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Athletes' Perfectionism and Reasons for Training: Perfectionistic Concerns Predict Training for Weight Control

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Abstract

Exercise and training for sports are associated with a number of psychological and health benefits. Research on exercise, however, suggests that such benefits depend on the reasons why individuals participate in sport. The present study investigated whether individual differences in perfectionism predicted different reasons for training and examined four dimensions of perfectionism (perfectionistic strivings, perfectionistic concerns, coach pressure to be perfect, parental pressure to be perfect) and three reasons for training (avoidance of negative affect, weight control, mood improvement) in 261 athletes (mean age 20.9 years). Regression analyses showed that perfectionistic concerns positively predicted avoidance of negative affect and weight control, whereas perfectionistic strivings positively predicted mood improvement. The findings suggest that individual differences in perfectionism help explain why athletes train for different reasons.

Keywords: perfectionism; athletes; reasons for training; avoidance of negative affect; weight control; mood improvement; compulsive exercise; gender

1. Introduction

Exercise and training for sports are associated with a number of psychological and health benefits (e.g., reduced depression and stress; Craft & Landers, 1998). Exercise and training, however, may also have negative outcomes when individuals participate in sport for the "wrong" reasons. For example, exercising for appearance-related reasons has been associated with lower psychological well-being (e.g., lower self-esteem and higher anxiety; Maltby & Day, 2001). The same can be expected for certain reasons why athletes participate in training (cf. Ommundsen & Roberts, 1996). Consequently, research has sought to find factors that explain individual differences in reasons for training. One such factor may be perfectionism.

1.1. Perfectionism

Perfectionism is a multidimensional personality disposition characterized by striving for flawlessness and setting exceedingly high standards for performance accompanied by tendencies for overly critical evaluations of one's behavior (Flett & Hewitt, 2002). As such, certain dimensions of perfectionism have been associated with negative outcomes such as anxiety and depression (Flett & Hewitt, 2002). In sport, perfectionism is usually conceptualized as comprising four dimensions: perfectionistic strivings, perfectionistic concerns, parental pressure to be perfect, and coach pressure to be perfect (Anshel & Eom, 2003; Dunn, Causgrove Dunn, et al., 2006). Perfectionistic strivings reflect athletes' self-oriented striving for perfection and setting of exceedingly high personal standards of performance. In contrast, perfectionistic concerns reflect athletes' concerns over making mistakes, feelings of discrepancy between one's expectations and performance, and negative reactions to imperfection. Parental pressure to be perfect reflects athletes' perceptions that their parents expect them to be perfect and criticize them if they fail to deliver. Coach pressure to be perfect is the same as parental pressure, except that it is the coach who is perceived as expecting perfection and being critical.

1.2. Perfectionism and reasons for training

Research on perfectionism in sport has produced evidence that athletes high in perfectionism approach training differently from those low in perfectionism. For example, perfectionistic runners may train harder and for longer than non-perfectionistic runners (Coen & Ogles, 1993). Moreover, studies have shown that perfectionism is associated with reasons for compulsive exercise (Taranis & Meyer, 2010). However, training is a goal-directed behavior that emphasizes athletic achievement and consists of regular competition against others, whereas compulsive exercise is a driven behavior that is not directed toward a rational or reasonable goal. Hence, athletes' reasons for training may differ from their reasons for compulsive exercise. So far, however, no study has investigated the relationships between athletes' perfectionism and their reasons for training.

1.3. The present study

Against this background, the aim of the present study was to examine whether multidimensional perfectionism in sport (perfectionistic strivings, perfectionistic concerns, coach pressure to be perfect, parental pressure to be perfect) explains differences in athletes' reasons for training regarding avoidance of negative affect, weight control, and mood improvement (Plateau et al., 2014). Based on previous research on perfectionism and reasons for compulsive exercise (Taranis & Meyer, 2010), we expected perfectionism to explain individual differences in athletes' reasons for training. However, we had no specific hypotheses which perfectionism dimension would predict which reasons. Hence the study was largely exploratory.

2. Method

2.1. Participants and procedure

A sample of 261 athletes (192 male, 69 female) was recruited from sports academies, university teams, and local sports clubs in the south-east of England. Participants' mean age was

20.9 years (*SD* = 6.3; range: 16-45 years). Participants were involved in different sports (65 soccer, 56 rugby, 39 athletics, 24 cycling, 22 netball, 19 basketball, and 36 other sports [e.g., tennis, hockey]) training on average 9.9 hours a week (*SD* = 6.1). Questionnaires were distributed during training in the presence of the first author (58%), or athletes completed an online version of the questionnaire (42%).

2.2. Measures

2.2.1. Perfectionism in sport

To measure perfectionism in sport, we used the Multidimensional Inventory of Perfectionism in Sport (MIPS; Stoeber et al., 2006). The MIPS comprises four subscales: Striving for Perfection capturing perfectionistic strivings (5 items; "I strive to be as perfect as possible"), Negative Reactions to Imperfection capturing perfectionistic concerns (5 items; "I feel extremely stressed if everything does not go perfectly"), Parental Pressure to be Perfect (8 items; "My parents expect my performance to be perfect"), and Coach Pressure to be Perfect (8 items; "My coach expects my performance to be perfect"). All subscales have demonstrated reliability and validity in previous studies (e.g., Madigan, Stoeber, & Passfield, 2016; Stoeber, Stoll, Salmi, & Tiikkaja, 2009). Participants indicated to what degree each statement characterized their attitudes in their sport on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

2.2.2. Reasons for training

To measure reasons for training, we used Plateau et al.'s (2014) version of the Compulsive Exercise Test (CET) capturing avoidance of negative affect (6 items; "If I cannot exercise I feel angry and/or frustrated"), weight control (4 items; "I exercise to burn calories and lose weight"), and mood improvement (5 items; "Exercise improves my mood"). To adapt the CET to the training domain, we contextualized the items by changing all instances of "exercise" to "train"/ "training" (e.g., "If I cannot exercise I feel angry and/or frustrated" to "If I cannot train I feel

angry and/or frustrated"; see Supplementary Material). In addition, instructions told participants that the statements concerned their experience in training. Participants indicated to what degree each reason applied to them on a scale from 0 (*never true*) to 5 (*always true*).

2.3. Data screening

We computed scale scores by averaging responses across items and using ipsatized item replacement of missing data (Graham, Cumsille, & Elek-Fisk, 2003). All scores showed acceptable reliability (see Cronbach's alphas in Table 1). Because multivariate outliers can severely distort the results of correlation and regression analyses, we inspected the scores for multivariate outliers but no participant showed a Mahalanobis distance larger than the critical value of $\chi^2(9) = 27.88$, $p < .001$ (Tabachnick & Fidell, 2007).

3. Results

First, we calculated descriptive statistics (Table 1). Then, we examined the correlations of perfectionism with reasons for training (see again Table 1). The four perfectionism dimensions displayed a differential pattern of significant correlations. Perfectionistic strivings, perfectionistic concerns, and coach pressure to be perfect all showed positive correlations with avoidance of negative affect whereas only perfectionistic strivings and perfectionistic concerns showed positive correlations with weight control and mood improvement. Parental pressure to be perfect showed no significant correlations with reasons for training.

Next, we examined the unique relationships of the four dimension by computing a series of regression analyses (Table 2). In Step 1, we entered age and gender as control variables because they showed significant correlations with perfectionism and reasons for training (see Table 1). In Step 2, we entered the four perfectionism dimensions. In both steps, predictors were entered simultaneously. Results showed that perfectionism explained significant variance in all three reasons for training with perfectionistic strivings and perfectionistic concerns making different

predictions. Whereas coach pressure and parental pressure did not have any unique effects, perfectionistic strivings and concerns did and made different predictions: Perfectionistic concerns positively predicted avoidance of negative affect and weight control, and perfectionistic strivings positively predicted mood improvement.

4. Discussion

4.1. The present study

This is the first study examining athletes' perfectionism and their reasons for training, and we found that perfectionism showed positive relationships with reasons for training as was expected from research on perfectionism and reasons for compulsive exercise (Taranis & Meyer, 2010). When unique relationships were examined, however, not all perfectionism dimensions showed the same relationships. Whereas perfectionistic concerns showed positive relationships with avoidance of negative affect and weight control, perfectionistic strivings showed a positive relationship with mood improvement.

The present findings are important because they suggest that training for the "wrong" reasons could lead to detrimental outcomes such as attenuating the health benefits associated with sport. The present findings therefore add to the literature that suggests perfectionism may have serious implications for athletes' well-being (e.g., Madigan, Stoeber, & Passfield, 2015). Moreover, the findings suggest that perfectionism plays a role in both non-athletes' reasons for compulsive exercise and in athletes' reasons for training.

Our finding for avoidance of negative affect replicates Taranis and Meyer' finding (2010) that perfectionistic self-criticism (a proxy for perfectionistic concerns) positively correlated with avoidance and rule-driven behavior. It may be that perfectionistic concerns are associated with behavior that is guided by specific rules that, when transgressed, result in negative emotions (Shafran, Cooper, & Fairburn, 2002). Consequently, athletes with perfectionistic concerns may

be more inclined to train to avoid the experience of negative affect.

Previous research suggests that weight control can be maladaptive because weight control reasons for exercise have been linked to disordered eating (e.g., Goodwin, Haycraft, Taranis, & Meyer, 2011). The finding that perfectionistic concerns positively predicted weight control could therefore be explained by perfectionism's association with eating psychopathology. Research on perfectionism and eating psychopathology has shown that perfectionistic concerns are consistently associated with disordered eating (Bardone-Cone et al., 2007). Given Plateau et al.'s (2014) finding that weight control reasons for compulsive exercise were associated with disordered eating, there may also be an association between perfectionistic concerns, training for weight control, and disordered eating.

In contrast, perfectionistic strivings positively predicted training for mood improvement. In contrast to training for weight control, training for mood improvement may not be maladaptive because Plateau et al. (2014) found that exercising for mood improvement was unrelated to disordered eating. On the contrary, training for mood improvement may have adaptive aspects (cf. Maltby & Day, 2001). If so, our findings dovetail with previous findings that perfectionistic strivings are often adaptive whereas perfectionistic concerns are always maladaptive (Gotwals, Stoeber, Dunn, & Stoll, 2012). Moreover, our findings are in line with the dual process theory of perfectionism according to which perfectionism strivings are approach-oriented (mood improvement) whereas perfectionistic concerns are avoidance-oriented (avoidance of negative affect) (Slade & Owens, 1998). Our regression analyses controlled for the overlap between perfectionism dimensions, meaning that the findings demonstrate the unique effects of individual dimensions with the influence of the other dimensions partialled out (Tabachnick & Fidell, 2007).

Finally, it is noteworthy that coach and parental pressure to be perfect did not show any (unique) relationships with reasons for training. This suggests that perceived pressure to be

perfect—while explaining individual differences in athletes' anger reactions (Dunn, Gotwals, Causgrove Dunn, & Syrotuik, 2006) and doping attitudes (Madigan et al., 2016)—may not play a role in athletes' reasons for training. Both the discussed dimensions represent social aspects of perfectionism, and therefore we suggest that athletes' reasons for training may be influenced primarily by personal aspects of perfectionism.

4.2. Limitations and future research

The present study has a number of limitations. First, our sample was predominantly male (73%). Consequently, future studies need to replicate the findings with athlete samples that have a greater proportion of females. Second, because there are no established measures of reasons for training, we adapted Plateau et al.'s CET version to the training domain. Whereas the adaption has face validity (see Supplementary Material) and the positive correlation we found between female gender and weight control is in line with findings that female runners are more likely to run for weight control reasons (Ogles, Masters, & Richardson, 1995), further validation studies are needed. Third, we used the MIPS to measure perfectionistic strivings and concerns. Whereas the scales are reliable and valid indicators of the two higher-order dimensions of perfectionism, future research should investigate whether the present findings replicate when other multidimensional measures of perfectionism in sport are used (see Stoeber & Madigan, in press).

4.3. Conclusions

Our study makes a significant contribution to perfectionism research as the first to examine the relationship between athletes' perfectionism and their reasons for training. In particular, perfectionistic concerns showed positive relationships with avoidance of negative affect and weight control, whereas perfectionistic strivings showed a positive relationship with mood improvement. These findings suggest personal aspects of perfectionism are important for athletes' well-being. Consequently, athletes who strive for perfection and have high levels of

negative reactions to imperfection may be susceptible to training for maladaptive reasons that attenuate the psychological and health benefits associated with training.

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Table 1

Descriptive Statistics, Cronbach's Alphas, and Bivariate Correlations

Variable	1	2	3	4	5	6	7	8
Perfectionism in sport								
1. Perfectionistic strivings								
2. Perfectionistic concerns	.62***							
3. Coach pressure to be perfect	.35***	.37***						
4. Parental pressure to be perfect	.25***	.27***	.48***					
Reasons for training								
5. Avoidance of negative affect	.20**	.31***	.13*	.10				
6. Weight control	.14*	.28**	.08	.09	.44***			
7. Mood improvement	.20*	.14*	.01	.05	.59***	.39***		
8. Age	−.02	−.01	−.13*	−.28***	.21**	.13*	.24***	
9. Gender (female)	.17*	.15*	−.04	−.02	.00	.19**	.03	.06
M	3.27	2.97	2.60	2.05	2.71	2.54	3.37	20.90
SD	0.87	0.89	0.95	1.07	1.11	1.19	0.93	6.30
Cronbach's alpha	.84	.82	.93	.96	.84	.74	.72	n/a

Note. $N = 261$. Gender (female) coded 0 = male, 1 = female. n/a = not applicable.

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

Table 2

Summary of Regression Analyses Predicting Reasons for Training

	Avoidance of negative affect		Weight control		Mood improvement	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1: Control variables	.042**		.059**		.047**	
Age		.20**		.15		.21**
Gender (female)		.00		.18**		.03
Step 2: Perfectionism in sport	.106***		.068**		.054**	
Perfectionistic strivings		.01		–.05		.21**
Perfectionistic concerns		.28***		.27***		.01
Coach pressure to be perfect		.02		–.01		–.09
Parental pressure to be perfect		.07		.07		.11

Note. $N = 261$. β = standardized regression weight. Gender (female): see Table 1.

**$p < .01$. ***$p < .001$.

[Supplementary Material]

Adaption of the CET to the Training Domain

1. Instructions

Below are a number of statements concerning your experience in training. Please read each statement and decide how true each is during training. If it is always true, choose 5; if it is never true, choose 0; if you feel somewhere in between, choose any one of the numbers between 0 and 5.

2. Items

2.1. Avoidance of negative affect

1. If I cannot train I feel angry and/or frustrated.
2. If I cannot train I feel anxious.
3. I feel extremely guilty when I miss a training session.
4. I feel like I've let myself down if I miss a training session.
5. If I cannot train I feel agitated and/or irritable.
6. If I cannot train I feel low or depressed.

2.2. Weight control

7. I train to burn calories and to lose weight.
8. I train to improve my appearance.
9. If I feel I have eaten too much, I will do more training.
10. If I cannot train, I worry that I will gain weight.

2.3. Mood improvement

11. I feel happier and/or more positive after I train.
12. I feel less stressed and/or tense after I train.
13. Training improves my mood.

14. I feel less anxious after I train.

15. I feel less depressed or low after I train.

Note. Items adapted from the Compulsive Exercise Test (CET) for athletes (Plateau et al., 2014).

Reference

Plateau, C.R., Shanmugam, V., Duckham, R. L., Goodwin, H., Jowett, S., Brooke-Wavell, K.S., … Meyer, C. (2014). Use of the Compulsive Exercise Test with athletes: Norms and links with eating psychopathology. *Journal of Applied Sport Psychology, 26*, 287-301.