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Perfectionistic Self-Presentation and Orthorexia in Exercisers

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Abstract

Purpose: The present study aimed to provide the first examination of whether perfectionistic self-presentation – an interpersonal expression of perfectionism – is related to orthorexia.

Methods: We recruited a sample of 150 exercisers (Mean age = 27.7 years). Participants completed the Perfectionistic Self-Presentation Scale and the ORTO-15 on a single occasion.

Results: Two dimensions of perfectionistic self-presentation – perfectionistic self-promotion and nondisplay of imperfection – showed significant positive correlations with orthorexia. In addition, in multiple regression analyses controlling for the overlap between dimensions, perfectionistic self-promotion emerged as the strongest and only significant predictor of orthorexia.

Conclusion: Perfectionistic self-presentation is positively associated with orthorexia in exercisers. Perfectionistic self-promotion – a need to portray an image of perfection to others – is primarily responsible for this relationship.

Level of evidence: Cross-sectional study, Level V.

Keywords: disordered eating, eating disorder, perfectionism, exercise, orthorexia

Introduction

Pressures to eat, exercise, and look a certain way are ubiquitous in modern society [1]. One growing concern is that these pressures may be contributing to a rise in orthorexia. Orthorexia is a pathological obsession with proper nutrition that is characterised by a restrictive diet, ritualised patterns of eating, and rigid avoidance of foods believed to be unhealthy [2]. While concern over what one eats is important to a healthy lifestyle, orthorexia reflects an extreme fixation with diet and is unhealthy. Notably, although it is unclear whether orthorexia is an antecedent or consequence of clinical eating disorders, research has clearly signalled they are related [3-5]. For this reason, researchers have sought to examine how orthorexia develops and the factors that predispose individuals to orthorexic behaviours.

There are many factors implicated in the development of orthorexia. These include personal factors (such as neuroticism) [6], and higher prevalence rates of orthorexia have been found based on various demographic (such as age) and lifestyle factors (such as exercise engagement) [3]. In order to further our understanding of its development, McComb and Mills [7] recently proposed a psychosocial model of orthorexia. This model posits that a mix of social factors (such as income, availability of food, and reinforcement from others) and psychological factors (such as drive for thinness, fear of losing control, and perfectionism) increase the risk of developing orthorexia. Aligned with this model, here, we focus on perfectionism and its interpersonal expression as a key factor in predisposing people to greater risk of orthorexia.

Perfectionism is a personality characteristic that incorporates the perceived or actual need to be perfect [8]. As a trait, perfectionism is an engrained way of thinking, feeling, and behaving. Research indicates that trait perfectionism is a significant vulnerability to mental and physical ill-health. Importantly, too, trait perfectionism has been implicated in the

development of clinical eating disorders. This has been confirmed by meta-analytic evidence illustrating that perfectionism predicts increased disordered eating, anorexia, and bulimia symptomology [9].

There is an emerging body of evidence that suggests perfectionism may also be associated with orthorexia. So far, five studies have examined this relationship, and all have focused on trait perfectionism [7]. Across these studies, a consistent pattern of relationships has emerged. Specifically, this work has shown that no matter which particular measure or dimensions of perfectionism are examined, trait perfectionism positively predicts orthorexia. In addition, this relationship is consistent across a range of demographic factors such as country of origin [7]. It appears, then, as McComb and Mills [7] suggest, trait perfectionism may increase the likelihood of orthorexia.

Perfectionism can also manifest as an interpersonal self-presentational style – known as perfectionistic self-presentation [10]. Perfectionistic self-presentation has 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 admitting imperfections to others) [10]. These dimensions have been examined in a range of contexts and have been shown to be relevant to numerous emotional, health, and wellbeing outcomes, including clinical eating disorders [11-15]. Importantly, the dimensions predict various outcomes independent of trait perfectionism and are therefore worthy of consideration separately from typical perfectionistic qualities.

With this in mind, there is reason to suspect that perfectionistic self-presentation may be especially important in the development of orthorexia. This is because when the need to appear perfect is applied to one's appearance (as opposed to life in general), individuals may be more likely to experience rigid thoughts and behaviours about their body and diet, and

adjust their eating habits accordingly [7,15]. The link between perfectionistic self-presentation and orthorexia may be particularly evident among groups that display a commitment to other apparently healthy behaviours, too, such as exercisers, in the same way that this group displays other extreme behaviours like exercise dependence [16]. Indeed, there are clear parallels in the way that exercise may be used as a coping mechanism for perfectionistic stress and the way that rigid eating behaviours may also be used for the same purpose [7].

The present study

To date, no study has explored whether perfectionistic self-presentation is actually related to orthorexia. Consequently, the aim of the present study was to provide a first such examination. In doing so, we recruited a sample of exercisers who may be at risk of orthorexia. We also sought to examine which of the dimensions of perfectionistic self-presentation is most important in predicting orthorexic behaviours.

Method

Participants and procedure

A sample of 150 exercisers (76 male, 74 female) were recruited directly from gyms and fitness centres in the north of England to participate in the present study. Participants' mean age was 27.7 years (*SD* = 8.61) and they exercised on average 3.5 days per week (*SD* = 0.97). Participants average BMI was 25.10 (SD = 6.04). A university ethics committee approved the study. Participants were eligible for the present study if they exercised on average three times per week. Informed consent was obtained from all participants and participants completed questionnaires in person.

Measures

Perfectionistic self-presentation. The perfectionistic self-presentation scale (PSPS) was used to assess perfectionistic self-presentation [10]. The PSPS includes 27-items across

three subscales: Perfectionistic self-promotion, captured using a 10-item subscale (for example, “I always present a picture of perfection”); Nondisplay of imperfection, captured using a 10-item subscale (for example, “it would be awful if I made a fool of myself in front of others”); Nondisclosure of imperfection, captured using a 7-item subscale (for example, “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*). Higher scores reflect greater levels of perfectionistic self-presentation. There is evidence for the validity and reliability of the PSPS [10].

Orthorexia. The ORTO-15 was used to measure orthorexic symptomatology [17]. The ORTO-15 includes one subscale of 15-items. Items measure attitudes towards buying, preparing, and consuming food (for example, “does the thought of food worry you for longer than 3 hours a day,” “are you willing to spend more money to have healthier food,” and “at present, are you alone when having meals”). Responses were scored using a 4-point Likert scale ranging from 1 (*always*) to 4 (*never*). Higher scores reflect lower levels of orthorexic symptoms (effect sizes are reversed so as to aid interpretability). There is evidence for the validity and reliability of the ORTO-15 [17].

Data screening

First, we inspected the data for missing values. Because very few item responses were missing ($i = 11$), missing responses were replaced with the mean of the item responses of the corresponding scale (ipsatised item replacement). Next, we computed Cronbach’s alphas for our variables which were all satisfactory (see Table 1). Then, data were screened for univariate and multivariate outliers. No participant showed a Z score > 3.29 or Mahalanobis distance larger than the critical value of $\chi^2_{(4)} = 18.467$, $p < .001$.

Results

Descriptive statistics and correlations

First, we inspected the correlations between all variables (see Table 1). Dimensions of perfectionistic self-presentation showed large positive intercorrelations. Both perfectionistic self-promotion and nondisplay of imperfection showed significant medium positive correlations with orthorexia. Finally, nondisclosure of imperfection showed a nonsignificant small positive correlation with orthorexia.[1]

Multiple regression analyses

Next, we conducted a multiple regression analysis with dimensions of perfectionistic self-presentation as predictors and orthorexia as the dependent variable. The results of the regression analysis indicated that together dimensions of perfectionistic self-presentation explained 15% of the variance in orthorexia (R^2 = .154; F $(_{3, 146})$ = 8.78, p = .001). Nondisplay of imperfection (β = .14, p = .31) and nondisclosure of imperfection (β = –.17, p .17) were nonsignificant predictors of orthorexia, while perfectionistic self-promotion emerged as a significant positive predictor (β = .36, p = .006).[2]

Discussion

The aim of the present study was to provide a first examination of whether perfectionistic self-presentation is associated with orthorexia. We also sought to examine which of the dimensions of perfectionistic self-presentation is most important in predicting

[1]We also analyzed orthorexia data based on items from the revised ORTO-R [21]. The findings of which were similar to those for the full-length scale (both perfectionistic self-promotion (r = .36, p < .05) and nondisplay of imperfection (r = .29, p < .05) showed significant medium positive correlations with orthorexia. Nondisclosure of imperfection showed a nonsignificant small positive correlation with orthorexia (r = .13, p > .05). In regression analyses, nondisplay of imperfection (β = .10, p = .47) and nondisclosure of imperfection (β = –.18, p = .10) were nonsignificant predictors of orthorexia, while perfectionistic self-promotion emerged as a significant positive predictor (β = .39, p = .003)). We note however that the revised scale showed a relatively poor internal consistency (Cronbach's alpha = .63) and therefore we base our analyses and discussions on the original ORTO-15.

[2]Betas are reversed to aid interpretability.

orthorexia. In a sample of exercisers, we found that two dimensions of perfectionistic self-presentation – perfectionistic self-promotion and nondisplay of imperfection – showed significant positive correlations with orthorexia. In addition, in multiple regression analyses controlling for the overlap between dimensions, perfectionistic self-promotion emerged as the strongest and only significant predictor of orthorexia.

The study provides the first evidence that the interpersonal expression of perfectionism – perfectionistic self-presentation – is associated with orthorexia. This finding is in line with several previous studies showing positive associations between perfectionistic self-presentation and eating disorders [11,12,15]. It is also in line with the broader perfectionism research that has shown that trait perfectionism is associated with both clinical eating disorders and orthorexia itself [7,9]. It appears that the need to appear perfect imbues a similar risk for unhealthy eating behaviours as being perfectionistic more generally. Future work is necessary to continue this new line of research and help identify why perfectionistic self-presentation appears important in the development of orthorexia and in what ways its contribution may be different from trait perfectionism.

Only perfectionistic self-promotion emerged as a significant positive predictor of orthorexia. This finding is remarkably similar to research that has examined the dimensions of perfectionistic self-presentation and eating disorders (e.g., EAT-26 total score) [11], where perfectionistic self-promotion was also the strongest predictor. It may be that the approach-oriented features of this aspect of portraying a perfectionistic image (i.e., seeking to actively portray perfection as opposed to hiding imperfection) are key to understanding engagement in these types of problematic behaviours. That is, all features of perfectionistic self-presentation entail a commitment to an image of perfection, but the impetus and energy for behaviours such as orthorexia come from beliefs that one should and can be perfect, or beliefs that these behaviours are successful ways of meeting perfectionistic demands and

alleviating perfectionistic stress.

Limitations and future research

The present study has several limitations. First, we adopted a cross-sectional design. Consequently, while our findings provide preliminary evidence for a relationship between perfectionistic self-presentation and orthorexia, future studies should adopt longitudinal designs so as to examine the temporal relationship between these variables. Second, we recruited a sample of exercisers. It is, therefore, unclear whether the present findings will generalise beyond this population. Examining this possibility is a clear avenue for future work. Third, we excluded other aspects of perfectionism that may be of interest to this relationship or account for additional variance (e.g., trait perfectionism). Fourth, previous research has suggested there are problems with the psychometric properties of the ORTO-15 [18]. For that reason, we also examined the relationships with the revised version of this scale (ORTO-R). However, because of evidence of poor internal consistency of the revised version in the present sample, we focused our analyses and discussions on the original version of the scale. Further work is therefore required to retest and possibly refine this measure of orthorexia, especially for use in exercise populations. Fifth, we relied on self-report measures of both constructs of interest. Further work could adopt informant reports so as to reduce the chance of socially desirable responding and common method variance. Finally, given the links between perfectionism and narcissism [19], and the link between narcissism and clinical eating disorders [20], future work may benefit from examining both characteristics together. It is possible the relationship between perfectionistic self-promotion and narcissistic grandiosity may help explain the relationships observed in the current study.

What is already known on the subject?

There is an emerging body of evidence that suggests trait perfectionism is associated with orthorexia. Perfectionism can also manifest as an interpersonal self-presentational style

– known as perfectionistic self-presentation. There is reason to suspect that perfectionistic self-presentation may be especially important in the development of orthorexia.

What does this study add?

This study provides the first examination of the relationship between perfectionistic self-presentation and orthorexia. In this regard, the findings suggest that perfectionistic self-presentation is positively associated with orthorexia. In addition, perfectionistic self-promotion – always promoting oneself as a picture of perfection to others – is primarily responsible for this relationship.

Declarations

Funding. The authors did not receive any funding to conduct this study.

Availability of data and material. Data are available upon reasonable request.

Conflicts of interest. The authors have no conflicts of interest to report.

Ethical approval. The study was approved by a university ethics committee.

Consent to participate. Informed consent was obtained from all participants included in the study.

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Table 1.

Descriptive Statistics, Cronbach's Alphas, Bivariate and Correlations

Variable	1	2	3	4
1. Perfectionistic self-promotion				
2. Nondisplay of imperfection	.80***			
3. Nondisclosure of imperfection	.61***	.69***		
4. Orthorexia	.37***	.32***	.15	
M	3.95	4.07	3.62	41.39
SD	1.14	1.15	1.11	5.62
Cronbach's alpha	.88	.88	.79	.76

Note. $N = 150$. ***$p < .001$. Correlations with orthorexia are reversed to aid interpretability.