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Linking Perfectionism with Moral Behaviors in Sport: The Mediating Role of Burnout and Moral Disengagement

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ABSTRACT

Purpose: Research has identified a range of intrapersonal variables associated with moral behaviors in sport. However, research investigating how perfectionism and burnout are associated with prosocial and antisocial behavior toward teammates and opponents in sport has received scant attention. In the present study, we address this issue by examining whether perfectionism is associated with prosocial and antisocial behavior in sport directly and indirectly via burnout and moral disengagement. **Method:** A total of 312 team sport players completed validated measures for each variable. **Results:** Path analyses revealed that perfectionistic concerns had a negative relationship with prosocial behavior toward teammates and an indirect positive association with antisocial behavior toward both teammates and opponents via being positively associated with burnout, which in turn, was positively associated with moral disengagement. In contrast, perfectionistic strivings had a positive association with prosocial behavior toward teammates, and an indirect positive association with antisocial behavior toward teammates and opponents via moral disengagement. **Conclusion:** Our findings offer new insights into how perfectionism and burnout are associated with prosocial and antisocial behavior in sport, as well as highlight the need to consider perfectionistic tendencies and approaches to help reduce burnout and moral disengagement in the regulation of antisocial behavior in sport.

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Antisocial behaviour; personality; prosocial behaviour; sport psychology; well-being

Sport is a competitive and social context where athletes can engage in a range of morally relevant behaviors that can have consequences on the welfare of others (e.g., Kavussanu & Stanger, 2017). These can include prosocial behaviors, defined as actions intended to help or benefit others (Eisenberg & Fabes, 1998). For example, helping an injured opponent or verbally encouraging a teammate. Equally, athletes can often engage in antisocial behaviors, defined as actions intended to harm or disadvantage others (Sage et al., 2006), which can have adverse consequences on the recipient. For example, intentionally aiming to harm an opponent or verbally abusing a teammate. Due to the consequences that prosocial and antisocial behaviors can have on others' welfare and the potential they could have on sporting performance (e.g., Al-Yaaribi et al., 2016; Pizzi & Stanger, 2020), researchers have examined a range of correlates underpinning these types of behaviors to identify approaches that could promote prosocial, and deter antisocial, behavior in sport (see Kavussanu & Al-Yaaribi, 2021; Kavussanu & Stanger, 2017). One factor that could underpin morally relevant behaviors that has received scant, but emerging, research attention is personality. One personality characteristic that warrants research attention, which could have a role to play in prosocial and antisocial behavior in sport, is perfectionism.

Perfectionism and moral behaviours

Perfectionism is a multidimensional personality disposition comprising excessively high personal standards and harsh self-

critical evaluations (Frost et al., 1990). Numerous multidimensional models of perfectionism have been adopted in the literature. However, when these different models are factor analyzed together, two higher-order dimensions of perfectionism consistently emerge, namely perfectionistic strivings and perfectionistic concerns (e.g., Stoeber & Otto, 2006). Perfectionistic strivings refer to the pursuit of excessively high self-imposed goals and standards accompanied by overly harsh self-criticism (Hill, 2016). Key indicators of perfectionistic strivings include self-oriented perfectionism (Hewitt & Flett, 1991) and high personal standards (Gotwals & Dunn, 2009). Conversely, perfectionistic concerns refer to the pursuit of excessively high standards imposed by significant others accompanied by adverse reactions to imperfection and overly harsh critical evaluations (Hill, 2016). Key indicators of perfectionistic concerns include socially prescribed perfectionism (Hewitt & Flett, 1991), concern over mistakes, and doubts about actions (Gotwals & Dunn, 2009). Researchers have found that perfectionistic concerns tend to be positively associated with maladaptive outcomes (e.g., burnout) and inversely linked with adaptive outcomes (e.g., engagement) (see Hill et al., 2018). In contrast, perfectionistic strivings tend to have a mixed pattern of associations with maladaptive and adaptive outcomes in sport (see Hill et al., 2018).

Perfectionism could also be linked with prosocial and antisocial behavior in sport. One reason for this is that individuals high in perfectionism could employ any means necessary to win or reach idealized excessively high standards in the pursuit

of perfection (e.g., Flett & Hewitt, 2016). Therefore, behaving anti-socially may be one way to serve such means, described by Flett and Hewitt (2016) as “dark striving.” Initial findings support a link between perfectionism and antisocial behavior in sport, specifically in relation to perfectionistic concerns. In their study with team sport athletes, Grugan et al. (2020) found that socially prescribed perfectionism (i.e., intense beliefs that others require perfection from oneself and perceiving that others will be highly critical when failing to reach perfection), an aspect of perfectionistic concerns, was positively associated with antisocial behavior toward teammates and opponents. By contrast, self-oriented perfectionism (i.e., self-imposed requirements of perfection for oneself with tendencies to engage with harsh self-criticism), an aspect of perfectionistic strivings, shared no significant association with antisocial behaviors. However, when the relationship between self-oriented perfectionism and socially prescribed perfectionism was controlled, self-oriented perfectionism shared a significant inverse association with antisocial behavior toward opponents.

In another recent study, perfectionistic strivings and perfectionistic concerns were both positively associated with antisocial behavior in wheelchair rugby and wheelchair basketball players (Atkinson et al., 2022). However, the relationship was stronger for perfectionistic concerns than perfectionistic strivings, and indeed perfectionistic strivings were not related with antisocial behaviors when controlling for perfectionistic concerns. Moreover, perfectionistic strivings were positively associated, whereas perfectionistic concerns were inversely associated with prosocial behaviors in sport. Although this study did not examine prosocial and antisocial behaviors toward teammates and opponents separately, they do offer further insights about how these two dimensions of perfectionism have been associated with both antisocial and prosocial behavior in sport and also suggest that perfectionistic concerns is the component of perfectionism most closely linked with the “dark striving” that underpins antisocial behaviors in sport.

A potential reason why perfectionistic concerns, relative to perfectionistic strivings, have been more strongly and positively linked with antisocial behavior may be due to the social nature of this perfectionism dimension. Specifically, perfectionistic concerns are reflective of excessively high standards imposed by others, and when such standards are not met, or are in threat of not being met, this could intensify fear of negative social evaluations, threatening one’s ego and resulting in extreme pressure (or stress over time) that could drive adverse reactions to imperfection and “dark strivings” to meet the excessive standards (Flett & Hewitt, 2016). This may well include engagement in antisocial behaviors, and less frequent engagement in prosocial behaviors. However, research directly examining how dimensions of perfectionism are associated with both prosocial behaviors and antisocial behaviors toward teammates and opponents in sport, and the factors that may mediate these relationships, has received scant attention. Two potential mediating variables that could explain these relationships are burnout and moral disengagement.

Burnout

Athlete burnout is considered a psychosocial syndrome characterized by symptoms of reduced athletic accomplishment,

emotional and physical exhaustion, and devaluation of sport participation (e.g., Raedeke, 1997; Raedeke & Smith, 2001). Some of the consequences of high levels of burnout include feeling depressed, psychologically stressed, and irritated (e.g., see Gustafsson et al., 2017). Given that chronic stress can precede burnout (e.g., Riolli & Savicki, 2003; Smith, 1986), and burnout is characterized by devaluation of sport involvement and exhaustion, people high in burnout symptoms may have lower energy and commitment to engage in prosocial behaviors toward one’s teammates or opponents. Indeed, previous research has revealed a negative association between burnout symptoms and prosocial behavior in men in non-sport contexts (e.g., Wekenborg et al., 2022). Moreover, it is possible that devaluing one’s sport involvement (potentially including toward one’s teammates) and exhaustion may result in lower self- and emotion-regulation that could result in antisocial behaviors. However, research has yet to examine how burnout is associated with prosocial behavior and antisocial behavior in sport.

Perfectionism is one personality disposition that appears to underpin burnout (Hill & Curran, 2016). Indeed, research has revealed that perfectionistic concerns and perfectionistic strivings are differentially correlated with athlete burnout (e.g., Jowett et al., 2013, 2016). Specifically, several studies have revealed perfectionistic concerns to be positively associated with athlete burnout both cross-sectionally (e.g., Gustafsson et al., 2017) and over time (e.g., Madigan et al., 2016), whereas perfectionistic strivings appear to be negatively associated, or unrelated, to burnout in athletes (e.g., Gustafsson et al., 2017; Jowett et al., 2013, 2016; Madigan et al., 2016). Given that perfectionistic concerns and perfectionistic strivings have been (differentially) related with burnout, and burnout has been inversely linked with prosocial behavior (Wekenborg et al., 2022), and may be linked with antisocial behavior, it is possible that the two dimensions of perfectionism could be linked with these types of moral behaviors via burnout. However, researchers are yet to examine these possibilities.

Moral disengagement

Another construct that could account for these relationships is moral disengagement, which is a central component in Bandura’s (1991) social cognitive theory of moral thought and action. Based on this perspective, moral behavior is regulated anticipatorily via self-evaluative reactions (e.g., emotions) in terms of how behavior is aligned (or not aligned) with our moral standards. People tend to behave in positive ways (or prosocial behaviors) toward others that align with their moral standards as this will likely result in pleasant self-evaluative reactions (e.g., self-satisfaction), whereas refrain from engaging in harmful actions as this will result in reactions of self-disapproval (e.g., guilt). However, people do not *always* behave according to their moral standards and may still engage in behaviors that cause harm or distress for others. Bandura (1991) argued that a key explanation why people may engage in such transgressions is via the use of moral disengagement.

Moral disengagement refers to a set of eight psychosocial mechanisms that people use to justify transgressive behaviors

without experiencing the typical negative self-sanctions (e.g., guilt) (Bandura, 1991, 1999). The eight mechanisms are moral justification, euphemistic labeling, advantageous comparison, diffusion of responsibility, displacement of responsibility, distortion of consequences, attribution of blame, and dehumanization (Bandura, 1991). A range of studies employing cross-sectional designs have revealed that moral disengagement is positively linked with antisocial behavior toward opponents and teammates (e.g., Boardley & Kavussanu, 2010; Stanger et al., 2018, 2021) with these relationships typically stronger for antisocial behavior toward opponents (see Kavussanu & Stanger, 2017). Research has also supported the temporal sequencing of this relationship in experimental (Stanger et al., 2013) and longitudinal (Boardley et al., 2020) research. Studies have also revealed that moral disengagement is negatively associated with prosocial behavior toward opponents (e.g., Stanger et al., 2018, 2021), but typically unrelated to prosocial behavior toward teammates (e.g., Stanger et al., 2018, 2021).

Moral disengagement could also in part explain why perfectionism is linked with prosocial behavior and antisocial behavior in sport. For instance, the pursuit of perfection, which in certain perfectionistic athletes could reflect an extreme need to win or outperform others (Flett & Hewitt, 2016; Grugan et al., 2020), could predispose athletes to perceive transgressive behavior as more acceptable through applying mechanisms of moral disengagement. For instance, perfectionistic concerns could predispose athletes to justify transgressive behavior should they perceive that such conduct could serve a social or moral purpose (i.e., moral justification) in the pursuit of perfection or winning. Additionally, perfectionistic concerns could also predispose athletes to dehumanize, or attribute blame on to, others who they perceive are impeding their chances of winning or of reaching idealized excessive standards. Indeed, in a recent study (Atkinson et al., 2022), perfectionistic concerns were positively associated with moral disengagement in wheelchair athletes, but perfectionistic striving was not associated with moral disengagement (when controlling for perfectionistic concerns). Moreover, perfectionistic concerns were also found to be positively and indirectly associated with antisocial behavior via moral disengagement (Atkinson et al., 2022). Therefore, preliminary evidence suggests that perfectionistic concerns are more closely associated with moral disengagement than perfectionistic strivings, which could help explain why perfectionistic concerns have been more closely associated with antisocial behaviors in sport. However, research has yet to examine the contribution of moral disengagement in accounting for the links between perfectionism and moral behaviors toward teammates and opponents nor examined variables that may explain why perfectionism is associated with moral disengagement in this process.

Burnout is one variable that has been suggested and shown to be underpinned by perfectionism (Hill & Curran, 2016; Jowett et al., 2016), which may also predict moral disengagement. For instance, devaluing sporting activity and feeling

exhaustion may reduce self-regulatory resources and associated processes in the control of prosocial and antisocial behavior (e.g., Bandura, 1991). This could predispose athletes to be more susceptible to morally disengage (i.e., disengagement of self-regulatory processes that typically negate engagement in antisocial behavior), which in turn, could result in higher antisocial behavior and lower prosocial behavior. Therefore, burnout and moral disengagement could contribute to explaining why the dimensions of perfectionism are linked with prosocial and antisocial behaviors. However, researchers are yet to examine these possibilities.

The present research

Although researchers have examined how perfectionistic strivings and concerns are linked to a range of outcomes (e.g., Gustafsson et al., 2017), the links between these dimensions of perfectionism and prosocial and antisocial behavior has received scant attention. Burnout and moral disengagement may have mediating roles in the associations between perfectionism and morally relevant behaviors in sport. However, researchers have yet to examine whether burnout is associated with moral behaviors in sport nor its potential mediating role in the links between perfectionism and moral disengagement, prosocial behavior, and antisocial behavior, in sport. Therefore, the aim of this research was to examine whether perfectionistic strivings and perfectionistic concerns were associated with prosocial and antisocial behavior toward teammates and opponents in sport directly and indirectly via burnout and moral disengagement.

We hypothesized that perfectionistic concerns (especially when controlling for perfectionistic strivings) would be positively associated with antisocial, and inversely associated with prosocial, behavior in sport. We also anticipated that these relationships would be indirect via perfectionistic concerns being positively associated with burnout, which in turn was expected to be positively linked with moral disengagement. In contrast, we hypothesized that perfectionistic strivings (especially when controlling for perfectionistic concerns) would be inversely (or negligibly) associated with antisocial behaviors and positively associated (or negligibly) with prosocial behaviors.¹ Any relationships for perfectionistic strivings with prosocial and antisocial behavior were anticipated to be indirectly linked via perfectionistic strivings being inversely linked to burnout (e.g., Jowett et al., 2016), which in turn would be positively linked to moral disengagement. Finally, moral disengagement was expected to be positively associated with antisocial behavior (toward teammates and opponents) and negatively associated with prosocial behavior toward opponents.

Method

Participants

Participants were 312 (224 males, 84 females, 4 did not disclose) team sport student-athletes aged 18–31 years

¹Our hypotheses for the links between perfectionistic strivings and each moral behavior are rather cautionary in nature (by potentially being negligibly associated) in acknowledgment of the rather mixed findings in terms of the strength of these relationships noted in previous research (e.g., Atkinson et al., 2022; Grugan et al., 2020).

($M = 19.69$; $SD = 1.27$) in the United Kingdom. They competed in soccer ($n = 157$), rugby ($n = 90$), netball ($n = 27$), field hockey ($n = 16$), basketball ($n = 15$), lacrosse ($n = 6$), or American football ($n = 2$) for an average of 9.06 ($SD = 3.97$) years. Their highest level of competition was international/national ($n = 33$), regional/county ($n = 150$) and club ($n = 127$) (and two did not disclose).

Measures

Perfectionism

Multiple measures were used to assess perfectionistic strivings and concerns, as per recommendations from Stoeber (2011). Perfectionistic strivings was measured via the 7-item personal standards subscale (e.g., It is important to me that I be thoroughly competent in everything I do in my sport) from the Sport Multidimensional Perfectionism Scale-2 (SMPS-2; Gotwals & Dunn, 2009) and the 5-item self-oriented perfection subscale (e.g., I strive to be as perfect as I can be) from the Cox et al. (2002) short version of the Multidimensional Perfectionism Scale (H-MPS; Hewitt & Flett, 1991). Perfectionistic concerns was measured using the 8-item concerns over mistakes (e.g., The fewer mistakes I make in competition, the more people will like me) and 6-item doubts about action (e.g., I rarely feel that I have trained hard enough in preparation for competition) from the SMPS-2 (Gotwals & Dunn, 2009) alongside the 5-item socially prescribed perfectionism (e.g., Success means that I must work even harder to please others) from the short version of the H-MPS (Cox et al., 2002; Hewitt & Flett, 1991). Participants were provided with the stem "In competitive sport . . ." and responded to each item on a 7-point likert-type scale anchored from 1 (*strongly disagree*) through 4 (*neutral*) to 7 (*strongly agree*). Psychometric support has been provided for both the SMPS-2 (e.g., $\alpha \geq .74$; Gotwals et al., 2010) and H-MPS (e.g., $\alpha \geq .79$; Cox et al., 2002). The approach for measuring perfectionistic strivings and perfectionistic concerns adopted in this study has also been commonly applied and received psychometric support in previous research (e.g., Jowett et al., 2013, 2016).

Burnout

The 15-item Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) was used to measure burnout in sport. The measure comprises three subscales each with five items; perceived emotional and physical exhaustions (e.g., I am exhausted from the mental and physical demands of sport), reduced sense of accomplishment (e.g., It seems no matter what I do, I don't perform as well as I should) and devaluation with their sport (e.g., I don't care as much about my sport performance as I used to). Participants responded to each item on a 5-point Likert type scale anchored from 1 (*almost never*) to 5 (*almost always*). The dimensions of burnout were moderately correlated with one another ($r < .40$) and thereby consistent with previous research (e.g., Jowett et al., 2013, 2016; Pacewicz & Smith, 2023), we calculated a global burnout score in the present study by calculating a mean of the items across the three subscales (Raedeke & Smith, 2004).

Research has demonstrated support for the validity and reliability of the scales, including a global burnout scale with satisfactory internal consistencies above .84 (Raedeke & Smith, 2004).

Moral disengagement

The 8-item Moral disengagement in Sport-Short (Boardley & Kavussanu, 2008) was used to measure moral disengagement, which includes an item for each of the eight mechanisms of moral disengagement. Participants rated their level of agreement to items on a 7-point Likert type scale, anchored from 1 (*strongly disagree*), through 4 (*neither agree nor disagree*) to 7 (*strongly agree*). An example item is "a player should not be blamed for injuring an opponent if the coach reinforces such behaviour." Psychometric support for the scale has been provided with alpha coefficients ranging from .80 to .85 (Boardley & Kavussanu, 2008).

Prosocial and antisocial behaviour

The 20-item Prosocial and Antisocial Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009) was used to measure athletes' prosocial and antisocial behavior in sport. Specifically, the PABSS comprises four subscales; antisocial behavior toward opponents (eight items; e.g., deliberately fouled an opponent), antisocial behavior toward teammates (five items; e.g., showed frustration at a teammate's poor play), prosocial behavior toward opponents (three items; e.g., helped an opponent off the floor) and prosocial behavior toward teammates (four items; e.g., Gave positive feedback to a teammate). Participants were asked how often they engaged in each behavior whilst competing in their team sport during the past 12 months on a 5-point Likert type scale anchored by 1 (*never*) and 5 (*very often*). Research has supported the validity of the PABSS, with all subscale scores demonstrating satisfactory internal consistency (alpha range: .73 to .86; Kavussanu & Boardley, 2009; Kavussanu et al., 2013).

Procedure

Following ethical approval from the first author's institution, participants were invited to take part in academic sessions. Participants were provided with an information sheet which included details about the voluntary nature of participation, assurance questionnaires were completed and stored anonymously, and reminded about their right to withdraw. After completing a consent form, participants completed a questionnaire pack comprising the measures described above.² Once completed, participants inserted the questionnaire into an envelope and returned it directly back to the researcher and were thanked for their participation.

Data analysis

Mean scores for each variable were calculated. Data were then screened for normality, missing data, and extreme outliers. Then, preliminary correlational analyses were conducted to examine relationships between variables. To aid the interpretation of these associations, we utilized Cohen's (1988) criteria

²Participants also completed other measures for appraisal and emotions in relation to their latest sport performance, which aimed to address a different study purpose reported in a separate manuscript.

for small ($r > .10$), medium ($r > .30$), and large ($r > .50$) effects. Subsequently, a path analysis was conducted using Stata v14 (StataCorp, 2015, College Station Texas, USA) to examine whether perfectionism was associated with prosocial and antisocial behavior toward teammates and opponents directly and indirectly via burnout, and in turn, moral disengagement. We use a combination of comparative and incremental fit indices to assess model fit, namely the chi-square test, the comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square of approximation (RMSEA) and standardized root mean squared residual (SRMR). Conventional criteria (e.g., Marsh et al., 2004) was applied to aid model evaluations whereby $\chi^2/df < 3$, CFI and TLI $> .90$, and RMSEA and SRMR $< .10$ were considered reflective of adequate fit, whereas $\chi^2/df < 2$, CFI and TLI $> .95$, and RMSEA and SRMR $< .06$ were considered reflective of a good model fit. To test for indirect effects, we employed bootstrapping analyses (with 1,000 bootstrap samples) due to it being considered one of the most powerful methods for testing such effects (Shrout & Bolger, 2002). When the 95% confidence interval for these effects does not cross zero, there is evidence of a significant indirect effect.

Results

Preliminary analyses

Initial screening revealed that 37 cases of data were missing (0.16%). Due to the small amount of data assumed to be missing at random, we calculated the mean of the remaining non-missing items from the respective subscale (Tabachnick & Fidell, 2013). No extreme outliers were identified (i.e., $> 3SD$ from the Mean), and univariate skewness and kurtosis values indicated no significant deviation from normality (i.e., univariate skewness scores < 0.6 and kurtosis scores < 0.4 ; Kim, 2013). Descriptive statistics for each variable, Cronbach's (1951) alpha (α) and McDonald's (1999) Omega (ω) coefficients for each respective measure, and correlations are presented in Table 1.

In terms of notable relationships from the correlational analyses, perfectionistic strivings shared positive associations with moral disengagement, prosocial behavior toward teammates and antisocial behavior toward opponents (with small effect sizes). Perfectionistic concerns shared positive

associations with burnout (medium effect size), moral disengagement (small effect size) and antisocial behavior toward opponents (small effect size). Burnout was positively associated with moral disengagement and inversely associated with prosocial behavior toward teammates (with small effect sizes). Moreover, moral disengagement was negatively associated with prosocial behavior toward opponents (small effect size) and positively associated with both antisocial behavior toward teammates (medium effect size) and opponents (large effect size).

Main analyses

For path analysis, to account for multivariate normality, we ran model fit statistics with Satorra-Bentler (S-B) estimation to provide a more robust estimation. Path analysis on an initial (saturated) model revealed an inadequate fit to the data, $S-B\chi^2(4) = 14.02$, $p = .01$, CFI = 0.965, TLI = 0.765, RMSEA = 0.090, SRMR = 0.035. We ran this model originally to ensure we did not miss any significant parameters in the final model.³

A more parsimonious model was then calculated via removal of pathways from the initial model that were not significant. Specifically, we removed the following paths; perfectionistic concerns to moral disengagement ($p = .65$); burnout ($p = .37$) and moral disengagement ($p = .76$) to prosocial teammate behavior; perfectionistic strivings ($p = .79$), perfectionistic concerns ($p = .53$) and burnout ($p = .62$) to prosocial behavior toward opponents; perfectionistic strivings ($p = .26$), perfectionistic concerns ($p = .45$) and burnout ($p = .25$) to antisocial teammate behavior; and, perfectionistic strivings ($p = .43$), perfectionistic concerns ($p = .91$), and burnout ($p = .72$) to antisocial behavior toward opponents. The marginal pathway ($p < .06$) in the initial model between burnout and moral disengagement was maintained, as this was significant ($p = .03$) following the removal of the other non-significant pathways.

The revised model revealed an improved, and good, model fit, $S-B\chi^2(16) = 19.48$, $p = .25$, CFI = 0.988, TLI = 0.980, RMSEA = 0.026, SRMR = 0.039. We also calculated bootstrap estimates in our analyses to provide more robust parameter estimates, which are reported in Figure 1. The model revealed perfectionistic strivings had a direct positive relationship with prosocial behavior toward teammates and moral

Table 1. Correlations, descriptive statistics, and internal consistency coefficients ($N = 312$).

	<i>M</i>	<i>SD</i>	α	ω	1	2	3	4	5	6	7	8
(1) Perfectionistic strivings (1–7)	4.53	0.96	.87	.87								
(2) Perfectionistic concerns (1–7)	3.53	0.79	.85	.84	.50***							
(3) Burnout (1–5)	2.47	0.60	.87	.86	-.07	.31***						
(4) Moral disengagement (1–7)	3.26	1.03	.80	.81	.16**	.15**	.12*					
(5) Prosocial teammate behavior (1–5)	4.23	0.50	.67	.68	.14*	-.06	-.13*	-.01				
(6) Prosocial opponent behavior (1–5)	3.05	0.81	.67	.70	-.03	-.07	-.07	-.18***	.19***			
(7) Antisocial teammate behavior (1–5)	2.26	0.78	.81	.81	.09	.05	.09	.37***	.13*	-.01		
(8) Antisocial opponent behavior (1–5)	2.55	0.80	.84	.84	.13*	.11*	.08	.52***	.13*	.04	.53***	

Scale ranges are presented in parentheses. α = Cronbach's (1951) alpha. ω = McDonald's (1999) Omega coefficient. * $p < .05$, ** $p < .01$, *** $p < .001$.

³The original (inadequate) model is presented in Supplementary File for reference purposes. The model is separated into two figures for ease of illustration whereby pathways to prosocial behaviors are presented in Supplementary Figure A, and pathways to antisocial behaviors presented in Supplementary Figure B.

disengagement, as well as a negative direct relationship with burnout. Perfectionistic concerns had a direct positive relationship with burnout and a direct negative relationship with prosocial behavior toward teammates. Burnout had a direct positive relationship with moral disengagement. Moral disengagement had a direct negative relationship with prosocial behavior toward opponents, and direct positive relationships with antisocial behavior toward both teammates and opponents.

Bootstrapping revealed some significant indirect effects (where 95% confidence intervals did not cross zero), which are displayed in Table 2. Specifically, both perfectionistic strivings (inversely) and perfectionistic concerns (positively) were indirectly associated with moral disengagement via burnout. Perfectionistic strivings

and perfectionistic concerns were indirectly (and positively) associated with antisocial behavior toward both teammates and opponents via burnout and moral disengagement. However, follow-up analyses revealed that this indirect effect was mainly carried via moral disengagement rather than via burnout.⁴

Burnout was also indirectly (and positively) associated with antisocial behavior toward both teammates and opponents via moral disengagement. However, the indirect links for perfectionistic strivings and perfectionistic concerns to prosocial behavior toward opponents via burnout and moral disengagement were not significant. Similarly, the indirect link between burnout and prosocial behavior toward opponents via moral disengagement was also not significant (see Table 2).

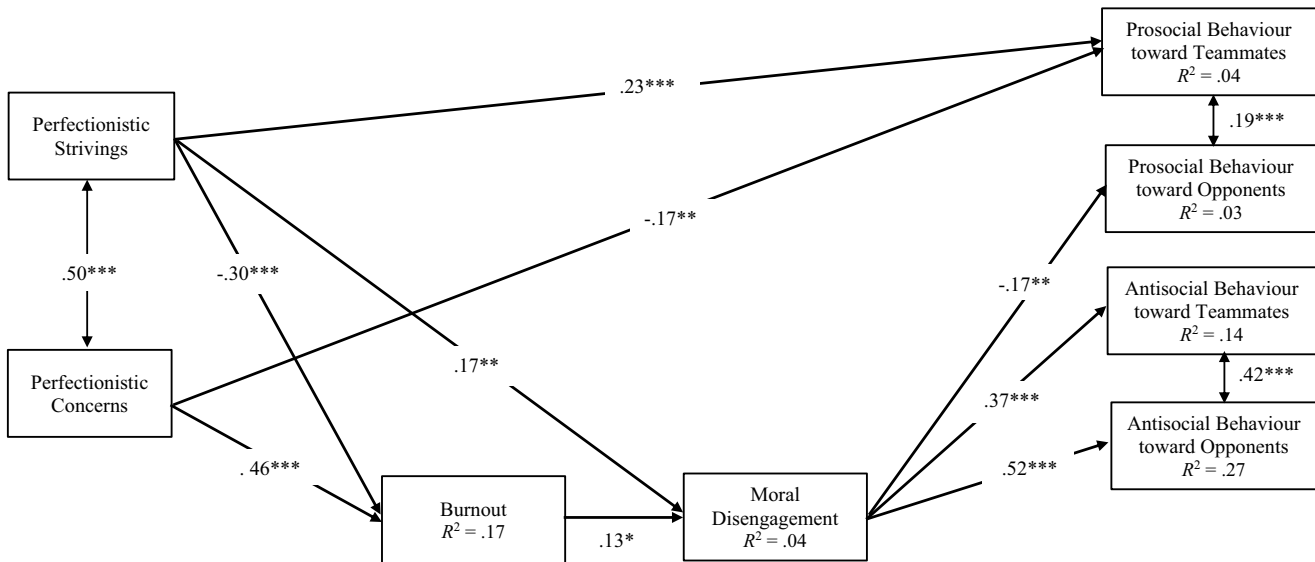


Figure 1. Path analysis with bootstrap standardized coefficients. Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2. Indirect effects in the model.

Overall indirect path	Indirect effect	95% CIs
Perfectionistic strivings → Moral disengagement	-.043 (.021)*	-.085 to -.001
Perfectionistic concerns → Moral disengagement	.080 (.037)*	.009 to .151
Perfectionistic strivings → Prosocial behavior toward opponents	-.019 (.011)	-.041 to .002
Perfectionistic concerns → Prosocial behavior toward opponents	-.011 (.006)	-.023 to .001
Burnout → Prosocial behavior toward opponents	-.030 (.018)	-.065 to .004
Perfectionistic strivings → Antisocial behavior toward teammates	.040 (.019)*	.003 to .077
Perfectionistic concerns → Antisocial behavior toward teammates	.023 (.011)*	.001 to .044
Burnout → Antisocial behavior toward teammates	.064 (.029)*	.007 to .122
Perfectionistic strivings → Antisocial behavior toward opponents	.057 (.027)*	.005 to .109
Perfectionistic concerns → Antisocial behavior toward opponents	.032 (.015)*	.002 to .062
Burnout → Antisocial behavior toward opponents	.091 (.041)*	.011 to .171

Indirect pathways are depicted in Figure 1. Standard errors in parentheses. * $p < .05$, ** $p < .01$, *** $p < .001$.

⁴Due to perfectionistic strivings being linked with antisocial behaviors via two pathways, and Stata software only providing overall indirect effects, we conducted follow-up analyses to offer further investigation for these links. Specifically, when constraining the direct pathway between perfectionistic striving and moral disengagement, the indirect effect for the link between perfectionistic strivings to antisocial opponent (indirect effect = -0.016, $p = .08$, 95% CI -0.033 to 0.002) and antisocial teammate (indirect effect = -0.011, $p = .09$, 95% CI = -0.024 to 0.002) behavior via burnout, and in turn, moral disengagement, were no longer significant. In contrast, when constraining the link between perfectionistic strivings and burnout, the indirect link between perfectionistic strivings to both antisocial behavior toward opponents (indirect effect = 0.07, $p < .01$, 95% CI = 0.024 to 0.124) and antisocial teammates (indirect effect = 0.05, $p < .01$, 95% CI = 0.017 to 0.088) via moral disengagement only, remained significant. Thus, these findings suggest that perfectionistic strivings was positively and indirectly linked with antisocial behavior toward opponents and teammates mainly via moral disengagement.

Discussion

The aim of this research was to examine whether perfectionistic concerns and perfectionistic strivings were associated with prosocial and antisocial behavior in sport directly and indirectly via burnout and moral disengagement. When controlling for the overlap between perfectionism dimensions, perfectionistic concerns had a direct negative association with prosocial behavior toward teammates, whereas perfectionistic strivings had a direct positive association with prosocial behavior toward teammates. Moreover, perfectionistic concerns had a positive indirect association with antisocial behaviors toward teammates and opponents via burnout and moral disengagement. Specifically, perfectionistic concerns were positively associated with burnout, burnout was positively associated with moral disengagement, and moral disengagement was positively associated with antisocial behaviors toward teammates and opponents. Perfectionistic strivings also had a positive indirect association with antisocial behaviors toward teammates and opponents, which was mainly carried via moral disengagement. These findings offer some support for our hypotheses and previous research, whereby perfectionistic concerns are linked to more maladaptive outcomes, including burnout, moral disengagement, and antisocial behaviors. However, in contrast to our hypotheses, perfectionistic strivings could also be linked with antisocial behaviors indirectly via moral disengagement.

Perfectionism, burnout, moral disengagement and moral behaviours

Perfectionistic concerns had a direct negative association with prosocial behavior toward teammates. This finding aligns with previous research that revealed that perfectionistic concerns were inversely associated with prosocial behaviors in sport (Atkinson et al., 2022) and socially prescribed perfectionism (a dimension of perfectionistic concerns) was negatively linked to altruism in students (Stoeber, 2014). Although the mechanisms explaining this relationship are beyond the scope of this study, a possible explanation for these findings is that teammates could be a source of perceived social (negative) evaluative threat for those who display high levels of perfectionistic concerns. Therefore, for such athletes, helping teammates may be counterintuitive if the concerns are reflective of excessively high standards imposed by others (which could include teammates), as it could mean supporting others who are actively undermining one's pursuit of perfection or contributing to perceived social evaluative threat (e.g., Flett & Hewitt, 2016).

Such adverse reactions of perfectionistic concerns could also manifest into higher engagement in antisocial behaviors toward teammates and opponents. Our findings suggest that the associations between perfectionistic concerns and antisocial behavior can be explained by burnout and moral disengagement. This finding extends previous research highlighting the link between components of perfectionistic concerns (e.g., socially prescribed perfectionism) and antisocial behavior toward both teammates and opponents (Atkinson et al., 2022; Grugan et al., 2020), and for the mediating role of moral disengagement in this relationship (Atkinson et al.,

2022). Furthermore, our findings provide the first evidence of burnout as an explanatory mechanism through which perfectionism is linked with moral disengagement and antisocial behavior, and a rare example of burnout being considered an explanatory mechanism for how perfectionism is associated with behavioral outcomes in sport rather than an overall outcome as often investigated and demonstrated in previous studies (e.g., Hill & Curran, 2016).

The examination of burnout in relation to prosocial and antisocial behavior in sport also offered new insights. Burnout was inversely linked to prosocial behavior toward teammates in the correlational analyses, which aligns with previous research in occupational settings in men (Wekenborg et al., 2022). However, this relationship was attenuated when controlling for perfectionism in the model. A central finding in the present research, was regarding burnout being positively linked with moral disengagement, and positively and indirectly linked with antisocial behaviors toward teammates and opponents via moral disengagement. These findings offer initial support to the conceptual arguments regarding how devaluing sport involvement and exhaustion may potentially reduce self-regulatory processes in controlling antisocial conduct. Moreover, in accordance with theory (i.e., Bandura, 1991, 1999) and previous research, moral disengagement was positively associated with antisocial behavior toward teammates and opponents (e.g., Boardley & Kavussanu, 2010; Boardley et al., 2020; Stanger et al., 2018, 2021), and negatively linked with prosocial behavior toward opponents (Stanger et al., 2018, 2021), but unrelated to prosocial behavior toward teammates (e.g., Stanger et al., 2018, 2021).

Perfectionistic strivings had a positive association with prosocial behavior toward teammates. This relationship was in the opposite direction to perfectionistic concerns, which offers support for the distinctive outcomes associated with these two dimensions of perfectionism (e.g., Hill et al., 2018). These findings are aligned with recent research which revealed that perfectionistic strivings had positive associations with altruism and prosocial behaviors (when collapsed across both teammates and opponent behaviors) in wheelchair athletes (Atkinson et al., 2022). Therefore, indicating that the pursuit of meeting self-prescribed excessively high personal standards could drive athletes to engage in more prosocial (or supportive type) behaviors toward their teammates. It is worth noting that although the prosocial behaviors measured are reflective of helping behaviors toward teammates, given they are directed toward one's in-group in a competitive context they could also be achievement-related consequences for the recipient (e.g., Kavussanu et al., 2009). As perfectionistic strivings would be considered self-driven, it is possible that engagement in prosocial behaviors toward teammates could be driven with the aim of forming positive or supportive bonds which could contribute toward attaining high achievement-related goals, which could include winning, within a team sport context. However, it is for future research to determine the factors that could contribute to explaining this relationship.

Although perfectionistic strivings had a positive association with prosocial behavior toward teammates and an inverse association with burnout akin to previous research (e.g., Jowett et al., 2013, 2016), perfectionistic strivings also had

a direct and positive association with moral disengagement. Moreover, perfectionistic strivings had a positive indirect association with antisocial behaviors. These findings suggest that perfectionistic strivings were linked with higher frequency of antisocial behaviors toward teammates and opponents via perfectionistic strivings being linked with a higher propensity to morally disengage.

These mixed findings concerning the outcomes associated with perfectionistic strivings are similar to previous research (e.g., Gotwals et al., 2012; Hill et al., 2018) and support propositions that perfectionistic strivings could also drive “dark strivings,” though less prominently than perfectionistic concerns (e.g., Flett & Hewitt, 2016). Taken together, these findings suggest that although perfectionistic strivings could be linked with adaptive outcomes in terms of lower burnout, and more prosocial behavior toward teammates, both dimensions of perfectionism could result in “dark strivings” in terms of being associated with a higher propensity to morally disengage, and in turn, with more frequent engagement in reported antisocial behaviors toward teammates and opponents.

Limitations and future research

Although this research offered new insights, these do need to be considered in light of the study’s limitations. A cross-sectional design was adopted in the present research to examine relationships, but these findings cannot infer the temporal sequencing of identified relationships. Specifically, although the sequencing of relationships is based on conceptual and/or empirical grounding (e.g., Bandura, 1991; Gustafsson et al., 2017; Hill et al., 2018; Kavussanu & Stanger, 2017; Wekenborg et al., 2022), researchers could adopt longitudinal designs to provide more informed inferences about the causal direction of relationships. The present findings are also based on self-report data that could be affected by social desirability or reporting bias. Future research could consider corroborating self-report with observational measures, especially for prosocial and antisocial behaviors.

Researchers could also consider other variables that may mediate the links between perfectionism and moral behaviors in sport. For instance, it is possible that motivational regulation could contribute to these relationships. Specifically, perfectionistic concerns have been positively linked with controlled motivation (e.g., Jowett et al., 2013), and controlled motivation has been positively linked with antisocial behavior in sport (see Kavussanu & Stanger, 2017). Moreover, perfectionistic strivings tend to be positively linked with autonomous motivation (e.g., Jowett et al., 2013), and autonomous motivation has been positively linked with prosocial behaviors, especially toward teammates (see Kavussanu & Stanger, 2017). Therefore, it is possible that perfectionism may be linked with prosocial and antisocial behavior in sport via motivational regulation, which would be an interesting avenue for future research.

In the present research, perfectionism was measured as a personality disposition in sport. However, researchers have recently identified that the social climate could also be conducive to perfectionistic tendencies, referred to as perfectionistic climate (Grugan et al., 2021; Hill & Grugan, 2020).

Research investigating the links between perfectionistic climate with prosocial and antisocial behavior in sport would also offer a fruitful avenue for future research.

Practical implications

Some practical implications could be proposed based on the current research. First, athletes high in perfectionism appear more likely to apply mechanisms of moral disengagement that could contribute in engagement in antisocial behaviors. Therefore, coaches and other sport practitioners (e.g., sport psychologists, athlete support personnel and governing bodies) would benefit from attempting to understand levels of perfectionism and employ strategies to help manage such perfectionistic tendencies in their athletes. One theoretical approach to help reduce perfectionistic tendencies in athletes is by avoiding or de-emphasizing a perfectionistic climate (e.g., Grugan et al., 2021; Hill & Grugan, 2020). This could be facilitated via promoting a socially supportive environment where athletes feel cared for, and encouraged, without fear of unwarranted criticism. Also, by ensuring expectations for success of athletes (and also coaches and other support staff) are kept realistic and not with expectations of reaching excessively high, and unrealistic, standards. The facilitation of athletes feeling in control to develop their own realistic goals and standards would also help to reduce perfectionistic tendencies, such as via promoting an autonomy supportive climate where choice and input from athletes in the decision-making is valued and encouraged (e.g., Deci & Ryan, 2000).

Given that burnout was inversely linked with prosocial behavior toward teammates (in the correlational analyses) and indirectly linked with antisocial behaviors via being positively linked with moral disengagement, interventions aiming to reduce the risk of burnout should help in the regulation of such behaviors. Based on reviews examining interventions to prevent burnout in non-sport (e.g., West et al., 2016) and literature in sport contexts (e.g., Madigan et al., 2019; Smith et al., 2019), multi-level interventions that simultaneously address the individual needs and the sport structure, aiming to reduce stress and improve social and coping resources tend to be effective (Gustafsson et al., 2011). As an example, creating autonomy supportive motivational climates (e.g., acknowledging athletes’ perspectives, valuing autonomous decisions and independent thinking) (e.g., Amorose & Anderson-Butcher, 2015) and a socially supportive environment (e.g., Hartley & Coffee, 2019) may help to buffer against burnout. Accordingly, implementing interventions aiming to reduce stress including enhancing social support and coping resources among athletes and coaches seem likely to help reduce the risk of burnout (e.g., Gustafsson et al., 2011).

Conclusion

In conclusion, this research was the first to examine the potential mediating role of both burnout and moral disengagement in the relationship between perfectionism and both prosocial and antisocial behaviors in sport. These findings highlight perfectionistic concerns to be linked with higher frequency of antisocial behaviors via being positively

associated with higher burnout and moral disengagement and associated with lower engagement in prosocial behavior toward teammates. In contrast, perfectionistic strivings had associations with some positive outcomes, including higher engagement in prosocial behavior toward teammates and lower burnout. However, perfectionistic strivings also had indirect associations with higher antisocial behaviors in sport via moral disengagement. These findings suggest that interventions aiming to address perfectionistic tendencies, especially perfectionistic concerns, could help contribute to reducing burnout, moral disengagement and antisocial behaviors in sport.

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Data availability statement

Since public data sharing was not written into the approved ethics application for this study, and we do not have consent from participants to share their individual scores in datasets in the public domain, datasets comprising individual results cannot be made available. We only have consent to report results from our analysis for research purposes when combined across the participant sample.

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