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The Relationships between Perfectionism, Angry Reactions, and Antisocial Behaviour in Team Sport

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Abstract

Perfectionism involves extreme requirements for perfection that may give rise to antisocial behaviour in team sport. To test this possibility, we first examined pathways linking self-oriented perfectionism and socially prescribed perfectionism to antisocial behaviour. We then examined pathways linking other-oriented perfectionism to antisocial behaviour via angry reactions to poor teammate performance. A cross-sectional design was employed. Competitive team sport athletes (n = 257, M_{age} = 20.71 years, s = 4.10) completed measures of perfectionism, angry reactions to poor teammate performance, and antisocial behaviour. In testing the first aim, we found that self-oriented perfectionism shared no relationship with antisocial teammate behaviour and a negative relationship with antisocial opponent behaviour. By contrast, socially prescribed perfectionism shared positive relationships with antisocial behaviour toward teammates and opponents. In testing the second aim, we found that other-oriented perfectionism shared positive indirect relationships with antisocial behaviour toward teammates and opponents via angry reactions to poor teammate performance. In line with recent theoretical assertions, these findings suggest that there may be a darker side to perfectionism that is related with antisocial behaviour in team sport.

Keywords: personality; emotions; moral behaviour; competitive athletes; team sport

Team sport is replete with opportunities to engage in antisocial behaviour (Kavussanu & Stanger, 2017). For instance, athletes may deliberately foul an opponent to break up a threatening counterattack or make disparaging verbal comments to demoralise a teammate who is performing poorly (Kavussanu & Boardley, 2009). Such acts are examples of voluntary behaviour intended to harm or disadvantage another athlete and are evident across all levels of competition (Kavussanu & Stanger, 2017; Sage, Kavussanu, & Duda, 2006). When examining this classification of behaviour, researchers typically distinguish between antisocial acts directed toward teammates and antisocial acts directed toward opponents (see Kavussanu & Boardley, 2009). In keeping with Bandura's (1991) social cognitive theory of moral thought and action, these two types of antisocial behaviour involve overt actions that have potentially negative consequences for teammates (e.g., psychological harm) and opponents (e.g., physical injury), respectively (Kavussanu & Boardley, 2009).

Due to the potential damaging consequences of antisocial behaviour, researchers have focussed on identifying factors that help to explain why some athletes are more likely to behave antisocially (e.g., Boardley & Kavussanu, 2010). While several important factors have been identified, an area of investigation that requires further consideration is the role of personality in explaining antisocial behaviour in team sport. This line of research is particularly important as researchers have identified that certain personality characteristics are socially aversive and have the potential to engender destructive interpersonal behaviours (e.g., aggression; Ziegler-Hill & Marcus, 2016). One personality trait that may be relevant in this regard is perfectionism (Flett, Hewitt, & Sherry, 2016). This has recently been emphasised by Flett and Hewitt (2016) who suggest that there is a darker side to perfectionism that may predispose athletes to behave antisocially in team sport.

Multidimensional Perfectionism

Perfectionism is a multidimensional personality trait that involves irrational and extreme requirements for perfection (Hewitt, Flett & Mikail, 2017). The multidimensional perfectionism framework developed by Hewitt and Flett (1991) is often used to examine perfectionism in sport. The model includes three core dimensions that capture personal and social features central to perfectionism: self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism. The first two dimensions capture extreme forms of pressure for the self to be perfect. Specially, self-oriented perfectionism is a personal dimension that involves self-imposed requirements of perfection for the self and tendencies to engage in harsh self-criticism. By contrast, socially prescribed perfectionism is a social dimension that involves intense beliefs that others require perfection from the self and will be critical of them if they fail to achieve perfection. The third dimension is unique in that it captures an extreme form of pressure for others to be perfect. Specifically, other-oriented perfectionism is a social dimension that involves relentless requirements for others to be perfect and tendencies to direct harsh criticism toward others.

In Hewitt and Flett's (1991) multidimensional framework, self-oriented perfectionism shares overlap with features of perfectionism that involve self-imposed striving for perfection and the setting of unrealistically high personal performance standards (Gotwals, Stoeber, Dunn, & Otto, 2010). By contrast, socially prescribed perfectionism shares overlap with features of perfectionism that involve excessive concerns over mistakes and fears of negative social evaluation (Gotwals et al., 2010). Other-oriented perfectionism is conceptualised as a unique dimension distinguishable from the features of perfectionism captured in most other multidimensional perfectionism models (Stoeber & Otto, 2006). When examining the potential for perfectionism to give rise to problematic social behaviours, researchers often focus on self-oriented perfectionism, socially prescribed perfectionism, and, perhaps most importantly, other-oriented perfectionism (e.g., Stoeber, Noland, & Mawenu, 2017).

Perfectionism and Antisocial Behaviour

Flett and Hewitt (2016) have recently highlighted the importance of investigating the potential for perfectionism to give rise to antisocial behaviour in team sport. They highlight that irrational requirements for perfection may lead certain perfectionistic athletes to engage in immoral behaviours that reflect an extreme need to win and outperform others. One illustrative example of such behaviour includes antisocial acts that have the potential to harm or disadvantage other athletes. In highlighting this potential link, Flett and Hewitt (2016) refer only to a general experience of pressure to be perfect as the precursor to antisocial behaviour. Whether or not the pressure to be perfect inherent in all dimensions of perfectionism are related with antisocial behaviour is yet to be examined. In relation to Hewitt and Flett's (1991) multidimensional framework, all three dimensions of perfectionism involve extreme requirements for perfection that may be relevant in predicting antisocial behaviour in this context.

Self-oriented perfectionism and socially prescribed perfectionism are both underpinned by extreme requirements to be perfect that give rise to excessive concerns regarding failure and the negative implications of not being perfect (Hewitt et al., 2017). With self-oriented perfectionism, the requirement to attain perfection at all costs is underpinned by beliefs that self-worth is contingent on the attainment of perfection. By contrast, the requirement to attain perfection inherent in socially prescribed perfectionism is underpinned by beliefs that being perfect is necessary in gaining acceptance and avoiding rejection from others (Hewitt et al., 2017). Flett and Hewitt (2016) assert that such experiences of extreme pressure may trigger an overwhelming need to outperform others and avoid failure. Indeed, research in sport has identified that self-oriented perfectionism and socially prescribed perfectionism are both related with performance approach and performance avoidance goals (e.g., Kaye, Conroy, & Fifer, 2008). This pressure to perform

and avoid failure may give rise to antisocial behaviours that help athletes to gain a competitive advantage over opponents and establish superiority over teammates (Flett & Hewitt, 2016).

Other-oriented perfectionism is unique in that it involves an extreme need for others to be perfect rather than the self to be perfect (Hewitt & Flett, 1991). The requirement for others to be perfect is underpinned by an irrational sense of importance (Flett et al., 2016). This is reflected in extreme disappointment and subsequent hostility toward others who fail to satisfy unrealistically high standards of performance (Hewitt & Flett, 1991). In team sport, other-oriented perfectionism is directed toward teammates (e.g., “I demand nothing less than perfection of my teammates”; Stoeber, Otto, & Stoll, 2006). The inevitable sense of disapproval with teammates may lead athletes higher in other-oriented perfectionism to act antisocially toward teammates during competition (Hall, 2006). However, the same inevitable sense of disapproval with teammates may also be expressed toward opponents. That is, team sport may provide a context in which athletes higher in other-oriented perfectionism are likely to take out their extreme disappointment with teammates on other available targets such as opponents (cf. Denson, Pedersen, & Miller, 2006).

In addition to underpinning theoretical links, several empirical studies have found evidence linking perfectionism to antisocial outcomes. For example, previous findings from research outside of sport show that socially prescribed perfectionism and other-oriented perfectionism share positive relationships with antisocial personality traits including hostility, callousness, deceitfulness, manipulativeness, narcissism, and Machiavellianism, while self-oriented perfectionism shares positive relationships with hostility and manipulativeness only (Stoeber, 2014a, 2014b). Socially prescribed perfectionism, other-oriented perfectionism, and, to a lesser degree, self-oriented perfectionism, have also been found to share positive relationships with physical aggression, verbal aggression, and interpersonal conflict (i.e.,

hostile, critical, and rejecting interactions with others; Mushquash & Sherry, 2012; Stoeber et al., 2017). These findings indicate that perfectionism, particularly socially prescribed perfectionism and other-oriented perfectionism, share positive relationships with antisocial personality traits and antisocial behaviours in undergraduate student populations. An important aim in this study was to examine whether these relationships extend to antisocial behaviour in team sport.

Angry Reactions to Poor Teammate Performance

One factor that could help to explain the relationships between perfectionism and antisocial behaviour in team sport is sate anger. State anger is commonly defined as an "emotional state or condition marked by subjective feelings that vary in intensity from mild irritation or annoyance to intense fury or rage" (Spielberger, 1999, p. 1). The subjective feelings individuals may experience include feelings of general anger, feelings relating to the verbal expression of anger, and feelings relating to the physical expression of anger (Spielberger, 1999). When considered together, these feelings of state anger can be used to capture the overall intensity of anger experienced in a specific situation (Speilberger & Reheiser, 2009). In keeping with Deffenbacher (2011), we conceive that the experience of more intense angry feelings is likely to elicit destructive behavioural responses (e.g., physical or verbal assaults on others). This is evident in team sport with research showing positive relationships between anger and antisocial behaviour (Kavussanu, Stanger, & Boardley, 2013; Stanger, Kavussanu, & Ring, 2017). These findings suggest that athletes who are short-tempered and frequently infuriated during competition may also engage in higher levels of antisocial behaviour.

Perfectionism is one factor that has been found to contribute to an athlete's tendency to become angry in team sport competition (e.g., Dunn, Gotwals, Causgrove Dunn, & Syrotuik, 2006). To date, research in this area has focussed on state anger in situations

involving poor personal performance, rather than state anger in situations involving poor teammate performance. In line with the conceptual rationale outlined above, the role of angry reactions to poor teammate performance may be particularly relevant in explaining the relationships shared between other-oriented perfectionism and antisocial behaviour. Specifically, for athletes higher in other-oriented perfectionism, poor teammate performance may be experienced as a demeaning offense against the self that gives rise to anger (Lazarus, 1991). This idea is consistent with theoretical accounts linking other-oriented perfectionism with feelings of intense anger and contempt in situations involving failure from others (e.g., Horney, 1950). In team sport, anger experienced in reaction to poor teammate performance may underpin the tendency to direct blame, criticism, and (potentially) antisocial behaviour toward teammates and opponents. In support of this idea, researchers have identified that other-oriented discrepancies (i.e., perceptions that others have failed to meet personal performance expectations) share a strong, positive relationship with interpersonal conflict (Nealis, Sherry, Sherry, Stewart, & Macneil, 2015).

The Present Study

In line with the theoretical and empirical evidence outlined above, we first aimed to examine pathways linking self-oriented perfectionism and socially prescribed perfectionism to antisocial behaviour. We then aimed to examine pathways linking other-oriented perfectionism to antisocial behaviour. In relation to our first aim, we hypothesised that self-oriented perfectionism and socially prescribed perfectionism would share positive relationships with antisocial behaviour toward teammates and opponents. In relation to our second aim, we hypothesised that the relationships between other-oriented perfectionism and antisocial behaviour toward teammates and opponents would be explained by the tendency to react angrily in situations involving poor teammate performance.

Method

Participants

Participants were 257 (219 males; 38 females; M_{age} = 20.71 years; *s* = 4.10 years; range = 16–39 years) competitive athletes recruited from various sport teams in the United Kingdom. The sports that athletes participated in were soccer (*n* = 110), rugby union (*n* = 85), and rugby league (*n* = 62). The highest level that athletes had competed at was international (*n* = 57), national (*n* = 63), regional (*n* = 27), academy (*n* = 78), university (*n* = 28) and unknown (*n* = 4). On average, participants had been competing in their sport for 11.28 years (*s* = 4.65 years) and dedicated 11.86 hours (*s* = 5.57 hours) to training and competition per week. In comparison to other activities in their lives, participants rated their sport as very important (*M* = 7.92, *s* = 1.92: 1 = *extremely unimportant* to 9 = *extremely important*).

Procedure

Following institutional ethical approval, gatekeepers (e.g., academy managers) of team sport clubs were contacted via e-mail and invited to be involved in the study. With those expressing an interest in participating, data collection arrangements were made. Specifically, a convenient timeslot was established in which the lead researcher could provide an overview of the project, address any queries, and invite athletes to complete the study questionnaire. Informed consent (≥ 18 years) or parental consent and participant assent (< 18 years) was gained from all participants prior to them completing a multi-section questionnaire.

Measures

Sport Multidimensional Perfectionism. The Brief Multidimensional Perfectionism Scale (Brief HF-MPS; Hewitt, Habke, Lee-Baggley, Sherry and Flett, 2008) was used to capture athletes' levels of perfectionism in sport. This 15-item self-report scale assesses self-oriented perfectionism (SOP; 5-items, e.g., "I strive to be as perfect as I can be"), socially prescribed perfectionism (SPP; 5-items, e.g., "People expect nothing less than perfection from me"), and other-oriented perfectionism (OOP; 5-items, e.g., "Everything that others do

must be of top-notch quality"). Athletes were instructed to focus on their sport participation: "Below are a number of statements regarding attitudes toward sport and sport performance. Please read each statement and decide to what degree this statement characterises *your attitudes toward competitive sport*". The item set was prefaced with the phrase "*In competitive sport …*" Athletes responded to all items using a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). Each short form subscale has demonstrated a strong correlation with the corresponding subscale from Hewitt and Flett's (1991) full-length Multidimensional Perfectionism Scale (*r* range = .81 to .91; Hewitt et al., 2008). Hewitt et al. (2008) also provide evidence for the internal consistency of each perfectionism subscale ($\alpha \geq .80$). In line with previous research focussing on the independent effects of perfectionism, each subscale was examined (e.g., Mallinson & Hill, 2011).

Antisocial Behaviour. The antisocial behaviour subscales of the Prosocial and Antisocial Behaviour in Sport Scale (PABSS; Kavussanu & Boardley, 2009) were used to assess self-reported levels of antisocial behaviour. These subscales capture antisocial teammate behaviour (AT; 5-items, e.g., "Criticised a teammate") and antisocial opponent behaviour (AO; 8-items, e.g., 8-items, e.g., "Tried to injure an opponent"). Athletes were instructed to report how often they had engaged in each behaviour during the current season using a 5-point Likert scale (1 = *never* to 5 = *very often*). To emphasise these instructions, the item set was also prefaced with the phrase: "*During the season (so far), I have …*" Any athletes in the pre-season phase of their sport annual cycle were instructed to indicate how often they had engaged in each behaviour during the previous season (e.g., Kavussanu, et al., 2013).[1] Kavussanu and colleagues have provided evidence of the validity and reliability of

[1] Football and rugby union participants reported on their antisocial behaviour "*during the season (so far)*", whereas rugby league participants reported on their antisocial behaviour "*during the previous season*". A Box's *M* test was used to test whether the variance–covariance of the two data collection methods differed. The results revealed no significant difference (Box's $M = 1.59$, $p = .67$).

the PABSS (Kavussanu & Boardley, 2009; Kavussanu et al., 2013). This includes evidence for the internal consistency of each antisocial behaviour subscale ($\alpha \geq .77$). Consistent with previous research, antisocial teammate behaviour and antisocial opponent behaviour were examined independently (e.g., Boardley & Kavussanu, 2010).

Angry Reactions to Poor Teammate Performance. The Reactions-to-Mistakes Anger Scale (RTM-Anger; Dunn et al., 2006) was used to capture how frequently athletes react with feelings of anger in response to poor teammate performance during competition. This 15-item self-report scale is a modified version of Spielberger's (1999) State Anger (S-Anger) scale that captures three feelings of state anger: feeling angry (FA; 5-items, e.g., "I feel angry"), feel like expressing anger verbally (FLEAV; 5-items, e.g., "I feel like yelling at somebody"), and feel like expressing anger physically (FLEAP; 5-items, e.g., "I feel like hitting someone"). The instrument was initially used to assess athletes' angry reactions to poor personal performance during team sport competition (see Dunn et al., 2006). However, in the present study athletes were instructed to rate how frequently they generally reacted with (or felt like expressing) anger when one of their teammates was not playing well during competition. The item set was prefaced with the phrase "*When one of my teammates is not playing well …*" and athletes were instructed to respond to items using a 7-point Likert scale (1 = *never* to 7 = *almost always*). Spielberger (1999) has provided evidence for the internal consistency of the overall 15-item S-Anger scale ($\alpha \geq .92$). In keeping with previous research in sport, we examined an overall measure of angry reactions to poor performance (e.g., Dunn et al., 2006).

Data Analysis

A multi-stage procedure was implemented to analyse the data. These analyses were carried out using IBM Statistics SPSS 25.0 and Mplus 8.2 (Muthén & Muthén, 1998-2018). The first stage of data analysis involved following the data screening protocol outlined by

Tabachnick and Fidell (2014). Following this, descriptive statistics and bivariate correlations analyses were conducted. The next stage involved examining two independent structural equation models using Anderson and Gerbing's (1988) two-step approach in each case. A range of fit indices were used to help determine overall model fit: chi-square statistic (χ^2), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardised root-mean-square residual (SRMR). Guidelines for acceptable ($\chi^2/df \leq 3$, CFI $\geq$ .90, SRMR $\leq$ .10, RMSEA $\leq$ .10) and good fit ($\chi^2/df \leq 2$, CFI $\geq$ .95, TLI $\geq$ .95, SRMR $\leq$ .06, RMSEA $\leq$ .06) proposed by Marsh, Hau, and Wen (2004) were used to make evaluations.

The final stage of the analytical procedure involved testing the significance of specific indirect effects in the second hypothesised structural equation model via bootstrapping with 5000 iterations (Hayes, 2009). The hypothesised structural equation model incorporated two indirect effects. The first indirect effect was the relationship between other-oriented perfectionism and antisocial teammate behaviour via angry reactions to poor teammate performance (ab^1). The second indirect effect was the relationship between other-oriented perfectionism and antisocial opponent behaviour via angry reactions to poor teammate performance (ab^2). Indirect effects were deemed significant if their bootstrapped 95% confidence interval excluded the value of zero (Hayes, 2009). In line with Preacher and Kelly (2011), the effect size of each specific indirect effect was evaluated based on Cohen's (1988) descriptors for small (.01), medium (.09), and large (.25) squared correlation coefficients. The lower and upper limits of each corresponding 95% confidence interval were also taken into consideration when making effect size evaluations.

Results

Preliminary Analyses

The missing value analysis indicated that there were 235 complete cases and 22 cases with at least one item non-response. Cases with item non-response that exceeded the 5%

threshold (n = 1) were removed from any further analyses. Item non-response for the remaining cases with missing data was less than or equal to two items (M = 1.24, s = .44, *range* = 1-2 items). Little's missing completely at random (MCAR) test revealed that the remaining missing data could be characterised as MCAR (χ^2 = 819.42, df = 835, p = .64). As the amount of missing data was low and the scales adopted have demonstrated acceptable internal consistency, the remaining missing values were replaced using the mean of non-missing items from relevant subscales (Graham, Cumsille, & Elek-Fisk, 2003).

Subscales were then computed and screened for univariate and multivariate outliers. Standardized z-scores greater than +/- 3.29 (p < .001, two-tailed) served as the indicator for univariate outliers. This assessment resulted in one case being removed. A Mahalanobis distance greater than χ^2 (6) = 22.46 (p < .001) was used as the criteria to identify multivariate outliers. This evaluation resulted in one further case being removed from the study (n = 254; male n = 217; female n = 37; M age = 20.69; s = 4.11). Following the removal of these cases, skewness and kurtosis values were then analysed. All variables were considered approximately univariate normal (absolute skewness values = .08 to .69; absolute kurtosis values = .07 to .35). Mardia's normalised coefficient for multivariate kurtosis was 1.19, indicating that the data used to test the hypothesised models satisfies the assumption of multivariate normality. The final stage of this procedure involved assessing the internal consistency of all subscales, which was acceptable in each case ($\alpha \geq .70$; Nunnally & Bernstein, 1994).

Descriptive Statistics and Bivariate Correlation Analysis

The descriptive statistics and bivariate correlations are displayed in Table 1. Consistent with previous studies, the mean score for self-oriented perfectionism was moderate-to-high and the mean scores for socially prescribed perfectionism and other-oriented perfectionism were moderate (e.g., Mallinson & Hill, 2011). Likewise, the low-to-

moderate mean scores for antisocial teammate and antisocial opponent behaviour were in keeping with research examining multiple team sports (e.g., Kavussanu et al., 2013). The mean score for angry reactions to poor teammate performance was low-to-moderate. This score was lower than the moderate mean score for angry reactions to poor personal performance reported in previous research (see Dunn et al., 2006).

In relation to the bivariate correlations, self-oriented perfectionism shared no relationships with angry reactions to poor teammate performance and antisocial behaviour. By contrast, socially prescribed perfectionism and other-oriented perfectionism shared small significant positive relationships with angry reactions to poor teammate performance, antisocial teammate behaviour, and antisocial opponent behaviour. Finally, angry reactions to poor teammate performance shared medium significant positive relationships with antisocial teammate behaviour and antisocial opponent behaviour (small ≥ .10, medium ≥ .30, large ≥ .50; Cohen, 1988).

Hypothesised Models

The first hypothesised model (see Figure 1) focussed on the relationships between four latent variables: self-oriented perfectionism, socially prescribed perfectionism, antisocial teammate behaviour, and antisocial opponent behaviour. In this model, the two exogenous perfectionism variables were measured using item-level indicators (self-oriented perfectionism, $n = 5$; socially prescribed perfectionism, $n = 4$).[2] The endogenous antisocial teammate behaviour variable was modelled using item-level indicators ($n = 5$), whereas the endogenous antisocial opponent behaviour was modelled using random parcels of paired items ($n = 4$; Little, Cunningham, Shahar, & Widman, 2002). Due to significant gender differences found in previous studies examining antisocial behaviour in team sport athletes

[2] One item ("The better I do, the better I am expected to do") was removed. This item failed to provide a meaningful loading on the socially prescribed perfectionism latent variable ($\lambda = .16$).

(e.g., Kavussanu, Stamp, Slade, & Ring, 2009), we also included gender as a dummy-coded (0 = males; 1 = females) control variable in this model. The measurement model, in which gender and the above latent factors were specified to covary, provided adequate fit to the data (χ^2/df = 1.97, CFI = .93, SRMR = .06, RMSEA = .06, 90% CI = .05 to .07).

The second hypothesised model (see Figure 2) focussed on the relationships between four latent variables: other-oriented perfectionism, angry reactions to poor teammate performance, antisocial teammate behaviour, and antisocial opponent behaviour. In this model, the same modelling strategy employed in the previous model was used to measure the exogenous perfectionism variable (other oriented perfectionism, *n* = 5) and the two endogenous antisocial behaviour variables (antisocial teammate behaviour, *n* = 5; antisocial opponent behaviour, *n* = 4). The intervening angry reactions to poor teammate performance variable was modelled using subscale-level indicators (*n* = 3). Due to potential gender differences in the endogenous variables, gender was added as a dummy-coded (0 = males; 1 = females) control variable in this model. The measurement model, in which gender and the above latent factors were specified to covary, provided adequate fit to the data (χ^2 /df = 1.97, CFI = .92, SRMR = .05, RMSEA = .06, 90% CI = .05 to .07).

In the second hypothesised model, our decision to model an overall measure of angry reactions to poor teammate performance is in keeping with previous research examining angry reactions to poor personal performance as an overall measure (see Dunn et al., 2006). In the current study, we replicated this approach to increase the parsimony of the overall model and satisfy minimum participant to estimated parameter ratio guidelines (Bentler, 1995). To explore the applicability of this approach we examined a series of structural sub-models. These models were designed to explore the unique influence of the three independent state anger subscales used to capture angry reactions to poor teammate performance (feeling angry, feel like expressing anger verbally, and feel like expressing anger physically) in the

relationships between other-oriented perfectionism and antisocial behaviour towards teammates and opponents.

The results of these exploratory analyses revealed that the corresponding direct and indirect pathways across the three models were consistent in relation to direction, significance, and magnitude. Specifically, other-oriented perfectionism shared positive relationships with each of the three state anger subscales examined (β range = .23 to .28, p range = .00 to .01). In turn, the three state anger subscales examined each shared a positive relationship with antisocial teammate behaviour (β range = .21 to .43, p range = .00 to .01) and antisocial opponent behaviour (β range = .26 to .38, p = .00). Finally, in each model, other-oriented perfectionism was found to share small–to–medium positive indirect relationships with antisocial teammate behaviour (*ab* range = .05 to .12, lower 95% CI range = .01 to 05, upper 95% CI range = .11 to .20) and antisocial opponent behaviour (*ab* range = .06 to .10, lower 95% CI range = .01 to 03, upper 95% CI range = .13 to .17). The stability of the parameter estimates across the three models indicates that each state anger subscale exerts a similar influence in the relationships between other-oriented perfectionism and antisocial behaviour towards teammates and opponents. These exploratory findings therefore provide further support for using these subscales to examine an overall measure of angry reactions to poor teammate performance in the second hypothesised model.[3]

Structural Equation Models

The first hypothesised provided adequate fit to the data (χ^2/df = 1.97, CFI = .93, SRMR = .06, RMSEA = .06, 90% CI = .05 to .07). In this model (see Figure 3), the exogenous variables (self-oriented perfectionism, socially prescribed perfectionism, and gender) accounted for 12% of variance in antisocial teammate behaviour and 15% of variance

[3] For more information about the three structural sub-models, please see the supplemental material (Figure S1, S2, and S3).

in antisocial opponent behaviour. The standardised parameter estimates show that self-oriented perfectionism shared a non-significant relationship with antisocial teammate behaviour (β = -.17, *SE* = .09, *p* = .07) and a negative relationship with antisocial opponent behaviour (β = -.21, *SE* = .09, *p* = .02). By contrast, socially prescribed perfectionism shared positive relationships with antisocial teammate behaviour (β = .25, *SE* = .08, *p* = .00) and antisocial opponent behaviour (β = .24, *SE* = .09, *p* = .01).

The second hypothesised model also provided adequate fit to the data (χ^2/df = 1.94, CFI = .93, SRMR = .05, RMSEA = .06, 90% CI = .05 to .07). In this model (see Figure 4), the exogenous variables (other-oriented perfectionism and gender) accounted for 13% of variance in angry reactions to poor teammate performance. Moreover, a combination of the exogenous variables and angry reactions to poor teammate performance accounted for 27% of variance in antisocial teammate behaviour and 26% of variance in antisocial opponent behaviour, respectively. The parameter estimates show that other-oriented perfectionism shared a positive relationship with angry reactions to poor teammate performance (β = .26, *SE* = .09, *p* = .00). In turn, angry reactions to poor teammate performance shared positive relationships with antisocial teammate behaviour (β = .47, *SE* = .07, *p* = .00) and antisocial opponent behaviour (β = .41, *SE* = .07, *p* = .00). Assessment of the bootstrapped indirect effects indicated that other-oriented perfectionism shared small–to–medium positive indirect relationships with antisocial teammate behaviour (ab^1 = .12, 95% CI = .04 to .20, *SE* = .04) and antisocial opponent behaviour (ab^2 = .11, 95% CI = .03 to .19, *SE* = .04).[4]

[4] In each model, standardised factor loadings from indicator variables to relevant latent variables were all meaningful (> .30) and significant ($p < .001$). In the first model (see Figure 3), self-oriented perfectionism item indicators = .78, .71, .78, .82, and .55; socially prescribed perfectionism item indicators = .38, .79, .91, and .55; antisocial teammate behaviour item indicators = .79, .80, .61, .59, and .55; antisocial opponent behaviour parcel indicators = .75, .69, .84, and .75. In the second model (see Figure 4), other-oriented perfectionism item indicators = .50, .59, .57, .71, and .59; angry reactions to poor teammate performance subscale indicators = .83, .91, & .54; antisocial teammate behaviour item indicators = .78, .81, .61, .60, and .55; antisocial opponent behaviour parcel indicators = .75, .69, .84, and .75.

In relation to gender differences, in each model, gender was found to significantly predict antisocial teammate behaviour and antisocial opponent behaviour. In the first structural equation model, the pathways from gender indicated that females reported less frequent antisocial behaviour toward teammates (β = -.30, *SE* = .06, *p* = .00; *M* = 1.78, *SD* = .68) and opponents (β = -.37, *SE* = .06, *p* = .00; *M* = 1.76, *SD* = .63) in comparison to males (*M* = 2.33, *SD* = .76 and *M* = 2.43, *SD* = .80, respectively). Similar findings were also evident in the second hypothesised model. Furthermore, in the second structural equation model, the pathway from gender to angry reactions to poor teammate performance indicated that females also reported less frequent angry reactions (β = -.17, *SE* = .06, *p* = .00; *M* = 1.84, *SD* = .74) in comparison to males (*M* = 2.44, *SD* = .95).

Discussion

The first aim of the present study was to examine pathways linking self-oriented perfectionism and socially prescribed perfectionism to antisocial behaviour. Our findings show that self-oriented perfectionism shared no relationship with antisocial teammate behaviour and a negative relationship with antisocial opponent behaviour. By contrast, socially prescribed perfectionism shared positive relationships with antisocial behaviour toward teammates and opponents. The second aim of the study was to examine pathways linking other-oriented perfectionism to antisocial behaviour via angry reactions to poor teammate performance. Our findings suggest that other-oriented perfectionism is related with antisocial behaviour toward teammates and opponents due, in part, to angry reactions to poor teammate performance.

Perfectionism and Antisocial Behaviour

In testing the first aim, we examined pathways linking self-oriented perfectionism to antisocial behaviour. Self-oriented perfectionism involves placing pressure on oneself to achieve perfection (Hewitt & Flett, 1991). This self-imposed pressure involves an extreme

requirement to outperform others that may compel certain team sport athletes to engage in antisocial behaviour (Flett & Hewitt, 2016). In keeping with this idea, we anticipated that self-oriented perfectionism would share positive relationships with antisocial behaviour toward teammates and opponents. By contrast, self-oriented perfectionism was found to share no relationship with antisocial teammate behaviour and a negative relationship with antisocial opponent behaviour. While these findings are contrary to the conceptual argument outlined by Flett and Hewitt (2016), they are in keeping with some previous research findings. For example, in analyses where the overlap with other dimensions of perfectionism is controlled for, self-oriented perfectionism shares either negative or non-significant relationships with outcomes such as anger, hostility, and aggressiveness (Stoeber et al., 2017).

In comparison to other dimensions of perfectionism, self-oriented perfectionism also involves a strong motivation to achieve task mastery (see Kaye et al., 2008). This unique preoccupation with personal development may play a key role in influencing the behaviours athletes higher in self-oriented perfectionism are willing to engage in when striving to be perfect. In team sport, engaging in antisocial behaviour in order to achieve success may be incompatible with the motivation to develop and achieve self-imposed perfection. In the current study, this notion could be especially relevant to the relationship between self-oriented perfectionism and antisocial opponent behaviour. Specifically, the lower levels of antisocial opponent behaviour related with self-oriented perfectionism may reflect attempts to actively avoid engaging in behaviours that could undermine the demonstration of personal competence. This need to demonstrate genuine mastery over others may also offset any compulsion to engage in behaviours that could antagonise teammates who are instrumental to the attainment of personal goals in team sport (see Al-Yaaribi, Kavussanu, & Ring, 2016). Based on this discussion, self-oriented perfectionism may entail unrealistically high standards that apply to both the need to be perfect in sport and the need to maintain high moral

standards as an athlete (see Yang, Stoeber, & Wang, 2015). Specifically, in striving to be perfect, athletes higher in self-oriented perfectionism may seek ways of outperforming others that are honest and carry the potential to engender feelings of genuine self-worth.

In testing the first aim, we also examined pathways linking socially prescribed perfectionism to antisocial behaviour. Socially prescribed perfectionism involves a sense of pressure to be perfect that is perceived to be imposed on the self by others (Hewitt & Flett, 1991). This external pressure may compel certain team sport athletes to engage in antisocial behaviour (Flett & Hewitt, 2016). Aligned with this idea, and in support of our expectations, socially prescribed perfectionism was found to share positive relationships with antisocial behaviour toward teammates and opponents. In research outside of sport, socially prescribed perfectionism has often been linked with problematic interpersonal behaviours (e.g., interpersonal conflict; Mushquash & Sherry, 2012). Our findings extend this research and highlight that the experience of extreme external pressure to be perfect inherent to socially prescribed perfectionism may have important interpersonal ramifications in team sport.

The possibility of failure is likely to represent a viable source of threat for athletes higher in socially prescribed perfectionism (e.g., serving as an indication of interpersonal inferiority). This preoccupation with failure in combination with concerns over securing the approval of others and avoiding harsh criticism may give rise to antisocial behaviour. Indeed, previous findings suggest that socially prescribed perfectionism engenders beliefs that failure will result in negative interpersonal consequences (Conroy, Kaye, & Fifer, 2007). This preoccupation with failure and fear of upsetting others has previously been found to explain antisocial behaviour in team sport athletes (Sagar, Boardley, & Kavussanu, 2011). In the context of the current findings, higher levels of antisocial teammate behaviour may reflect attempts to degrade and establish interpersonal superiority over teammates, whereas higher levels of antisocial opponent behaviour may reflect attempts to harm or disadvantage other

competitors and evade negative outcomes attached with being outperformed (e.g., feelings of embarrassment; Flett & Hewitt, 2016).

Perfectionism, Angry Reactions, and Antisocial Behaviour

In testing the second aim, we examined pathways linking other-oriented perfectionism to antisocial behaviour via angry reactions to poor teammate performance. With other-oriented perfectionism, the experience of pressure to be perfect is unique in that it is directed outward to others (Hewitt & Flett, 1991). Research outside of sport suggests that this form of externally directed pressure is particularly salient in relation to antisocial behaviour (e.g., Stoeber et al., 2017). In testing this assertion here, we found that other-oriented perfectionism shared positive indirect relationships with antisocial behaviour toward teammates and opponents via angry reactions to poor teammate performance. This was the case when examining both an overall measure of angry reactions to poor teammate performance as well as each subjective feeling of state anger individually. Overall, these findings support the notion that athletes higher in other-oriented perfectionism are likely to experience anger in response to poor teammate performance (Hall, 2006), and will criticise and blame others when frustrated by their substandard achievements (Hewitt et al., 2017). In this regard, antisocial behaviour towards teammates and opponents may reflect feelings of general anger, feelings relating to the verbal expression of anger, and/or feelings relating to the physical expression of anger experienced in situations when teammates are perceived to be underperforming.

Athletes higher in other-oriented perfectionism may regard poor teammate performance as a personal slight against the self. This experience may trigger an overriding belief that underperforming teammates are worthy of blame and engender feeling of intense anger (cf. Lazarus, 1991). This anger coupled with beliefs that teammates are to blame for performing poorly may underpin subsequent antisocial behaviour. In the context of the

current findings, this appears to be the case for antisocial behaviour toward both teammates and opponents. This suggests that angry reactions to poor teammate performance may not manifest exclusively in antisocial teammate behaviour (e.g., teammate criticism). Instead, the anger experienced when teammate performance is considered poor may also be directed toward opponents. This pathway may reflect a form of displaced aggression relevant to other-oriented perfectionism in team sport (see Denson et al., 2006). Specifically, team sport competition may provide a context in which athletes higher in other-oriented perfectionism are willing to express the feelings of anger triggered by teammates toward other available targets such as opponents.

Gender Differences

In relation to gender differences, our findings are in keeping with previous research examining antisocial behaviour in team sport (e.g., Sagar et al., 2011). Specifically, we found evidence indicating that males engaged more frequently in antisocial teammate and antisocial opponent behaviour in comparison to females. Previous research has identified that, in comparison to female athletes, male athletes typically report lower levels of empathy and stronger perceptions of an ego-involving motivational climate in sport (Kavussanu et al., 2009). Such gender differences may play a key role in explaining the more frequent antisocial behaviour of male athletes. In the current study, we also found evidence indicating that males reported more frequent experiences of anger in situations involving poor teammate performance. This tendency to react angrily to poor teammate performance may also play a key role in explaining the more frequent antisocial behaviour of male athletes.

Study Limitations and Future Research Directions

The limitations in the current study must be considered. One noteworthy limitation relates to the cross-sectional research design that was adopted. The hypothesised causal relationships in the present study were based largely on theory and reflected in the

construction of the two structural equation models. However, it was not possible to make inferences about the temporal precedence of the relationships between the variables examined in these models. An important next step for future research will be to re-examine the current models longitudinally in order to detect the temporal direction of these relationships (see Maxwell & Cole, 2006). A further limitation pertains to the dual approach to assessing antisocial behaviour. In the present study, most athletes reported on their antisocial behaviour during the current season. However, some athletes engaging in preseason training during data collection were referred to an instruction to report on their antisocial behaviour during the previous season. While no differences were evident between the two methodological approaches, future research should focus on using one fixed set of instructions applicable to all athletes (e.g., report on antisocial behaviour during the past 12 months).

In terms of future research, one particularly important direction involves examining other factors that may impact the perfectionism–antisocial behaviour relationship. This is important as there are situations in which perfectionism may be more likely to lead to outcomes such as angry reactions and antisocial behaviour (e.g., when experiencing a prolonged period of unexpected poor performance; Flett & Hewitt, 2016). In the current study, we identified that perceptions of poor teammate performance were particularly infuriating for athletes higher in other-oriented perfectionism and played a key role in explaining antisocial behaviour toward teammates and opponents. However, future research is still needed to examine perceptions of situations that may explain when and why self-oriented perfectionism and socially prescribed perfectionism give rise to antisocial behaviour. Additionally, an important direction for future research involves examining alternative emotional reactions relevant to the perfectionism–antisocial behaviour relationship. One emotion that has been found distinguish self-oriented perfectionism from socially prescribed perfectionism and other-oriented perfectionism is empathy (Stoeber et al., 2017). This

emotion has previously been linked to antisocial behaviour in sport (e.g., Kavussanu et al., 2013) and may explain the pattern of findings identified in the current study.

A further direction to help extend this line of research involves examining alternative models of perfectionism that may be relevant to antisocial behaviour in this context. For example, moral perfectionism–a form of perfectionism that captures unrealistically high moral standards and concerns over moral mistakes–may predict low levels of antisocial behaviour in sport (see Yang et al., 2015). By contrast, narcissistic perfectionism–a form of perfectionism that captures a range of narcissistic and perfectionistic traits–may predict high levels of antisocial behaviour in sport (see Nealis et al, 2015). Finally, in the current study we focussed on the independent effects of self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism in relation to antisocial behaviour. While this approach was useful in identifying dimensions of perfectionism that are important in relation to antisocial behaviour, it is important to acknowledge that the extent to which these three dimensions coexist within individual athletes is likely to vary (Hewitt et al., 2017). A further direction to help extend this line of research therefore involves adopting a methodological approach that accounts for the potential interplay between the three perfectionism dimensions examined in this study.

Conclusion

In line with recent theoretical assertions, the findings in the current study suggest that there may be a darker side to perfectionism that is related with antisocial behaviour in team sport (Flett & Hewitt, 2016). This was not apparent in the findings for self-oriented perfectionism, but evident in the findings for both socially prescribed perfectionism and other-oriented perfectionism. Specifically, we found that socially prescribed perfectionism and other-oriented perfectionism shared positive relationships with antisocial behaviour toward teammates and opponents. Our findings extend previous research indicating that these

social dimensions of perfectionism are related to problematic interpersonal behaviour (see Flett et al., 2016). In focussing on other-oriented perfectionism, our findings also extend previous research in team sport (e.g., Dunn et al., 2006). Specifically, we found evidence to highlight that poor teammate performance may be a particularly important scenario to consider when explaining the angry temperament and antisocial behaviour of athletes higher in other-oriented perfectionism.

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Table 1

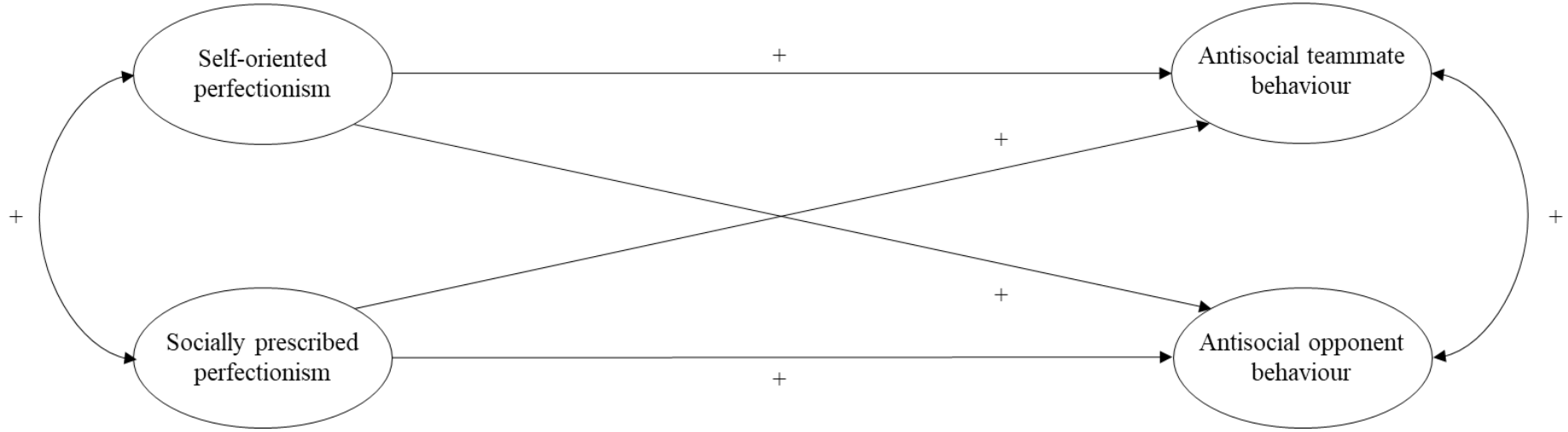
Descriptive statistics, bivariate correlations, and reliability estimates

	M	*s*	α	1.	2.	3.	4.	5.
1. Self-oriented perfectionism (SOP)	5.34	1.09	.85					
2. Socially prescribed perfectionism (SPP)	4.08	1.00	.71	.51***				
3. Other-oriented perfectionism (OOP)	4.38	.97	.72	.64***	.65***			
4. Angry Reactions to Poor Teammate Performance	2.35	.94	.93	.08	.21**	.27**		
5. Antisocial teammate behaviour (AT)	2.25	.77	.80	.07	.15*	.16*	.42**	
6. Antisocial opponent behaviour (AO)	2.33	.81	.85	.04	.15*	.17*	.40**	.59**

Note. *$p < .05$; **$p < .01$; ***$p < .001$

Figure 1

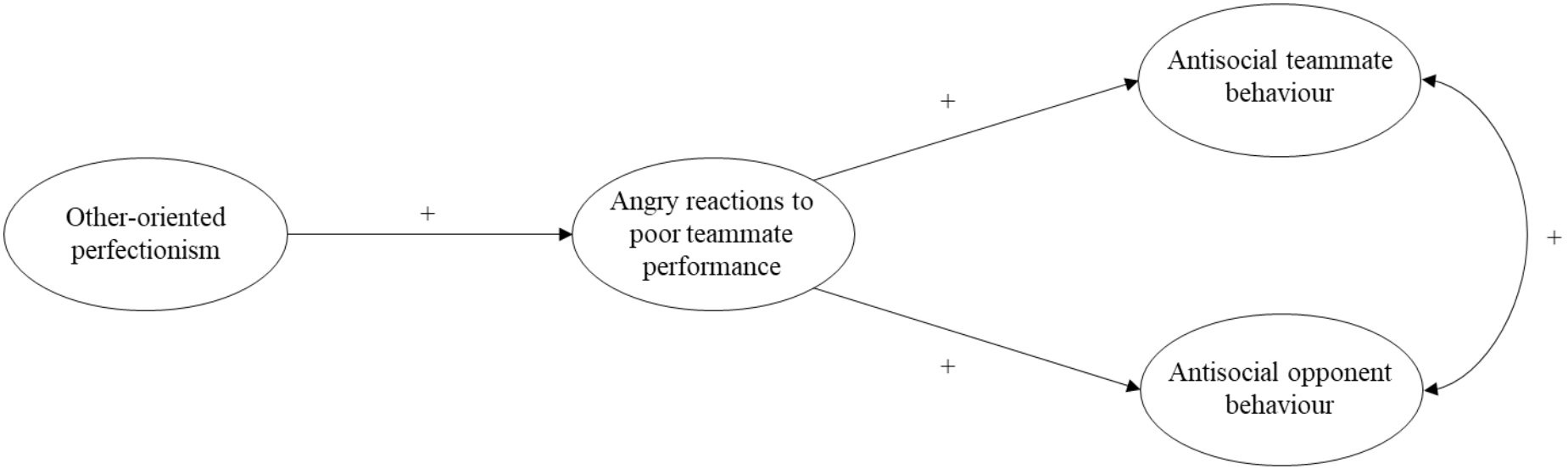
The relationships between self-oriented perfectionism, socially prescribed perfectionism, angry reactions to poor teammate performance, and antisocial behaviour



Note. The parcel indicators and dummy-coded gender covariate (0 = males; 1 = females) are not displayed

Figure 2

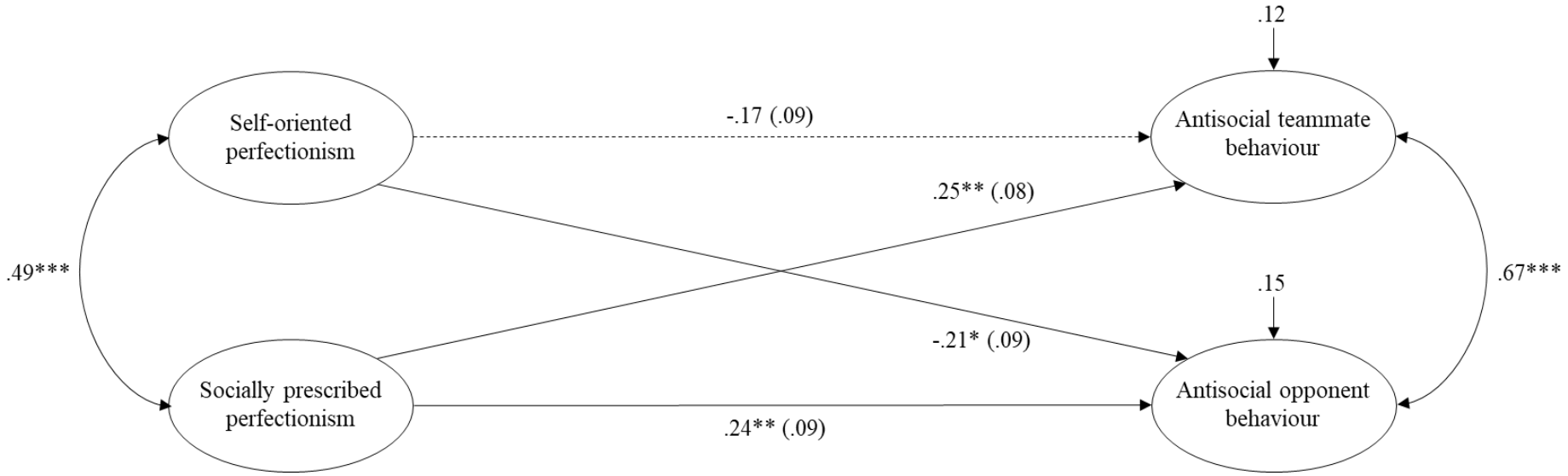
The relationships between other-oriented perfectionism, angry reactions to poor teammate performance, and antisocial behaviour.



Note. The parcel indicators and dummy-coded gender covariate (0 = males; 1 = females) are not displayed

Figure 3

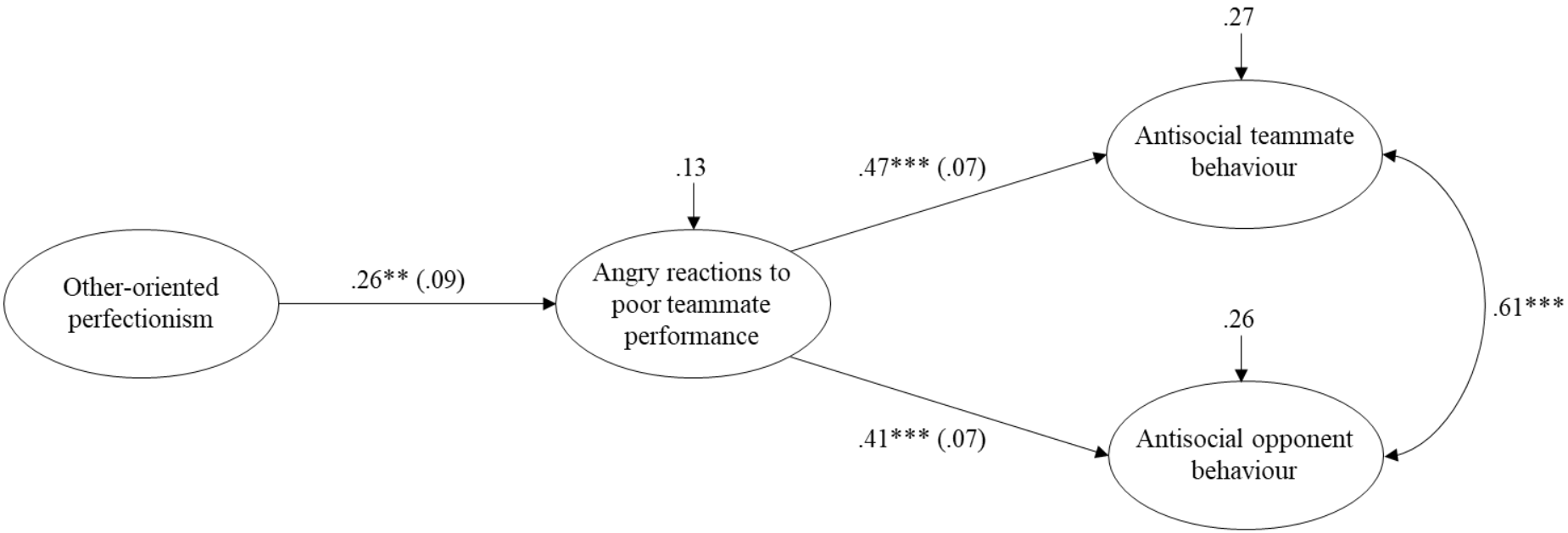
The relationships between self-oriented perfectionism, socially prescribed perfectionism, and antisocial behaviour.



Note. All pathways are standardized; standard errors in parentheses; dashed line = non-significant; parcel indicators and dummy-coded gender covariate (0 = males; 1 = females) are not displayed; the paths from gender to antisocial teammate behaviour (β = -.30, *SE* = .06, *p* = .00) and antisocial opponent behaviour (β = -.37, *SE* = .06 *p* = .00) were significant; n = 254; *p < .05; **p < .01; ***p < .001

Figure 4

The relationships between other-oriented perfectionism, angry reactions to poor teammate performance, and antisocial behaviour.



Note. All pathways are standardized; standard errors in parentheses; the parcel indicators and dummy-coded gender covariate (0 = males; 1 = females) are not displayed; the paths from gender to angry reactions to poor teammate performance (β = -.17, *SE* = .06, p = .00), antisocial teammate behaviour (β = -.14, *SE* = .06, p = .02), and antisocial opponent behaviour (β = -.21, *SE* = .06, p = .00) were significant; n = 254; *p < .05; **p < .01; ***p < .001