

Perfectionism and Achievement Goals in Adult Male Elite Athletes who Compete at the National Level and above

by

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Different views on perfectionism, and different approaches about achievement goals, have led to studies on relationships between perfectionism and achievement goals. Stoeber et al. (2009) found relationship patterns from perfectionism and achievement goals in young Finnish ice-hockey players' under-16, in which it was found that perfectionistic strivings were associated with mastery-approach and performance-approach goals, and perfectionistic concerns with mastery-avoidance, performance-approach, and performance-avoidance goals. Thus, as Stoeber et al. (2009) noted, findings can be generalized to older age-groups, as researchers have pointed out that achievement goal orientations in athletes may change when athletes become older (Elliot & Conroy, 2005; Spray & Keegan, 2005). Thus, we examined the theoretical model by Stoeber et al. (2009), to investigate relationships between perfectionism and achievement goals in adult elite athletes. For this purpose, 134 adult elite athletes completed questionnaires of MIPS (Stoeber, Otto & Stoll, English version, 2006), sport – MPS – 2 (Gotwals & Dunn, 2009), and AGQ – S (Conroy et al., 2003). On the assumption of the final theoretical model as based on a few significant indices, perfectionistic strivings was associated with mastery-approach and performance-approach goals, while perfectionistic concerns was associated with mastery-avoidance and performance-avoidance goals. Contrary to expectations, there was no relationship between perfectionistic concerns and performance-approach goals. In fact, the present research results put in ambiguity the concept of perfectionism and the relationship between perfectionism and achievement goals, which were the main aims of our research. Moreover, a number of indices obtained structural equation modeling, which showed marginal to no significant effects. Thus, such equivocal results clearly imply that further research on context is needed. However, it appears that positive and negative aspects of perfectionism have complex relationships with each other

Key words: perfectionism, achievement goals, perfectionistic strivings, perfectionistic concerns, mastery, performance, approach, avoidance

Introduction

The multidimensional nature of perfectionism and its linkages to both maladaptive traits and negative outcomes and, less frequently, adaptive traits

and positive outcomes, have generated much research during recent decades. For the first time, Burns (1984) defined perfectionism as a unidimensional construct. According to this definition, a perfectionist person believes that one can achieve full results by attempt and effort. However, the perfect

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and without defect results is not possible, and one's efforts to achieve such results will be followed by psychological damage (Hill et al., 2004).

Horney (1950) has described perfectionism as "the tyranny of the shoulds". Perfectionism, by Hollender (1965), was defined as "demanding of oneself or others a higher quality of performance than is required by the situation." Hamacheck (1978) viewed perfectionism both as a manner of behaving and as a manner of thinking about the behavior, and he described two types of perfectionism, normal and neurotic, that form a continuum of perfectionistic behaviors. Healthy perfectionists are those who "derive a very real sense of pleasure from the labors of a painstaking effort and who feel free to be less precise as the situation permits". Neurotic perfectionists, on the other hand, "are unable to feel satisfaction because in their own eyes they never seem to do things good enough to warrant that feeling".

In general, perfectionism has been defined as the setting of unrealistic and excessively high standards, in relation to one's goals and expectations (Burns, 1983). Frost, Marten, Lahart and Rosenblate (1990) have defined perfectionism as "the setting of excessively high standards for performance accompanied by overly critical self-evaluation". Unfortunately, the research literature in the field of perfectionism tends to emphasize negative consequences of maladaptive perfectionism, whereas less attends to the psychological benefits of adaptive perfectionism (Blatt, 1995).

Flett and Hewitt (2005) noted that perfectionism is a multidimensional personality construct that has been linked with various forms of maladjustment. Flett and Hewitt (2005) discussed the role of perfectionism as a maladaptive factor in sports and exercise, and they describe a phenomenon they identify as the perfectionism paradox. They note that even though certain sports require athletes to achieve perfect performance outcomes, the tendency to be characterized by perfectionistic personality traits, and to be cognitively preoccupied with the attainment of perfection, often undermines performance and fosters a sense of dissatisfaction with performance.

However, according to Chang (2003), Enns & Cox (2002) and Stoeber & Otto (2006), perfectionism is multidimensional and multifaceted, and only some dimensions and facets are clearly negative, harmful and maladaptive, whereas others are positive, benign, and possibly adaptive (Stoeber et al., 2008).

Stoeber & Otto (2006) present an overview of the different empirical conceptions of the two forms of

perfectionism and a common framework for the two basic approaches: the dimensional approach, differentiating two dimensions of perfectionism (perfectionistic strivings and perfectionistic concerns), and the group-based approach, differentiating two groups of perfectionists (healthy perfectionists and unhealthy perfectionists). Moreover, they demonstrated that (a) perfectionistic strivings are associated with positive characteristics, and (b) healthy perfectionists show higher levels of positive characteristics compared to unhealthy perfectionists and nonperfectionists.

Initially, researchers adopted two goal orientations (Ames & Archer, 1978; Dweck, 1986; Nicholls, 1986). Task orientation represents what one wants to master in task. This implies that subjects will perform better on their homework than before. They attempt to learn new skills or eliminate mistakes in their previous skills. In contrast, ego orientation represents what one wants to be better than others. Then, achievement goals were considered among three divisions (Elliot & Harackiewicz, 1996; Skaalvik, 1997), while approach and avoidance orientations in performance goals were defined. Effort of individuals with a performance-approach orientation focused on their ability to perform better than others. In contrast, effort of individuals with a performance-avoidance orientation focused on avoidance to perform worse than others. Finally, in the 2x2 framework (Elliot & McGregor, 2001; Pintrich, 2000), approach and avoidance orientations were also applied to mastery goals. Effort of individuals with a mastery-approach goal focused on having better skills better than before, and were confident of being able to do so; whereas, individuals with an orientation towards mastery-avoidance goals were afraid of not being able to master the task.

Moreover, perfectionistic strivings and perfectionistic concerns are associated with different patterns of achievement goals, as was recently demonstrated in two studies with student athletes (Stoeber et al., 2008). Regarding perfectionism, two facets of perfectionism were examined – striving for perfection and negative reactions to imperfection – representing the dimensions of perfectionist strivings and perfectionistic concerns, respectively. Regarding achievement goals, a second study followed the 2x2 framework of achievement goals (Elliot & McGregor, 2001) and investigated four types of achievement goals that athletes may pursue: mastery-approach, performance-approach, mastery-avoidance and performance-avoidance goals (Conroy et al., 2003; Elliot

& Conroy, 2005). In other research by Stoeber et al. (2009), adding further measures of perfectionism and using structural equation modelling (SEM) to confirm the relationships between perfectionistic strivings, perfectionistic concerns and the 2×2 achievement goals, showed that in elite athletes, perfectionistic strivings were associated with mastery-approach and performance-approach goals, whereas perfectionistic concerns were associated with mastery avoidance, performance-approach and performance-avoidance goals. They investigated elite male athletes aged 14–15 years. Thus, as Stoeber et al. (2009) noted, further research is needed to generalize their results to older age-groups, as researchers have pointed out that achievement goal orientations in athletes may change as athletes age (Elliot & Conroy, 2005; Spray & Keegan, 2005).

The present article looked at four facets of perfectionism in adult elite athletes—striving for perfection and personal standards represented positive perfectionism, while negative reactions to imperfection and concerns over mistakes represent negative perfectionism. This study showed that only negative perfectionism was related to mastery-avoidance goals. In contrast, positive perfectionism was related to both mastery-approach and performance-approach goals, indicating that athletes, who strive for perfection and have reasonable personal standards, show a pattern of achievement goals that may help, rather than undermine, performance.

Materials and Methods

Participants and procedure

Our study sample was adult elite athletes from

Ahvaz, Iran. In total, according to the Department of Physical Education in Ahvaz, 184 adult elite athletes were active among a total of 13 different sports. We distributed 174 questionnaires among them. Before distributing the questionnaires, we coordinated our efforts with various sports associations. Questionnaires were then distributed and collected to help sport coaches objectives. Overall, 134 of these questionnaires were returned. Mean age was 23.25 years (SD = 6.24; range: 17-35 years).

Measures

Perfectionism. To measure perfectionism, we used four scales: strive for perfection and negative reactions to imperfection of the Multidimensional Inventory of Perfectionism in Sport (Stoeber et al., 2009), to address personal standards and concerns over mistakes within the Sport Multidimensional Perfectionism Scale (Gotwals & Dunn, 2009). Both questionnaires have been tested in a number of studies and have shown good reliability and validity (Gotwals & Dunn, 2009; Stoeber et al., 2008; Stoeber et al., 2009). In the present research, all scales displayed satisfactory reliabilities (Table 1) with the exception of personal standards scores, which displayed a Cronbach's alpha of only 0.577. However, because personal standards are central to the theoretical model, we executed further tests (Figure 1). Since, Cronbach's alphas between 0.50 and 0.60 can be acceptable in the early stages of research (Nunnally, 1967, p. 226; see Stoeber et al. 2009), and structural equation modelling takes measurement errors into account (personal standards: see err2 in Figures 1–3), we decided to retain the personal standards scores, despite the low alpha. In order to

Table 1

Perfectionism and achievement goals (means, standards deviations, Cronbach's alpha, and zero correlations)

Variable	α	Mean	s	1	2	3	4	5	6	7
Perfectionism										
1. Strive for perfection	0.823	23.44	2.59							
2. personal standards	0.577	28.52	3.56	0.545**						
3. negative reactions	0.754	15.68	4.41	0.193*	0.449**					
4. concerns over mistakes	0.722	24.74	5.62	0.234**	0.425**	0.472**				
Achievement goals										
5. mastery approach	0.737	13.36	2.18	0.566**	0.508**	-0.014	0.141			
6. performance approach	0.800	12.85	2.23	0.346**	0.482**	0.018	0.170*	0.625**		
7. mastery avoidance	0.800	10.37	3.11	0.149	0.255**	0.333**	0.414**	0.187*	0.297**	
8. performance avoidance	.0765	11.18	3.19	0.288**	0.225**	0.275**	0.109	0.226**	0.300**	0.334**

Note: $N = 134$. $\alpha =$ Cronbach's alpha. All scores were computed by sum across items so that scores have a possible range of 1 - 5 ("strongly disagree" – "strongly agree"). ** $p < 0.01$, * $p < 0.05$.

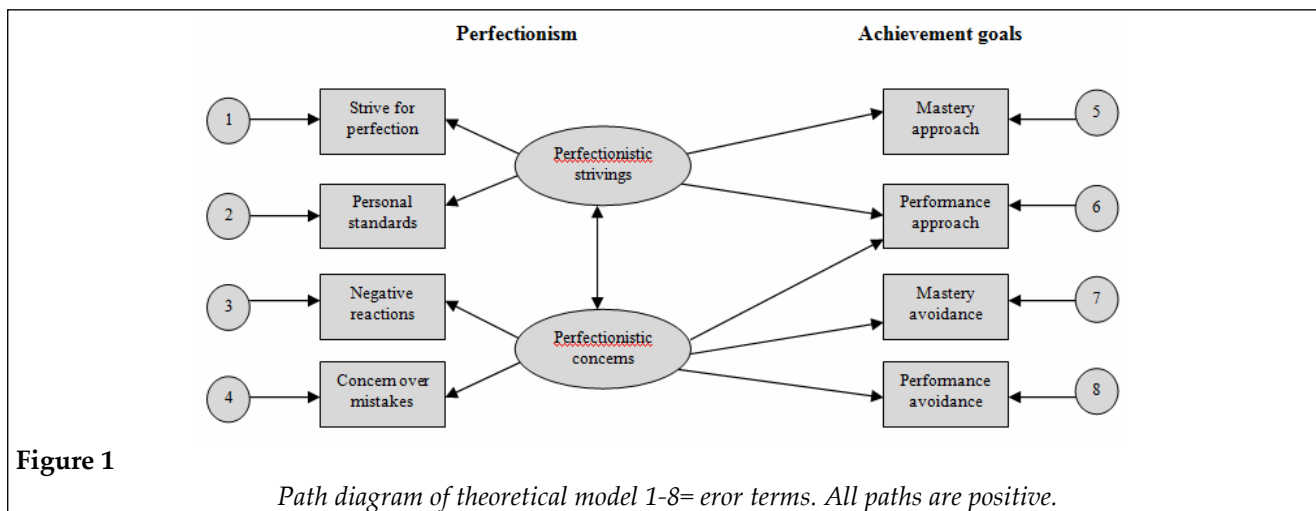


Figure 1

Path diagram of theoretical model 1-8= error terms. All paths are positive.

evaluate validity of scales, we applied factor analysis, which demonstrated high structural validity (KMO = 0.77, Bartlett’s test: χ^2 (300) = 1112, p =0.001) for perfectionism. Participants were asked to respond to each question on a 5-point scale from “strongly disagree” (1) to “strongly agree” (5).

Achievement goals. To measure achievement goals, we used the Achievement Goals Questionnaire for Sport (Conroy et al., 2003). It comprises 12 questions, where every third question captured an achievement goal. Reliabilities and validities of three scales were acceptable (Table 1). In order to understand whether the questionnaires used in the present research were valid, factor analysis was conducted, which demonstrated high structural validity (KMO = 0.76, Bartlett’s test: χ^2 (66) = 543.24, p =0.001) for Achievement Goals Questionnaire. Participants were told to respond to each question on a 5-point scale from “strongly disagree” (1) to “strongly agree” (5).

Result

First, we inspected the bivariate correlations between the variables (Table 1). Strive for perfection was related with personal standards moderately, but its correlation with negative reactions to imperfection and concern over mistakes was low. Between three variables of personal standards, negative reactions to imperfection, and concern over mistakes, was moderately correlated. Striving for perfection and personal standards represent perfectionistic strivings and concern over mistakes and negative reactions to imperfection represent perfectionistic concerns. Regarding the correlations between perfectionism and achievement goals, strive for perfection showed significant positive correlations with mastery–approach, performance–approach and performance–avoidance goals. Personal standards indicated significant positive correlations with all four goals, which showed negative reactions to imperfec-

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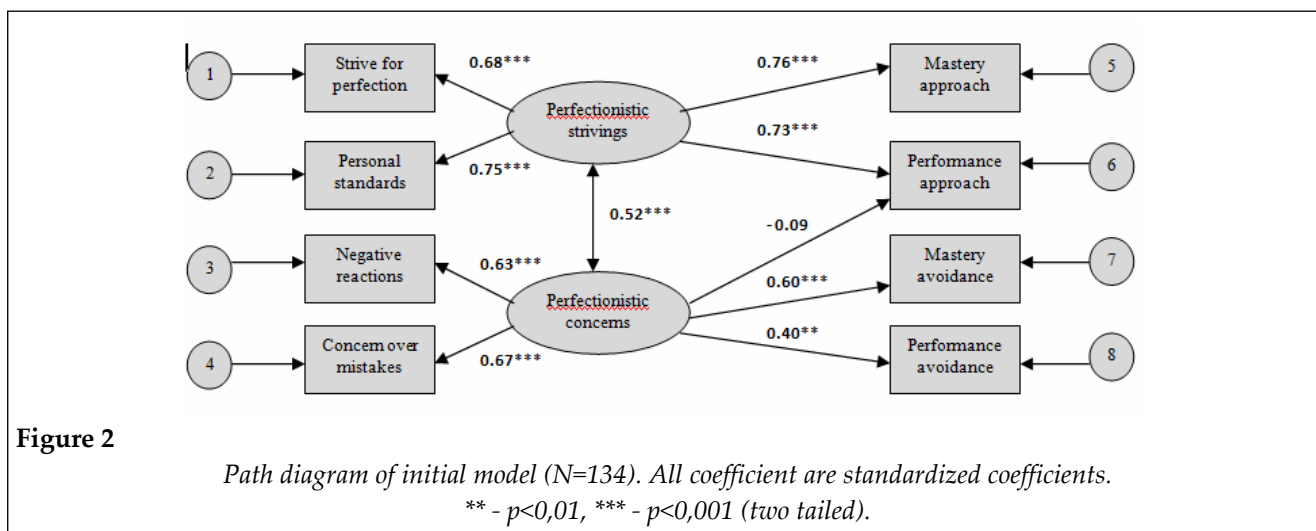
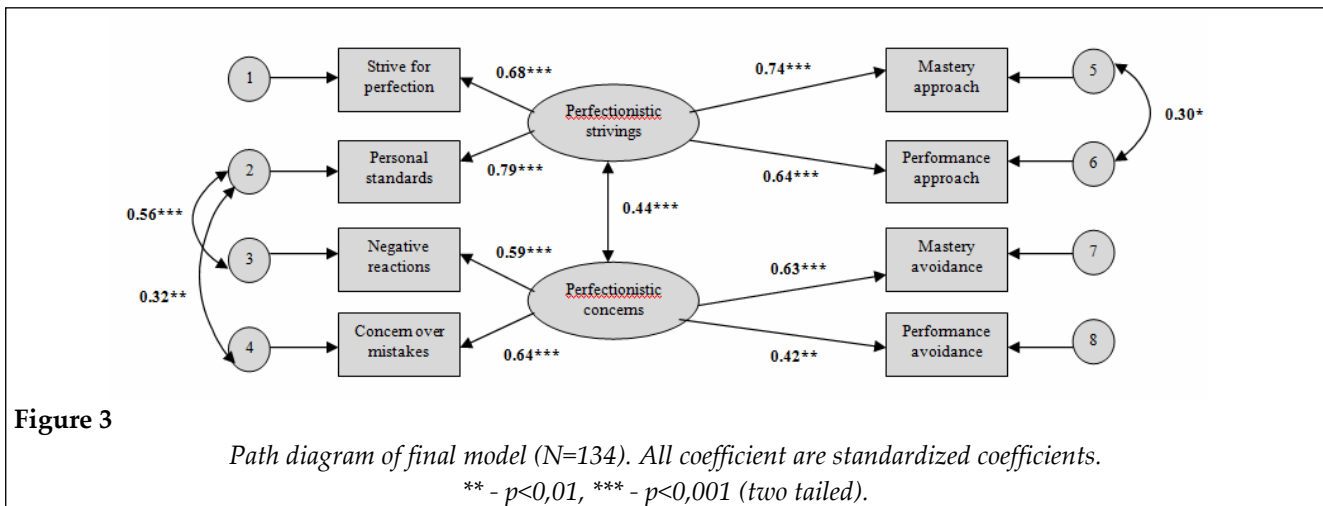


Figure 2

Path diagram of initial model (N=134). All coefficient are standardized coefficients.

** - p <0,01, *** - p <0,001 (two tailed).



tion associated with mastery–avoidance and performance–avoidance goals, and concerns over mistakes with performance–approach and mastery–avoidance goals. In order to investigate relationships between perfectionism and achievement goals in adult elite athletes, we proposed a model (as applied by Stoeber et al., 2009) (Figure 1) that delineated perfectionistic strivings and perfectionistic concerns as latent variables underlining four different facets of perfectionism (strive for perfection, personal standards, negative reactions to imperfection, and concern over mistakes), which were related to the 2×2 achievement goals.

According to the SEM results using AMOS 18 software, χ^2 statistic associated with the model was significant ($\chi^2(18) = 94.67, p < 0.001$), indicating a significant difference between sample and estimated population covariance matrices. Furthermore, an inspection of the fit indices showed that the model did not provide a good fit of the data. The goodness-of-fit index (GFI) and the adjusted goodness-of fit index (AGFI) were below acceptable limit of 0.90 (GFI = 0.85, AGFI = 0.69). The comparative fit index (CFI = 0.77) and non-normed fit index (NNFI = 0.63) were also significantly less than 0.90. Similarly, the root mean square error of approximation (RMSEA) was 0.18, while the PCLOSE (PCLOSE is a "p-value" for testing the null hypothesis that the population RMSEA is no greater than 0.05) amount obtained even less than 0.05 (i.e., the probability of getting a sample RMSEA as large as 0.18 is less than 0.05), and thus RMSEA were rejected at the 0.05 level of significance. Since the model fit indices did not show acceptable rates, modification indices were inspected. Modification indices provided changes to the model that would ideally improve the fit.

The largest modification index was associated with the covariance between the error term for personal standards (err2) and the error term for negative reactions to imperfection (err3), suggesting that model fit would significantly improve if the covariance between the two errors terms was treated as a free parameter to be estimated. Also, the covariance between the error term for personal standards (err2) and the error term for concern over mistakes (err4), and the covariance between the error term for mastery approach goals (err5) and the error term for performance–approach goals (err6) was exerted. Consequently, modification indices stated that model fit would significantly improve if the covariance between the mentioned errors term was exerted. As a result, a modified model (Figure 3) was estimated. In addition, as standardized coefficients showed (Figure 2), perfectionistic concerns with performance–approach goals were not related significantly, which is why we removed this path.

After model modifications, the chi-square statistic with degree of freedom 16 was significant ($\chi^2(16) = 50.06, p = 0.001$). The chi-square index (χ^2/df) was equal to 3.13. While the goodness-of-fit index was above 0.90 (GFI = 0.92), the adjusted goodness-of fit index was equal to only 0.82. Furthermore, the comparative fit index was marginal (CFI = 0.90), whereas the non-normed fit index (NNFI) was estimated at 0.82. Another important analyzed index was the root mean square error of approximation (RMSEA) at 0.13. A PCLOSE of 0.01 implied that the significance of RMSEA at 0.05 would be rejected.

Regarding the standardized coefficients of the initial model (Figure 2) and the final model (Figure 3), the results showed that all paths were significant and in the expected direction as hypothesized in the theoretical model (except for the perfectionistic con-

cerns path to performance-approach goals and the correlated errors in the final model). Firstly, striving for perfection and personal standards showed high loadings on the latent factor representing perfectionistic strivings, whereas concern over mistakes and negative reactions to imperfection showed moderate to high loadings on the latent factor representing perfectionistic concerns. Secondly, the two latent factors representing perfectionistic strivings and perfectionistic concerns showed a moderate correlation, corroborating previous findings that striving to achieve perfection and concerns about not achieving perfection are correlated (e.g., Stoeber et al., 2008; Stoeber et al., 2009). Finally, and most importantly, expected relationships between the two factors of perfectionism and the four types of achievement goals were significant (of course, the relationship between perfectionistic concerns with performance-approach goals was not significant). Contrary to the partial correlation findings by Stoeber et al. (2008), and the findings in the theoretical model (Stoeber et al., 2009), where perfectionistic strivings predicted mastery-approach and performance-approach goals, and perfectionistic concerns predicted mastery-avoidance and performance-avoidance goals, in the present research, perfectionistic concerns were not predictive of performance-approach goals.

Discussion

Using a structural equation model, fitness correlations between the theoretical model (Figure 3) and the empirical data was found based on a few indices. On the assumption of the final theoretical model, statistical acceptance was based on these indices; and as was expected, perfectionistic strivings predicted mastery-approach and performance-approach goals, while perfectionistic concerns predicted mastery-avoidance and performance-avoidance goals (Figures 2 and 3). Contrary to our expectations, there were no statistical correlations between perfectionistic concerns and performance-approach goals.

The present study findings (based on a few statistical significant indices and on assumption of model acceptance based on these a few indices) confirm the pattern of relationships that Stoeber et al. (2009) found when they investigated elite male athletes aged 14–15 years.

The correct pattern of relationships specified in the model is ambiguous. It is not fully clear why most of the indices obtained are marginal and several other indices, such as root mean square error

approximation (RMSEA), that count as one of important indices, were not significant.

According to Flett and Hewitt (2005), perfectionism is a multidimensional personality construct that has been linked with various forms of maladjustment. Flett and Hewitt (2005) discussed the role of perfectionism as a maladaptive factor in sports and exercise, and described a phenomenon they identified as the perfectionism paradox. They note that even though certain sports require athletes to achieve perfect performances, the tendency to be characterized by perfectionistic personality traits and to be cognitively preoccupied with the attainment of perfection, often undermines performance and fosters a sense of dissatisfaction with performance. Based on the review literature in sports and exercise, they demonstrated that the extreme orientation that accompanies perfectionism is antithetical to attaining positive outcomes.

Hall and colleagues (2007), concluded that the positive association between achievement goals, perfectionistic striving and obligatory exercise behavior in sample of club runners seems to result from a combination of motivational variables that encourage a focus on self-validation and failure avoidance, and it is this psychological mechanism which appears to underpin this compulsive form of exercise.

In fact, the present research results put in ambiguity the concept of perfectionism and the relationship between perfectionism and achievement goals, which was our main aim of research, and why some indices obtained marginally significant SEM results and other indices were not significant. Thus, with such ambiguity in the literature, further research is necessitated in this area. Finally, there are reasons which they likely are reasons for lack of data full fitness. These reasons are as follows:

Performance goals are defined and measured with different styles; various cultures have different interpretations and explanations of performance goals. These factors are reasons for lack of clarity in results obtained from performance goals than mastery goals (Midgley & Urda, 2001). Thus, further research is necessary about performance goals and achievement goals in general in various cultures.

Sport and exercise psychology research have showed that goal orientations relate with sport complexity level (Gill, 2000) and motivational climate. Thus, it should be emphasized that athletes participating in the research were individuals that were active in competition in different sports. As re-

searchers have pointed out, those different sports have needs, complexities, conditions and characteristics of their own, and differ greatly between them (Gill, 2000). Therefore, future research must consider

group and individual factors of sport to investigate perfectionism and achievement goals in athletes, as well as examine accuracy of the model in specific sports.

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