ATHLETIC IDENTITY AND ACHIEVEMENT GOALS OF GYMNASTICS ATHLETES

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Abstract

The purpose of the present study was to extend knowledge on the relationship between athletic identity and achievement goal orientations. In addition, the present study investigated the impact of independent variables, such as sport divisions and the type of sports gymnastics on the formation of athletic identity. Participants were 140 boys and girls athletes ranging from 8 to 17 years of age (M = 11.86, SD = 2.21), from three sports gymnastics (artistic gymnastics, n = 91; rhythmic gymnastics, n = 37; acrobatic gymnastics, n = 12). The findings of the present study established that the participants exhibit rather high perception of their athletic role, and that such perception is significantly decreased with the increase of sport division. In addition, the above mentioned findings revealed that the degree to which an athlete identifies with the athletic role can be predicted by his/ her predisposition towards achievement goal.

Keywords: *athletic identity, achievement goal orientation, social goal orientation.*

INTRODUCTION

Athletic identity is the degree to which an individual identifies herself/himself with an athlete's role (Brewer, Van Raalte, & Linder, 1993). According to Martin, Eklund, and Mushett (1997) athletic identity is a relevant psychological construct to examine because of the potentially important psychological, social and behavioral ramifications of an athletic identity. Psychological as a cognitive structure that guides and organizes the processing of self-related information (Brewer et al., 1993), social because can also be seen as a social role and affected by significant others' perceptions (Callero, 1985), while behavioral because a relation seems to exist between self-definition and behavior (Callero, 1985).

The athletic identity can be characterized as a good indicator since it shows the way in which one's athletic involvement and experience can psychologically and cognitively affect the individual. It can help determine one's changes and acceptance of certain beliefs throughout his or her entire athletic career (Miller, Melnick, Barnes, Sabo, & Farrell, 2005; Miller, 2009). Moreover, athletic identity as a self-concept can define the way in which an individual evaluates his or her competence and worth (Richards & Aries, 1999). The amount of worth and competence an individual places on self-concept may influence their self-esteem, affect and motivation (Brewer et al., 1993). Weiss and Horn (1990) supported that a

positive self-concept facilitates the attainment motivational orientation (e.g., task- or ego- orientation, or both). Tusak, Gaganel, and Bednarik (2005) found significant correlations between personality and motivational characteristics (win orientation, competitiveness and competitive motivation) and athletic identity in athletes. Another study reveals that a strong identification with the athletic role contributes to negative self-perceptions concerning social relations (Hughes & Coakley, 1991).

According to Roberts (2001) the motivation refers to dispositions, social variables, and/ or cognitions that come into play when a person undertakes a task at which he/ she is evaluated, or enters into competition with others, or attempts to attain some standard of excellence. It is assumed that such circumstances facilitate several motivational dispositions and/ or cognitive assessments that influence human behavior in achievement situations. The social cognitive approach to motivation portrays a dynamic process incorporating sets of cognitive, affective and value-related variables that are assumed to mediate and/ or moderate the choice and attainment of achievement goals (Roberts, 2001).

Achievement goal theory assumes that the individual is an intentional, goal-directed organism operating in a rational manner (Nicholls, 1984) and that achievement goals govern achievement beliefs and guide subsequent decision making and behavior within achievement contexts (Roberts, 2001). According to this theory, in achievement domains such as sport, two types of goals prevail, namely task and ego (Duda, 1992; Nicholls, 1989), or mastery and performance goals, respectively (Ames & Archer, 1988). Mastery- or task-oriented individuals have a general tendency to emphasize effort, learning and improvement, whereas performance – or ego-oriented individuals have a tendency to emphasizes performance outcomes and norm – referenced success. According to Papaioannou, Ampatzoglou, Kalogiannis, and Sagovits (2008), research in sport contexts has established that task goal orientation is positively related to adaptive, cognitive, affective and behavioral outcomes but there is no support for an adaptive role of ego goal involvement.

In the theoretical framework of the achievement goal orientation, apart from the above mentioned two (mastery and performance) goal perspectives, social approval goal orientation (Maehr & Nicholls, 1980) has also been comprised. For Maehr and Nicholls (1980), such social approval orientation emphasizes the desire for acceptance by significant others, through conformity to norms while displaying maximal effort. At the same time, Allen (2003) suggested that the social aspects of motivation in sport are the desire to develop, maintain and demonstrate social bonds or connections with others. The social aspects of motivation have been identified in a number of studies investigating participation in sport across several age groups (e.g., Allen, 2003, 2005; Stuntz & Weiss, 2003; Williams, 2004).

According to Stuntz and Weiss (2003), social relations in sport are of two distinct types, namely relationships with a close sport friend and the teammates as a group, on the one hand, and coach on the other. The Stuntz and Weiss' (2009) research clearly reveals that adolescents with stronger friendships and group acceptance are more intrinsically motivated and committed to continuing sport/physical activity; they exhibit more positive self-perceptions, and enjoy their experiences more (Smith, 1999; Weiss & Smith, 2002). Research has also established that, Youth participants who positively interact with their coaches are more likely to feel competence, exhibit higher self-esteem, enjoy their involvement, be more intrinsically motivated and stay involved with their sport (e.g., Amorose & Anderson-Butcher, 2007; Barnett, Smoll, & Smith, 1992).

Despite the fact that both athletic identity and achievement goal orientations on a theoretical level constitute two psychological constructs that share common

characteristics traits, yet references in the literature concerning the relationship between them are limited (e.g., Ryska, 2002; Baysden, Brewer, Petitpas, & Van Raalte, 1997). The attempt to contribute with new knowledge towards this direction underlines the significance of the present study. The main purpose of this study is to investigate the relations between the dimensions of athletic identity and the several aspects of achievement goal orientations. In addition, the present study also investigates the impact of independent variables, such as sport division and type of sports gymnastics on the formation of athletic identity is also investigated.

METHODS

The participants were 140 boys and girls athletes ranging from 8 to 17 years of age (M = 11.86, SD = 2.21). They came from three sports gymnastics (artistic gymnastics, n = 91; rhythmic gymnastics, n = 37; acrobatic gymnastics, n = 12). All the individuals in the present sample were members of fourteen teams from northern Greece, playing in four sport divisions (Division IV, n = 49; Division III, n = 61; Division II, n = 20; Division I, n = 10). Here, it should be noted that sport divisions are classified by age (e.g., IV: 7-10 years of age. III: 11-13, II: 14-15, I: 16 and above).

First of all, the consent of the team coaches' was asked. Then, the researcher met the each team's group of parents separately and, after the scope of the research was explained, their (oral) permission was asked in order their children to participate. Eventually, the athletes whose parents gave their consent filled in a questionnaire at the training site and before training started.

Athletic identity. Athletic identity was measured using the Athletic Identity Measurement Scale (AIMS; Brewer & Cornelius, 2001). AIMS consists of 7 items to which individuals respond on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). This scale contains three subscales: social identity, exclusivity and negative affectivity. *Social identity* is the degree to which an individual views him/herself as assuming the role of an athlete. *Exclusivity* is the degree to which an individual's self-worth is established through participating in the athletic role. Finally, *negative affectivity* is the degree to which an individual experiences negative emotions from unwanted sporting outcomes. The multidimensional factorial structure of the 7-item AIMS was supported by several research conclusions (e.g., Brewer & Cornelius, 2001; Visek, Hurst, Maxwell, & Watson, 2008).

To provide further validity for the scale 7-item three factors, a confirmatory factor analysis was conducted to the sample of the present study. This model demonstrated acceptable fit to the data χ^2 (11) = 27.35, $p <$ .05, GFI = .95, CFI = .95. RMSEA = .10. Two of the three subscales, namely *social identity* and *exclusive* (α = .69 and α = .75, respectively) demonstrated acceptable internal consistencies. The above mentioned value (.69) can be considered satisfactory since this factor comprises less than ten items (namely, five items) (Ntoumanis, 2001; Pallant, 2010). However, the *negative affectivity* subscale demonstrated very low (α = .25) internal consistency and thus was excluded from the data analysis of the present study.

Achievement Goal Orientation. The participants' achievement (mastery and ego) goal orientations in sport were assessed through the Achievement Goal Scale for Youth Sports (AGSYS; Cumming et al., 2008). In response to the stem, "I feel sports have gone really well for me when…" participants indicated the extent to which they agreed or disagreed with each of the 12 items on a 5-point Likert-type scale ranging from 1 (*not at all true*) to 5 (*very true*). AGSYS was developed to provide an age-appropriate measure of mastery and ego achievement goal orientations in children. Its items feature maximum grade 4 reading levels, allowing thus researchers to use the instrument with children who can read at that age level. AGSYS clearly measures individual differences in dispositions to hold

self-referenced and other-referenced criteria for success. Fit indices compared very favorably with those reported for the TEOSQ and the POSQ with older samples. Moreover, the AGSYS subscales demonstrated high internal consistency and acceptable test–retest reliability (Cumming et al., 2008).

To provide further validity for the scale developed by Cumming et al. (2008), a confirmatory factor analysis was conducted to the sample in the present study. The initial model (12-item two factor) demonstrated no acceptable fit to the data χ^2 (53) = 123.93, $p < .05$, GFI = .88, CFI = .89. RMSEA = .10. Based on modification indices for measurement parameters (i.e., correlations, factor loadings), items "The most important thing is to be best athletes" and "The most important thing is to improve my skills" were removed. The final model showed an adequate fit to the data χ^2 (3) = 70.2, $p < .05$, GFI = .92, CFI = .93, RMSEA = .08. Coefficient alpha in each subscale was .70, .88, indicating acceptable reliability for each.

Social Goal Orientation. Three subscales from the achievement goal orientation measure by Stuntz and Weiss (2003) were used to assess reported social goal orientation towards coach praise (five items), friendship (five items) and group acceptance (four items). Participants responded to the stem and each item using a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*).

To provide further validity for the scale developed by Stuntz and Weiss (2003), a confirmatory factor analysis was conducted to the sample in this study. The initial model (14-item three factor) demonstrated no acceptable fit to the data χ^2 (74) = 126.99, $p < .05$, GFI = .89, CFI = .92. RMSEA = .07. Based on modification indices for measurement parameters (i.e., correlations, factor loadings), the item "My sport friend encourages me after I make a mistake" was removed. The final model showed an adequate fit to the data $\chi^2(62) = 96.0$, $p < .05$, GFI = .91, CFI = .94, RMSEA = .06. The reliability of the social orientation scale was also calculated using alpha coefficient. Alpha coefficients for the coach praise was ($\alpha = .68$), friendship ($\alpha = .84$) and group acceptance ($\alpha = .76$), indicating acceptable reliability for each. Coach praise coefficient, although slightly lower than the accepted value (.70), can be also accepted since this factor comprises less than 10 items (Ntoumanis, 2001; Pallant, 2005).

RESULTS

Descriptive statistics and correlations were computed for all variables (see Table 1). This sample of sports gymnastics athletes based on the assessment scale scored high in both dimensions of athletic identity, that is social identity and exclusivity. Both of these dimensions were positively related to both goal orientations subscales. Moreover, these two dimensions of athletic identity were also positively correlated to all three aspects of social orientation as well. An exception was the lack of correlation between the dimension exclusivity and the aspect friendship. In addition, the sample of the present study scored high in the mastery and moderately in the ego orientation towards achievement goal in sport, while in the case of goal achievement, on the basis of social orientation, their scores were rather moderate in all three aspects.

Two multivariate analyses of variance (MANOVAs) were conducted in order to examine the influence of divisions and type of sports gymnastics on the two dimensions of athletic identity (Tabachnick & Fidell, 1996). Initially, a one-way multivariate analysis of variance was performed with the use of 2 AIMS scales (Social Identity and Exclusive) as dependent variables and the Type of Sports Gymnastics as independent variable. In the first multivariate analysis, the results did not reveal any significant multivariate effect for the type of sports gymnastics. On the contrary, in the second multivariate analysis, the results indicated significant multivariate effects concerning the Division (Wilks' lambda = .829, F (12,309) = 1.89, $p < .05$). Subsequent

univariate analyses showed that division diversified athletic identity from exclusivity F (3,124) = 3.15, $p < .05$, $n^2 = .07$). In addition, the effect sizes (*ES*) were computed to examine the meaning of the statistical results. Such results revealed a moderate effect of the sample size (*ES* = .07), something that partly supports the previous result. Cohen (1988) maintained that for the social and behavioral sciences an effect size (*ES*) of 0.2 was considered small; 0.5 as a moderate *ES*; and 0.8 and above as a large *ES*. A subsequent Tukey test for unequal values among the divisions (Stevens, 1996) followed. The results of the analysis indicated a predominance of the Division IV over Division I (p <.05).

To determine which of the goal orientations in sport (mastery and ego) best explain athletes' social orientations (coach praise, friendship and group acceptance) in sport, two separate multiple regression analyses were conducted (see Table 2). In each regression analysis, the two goal perspectives (mastery and ego orientation) were first entered into the equation, followed by the three types of social goal orientations (coach praise, friendship and group acceptance), in order their effect on the dimensions of athletic identity to be investigated.

In the first regression analysis, the first dimension of athletic identity – i.e. Social Identity – constituted the dependent variable and the five dimensions of goal orientation constituted the independent variables. Results revealed a significant regression, F (1, 137) = 17.04, $p < .001$. Goal orientations were entered first and accounted for the 28.8% of the variance (19.9% for the ego and 8.9% for the mastery orientation), with ego and task orientations emerging as positive predictors. Next, social orientations were entered into the equation; only the coach praise perspective was a positive predictor, and accounted for the 4.1% of the variance.

The results of the second regression analysis on Exclusivity, the second dimension of athletic identity, revealed a significant regression F (1, 137) = 8.91, $p <$ .01. Goal orientations were entered first and accounted for the 18.8% (13.6 for the ego and 5.3% for the mastery orientation) of the variance, with ego and mastery orientation as positive predictors. At the same time, social orientations that were next entered into the equation, revealed no significant regression.

Table 1. *Descriptive statistics, Cronbach α, Correlations among all variables.*

Variable	*M*	*SD*	*α*	1	2	3	4	5	6
1.Social identity	5.40	9.54	.69	-					
2.Exclusive	5.20	1.48	.75	.75**	-				
3.Mastery	4.64	.40	.70	.45**	.35**	-			
4.Ego	3.79	.96	.88	.45**	.37**	.38**	-		
5.Coach praise	3.90	.63	.68	.37**	.23**	.20*	.36**	-	
6. Friendship	3.90	.87	.84	.26**	.16	.12	.26**	.36**	-
7.Group acceptance	3.60	.83	.76	.30**	.25**	.12	.29	.35**	.58**

** $p < .01$; * $p < .05$

Table 2. *Multiple Regression Analyses of Achievement Goal Orientations on dimensions of the Athletic Identity.*

Step	Variable	β	*t*	*p*	ΔR^2
Social identity					
Step 1	Ego	.25	3.07	.01	.199
	Mastery	.31	4.05	.001	.089
Step 2	Coach praise	.22	2.89	.01	.041
	Friendship*	-	-	-	-
	Group acceptance*	-	-	-	-
Exclusive					
Step 1	Ego	.27	3.29	.01	.136
	Mastery	.25	2.99	.01	.053
Step 2	Coach praise*	-	-	-	-
	Friendship*	-	-	-	-
	Group acceptance*	-	-	-	-

* Excluded variables from regression

DISCUSSION

The main purpose of the present study is to investigate the relationship between the dimensions of achievement goal orientations and athletic identity. Such an aim was the result to the maintenance that goal formation, depends on one's convictions concerning the way in which a goal can be achieved, within the framework of sport, as well as that the development of athletic identity are the result of a set of cognitive procedures (Brewer et al., 1993; Nicholls, 1984, 1989), something that justifies the investigation for any shared courses between these two procedures.

The descriptive statistics results of the present study revealed that the participants in all three sports gymnastics exhibited rather high perception of their athletic role. This is evident by their high scores in the dimensions social identity and exclusivity. Thus, the participants of the present study seem to consider that their perception of their athletic role is determined by the others' perceptions, regarding sport as being the only important thing in their life, and each individual's self-esteem as well. Research, on different theoretical bases, has suggested that the development of both strong and exclusive athletic identities is, in many cases, associated with athletes who reach the highest levels of athletic achievement (Williams & Krane, 1993).

The perception of the athletic role in the present study has been investigated in the light of the extent to which the former is diversified among the several sport divisions and sports gymnastics. The results of the present study established that the artistic, rhythmic and acrobatic gymnastics athletes are not significantly different as concerning perception of their athletic role. This might be due to the fact that sports gymnastics, at least in Greece, share some common features, such as similar rewards in case of goal achievement. According to the cognitive dissonance theory (Festinger, 1957) the relation between a person's attitudes and behavior is driven by the objective of limiting an unpleasant psychological state which occurs when two cognitions are inconsistent. Thus, the above mentioned athletes' perceptions would be expected to be diversified in case their rewards were different as well (Smith & Mackie, 2000).

However, as concerning sports divisions, the results maintained that there are significant differences in the perception of the athletic role concerning the sports of these divisions. More specifically, the findings of the present study revealed that

the athletes in Division IV scored higher in the dimension exclusivity of the athletic identity than those in Division I. A plausible explanation for such a result is that some of the participants, who were in Division I, were not committed to their sport career at the time of the investigation. Such maintenance is further supported by references that the determination of the exclusive athletic role decreases with the individuals' maturation, in combination with their exposure to several activities and effects (Brewer et al., 1993); also, there are data supporting that loss in the form of chronic competitive failure, can elicit changes in athletic identity (Brewer et al., 1999).

The finding of the present study that there are such differences in sport divisions, although unexpected, is further supported by the results of another study which exhibited differences in athletic identity among athletes in Division III and Division I (Griffith & Johnson, 2006). Nevertheless, other studies, investigating the athletic identity in relation to the level of sport participation, led to ambiguous results. More specifically, some established increased athletic identity (e.g., Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Matheson, Brewer, Van Raalte, & Andersen, 1994; Tasiemski, Kennedy, Gardner, & Rachel, 2004), while some others revealed no difference among the several sport levels (e.g., Brown, 1998; Hurst, Hale, Smith, & Collins, 2000; Tusak, Faganel, & Bednarik, 2005). Lamont-Mills and Christensen (2006) maintain as the most consistent finding the difference in athletic identity between those who participate in sports and those who do not participate.

As concerning achievement goals, in the present study, initially the correlation among the several goal perspectives (achievement goal orientations and social goal orientations) was investigated. The results did not reveal any significantly high correlations among all the aspects of the goal. This had as a result the investigation of the two goal orientation as separate factors. The finding of the present study, however, was contradictory to that of another study which established that social goal orientations were differentiated from the task and ego goal orientation, but types of social goal orientations were distinguishable from one another (Stuntz & Weiss, 2003; Stuntz & Weiss, 2009). Such contradictory findings between these two studies are, by all probability, due to the application of different instruments for the assessment of achievement goal orientations.

The results of an earlier study revealed that athletic identity can be predicted by means of dimensions and motivational characteristics at a percentage of 26% of the total variance, exhibiting a positive correlation to the psychological characteristics of win orientation, as well as positive and negative competitive motivation (Tusak, Faganel, & Bednarik, 2005). This result is further supported by the outcome of the present study which revealed that achievement goal orientation and social goal orientation can predict the 28.8% and 4.1% respectively of the total variance of athletic identity. In addition, the finding of the previous study concerning the correlation between athletic identity and psychological characteristics is supported by the relevant finding of the present study, which established a positive correlation to achievement goal orientations.

More specifically, the findings of this study reveal a positive correlation between social identity and exclusive athletic identity on the one hand and goal perspectives (ego and mastery orientation) on the other; while social goal orientation (coach praise) is positively correlated only with the dimension social identity. To be more specific, such a positive correlation between ego orientation and athletic identity has been maintained in an earlier study, which made use of the Task and Ego Orientation in Sport Questionnaire (Baysden, Brewer, Petitpas, & Van Raalte, 1997) and supports the present result. Nevertheless, the finding hereof that the dimensions of athletic identity (i.e. social identity and exclusivity) are positively correlated to mastery

orientation is further supported by other findings in a number of studies which established a positive correlation of task involvement with adaptive cognitive, affective and behavioral outcomes (Duda, 2001; Duda, Chi, Walling, & Catley, 1995; Ntoumanis & Biddle, 1999). The results of another study established a positive correlation of social desirability – a concept that may be implemented in the dimension social identity – with mastery orientation (Cumming et al., 2008).

As it has been already mentioned above, the present study established a positive correlation between the coach (a type of social relation) and the dimension social identity. This finding further supports the maintenance that the social structure of self-concept on athletic role is significantly influenced by significant others' perceptions (Brewer et al., 1993; Cornelius, 1995) and that social goal orientations exercise a significant influence on behaviors and motivated beliefs (Maehr & Braskamp, 1986) as well. Smoll and Smith (1993) maintained that the way in which coaches build up the sport environment, their priorities in determining goals, their values and behaviors, all have a great influence on youngsters' actual participation in physical activity. As concerning other types of social goal orientation, i.e. friendship and group acceptance, although it has been supported that they positively affect self-concepts (Smith, 1999; Weiss & Smith, 2002), the results here of have established no similar correlation – i.e. no correlation of the above mentioned type of goals to some of the dimensions of athletic identity.

The findings of the present study established that the participants exhibit rather high perception of their athletic role, as well as that such a perception is significantly decreased with the increase of sport division. In addition, it is also concluded that the degree to which an athlete identifies with the athletic role can be predicted by his/ her predisposition towards achievement goal. Such prediction can be largely achieved by the ego and mastery aspects of goal orientation and less by the social goal orientations – more specifically by means of social relationships between athletes and coaches. Finally, it could be maintained that, based on the findings hereof, the assessment of the athletic identity can assist coaches to apprehend their athletes' conviction concerning their athletic role, as well as to adapt such convictions to the eligible framework.

To conclude with, in the present study, the limited number of participants from each type of sport gymnastics narrows the generalization of results for each individual type of sport gymnastics. A future research on a larger sample, in the above mentioned framework of gymnastics, would greatly add to this end.

The limited number of children who participated in the sports gymnastics, at the area where the present study was conducted, resulted in the usage of a small sample size, especially in acrobatics. This constitutes a rather significant limitation, as it hinders the generalization of the results in this very area. Another limitation that could be mentioned for the present study is the segmental (non-thorough) investigation of the notion of athletic identity, due to the exclusion of the subscale negative affective.

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