, 1984). However, following

1 the development and validation of numerous multidimensional measures, it has been
2 argued that some dimensions of perfectionism may have predominately adaptive
3 effects (e.g., Hill et al., 2004; Slaney, Rice, Mobley, Trippi, & Ashby, 1998; Stöber,
4 Otto, & Stoll, 2004; Terry-Short, Owens, Slade, & Dewey, 1995). These include
5 dimensions indicative of the total commitment to exceptionally high standards that is
6 considered essential for sporting success (Weinberg, Burton, Yukelson, & Weigand,
7 2000).

8 Those that support the distinction between positive and negative dimensions of
9 perfectionism claim that specific features of perfectionism such as the setting of high
10 personal standards, or the act of striving for perfection, will lead to positive
11 consequences, especially when they are considered independently from other negative
12 dimensions of the construct (e.g., Haase & Prapavessis, 2004; Slade & Owens, 1998).
13 These assertions have gained consistent support (see Stoeber & Otto, 2006, for a
14 review). However, a number of researchers have questioned whether when
15 conceptualised in this manner perfectionism is likely to reflect patterns of cognition,
16 affect and behaviour beyond those associated with adaptive achievement motivation
17 (Flett & Hewitt, 2006; Greenspon, 2000; Hall, 2006). Hall (2006), in particular, has
18 argued that exceedingly high personal standards may be necessary, but alone
19 insufficient, to adequately define perfectionism. Others have further argued that by
20 failing to differentiate between the broader defining characteristics of perfectionism
21 and more restrictive qualities that simply reflect a commitment to exceedingly high
22 standards, the term perfectionism may be incorrectly equated with socially desirable
23 patterns of behaviour such as striving for excellence (Flett & Hewitt, 2006;
24 Greenspon, 2000).

1 Flett and Hewitt (2002, 2006, 2007) have argued that because a core
2 characteristic of self-oriented perfectionism is the pursuit of exceedingly high
3 personal standards, it is often mislabeled as a dimension of positive perfectionism.
4 Flett and Hewitt do not define self-oriented perfectionism as adaptive achievement
5 striving, but suggest that it is characterised by compulsive striving for perfection and
6 self-improvement and the tendency to respond to substandard performance with self-
7 criticism. Moreover, although the endorsement of perfectionistic standards carries the
8 potential for high levels of achievement behaviour, it also corresponds with the
9 experience of psychological difficulties. In accord, Flett, Hewitt and colleagues (e.g.,
10 Besser, Flett, & Hewitt, 2004; Flett, Besser, Davis, & Hewitt, 2003) have found
11 evidence that suggests that while this dimension of perfectionism may energise
12 achievement striving and may contribute to positive outcomes, it will eventually lead
13 to distress, psychological maladjustment and motivational deficits. Recently,
14 however, research aimed at classifying perfectionism dimensions using factor
15 analytical strategies has challenged arguments made by Flett and Hewitt. The findings
16 of this research suggest that because self-oriented perfectionism has been found to be
17 associated with many predominantly adaptive qualities, it may be better considered a
18 component of adaptive achievement striving (e.g., Bieling, Israeli, & Antony 2004;
19 Enns, Cox, & Clara, 2002; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Slade &
20 Owens, 1998).

21 Some of those who have suggested that self-oriented perfectionism represents
22 an adaptive dimension of striving have emphasised the similarities between the
23 pursuit of high personal standards associated with this dimension of perfectionism and
24 conscientiousness (see Hill, McIntire, & Bacharach, 1997; Cox, Enns, & Clara, 2002;
25 Slade & Owens, 1998). The findings of research which has examined the relationship

1 between self-oriented perfectionism and conscientiousness suggest that the two
2 constructs are typically moderately to highly positively correlated, particularly the
3 achievement striving facet of conscientiousness (see Dunkley, Blankstein, Zuroff,
4 Lecce, & Hui, 2006; Dunkley & Kyparissis, 2008; Cox et al., 2002; Enns, Cox,
5 Sareen, & Freeman, 2001; Flett, Russo, & Hewitt, 1994; Hill, et al. 1997; Rice,
6 Ashby, & Slaney, 2007). Stoeber, Otto and Dalbert (2009) have also recently found
7 that conscientiousness predicts an increase in self-oriented perfectionism over time.
8 However, according to Flett and Hewitt (2002, 2006) self-oriented perfectionism
9 entails a characteristically more extreme form of striving that is underpinned by a
10 complex set of achievement related beliefs and a combination of goals not associated
11 with conscientiousness. These include simultaneous approach and avoidance
12 tendencies (see Kaye, Conroy, & Fifer, 2008; Speirs Neumeister & Finch, 2006; Van
13 Yperen, 2006) and both intrinsic and extrinsic forms of motivational regulation (see
14 Mills & Blankstein, 2000; Miquelon, Vallerand, Grouzet, & Cardinal, 2005).
15 Furthermore, because perceived achievement is necessary for feelings of acceptance
16 in those with higher levels of self-oriented perfectionism, this characteristic is
17 associated with a vulnerability to distress in the absence of positive achievement
18 experiences (see Flett, et al. 2003; Hill, Hall, Appleton, & Kozub, 2008). This pattern
19 is not typically associated with conscientiousness. Consequently, the forms of
20 achievement striving associated with self-oriented perfectionism and
21 conscientiousness ought to be considered as distinct (Flett & Hewitt, 2002, 2006,
22 2007).

23 Flett and Hewitt (2006) have argued that a comparative analysis of
24 conscientiousness and self-oriented perfectionism would provide much needed insight
25 into the conceptual and empirical differences between the achievement striving

1 associated with these two personality dispositions. Such a comparison may also
2 provide insight into the likely consequences of perfectionism for athletes. Therefore,
3 the purpose of the current study is to compare the relationship between self-oriented
4 perfectionism, conscientious achievement striving and a number of typically assessed
5 dimensions of perfectionism in elite junior athletes. Consistent with previous research,
6 it is hypothesised that self-oriented perfectionism and conscientious achievement
7 striving would demonstrate a large positive association. Furthermore, based on the
8 arguments of Flett and Hewitt it is hypothesised that the two constructs would display
9 a divergent relationship with core qualities of perfectionism. That is, conscientious
10 achievement striving will be associated with the setting of high standards and
11 perfectionistic striving but will not be associated with the more negative features of
12 perfectionism such as fear of failure, concern over mistakes, doubts about action, self-
13 criticism, and negative reactions to imperfection. In contrast, self-oriented
14 perfectionism will be associated with both adaptive and maladaptive dimensions of
15 perfectionism and confirm the views of Flett and Hewitt that self-oriented
16 perfectionism is a dimension of overstriving that goes beyond conscientious
17 achievement striving. Finally, as there is sufficient theoretical and empirical evidence
18 to suggest that self-oriented perfectionism entails more than an endorsement of the
19 high aspirations, diligence and desire for success associated with conscientiousness
20 (see Flett & Hewitt, 2006), it is hypothesised that self-oriented perfectionism will
21 retain its relationship with personal standards and perfectionistic striving when its
22 association with conscientious achievement striving is statistically controlled.

23 Method

24 *Participants*

1 A sample comprising 255 male junior cricketers (age $M = 15.51$ years, $SD =$
2 1.63 , range 13-20) was recruited from a number of British county cricket academies.
3 Immediately following a preseason training session, athletes completed a multi-
4 section questionnaire that included the instruments described below. Informed consent
5 was gained from each participant or parent/guardian when appropriate. The athletes
6 reported that they had been affiliated with the cricket academy for an average of 4.13
7 years ($SD = 2.31$) and had trained for an average of 6.75 hours per week ($SD = 5.65$).
8 They also indicated that in comparison to other activities in their lives, their
9 participation in cricket was considered very important ($M = 8.05$, $SD = 1.05$ on a
10 nine-point Likert scale 1 = *not at all Important* to 9 = *extremely important*).

11 *Instruments*

12 *Self-oriented perfectionism.* Self-oriented perfectionism was assessed using
13 Hewitt and Flett's (1991) Multidimensional Perfectionism Scale (HMPS). The stem
14 of the instrument was adapted to focus the athletes on their participation in sport
15 ("Listed below are a number of statements concerning the way some people feel about
16 their participation when they are practicing or playing their sport."). Responses to the
17 Self-Oriented Perfectionism subscale reflect self-directed perfectionistic cognition and
18 behaviours such as the pursuit of exceedingly high standards and stringent self-
19 evaluation (e.g. "I must always be successful in activities that are important to me." "I
20 demand nothing less than perfection of myself."). The subscale has 15-items and
21 responses are measured on a seven-point Likert scale (1 = *strongly disagree* to 7 =
22 *strongly agree*). The findings of research which has examined the psychometric
23 properties of the subscale have supported the validity and reliability of measure ($\alpha =$
24 $.89$ and test-retest reliability $r = .88$; Hewitt & Flett, 1991, 2004).

1 Campbell and Di Paula (2002) have argued that self-oriented perfectionism
2 may be subdivided into motivational and evaluative facets. To facilitate examination
3 of the separate influence of each of these components, two discrete composite scores
4 were calculated from the H-MPS based on Campbell and Di Paula's suggestions.
5 Perfectionistic Striving (SOP-PS) and the Importance of Being Perfect (SOP-IBP)
6 each comprise 5-items (SOP-PS "I strive to be as perfect as I can be."; SOP-IBP "It is
7 very important that I am perfect in everything I attempt."). In previous research, these
8 subscales have demonstrated acceptable levels of internal consistency in athlete
9 samples (SOP-PS $\alpha = .78$ and SOP-IBP $\alpha = .87$; Stoeber, Kempe, & Keogh, 2008;
10 Van Yperen, 2006).

11 *Conscientious achievement striving.* Conscientious achievement striving was
12 assessed using the Achievement Striving subscale (C-AS) of Costa and McCrae's
13 (1992) Revised NEO Personality Inventory (NEO-PI-R). This subscale reflects high
14 aspirations, diligence and a desire for success (e.g. "I strive to achieve all I can." "I
15 strive for excellence in everything I do."). Of the conscientiousness subscales on the
16 NEO-PI-R this scale was considered to be the closest measure of the positive
17 achievement behaviours associated with self-oriented perfectionism (see Stoeber &
18 Kersting, 2007). The subscale contains 8-items and is scored on a five-point Likert
19 scale (1 = *strongly disagree* to 5 = *strongly agree*). Findings from research that has
20 examined the psychometric properties of this subscale supports both the validity and
21 reliability of the measure ($\alpha = .67$; Costa & McCrae, 1992).

22 *Multidimensional perfectionism.* Three subscales from Frost et al.'s (1990)
23 Multidimensional Perfectionism Scale (FMPS) were used to assess three core
24 dimensions of perfectionism. The Pursuit of High Personal Standards (PS) subscale
25 reflects the setting of exceedingly high standards and their importance for self

1 evaluation (“It is important to me that I be thoroughly competent in everything I do.”
2 “I set higher goals than most people.” 7-items). The Concern Over Mistakes (CM)
3 subscale reflects negative reactions to mistakes, a tendency to interpret mistakes as
4 failure, and the belief that others will withdraw respect following failure (“People will
5 probably think less of me if I make a mistake.” “The fewer mistakes I make, the more
6 people will like me.” 9-items). The Doubts About Actions (DA) subscale reflects a
7 vague sense of doubt about the ability to fulfil the requirements of tasks completely
8 (“Even when I do something very carefully, I often feel that it is not quite right.” “It
9 takes me a long time to do something ‘right’.” 4-items). Three other subscales that
10 measure the need for organisation, parental criticism and parental expectations were
11 excluded from this investigation because questions remain regarding whether these
12 dimensions capture the central features of the perfectionism construct (see Stoeber &
13 Otto, 2006). Participants were instructed to focus on their participation in sport and
14 they responded to the items on a five-point Likert scale (1 = *strongly disagree* to 5 =
15 *strongly agree*). Initial examination of the psychometric properties of these subscales
16 support their validity and reliability (PS $\alpha = .83$, CM $\alpha = .88$, and DA $\alpha = .77$; Frost et
17 al., 1990).

18 *Multidimensional inventory for perfectionism for sport.* Two further measures
19 of perfectionism were assessed using the Multidimensional Inventory of
20 Perfectionism in Sport (MIPS; Stöber et al., 2004). The instrument contains two
21 subscales; Striving for Perfectionism (SP) and Negative Reactions to Imperfection
22 (NRI). The Striving for Perfection subscale differs conceptually from the Personal
23 Standards subscale of Frost et al. (1990) in that athletes responses reflect the pursuit
24 of perfection rather than the pursuit of high standards (“I strive to be as perfect as
25 possible.”). Similarly, the response to the Negative Reactions to Imperfection subscale

1 reflect reactions to falling short of perfectionistic standards rather than reactions to
2 mistake's per se ("I feel extremely stressed if everything does not go perfectly.").
3 Participants respond to 5-items for each subscale on a five-point Likert scale (1 =
4 *never* to 5 = *always*). Participants were asked to focus their response on how they feel
5 during competition. Previous research findings indicate that the two subscales are
6 internally consistent in athlete samples (SP $\alpha = .90$, NRI $\alpha = .84$; Stoeber, Otto,
7 Pescheck, Becker, & Stoll, 2007).

8 *Fear of failure.* Fear of failure was included as it is considered a central
9 regulatory feature of perfectionism (Blatt, 1995). To measure fear of failure Conroy,
10 Willow and Metzler's (2002) short version of the Performance Failure Appraisal
11 Inventory was used. The scale is a measure of cognitive appraisals associated with
12 the fear of failure ("When I am failing I am afraid that I might not have enough
13 talent."). The scale contains 5-items to which participants respond on a 5-point Likert
14 scale (1 = *do not believe at all* to 5 = *believe 100% of the time*). Initial examination of
15 the psychometric properties of the scale supports the reliability and validity of scales
16 ($\alpha = .72$; Conroy et al., 2002). The short-form of the scale is also highly correlated
17 with the long-form supporting the concurrent validity of the scale ($r = .92$; Conroy et
18 al., 2002).

19 *Self-criticism.* A measure of self-criticism was included as it is considered a
20 central feature of self-critical, and motivationally debilitating, dimensions of
21 perfectionism (Dunkley, Zuroff, & Blankstein, 2006). Self-criticism was assessed
22 using the Self-Citicism subscale of the Attitudes Toward Self Scale (ATS; Carver &
23 Ganellen, 1983). Responses to this subscale reflect an intolerance of a discrepancy
24 between attainment and desired standards and the tendency to engage in self-criticism
25 in response (4-items) ("I get unhappy with anything less than what I expected of

1 myself.” “I get angry with myself if my efforts don’t lead to the results I wanted.”).

2 The subscale has 4-items to which participants respond on a five-point Likert scale (1

3 = *strongly disagree* to 5 = *strongly agree*).). Initial examination of the psychometric

4 properties of the subscale supported its validity and reliability ($\alpha = .65$; Carver &

5 Ganellen, 1983).

6 Results

7 *Preliminary analysis*

8 Participants were removed who did not respond to all the items in the

9 instrument ($n = 39$). The data were then screened for univariate outliers using the

10 protocol described by Tabachnick and Fidell (2007). Standardised z-scores were

11 inspected and those larger than 3.29 ($p < .001$, two-tailed) were considered to be

12 univariate outliers and removed. This procedure led to the removal of 3 participants.

13 The remaining data ($n = 213$) were deemed to be approximately univariate normal

14 (absolute skewness $M = .34$, $SD = 0.23$, $SE = .17$, absolute kurtosis $M = 0.24$, $SD =$

15 0.60 , $SE = .33$). Internal reliability analyses were conducted on each scale

16 (Cronbach’s α) (Table 1). A criterion of .60 was used to determine sufficient internal

17 consistency with scales less than 5 items and .70 for subscales with more items

18 (Loewenthal, 2001). Although the internal reliability of the conscientious achievement

19 striving scale was below .70, this scale has 8 items and the level of internal

20 consistency demonstrated in the current investigation is consistent with its initial

21 validation. Therefore, the internal reliability of this scale was considered acceptable.

22 *Descriptive Analyses*

23 Table 1 displays the descriptive statistics for all the measured variables.

24 Participants reported moderate to high levels of self-oriented perfectionism. Moderate

25 levels of conscientious achievement striving and other dimensions of perfectionism

1 were also generally reported. The sample tended to report higher levels of the
2 personal standards and striving dimensions of perfectionism (e.g., personal standards,
3 perfectionistic striving) than the maladaptive dimensions (e.g., concern over mistakes,
4 fear of failure, negative reactions to imperfection). The descriptive statistics are
5 generally comparable to those reported elsewhere in similar samples (e.g., Hill et al.,
6 2008; Stoeber, Stoll, Pescheck, & Otto, 2008; McArdle & Duda, 2004).

7 *Zero-order and semi-partial correlation coefficients*

8 The aim of this investigation was to examine the differences between self-
9 oriented perfectionism and conscientious achievement striving in terms of their
10 relationship with core dimensions of perfectionism. To do so, it was first necessary to
11 examine the degree of association between self-oriented perfectionism and
12 conscientious achievement striving. Second, it was necessary to examine the
13 association between self-oriented perfectionism, conscientious achievement striving
14 and core components of perfectionism that are typically considered adaptive and
15 maladaptive dimensions of the construct. In order to examine these relationships a
16 series of zero-order and semi-partial correlational analyses were undertaken. Table 2
17 displays the zero-order and semi-partial correlation coefficients between dimensions
18 of perfectionism and conscientious achievement striving. Zero-order correlations
19 indicate that self-oriented perfectionism displayed a large significant positive
20 relationship with conscientious achievement striving (self-oriented perfectionism $r =$
21 $.52$, self-oriented perfectionism-personal standards $r = .50$, self-oriented
22 perfectionism-importance of being perfect $r = .37$, $ps < .01$). As hypothesised, self-
23 oriented perfectionism displayed a pattern of zero-order correlations that included
24 significant positive relationships with both adaptive (personal standards,
25 perfectionistic striving) and maladaptive dimensions of perfectionism (concern over

1 mistakes, fear of failure, self-criticism, and negative reactions to imperfection).
2 Whereas the associations between self-oriented perfectionism and measures of
3 personal standards and perfectionistic striving were large in magnitude, the
4 relationship between self-oriented perfectionism and maladaptive dimensions of
5 perfectionism were moderate to large (Cohen, 1992). In contrast, conscientious
6 achievement striving demonstrated a more limited relationship with core dimensions
7 of perfectionism. It was positively associated with adaptive dimensions (personal
8 standards, perfectionistic striving) and unrelated to maladaptive dimensions (concern
9 over mistakes, doubts about actions, fear of failure, and negative reactions to
10 imperfection). Unexpectedly, conscientious achievement striving was found to have a
11 small to moderate significant positive relationship with self-criticism. Neither
12 conscientious achievement striving or self-oriented perfectionism had significant
13 relationships with doubts about action

14 To further assess these relationships and examine whether self-oriented
15 perfectionism had a significant association with dimensions of perfectionism beyond
16 variance shared with conscientious achievement striving, semi-partial correlation
17 coefficients were calculated that controlled for the relationship between self-oriented
18 perfectionism and conscientious achievement striving. Assessment of whether
19 differences between semi-partial correlation coefficients and zero-order correlations
20 were statistically significant was then estimated using Hotelling's t with Malgady's
21 (1987) modification (see Hittner, Finger, Mancuso, & Silver, 1995). The results of
22 these analyses indicated that the relationship between self-oriented perfectionism,
23 personal standards, perfectionistic striving and self-criticism decreased significantly.
24 There was no significant change in the relationship between self-oriented
25 perfectionism, concern about mistakes, doubts about actions and negative reactions to

1 imperfection. The relationship between self-oriented perfectionism and a fear of
2 failure increase significantly. All semi-partial correlations were statistically
3 significant.

4 Additional analyses were also undertaken to further examine the potential
5 source of the association between self-oriented perfectionism and dimensions of
6 perfectionism. Semi-partial correlations between self-oriented perfectionism and core
7 dimensions of perfectionism were estimated controlling for the relationship between
8 self-oriented perfectionism and its importance of being perfect facet. This is because
9 Campbell and Di Paula (2002) have suggested that this aspect of self-oriented
10 perfectionism may be responsible for it remaining a vulnerability factor in meaningful
11 achievement contexts. The association between self-oriented perfectionism and all
12 dimensions of perfectionism decreased significantly. Self-oriented perfectionism was
13 no longer significantly related to a fear of failure and negative reactions to
14 imperfection and its relationship with concern over mistakes became negative. The
15 relationship between self-oriented perfectionism, personal standards, doubts about
16 action, self-criticism, and perfectionistic striving were statistically significant. The
17 zero-order and partial-correlation coefficients are displayed in Table 2.

18 Discussion

19 It is currently unclear whether perfectionism is a hallmark quality of elite
20 athletes or a personality factor that is likely to render athletes vulnerable to
21 psychological and motivational difficulties (Flett & Hewitt, 2005; Hall, 2006).
22 Because self-oriented perfectionism energises the pursuit of high personal standards,
23 and has been found to contribute to various positive outcomes, it may be construed as
24 a positive dimension of perfectionism similar to conscientious achievement striving
25 (e.g., Bieling et al., 2004; Frost et al., 1990). However, Flett and Hewitt (2002, 2006,

1 2007) have argued that there are critical differences between the patterns of
2 achievement behaviour that arise as a consequence of self-oriented perfectionism and
3 those associated with conscientious achievement striving. In order to investigate the
4 theoretical differences between these two personality factors, the current study
5 examined the relationship between conscientious achievement striving and self-
6 oriented perfectionism and compared the degree to which both constructs were
7 associated with a number of core dimensions of perfectionism in a sample of elite
8 junior athletes.

9 Consistent with previous research, it was hypothesised that self-oriented
10 perfectionism and conscientious achievement striving would demonstrate a large
11 positive relationship. Based on the arguments of Flett and Hewitt (2006), it was
12 further hypothesised that the association between conscientious achievement striving
13 and core dimensions of perfectionism would be limited to dimensions of
14 perfectionism that reflect adaptive motivational qualities (i.e., the pursuit of high
15 standards and striving for perfection). Self-oriented perfectionism, on the other hand,
16 was hypothesised to be associated with a broad array of core perfectionism
17 dimensions that include both adaptive and maladaptive dimensions. Finally, it was
18 also hypothesised that the strength of association between self-oriented perfectionism
19 and the pursuit of exceedingly high personal standards and perfectionistic striving
20 would remain high following the removal of the shared variance between self-oriented
21 perfectionism and conscientious achievement striving.

22 Examination of the zero-order and semi-partial correlation coefficients
23 supported these assertions. Specifically, conscientious achievement striving and self-
24 oriented perfectionism demonstrated a large positive correlation. In addition, both
25 personality factors were positively related to personal standards, perfectionistic

1 striving and self-criticism. However, only self-oriented perfectionism demonstrated a
2 positive association with concern over mistakes, fear of failure and negative reactions
3 to imperfection. After controlling for self-oriented perfectionism's association with
4 conscientious achievement striving, the strength of its relationships with personal
5 standards and perfectionistic striving decreased significantly. However, these
6 correlations remained statistically significant. Supplementary semi-partial
7 correlational analysis indicated that the relationship between self-oriented
8 perfectionism and maladaptive dimensions of perfectionism (concern over mistakes,
9 fear of failure, and negative reactions to imperfection) was largely a function of the
10 belief that it was important to be perfect.

11 The findings support previous research that indicate that self-oriented
12 perfectionism is not only associated with conscientious achievement striving but also
13 with a fear of failure, self-criticism, and other dimensions of perfectionism typically
14 considered to have negative consequences (e.g., Dunkley et al., 2006; Frost et al.,
15 1993; Hill, et al., 1997; Kaye et al., 2008). The findings also extend previous research
16 by indicating that self-oriented perfectionism is strongly associated with both
17 perfectionistic striving and negative reactions to imperfection. Together the findings
18 suggest that rather than being similar to conscientious achievement striving, self-
19 oriented perfectionism entails a commitment to the pursuit of exceedingly high
20 standards, a tendency to engage in self-criticism and an aversion to mistakes and
21 failure. The multifarious consequences of endorsing these particular qualities in
22 achievement contexts is provided by the work of Stoeber and colleagues (e.g.,
23 Stoeber, & Kersting, 2007; Stoeber et al., 2007; Stoeber et al., 2008). The findings of
24 their research have demonstrated convincingly that perfectionistic striving can
25 contribute to positive motivational consequences but negative reactions to

1 imperfection are indicative of the potential for psychological impairment. Therefore,
2 the current findings provide support for Flett and Hewitt's (2005) arguments that self-
3 oriented perfectionism is best considered a vulnerability factor for athletes.

4 The relationship between self-oriented perfectionism and core dimensions of
5 perfectionism beyond any shared variance with conscientious achievement striving
6 indicates that although the commitment to the pursuit of exceedingly high standards
7 associated with self-oriented perfectionism can, in part, be attributed to the lofty
8 aspirations, diligence and desire for success associated with conscientiousness, it is
9 also likely to be underpinned by other regulatory factors. These include a heightened
10 concern about mistakes, a fear of failure and the possibility of imperfect performance
11 (see Kaye et al., 2008; Spiers Neumeister & Finch, 2006; Van Yperen, 2006). The
12 supplementary analysis suggested that the origins of these less adaptive regulatory
13 factors may be the belief that it is important to perform perfectly (Campbell & Di
14 Paula, 2002; Stoeber et al., 2008; Van Yperen, 2006). The supplementary analysis
15 also indicated that this belief contributes significantly to the high standards and
16 perfectionistic striving associated with self-oriented perfectionism. Consequently, it
17 appears that it is a combination of motivational and evaluative components of self-
18 oriented perfectionism that energizes achievement behavior. However, it is this
19 permutation that is also likely to provide the basis for numerous psychological
20 problems experienced by athletes as a result of achievement difficulties (see Besser et
21 al., 2004; Frost et al., 1995; Frost et al., 1997).

22 *Implications for practitioners*

23 The conceptual and empirical similarities between self-oriented perfectionism
24 and conscientiousness are currently being keenly debated (Flett & Hewitt, 2006, 2007;
25 Slade & Owens, 1998; Owens & Slade, 2008). The findings of this study suggest that

1 a concern over mistakes, fear of failure and negative reactions to imperfections are
2 features that distinguish the achievement striving associated with the two personality
3 factors. Those responsible for the development of elite athletes should therefore be
4 aware that there may be a qualitative difference between the achievement striving
5 associated with self-oriented perfectionism and a healthy commitment to high
6 standards (Greenspon, 2000; Hall, 2006). These differences will be reflected in the
7 goals and motives that athletes report. While the achievement striving associated with
8 a healthy commitment to high standards will be aimed at personal mastery and stem
9 from positive and stable perceptions of self-worth, the achievement striving associated
10 with self-oriented perfectionism is at least partly aimed at validating a sense of self
11 and stems from a sense that perfect performance is necessary in order to gain self-
12 acceptance (Flett & Hewitt, 2006; Greenspon, 2000; Hall, 2006). The current findings
13 suggest that if athletes are to be protected from negative consequences of self-oriented
14 perfectionism strategies are required that alter beliefs regarding the relationship
15 between performance and self-worth and reduce the irrational sense of importance
16 that is attached to performing perfectly.

17 *Limitations and future studies*

18 Although the current study provides an insight into the differences between
19 self-oriented perfectionism and conscientious achievement striving, no direct
20 indicators of their psychological consequences were measured. Consequently, future
21 studies may wish to extend the current investigation by providing a comparative
22 examination of the psychological adjustment associated with these dimensions of
23 achievement striving. This extension would also help begin to identify whether
24 differences in the long-term mental and emotion health of athletes results from
25 endorsement of these achievement related personality factors (e.g. psychological

1 welfare, moral functioning, and social relations) (see Duda, 2005). The current study
2 was also limited in that only the achievement striving facet of conscientiousness was
3 assessed. Other facets of conscientiousness may provide further insight into the
4 differences between self-oriented perfectionism and conscientiousness. Future
5 research should also consider examining the degree to which the observed
6 relationships generalise beyond male cricket academy players (e.g., gender, sport,
7 level of expertise). Finally, given the current findings, examining the degree to which
8 conscientious achievement striving accounts for the adaptive consequences of self-
9 oriented perfectionism would appear important. Conscientious achievement striving
10 may be an important covariate for future research when examining the potential of
11 self-oriented perfectionism to lead to psychological and motivational difficulties.

12 *Conclusion*

13 The findings of the current study suggest that conscientious achievement
14 striving is distinct from self-oriented perfectionism. Unlike conscientious achievement
15 striving, self-oriented perfectionism appears to entail less adaptive motives. In
16 particular, self-oriented perfectionism is likely to impart an irrational belief that it is
17 important to perform perfectly. The presence of such beliefs may be a distinguishing
18 feature of perfectionistic achievement striving, be a source of motivational and
19 psychological difficulties and imperil the adaptive desire for personal development
20 that is shared between self-oriented perfectionism and conscientious achievement
21 striving (see Flett, Hewitt, Blankstein & Mosher, 1991).

22

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1 Table 1 *Descriptive statistics of dimensions of perfectionism, contentious achievement striving, fear of failure and self-criticism.*

	Likert Scale	<i>M</i>	<i>SD</i>	<i>A</i>
1. Self-Oriented Perfectionism	1-7	5.14	0.80	.85
2. SOP-Perfectionistic striving	1-7	5.72	0.84	.68
3. SOP-Importance of Being Perfect	1-7	4.48	1.06	.71
4. Conscientiousness-Achievement Striving	1-5	3.63	0.48	.65
5. FMPS-Personal Standards	1-5	3.52	0.59	.72
6. FMPS-Concern Over Mistakes	1-5	2.50	0.68	.73
7. FMPS-Doubts About Action	1-5	2.76	0.70	.63
8. Fear of Failure	1-5	2.73	0.84	.80
9. Self-Criticism	1-5	2.56	0.76	.79
10. MIPS-Perfectionistic Striving	1-5	4.11	1.00	.87
11. MIPS-Negative Reactions to Imperfection	1-5	3.51	1.06	.86

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- 1 Table 2 Zero-order correlation coefficients and semi-partial correlation coefficients between dimensions of perfectionism, contentious
 2 achievement striving, fear of failure and self-criticism.

	Zero-order Correlations (<i>r</i>)				Semi-partial correlations controlling for C-AS (<i>sr</i>)			Semi-partial correlations controlling for SOP-IBP (<i>sr</i>)
	SOP	SOP- PS	SOP-IBP	C-AS	SOP	SOP-PS	SOP-IBP	SOP
1. FMPS-PS	.66**	.64**	.51**	.50**	.46***†	.45***†	.35***†	.44***†
2. FMPS-CM	.36**	.10	.49**	.04	.40**	.10	.51**	-.14*†
3. FMPS-DA	.05	-.02	.12	-.09	.11	.03	.16*	-.11†
4. Fear of Failure	.18**	.03	.23**	-.10	.28***†	.09	.29***†	-.04†
5. Self-Criticism	.38**	.29**	.34**	.24**	.30***†	.20***†	.27***†	.18***†
6. MIPS-PS	.69**	.49**	.63**	.46**	.53***†	.30***†	.50***†	.28***†
7. MIPS-NRI	.40**	.18*	.45**	.11	.41**	.15*	.44**	.03†

- 3 Note: SOP = Self-oriented perfectionism; SOP-PS = Self-oriented perfectionism perfectionistic striving; SOP-IBP = Self-oriented perfectionism
 4 importance of being perfect; C-AS = Conscientiousness achievement striving; FMPS-PS = Personal standards; FMPS-CM = Concern over
 5 mistakes; FMPS-DA = Doubts about Action; MIPS-PS = Perfectionistic striving; MIPS-NRI = Negative reactions to imperfection.

1 † denotes a significant difference between semi-partial correlation coefficient and zero-order correlation coefficient ($p < .05$).

2 ** $p < .01$ * $p < .05$

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