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A Preliminary Examination of Perfectionistic Self-Presentation and Doping in Athletes

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Abstract

Perfectionism has been linked to doping in sport. However, research to date has focused on trait perfectionism, and has neglected other, possibly relevant aspects of perfectionism. One such aspect is perfectionistic self-presentation – the interpersonal expression of perfectionism. Therefore, the aim of the present research note was to provide a first exploratory examination of whether perfectionistic self-presentation is related to doping in sport. To do so, we recruited two samples of athletes (total $N = 362$) who responded to measures of perfectionistic self-presentation (perfectionistic self-promotion, nondisplay of imperfection, nondisclosure of imperfection), positive attitudes towards doping (Sample 1), and doping willingness (Sample 2). Results of bivariate correlational analyses, showed that nondisclosure of imperfection was positively correlated with positive attitudes towards doping, and perfectionistic self-promotion and nondisplay of imperfection were positively correlated with doping willingness. When controlling for the overlap between perfectionistic self-presentation dimensions, in regression analyses, only nondisclosure of imperfection emerged as a positive predictor of positive attitudes towards doping (Sample 1). The findings provide tentative evidence that perfectionistic self-presentation may be associated with doping, at least at the bivariate level, and in doing so, highlights the need for future doping research to consider other aspects of perfectionism.

Keywords: perfectionism, doping attitudes, doping willingness

Introduction

Doping continues to be a part of sport (WADA, 2021). This is despite consistent improvements in education and testing processes and procedures. As well as undermining fair competition, certain banned performance enhancing substances can pose a significant risk to an athletes' physical and mental health. Therefore, social science researchers are continually seeking to understand the reasons underpinning athletes' decisions to dope. This work has implicated many factors in the development of doping behaviour, and this includes a range of personality characteristics (e.g., Nicholls et al., 2020). Aligned with prominent theoretical models, and ongoing work in this area, in the present research note we focus on perfectionism as a key personality factor predisposing athletes to doping.

At its broadest, perfectionism can be viewed as a trait that represents the perceived or actual need to be perfect (Hewitt & Flett, 1991) and is a deep-rooted way of viewing and interpreting the world. From this perspective, trait perfectionism is viewed as a multidimensional characteristic that involves two dimensions: perfectionistic strivings (the setting of excessive performance standards) and perfectionistic concerns (reacting overly critically to imperfection; Frost et al., 1990). Research has shown that these dimensions are important for many areas of an athlete's sporting experiences. This includes associations with wellbeing (e.g., depression), motivation (e.g., ego orientation), and performance outcomes (Hill et al., 2018).

Trait perfectionism has also been linked to doping. Theoretically, it has been argued that trait perfectionism instils a win-at-all-costs approach to competitive sport, and that this is especially the case for perfectionistic concerns (Flett & Hewitt, 2016). This approach may manifest in a willingness to do anything to succeed including taking banned performance-enhancing substances. Meta-analytic evidence supports this theoretical link. Specifically, Madigan et al. (2020) found that aspects of perfectionistic concerns (i.e., concern over

mistakes and negative reactions to imperfection) predicted more positive attitudes towards doping in athletes (defined as beliefs that using banned performance enhancing substances or methods is socially acceptable and necessary). More recent work supports these ideas also in context of athletes' willingness to dope (defined as an athletes' openness to dope in certain risk conducive circumstances; Jowett et al., 2023).

Importantly, however, perfectionism also has other components. Relevant to the present work is an interpersonal self-presentational style known as perfectionistic self-presentation. As articulated by others, while trait perfectionism encapsulates who people are, perfectionistic self-presentation encapsulates how people would like to be viewed (Pratt et al., 2023). Perfectionistic self-presentation is comprised of three dimensions: perfectionistic self-promotion (always promoting oneself as a picture of perfection to others), nondisplay of imperfection (avoidance of behavioural displays of imperfection to others), and nondisclosure of imperfection (avoidance of verbally expressing or admitting imperfections to others; Hewitt et al., 2003). Consequently, perfectionistic self-presentation could be viewed as the interpersonal expression of perfectionistic traits. Attesting to this idea, there is a small but growing body of work that suggests that, independent of trait perfectionism, these dimensions are relevant to a range of outcomes in sport (e.g., body image concerns; Paixão et al., 2021).

There is reason to believe that perfectionistic self-presentation may be highly salient for doping. The need to portray a perfect image and hide any imperfections from others may mean that perfectionistic athletes become particularly cognizant of performance outcomes and especially normative comparisons. To maintain a façade of perfection, then, perfectionistic athletes may reach for both legal and illicit methods to enhance performance. Doping may be used to mask any perceived imperfections, shortcomings, mistakes, or flaws from others. It is thus possible that perfectionistic self-presentation may help us further

understand the role that perfectionism has to play in doping.

The Present Study

Against this background, the aim of the present research note was to provide a first exploration of perfectionistic self-presentation and doping in athletes. In doing so, we examined two doping outcomes that have been the focus of trait perfectionism and doping research – positive attitudes towards doping and doping willingness. We had two goals. The first was to determine whether dimensions of perfectionistic self-presentation were related to either of these doping outcomes, and, the second, was to determine which of the dimensions (perfectionistic self-promotion, nondisplay of imperfection, nondisclosure of imperfection) may be the most relevant. We expected that all three dimensions of perfectionistic self-presentation would be positively related to positive attitudes towards doping and doping willingness. In addition, we expected that perfectionistic self-promotion may show the strongest positive relationships because it reflects a narcissistic, self-aggrandizing style that could underpin an over-confident, even arrogant attitude toward doping, and a heightened willingness to dope (Hewitt et al., 2003). By contrast, non-display and non-disclosure of imperfection reflect neurotic concealment styles more likely to be associated with doping as a last resort (Hewitt et al., 2003). We tested these ideas by recruiting two samples – one for each doping outcome.

Method

Participants and procedure

Sample 1. Participants from Sample 1 were 151 athletes (82 male, 69 female) from a range of team (e.g., soccer; n = 89) and individual (e.g., athletics; n = 62) sports. Participants' mean age was 26.84 years (SD = 9.85) and they trained on average 5.80 hours per week (SD = 5.05). We used Sample 1 to examine the relationship between perfectionistic self-presentation and positive attitudes towards doping.

Sample 2. Participants from Sample 2 were 211 athletes (87 male, 124 female) again from a range of team (e.g., soccer; n = 92) and individual (e.g., athletics; n = 119) sports. Participants' mean age was 36.74 years (SD = 13.39) and they trained on average 7.22 hours per week (SD = 3.80). We used Sample 2 to examine the relationship between perfectionistic self-presentation and doping willingness.[1]

The first and second authors' university ethics committee approved the study. Local sports clubs and participants were contacted via personal networks. All athletes competed at regional level or above. Participants were provided with an information sheet highlighting the nature of the study and possible ethical considerations, they then provided informed consent, and completed an online version of the questionnaires anonymously (via Qualtrics).

Measures

Perfectionistic self-presentation. We used the perfectionistic self-presentation scale (PSPS) to measure perfectionistic self-presentation (Hewitt et al., 2003). The PSPS includes 27-items across three subscales: Perfectionistic self-promotion, captured using a 10-item subscale (e.g., "I always present a picture of perfection"); Nondisplay of imperfection, captured using a 10-item subscale (e.g., "it would be awful if I made a fool of myself in front of others"); Nondisclosure of imperfection, captured using a 7-item subscale (e.g., "admitting failure to others is the worst possible thing"). Responses were scored using a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). There is evidence for the validity and reliability of the PSPS (Hewitt et al., 2003).

Positive attitudes towards doping. We used the Short-Performance Enhancement

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[1]Our sample sizes were based on (1) providing the means to detect small effects similar to those reported for trait aspects of perfectionism in relation to doping previously (i.e., r = .21; Madigan et al., 2020), (2) ensuring minimum criteria based on relevant heuristics (e.g., $N > 50 + 8m$ [where m is the number of predictors]; Green, 1991; see also Tabachnick & Fidell, 2013).

Attitude Scale (PEAS; Nicholls et al., 2017; Petróczi & Aidman, 2009) to measure positive attitudes towards doping. The PEAS includes 8-items capturing positive attitudes towards doping (e.g., "Doping is necessary to be competitive"). Responses were scored using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Thus, higher scores represented more positive attitudes towards doping behaviours in sport. There is evidence for the validity and reliability of the PEAS (Nicholls et al., 2017).

Doping willingness. We used the Doping Willingness in Sport Scale (DWiSS; Stanger et al., 2020) to measure doping willingness. The DWiSS includes 8-items capturing doping willingness preceded by the stem "Would you be willing to use a banned substance if…" (e.g., "You were struggling to keep up in training/competition with those around you"). Responses were scored using a 5-point Likert scale ranging from 1 (*not at all willing*) to 5 (*extremely willing*). There is evidence for the validity and reliability of the DWiSS (Stanger et al., 2020).

Data screening

Because outliers can exert disproportionate influence on analyses and subsequent conclusions, following recommendations (e.g., Aguinis et al., 2013), data were first screened for univariate (Z score > ±3.29) and multivariate outliers (Mahalanobis distance larger than the critical value of $\chi^2_{(3)} = 16.266$, $p < .001$). For Sample 1, there were no outliers. For Sample 2, there were 4 univariate and 1 multivariate outlier. The final sample sizes were therefore Sample 1 ($N = 151$) and Sample 2 ($N = 206$). We then computed skewness and kurtosis and Omega for our variables which all supported the normality and internal consistency of the scales (see Table 1).

Results

Descriptive statistics and correlations

Means, standard deviations, and correlations can be found in Table 1. Effect size

interpretations were based on Cohen (1992). In both samples, dimensions of perfectionistic self-presentation showed large positive intercorrelations. In Sample 1, nondisclosure of imperfection showed a significant small-to-medium positive correlation with positive attitudes towards doping, whereas perfectionistic self-promotion and nondisplay of imperfection were not significantly correlated with positive attitudes towards doping. In Sample 2, perfectionistic self-promotion and nondisplay of imperfection showed significant small-to-medium positive correlations with doping willingness, whereas nondisclosure of imperfection was not significantly correlated with doping willingness.

Multiple regression analyses – Positive doping attitudes (Sample 1)

Next, we conducted a multiple regression analysis with dimensions of perfectionistic self-presentation as predictors and positive attitudes towards doping as the dependent variable. The results of the regression analysis indicated that together dimensions of perfectionistic self-presentation explained 5% of the variance in positive attitudes towards doping (R^2 = .05; $F(3, 147) = 2.72$, p = .03). Perfectionistic self-promotion (β = .08, B = .05, p = .55) and nondisplay of imperfection (β = –.16, B = -.09, p = .21) were nonsignificant predictors of positive attitudes towards doping, while nondisclosure of imperfection emerged as a significant positive predictor (β = .24, B = .16, p = .04).[2]

Multiple regression analyses – Doping willingness (Sample 2)

Finally, we conducted a multiple regression analysis with dimensions of perfectionistic self-presentation as predictors and doping willingness as the dependent variable. The results

[2]We also calculated Variance Inflation Factors (test of multicollinearity) for our regression analyses. For Sample 1, these were: Perfectionistic self-promotion = 2.59, nondisplay of imperfection = 2.48, and nondisclosure of imperfection = 2.06. For Sample 2, these were: Perfectionistic self-promotion = 3.52, nondisplay of imperfection = 3.37, and nondisclosure of imperfection = 2.08. Based on suggested cut-off criteria (e.g., Akinwande et al., 2015), these suggest that multicollinearity was not a problem for our subsequent analyses.

of the regression analysis indicated that together dimensions of perfectionistic self-presentation explained 6% of the variance in doping willingness (R^2 = .06; F(3, 202) = 4.33, p = .004). Perfectionistic self-promotion (β = .15, B = .07, p = .22), nondisplay of imperfection (β = .19, B = .09, p = .13), and nondisclosure of imperfection were nonsignificant predictors of doping willingness (β = –.16, B = -.08, p = .11).

Discussion

The aim of the present research note was to provide an initial examination of perfectionistic self-presentation and doping in athletes. We were also interested in determining which of the dimensions of perfectionistic self-presentation was most relevant to this relationship. We found some evidence at the bivariate level that dimensions of perfectionistic self-presentation were associated with positive attitudes towards doping and doping willingness. In this regard, nondisclosure of imperfection was positively correlated with positive attitudes towards doping (Sample 1), and perfectionistic self-promotion and nondisplay of imperfection were positively correlated with doping willingness (Sample 2). When controlling for the overlap between perfectionistic self-presentation dimensions, in contrast to our expectations, only nondisclosure of imperfection was a positive predictor of positive attitudes towards doping.

Trait perfectionism has been found to consistently predict doping in athletes (Madigan et al., 2020). Our findings provide somewhat more mixed support when the interpersonal presentational aspects of perfectionism are considered. We did however find tentative evidence at the bivariate level that the interpersonal presentational aspects of perfectionism may be relevant for understanding doping. Much like research outside of sport that has shown perfectionistic self-presentation to be linked to anti-social behaviours (e.g., Miranda & Duarte, 2022), our findings offer the first hints that it may have implications for illicit behaviours in sport. Therefore, because it is so far a less researched component of

perfectionism in sport, further research examining perfectionistic self-presentation in context of doping is warranted. This is especially important in the context of the relatively small amount of variance that was explained by perfectionistic self-presentation.

In regards to positive attitudes towards doping, only nondisclosure of imperfection emerged as a significant correlate and predictor in our analyses. As doping is an illicit behaviour, it is possible that for perfectionistic athletes, engaging in doping is considered an imperfection, and therefore not something that they would disclose. Nonetheless, our results show that athletes with high levels of perfectionistic self-presentation are willing to adopt imperfect means (i.e., doping) to achieve their goal of appearing perfect to others. When viewed in this manner, it is unsurprising that this particular aspect which reflects concealing mistakes and imperfections appears tied to more positive attitudes towards doping. Because such athletes do not want to share their concerns and failures, doping may also be seen as a means to avoid (reduce the risk) of other mistakes or imperfections, and associated future disclosure – and this is reflected by more positive attitudes towards doping. This may be in a similar manner to how moral disengagement helps explain why trait perfectionism is related to doping (see Jowett et al., 2023).

Both perfectionistic self-promotion and nondisplay of imperfection emerged as significant correlates of doping willingness. Willingness represents an athlete's openness to dope under certain risk conducive circumstances. It is possible therefore that when perfectionistic athletes fear their perfect image is threatened, they seek doping as a means to preserve this image. This could be particularly relevant in circumstances where behaviour can be interpreted as a mistake or failure such as competitive performance (e.g., Chen et al., 2022). Doping, therefore, becomes the means to avoid such situations. These findings were at odds with the regression analyses (where no dimension emerged as a significant predictor). Thus, possible suppression effects may be at play when all dimensions are considered

simultaneously (see Stoeber & Gaudreau, 2017). This issue is worthy of examination in future work.

The correlational findings suggest that the dimensions of perfectionistic self-presentation may have differential relationships with doping depending on the doping outcome that is examined. One possible explanation for this lies in the manner in which the different perfectionistic self-presentation dimensions manifest. In particular, nondisclosure of imperfection is concerned with avoiding *verbal* disclosures of imperfection, whereas both perfectionistic self-promotion and nondisplay of imperfection are primarily concerned with *behavioural* displays of (im)perfection. Consequently, it is possible that because beliefs about doping are more likely to be expressed verbally, nondisclosure of imperfection is more relevant to positive attitudes towards doping. Likewise, because doping willingness is concerned with behaviours (in specific circumstances), perfectionistic self-promotion and nondisplay of imperfection are more important. This initial explanation warrants further exploration. However, overall, the findings tentatively link perfectionistic self-presentation with doping outcomes, but the exact nature of the relationships between individual dimensions and doping outcomes is still to be determined.

Limitations and Future Research

First, we note that although typical for research in this area, effect sizes could be considered small. Given that, when viewed broadly, doping is a dichotomous variable (doping or not), it is possible that even small effects are meaningful when translated beyond other relevant outcomes (see also Ntoumanis et al., 2024). Moral perfectionism could also help explain the relative strength of the relationships. For example, it is possible that athletes may wish to self-promote perfectionism, or avoid displaying or disclosing imperfection, in moral terms. An athlete high in perfectionistic self-presentation therefore may also promote themselves as being a picture of perfection by appearing moral as well (and thereby not want

to be seen to engage in illicit behaviors such as doping). Initial research that has examined the associations between moral perfectionism and doping likelihood (e.g., Ring et al., 2020) supports this possible idea.

Second, we note, like others, that participants reported, on average, low levels of doping attitudes. This phenomenon has been denoted as a more negative prevailing doping attitude (Folkerts et al., 2021) and although in our study we were interested in understanding variance in these scores (rather than scores themselves), these findings should be considered in this vein. In addition, although scores on the PEAS have found to be reliable across samples (Folkerts et al., 2021), and are related to doping use (Ntoumanis et al., 2024), future work may benefit from quantifying specific attitudes (e.g., for me, doping would be good/bad).

Third, we did not concurrently measure trait aspects of perfectionism. Future studies interested in answering which components of perfectionism are most relevant – trait or perfectionistic self-presentation – should be conducted (see Casale et al., 2020). Furthermore, based on previous work in this area (e.g., Mackinnon & Sherry, 2012), it is possible that perfectionistic self-presentation could play a mediational role in the trait perfectionism-doping relationship, testing such a process would be an interesting avenue for future work. Similarly, no study has yet explored the role of the other component in Hewitt and Flett's model of perfectionism – perfectionistic cognitions – in relation to doping. This would be an interesting addition to the literature and provide a comprehensive understanding of perfectionism and doping in sport (see also Ring et al., 2019).

Fourth, we relied on self-report measures of doping outcomes. Because doping is an illicit behaviour and is notoriously difficult to measure, we employed two widely used and psychometrically tested measures, but further work examining other outcomes, or objective behaviours would be beneficial in understanding the role of perfectionism.

Fifth, although evidence regarding socially desirable responding and self-report doping measures is mixed (e.g., Lazuras, Barkoukis, & Tsorbatzoudis, 2015), future work would benefit from measuring and controlling for it, and in doing so provide a stronger test of the proposed hypotheses.

Finally, our study adopted a cross-sectional design. Consequently, we are limited in our ability to make causal inferences. Future work should therefore seek to test the present study's hypotheses using longitudinal designs that provide, at least, tests of temporal precedence.

Conclusion

The findings provide tentative evidence that perfectionistic self-presentation may be associated with doping, at least at the bivariate level. In this regard, dimensions of perfectionistic self-presentation may be differentially associated with different doping outcomes. In doing so, the findings highlight the need for doping research to consider different aspects of perfectionism.

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Table 1.

Descriptive Statistics, Omega, and Bivariate Correlations for Sample 1 and 2

	Sample 1				Sample 2			
Variable	1	2	3	4	1	2	3	4
1. Perfectionistic self-promotion								
2. Nondisplay of imperfection	.75**				.82**			
3. Nondisclosure of imperfection	.68**	.66**			.68**	.67**		
4. Positive attitudes towards doping /Doping willingness	.11	.04	.20*		.21*	.21*	.08	
M	3.52	4.05	3.15	1.92	3.45	3.94	3.10	1.35
SD	1.10	1.91	1.08	0.69	1.19	1.20	1.05	0.56
Skewness	0.54	0.04	0.65	0.90	0.25	-0.11	.41	0.20
Kurtosis	0.13	-0.11	0.25	0.36	-0.58	-0.72	-.13	0.36
Omega	.87	.89	.81	.79	.90	.89	.81	.88

Note. Sample 1 $N = 151$. Sample 2 $N = 206$. *$p < .05$. **$p < .001$. Positive attitudes towards doping were measured in Sample 1 and doping willingness in Sample 2.