
Achievement goal and discrete emotions in sport

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Abstract: Achievement goals and achievement emotions are elements developed during participation in sport activities. The present study aims to investigate the relationship between achievement goals and discrete emotions in sport and whether emotions vary with gender and type of sport. Males ($n = 179$), and females ($n = 184$) athletes were asked to participate in this study. Their age ranged from 18 to 23 years ($M = 20.01$, $SD = 1.38$). All participants were involved in the different type of sports: Individual ($n = 207$) and Teams ($n = 156$). Participants filled in two instruments, namely Task and Ego Orientation in Sports Questionnaire (TEOSQ; Duda & Nicholls, 1992) and Sport Emotion Questionnaire (SEQ; Jones et al., 2005). The results of this study established the conclusion that achievement goals are associated with discrete emotions, and that the shape of emotions is affected by gender and type of sport.

Keywords: Goal Orientation, Emotions, Sport

1. Introduction

Athletes, during their participation in sport competition, experience an array of different emotions (Hanin, 2000; Lazarus, 2000). Emotions are defined in contemporary research as multiple component process that comprises specific affective, cognitive, physiological and behavioral elements (Scherer, 2000). The sporting experience offers many positive (e.g., joy, hope) and negative (e.g., anxiety, disappointment) emotions (Hanin, 2007; Jones, 2003; Lazarus, 2000). When people are experiencing positive emotions, they tend to underestimate the likelihood of negative consequences to their actions; when they are experiencing negative emotions, they tend to focus on the near term and lose sight of the big picture (Larson, Csikszentmihalyi, & Graef, 1980; Larson & Richards, 1994).

The emotions experienced by athletes during sports competitions have been argued to affect performance (Hanin, 2007, 2010; Martinent & Ferrand, 2009; Hanton, Neil, & Mellalieu, 2008; Robazza & Bortoli, 2007). Emotions are important across genders (Shweder & Haidt, 2004) and the type of sport (individual and team competitions) (Cooke, Kavussanu, McIntyre, & Ring, 2013).

Given the relevance of emotions for athletes' performance, it is important to acquire information on the antecedents of athletes' emotions, so that recommendation can be derived for how coach will ensure the appropriate emotional responses of

athletes, as well as how the athletes themselves will react to better control their emotions. Athletes' achievement goals are certainly one promising set of antecedents, as goals are thought to exert a broad influence on athletes' affect, cognition, and behavior in achievement settings (Dweck, 1986; Elliot, 1997; Nicholls, 1984). In addition, goals are presumed to facilitate different kinds of appraisals pertaining to desired and undesired outcomes, and these appraisals contribute to the activation of different kinds of emotions (Pekrun, Elliot, & Maier, 2006).

According to the achievement goal theory the individual is an intentional, goal-directed organism operating in a rational manner. In this theory, in achievement domains such as sport, two classes of goals predominate, namely task/mastery and ego/performance goals, respectively (Ames & Archer, 1988; Duda, 1992; Nicholls, 1989). Mastery goals are focused on the development of competence through task mastery, whereas performance goals are focused on the demonstration of competence relative to others.

Apart from the above mentioned dichotomous achievement goal framework, Elliot and her colleagues (e.g., Elliot, 1999; Elliot & Church, 1997; Elliot & Harachiewicz, 1996) have proposed a trichotomous achievement goal perspective. According to the trichotomous goals and 2x2 perspectives, mastery and performance goals are divided into approach and avoidance components (Elliot, 1999). However, most studies on achievement goals and general affect have used the

dichotomous model of goals and worked under the assumption that mastery goals are beneficial to, and performance goals detrimental for, athletes' affective experience (see reviews in Linnenbrink & Pintrich, 2002; Pekrun, et al., 2006).

Recent research on athletes' achievement goals has begun to analyze the relationships between athletes' goals and emotions (Dewar & Kavussanu, 2011). This study investigated the relationship between achievement goals and emotions in golf, through the investigation of the mediating and moderating role of perceived performance in this relationship. A number of other sport studies have examined the relationship between goal orientation and positive outcomes, such as enjoyment, satisfaction and interest (Biddle, Wang, Kavussanu, & Spray, 2003; Ntoumanis, & Biddle, 1999; Bortoli, Bertollo, & Robazza, 2009; Hodge, Allen, & Smellie, 2008; Roberts & Ommundsen, 1996). Also, studies have investigated the relationship between goal orientation and negative outcomes, such as anxiety (Biddle, Wang, Kavussanu, & Spray, 2003; Hall, & Kerr, 1997; Newton & Duda, 1995; Ntoumanis, & Biddle, 1999; Vealey, & Campbell, 1988).

The importance of the present study is found in the investigation of the relation between two psychological constructs, emotions and achievement goals that has been reported to hold a significant role in athletes' performance. The main purpose of the present study is to investigate the relationship between achievement goals and discrete emotions in sport settings. In addition, this study will also investigate the impact of gender and type of sport on shaping emotions. The primary hypotheses investigated in our study were the expected relation between achievement goals and discrete emotions and the differentiation of emotions in relation to gender and type of sport.

2. Method

2.1. Participants

Three hundred and sixty-three athletes (males, $n = 179$, and females, $n = 184$) were asked to participate in this study. They were involved in competitive sport at the time of data collection. Their age ranged from 18 to 23 years ($M = 20.01$, $SD = 1.38$). All participants were undergraduate sport-science students at a Greek university and were involved in the following type of sports: Individual ($n = 207$; track and field, martial arts, swimming, gymnastics, boxing, rowing, weightlifting, salting, tennis, archery and fencing) and Teams ($n = 156$; football, basketball, volleyball, handball and water polo).

2.2. Procedures

Before the research being conducted, an ethical approval was granted and a relevant permission was asked from the Head of the Faculty. The students opted to participate in the research; first their verbal consent – as adults – to participate in the research was asked, and then they were asked to complete the questionnaire. This procedure took place in the classroom (e.g., amphitheatre) before the session. Then, the

researcher briefed the students in, on the content of the questions featured in the questionnaire, as well as the aim of the present study.

2.3. Measurements

Achievement goals. A validated Greek version (Papaioannou & McDonald, 1993) of the Task and Ego Orientation in Sports Questionnaire (TEOSQ; Duda & Nicholls, 1992) was used in order to assess dispositional goal orientations. The stem was "I feel most successful in my sport when..." TEOSQ is a questionnaire consisting of 13-items. It includes two independent subscales measuring task (seven items; e.g., I learn new skills) and ego (six items; e.g., I come first) orientations as regards participation in sports. TEOSQ has demonstrated adequate internal consistency with satisfactory alpha coefficients for both the task ($\alpha = .79$) and ego ($\alpha = .81$) subscales (Duda & Whitehead, 1998). In the present study, the alpha coefficients were .74 and .84 for task and ego, respectively.

Emotions. A validated Greek version (Proios, 2014) of the Sport Emotion Questionnaire (SEQ; Jones et al., 2005) was used to measure the emotions usually felt by the participants during the competition, in general. The SEQ contains 22 items that are scored on a 5-point Likert-type scale ranging from 0 = "not at all" to 4 = "extremely". This scale has shown good validity and reliability when used after competition, with internal consistency scores for the five emotions ranging from .77 to .94 and .77 to .91 (Allen, Jones, & Sheffield, 2010; Dewar & Kavussanu, 2011). Participants were asked to read each of the items and indicate the extent to which they experienced each emotion during the round of golf they had just played. The stem was "During the competition I usually, felt...", and the emotions measured were happiness (four items; e.g., "pleased"), excitement (four items; e.g., "exhilarated"), dejection (five items; e.g., "unhappy"), anxiety (five items; e.g., "nervous"), and anger (four items; e.g., "furious"). The reliability of the SEQ was also calculated using alpha coefficient. Alpha coefficients for the happiness was ($\alpha = .83$), excitement ($\alpha = .58$), anger ($\alpha = .76$), anxiety ($\alpha = .78$) and dejection ($\alpha = .78$), indicating good reliability for each. The aforementioned value (.58) can be considered satisfactory also in this case, as this factor comprises fewer than 10 items (viz., three items; Ntoumanis, 2001; Pallant, 2010).

2.4. Data Analysis

Descriptive statistics were obtained and preliminary data analyses were conducted to estimate athletes' reactions to psychological constructs in sport settings. Simple correlations were calculated to test the relationships between variables. Inferential statistics (MANOVA) was used to analyze the extent to which the perception of the athlete's discrete emotions varied on the basis of the gender and type of sport. The n^2 values were used to control for the effect size of gender and type of sport. Finally, simultaneous multiple regression analyses were conducted to examine the predictive relations

between the achievement goal and emotions variables. All analyses were completed using SPSS for windows version 15.0.

3. Results

3.1. Descriptive Statistics and Correlations

Table 1 provides means and standard deviations for all variables. First of all, in achievement goal, scores were higher

in task orientation, while in discrete emotions the participants seem to score higher in those related to positive emotions (happiness and excitement).

Correlations among the measures are shown in Table 2. The results indicated that all emotions variables (happiness, excitement and anxiety positive and anger and dejection negative) were correlated significantly with task orientation, while none correlate significantly with ego orientation.

Table 1. Descriptive Statistics for all variables

Variables	Individual (n = 156)	Team (n = 307)	Males (n = 179)	Females (n = 184)	Total (n = 363)
	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
Task	4.35 (.41)	4.13 (.57)	4.12 (.55)	4.31 (.43)	4.22 (.50)
Ego	3.09 (.83)	3.11 (.82)	3.18 (.79)	3.02 (.83)	3.10 (.81)
Happiness	2.27 (1.04)	2.31 (.88)	2.28 (.87)	2.18 (1.05)	2.23 (.96)
Excitement	2.19 (.74)	2.10 (.63)	2.11 (.65)	2.09 (.76)	2.10 (.58)
Anger	.67 (.77)	.49 (.64)	.60 (.74)	.53 (.65)	2.23 (.96)
Anxiety	2.16 (.80)	1.70 (.74)	1.70 (.71)	2.14 (.82)	1.92 (.80)
Dejection	.50 (.62)	.38 (.57)	.39 (.56)	.50 (.59)	.45 (.78)

Table 2. Cronbach alpha, Correlation among Achievement goals (Task and Ego) variables and Discrete Emotions

Variable	α	1	2	3	4	5	6
1.Task	.74	-	-	-	-	-	-
2.Ego	.84	.05	-	-	-	-	-
3.Happiness	.83	.16**	-.03	-	-	-	-
4.Excitement	.58	.27**	-.09	.71**	-	-	-
5.Anger	.76	-.22**	.08	.04	.09	-	-
6.Anxiety	.75	.12*	-.04	-.09	.02	.23**	-
7.Dejection	.78	-.27**	.05	-.15**	-.16**	.57**	.37**

Note: * $p < .05$, ** $p < .01$

3.2. Differences between Gender, Type of Sport and Discrete Emotions

A multivariate analysis of variance (MANOVA) was computed to identify any gender and type of sport differences on discrete emotions. A MANOVA is noted to work best with highly correlated and acceptably well with moderately correlated DVs in either direction (about .60) (Tabachnick & Fidell, 2001). At this point, the correlations between variables of dimensions pleasant and unpleasant emotions were taken into consideration. All variables correlated within acceptable limits.

A two-way multivariate analysis of variance was performed with the use of five discrete emotions (Happiness, Excitement, Anger, Anxiety and Dejection) as dependent variables and the Gender and Type of sport as independent variables. The multivariate test revealed significant main effects for the gender (Wilks' lambda = .898, $F(5, 252) = 5.72$, $p < .001$, $\eta^2 = .10$) and for the type of sport (Wilks' lambda = .938, $F(5, 252) = 3.33$, $p < .01$, $\eta^2 = .06$). According to Cohen (1988), guidelines for interpreting an eta square value (η^2) is that .01 indicates a small effect, .09 indicates a moderate effect, and .25 indicates a large effect. Therefore, our finding that the $\eta^2 = .10$ indicates that 10% of the total variance in variables of discrete emotions are accounted for by gender differences and this can be classified as a large effect. While, the finding η^2

= .06 indicates that 6% of the total variance in variables of discrete emotions are accounted for by type of sport differences and this can be classified as a moderate effect. Subsequent univariate analyses showed that gender diversified emotion only on the scale anxiety ($F(1, 259) = 16.58$, $p < .001$, $\eta^2 = .06$), and the type of sport on the scales anxiety ($F(1, 259) = 12.50$, $p < .001$, $\eta^2 = .05$) and anger ($F(1, 259) = 6.18$, $p < .01$, $\eta^2 = .02$).

3.3. Relationship between Discrete Emotions and Achievement Goals

Table 3. Standard Regression Analyses of Task and Ego Orientation Predicting Discrete Emotions

Variable	R^2	$F/(df)$	B	SE	β	t
<i>Happiness</i>						
Task			.315	.100	.165	3.17**
Ego			-.045	.062	-.038	-.73 ^{ns}
	.028	5.17 ^b /(2,360)				
<i>Excitement</i>						
Task			.391	.071	.278	5.51***
Ego			-.092	.044	-.106	-2.10*
	.086	16.83 ^c /(2,360)				
<i>Anxiety</i>						
Task			.197	.083	.125	2.37*
Ego			-.049	.051	-.050	.34 ^{ns}
	.017	3.19 ^a /(2,360)				
<i>Anger</i>						
Task			-.310	.071	-.225	-4.40***
Ego			.081	.044	.095	1.86 ^{ns}
	.057	10.96 ^c /(2,360)				
<i>Dejection</i>						
Task			-.317	.058	-.276	5.45***
Ego			.043	.036	.060	.24 ^{ns}
	.078	15.27 ^c /(2,360)				

Note: * $p < .05$, ** $p < .01$, ns = no significant ^a $p < .05$, ^b $p < .01$, ^c $p < .001$

Following Aiken and West (1991), multiple regression analyses were conducted in terms of interaction among discrete emotions. Aiken and West noted that multiple

regression is often more appropriate than ANOVA for naturalistic studies that involve measured variables. Separate standard multiple regression analyses (Tabachnick & Fidell, 2001) were conducted to examine the possible moderating role of goal orientations (task and ego) in predicting the athletes' emotions. In order to assess the predictive ability of all independent variables simultaneously, the *Enter* method was used in each regression analysis, with two perspectives of goal being used as predictor variables for each of the five discrete emotions.

The results indicated a significant relation between goal orientations and the five discrete emotions of happiness ($R = .176$, $R^2 = .028$, $F(2, 360) = 5.17$, $p < .01$), accounting for the 2.8% of the variance, excitement ($R = .292$, $R^2 = .086$, $F(2, 360) = 16.83$, $p < .001$), accounting for the 8.6% of the variance, anxiety ($R = .132$, $R^2 = .017$, $F(2, 360) = 3.19$, $p < .05$), accounting for the 1.7% of the variance, anger ($R = .176$, $R^2 = .028$, $F(2, 360) = 5.17$, $p < .01$), accounting for the 2.8% of the variance, ($R = .240$, $R^2 = .057$, $F(2, 360) = 10.96$, $p < .001$), accounting for the 5.7% of the variance, and dejection ($R = .280$, $R^2 = .078$, $F(2, 360) = 15.27$, $p < .001$), accounting for the 7.8% of the variance.

The standardized beta coefficient (Table 3), revealed a positive effect for task orientation on happiness ($\beta = .165$), excitement ($\beta = .278$) and anxiety ($\beta = .125$), and a negative effect on anger ($\beta = -.225$) and dejection ($\beta = -.276$). Moreover, a negative effect of ego orientation was found for the emotion excitement ($\beta = -.106$). Here, it should also be noted that the ego orientation was found to have no effect on the remaining emotions.

4. Discussion

The aim of the present study was to investigate the relationship between the perspectives of achievement goal (task and ego orientation) and discrete emotions. Also, another aim was to investigate the effect of gender and type of sport in shaping emotions.

To start with, the descriptive statistic results of the present study it is evident that athletes seek achievement goal through actions characterized by task orientation. A task-oriented person is concerned with skill improvement, this individual is more likely to display rule compliance and fair play (Duda, Olson, & Templin, 1991). Also, the participants were established to be dominated by positive emotions and especially the emotion happiness rather than negative emotions. Happiness in competitive sports is one of the most important concrete psychological issues mainly related to the satisfaction of victory, the achievement of sport values, wealth and the emotion of satisfaction (Lazarus, 2000). Thus, task-oriented individuals are expected to exhibit positives/moral behaviors as they are trying to improve their skills without cheating or foul play that might undermine the valued process of skill acquisition (Sage & Kavussanu, 2007), as well as because of the dominance of positive emotions during participation in sports (Haidt, Roller, & Dias, 1993; Shweder, Mahapatra, & Miller, 1987).

One of the hypotheses in the present study was the existence of gender-related differences in discrete emotions. The results of this study supported the above mentioned hypothesis. However, up to present results of other studies on the same issue are considered controversial. First of all, the results of other studies reinforced this result revealing significant gender-related differences in emotions (Judd & Kenny, 1981; Pekrun et al., 2006). However, the present study revealed gender-related differences only in the emotion anxiety, thus establishing that gender is not a clear variable. This maintenance is further supported by the results of another study which established no significant gender-related differences by investigating the emotions enjoyment, boredom, and anxiety (Daniels et al., 2008), along with another study which established that the emotional reaction of anger is similar between boys and girls (Omli & LaVoi, 2009). The further investigation of this issue is necessary in order to have a clearer view of the impact of gender on shaping emotions.

Also in the present study it was assumed that the shaping of emotions varies with the type of sport. The results of this study supported the above mentioned hypothesis. However, these results revealed differences at a moderate level, only in the negative emotions anxiety and anger. As far as stress is concerned, this result is further supported by the result of another study which exhibited that anxiety decreased from individual to team competitions (Martin & Hall, 1997). A similar reduction of stress was found in this study as well. Such reduction is likely to be due to the fact that the individual competition should elicit greater anxiety than team competition because it increases identifiability (e.g., Simon & Martens, 1979; Gilovich & Savitsky, 1999). Different stress levels were also found in a recent study among different types of individual and team competitions (Cooke et al., 2013). Such differentiation exhibited by the results of the present study on stress was similar for anger as well, that is a decrease from individual to team competitions. However, the absence of findings in other studies does not allow commenting on this result.

In contrast, our finding of non-differentiation of positive emotions between the individual and team competitions seems to disagree with the findings of other studies (e.g., Cooke et al., 2013). The results of another study exhibited that the positive emotion joy increased from individual to team competition during a basketball free-throw shooting task (Jackson, 2000). Such an increase has been attributed to the fact that team competition should be more enjoyable than individual competition because it can foster a sense of relatedness through cooperation with teammates (Tauer & Harackiewicz, 2004).

Finally, taking into consideration that achievement goals direct the attentional focus of individuals such that situational appraisals and self-related cognitions are framed by the perspective implied by the goal (Dweck & Leggett, 1988; Elliot & Harackiewicz, 1996; Nicholl, 1989), we made the hypothesis that achievement goals facilitate the control and value appraisals underlying achievement emotions, thereby influencing these emotions. The results of the present study confirmed the above mentioned assumption that achievement goals are systematic predictors of the discrete emotions. The

present result is further reinforced by the results a meta-analysis which confirmed the association between achievement goals and emotions (Huang, 2011). In addition, the present results reinforce the maintenance that emotion depends on motivation (Lazarus, 2000).

Pekrun, Elliot, and Maier (2009) supported that task goals are benefited from this relationship. The findings of this study, in part, are consistent with this view since, while the present study revealed that task involvement positively predicted happiness, excitement and anxiety and negatively predicted anger and dejection, it further established that ego involvement negatively predicted excitement. The conclusion linking task involvement with achievement emotion was further reinforced by the findings of other studies (Biddle et al., 2003; Daniels et al., 2008; Dewar & Kavussanu, 2011; Ntoumanis & Biddle, 1999; Pekrun et al., 2009). As regards the connection of ego involvement with the achievement emotions, up to present, there are no reports confirming such result. However, we might expect a connection of ego orientation with anxiety (Newton & Duda, 1995; Vealey & Campell, 1988; White & Zellner, 1996). Thus, being in a state of task involvement may lead one to feel happy, excited and stressed during the competition; this motivational state is also likely to lead athletes to experience less anger and dejection during competition. On the contrary, being in a state of ego involvement may lead one to feel less excited.

5. Limitations

This study is not free of limitations. First, it should be noted that the assessment of emotions was based on self-reports on a set of previous situations/ competitions. To date, the assessment of emotions concerned how the athletes felt pre- or post-competition. Secondly, the size of the sample of this study cannot be considered representative so as to enable the generalization of results. A systematic future research is necessary. Third, as far as the results of the present study on emotion excitement are concerned, we keep some reservations due to their moderate internal consistency.

6. Conclusion

The results of the present study lead us to conclude that achievement goal is an important factor in achievement emotions. More specifically, task involved may have a direct positive relationship with emotions happiness, excitement and anxiety, and negative relationship with emotions anger and dejection. In addition, another conclusion is that achievement emotions seems to be gender-related and more specifically in emotion anxiety, as well as concerning the type of sport and actually the emotions anxiety and anger.

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