

## **An exploratory study of athletic identity in university physical education students**

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### **Abstract**

The purpose of the present study was to investigate the athletic identity of physical education students, as well as the impact of their experience (college age), the level of participation in physical activities and gender on their self-concept of their athletic role. Three hundred and thirty three physical education students participated in this study. One hundred and eighty one participated in a total of 16 sports (e.g., gymnastics), 124 recreational activities, and 25 undertook no physical activity at all. All participants completed the Athletic Identity Measurement Scale (AIMS; Brewer & Cornelius, 2001). The results revealed that the participants achieved a marginally high score in athletic identity and that there was no gender difference found in the participants' concept of their athletic role. MANOVAs indicated that grade (college age) and level of participation in physical activities have a negative effect on the shaping of athletic identity in this student population.

**Keywords:** Athletic identity; students; experiences; form participation; gender.

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## **INTRODUCTION**

University is an environment in which students' experience potentially intensive spiritual, educational, and psychological development during their studies. One of the basic aims of this development constitutes the shaping of an independent spirit – by establishing a fixed identity, learning how to manage their relations as well as scheduling future aims and lifestyle (Cornelius, 1995).

In psychology, identity is referred to as the innate and purely subjective concept of the individual's self. According to Erikson (1968), identity is a process that consolidates elements of the personality and connects individual and society. In sports psychology, the term "athletic identity" rather than "identity" is used. Athletic identity refers to the degree to which people are identified with the athletic role (Brewer et al., 1993). Ryska (2002: p. 110) maintains that: the degree to which an adolescent identifies with the athletic role may contribute to the development of competence perceptions in order achievement domains. In addition, it has also been mentioned that the investigation of athletic identity, a relevant psychological construct, is conducted because of its important traits, such as psychological, social, and behavioural (Martin et al., 1997). Psychological as a cognitive structure that

guides and organizes the processing of self-related information (Brewer et al., 1993); social because it can also be seen as a social role and affected by significant others' perceptions (Callero, 1985), and behavioural because beneficial "athletic behaviour" is likely to stem from a strong athletic identity (Callero, 1985).

The athletic role is a significant social dimension of self-concept, which is affected by experience, relations with others and involvement in sport activities (Cornelius, 1995). According to Lamont-Mills and Christensen (2006) sport participants, regardless of participation level, appear to identify more strongly with the athletic role than individuals who do not participate in any form of sport. Horton and Mack (2000) maintained that the strength of athletic identity in a person's self-concept varies with past and current athletic experience, and relative success or failure within the athletic domain. Results from several studies indicate that athletes who had a poor competitive season reported a decrement in athletic identity compared with athletes who had a good competitive season (e.g., Brewer et al., 1999; Grove et al., 2004). These results support those of other research (e.g., Griffin et al., 1981; Lavalley et al., 1997). This way, the influence of situational factors on aspects of the self in sport settings is established. Further research revealed that participants in organized sport score higher in athletic identity than those who do not participate at all (Brewer et al., 1993), thus further supporting the viewpoint that participation in sport activities improves the perception of the athletic role.

Athletic identity, that is the perception of the athletic role, changes with time (developmental factor), apart from the changes it undergoes due to situational settings. Brewer et al. (1993) maintained that athletic identity can be investigated from a developmental perspective. In their research, they established that athletic identity is negatively correlated with the age of college athletes. The researchers attributed this result to maturing, social interactions and decrease of the exclusivity of the athletic role of college student athletes. Other studies established an increase of athletic role up to junior high school ages and a decrease from freshman to senior year in college (Greendorfer & Blinde, 1985; Houle et al., 2010). Such a decrease in the perception of the athletic role in college years is probably due to the withdrawal from active involvement in sport or investment in a career outside sport (Shachar et al., 2004). Lavalley et al. (1997) found significant decreases in athletic identity among recently retired athletes and those retired three years earlier, which is a decrease of athletic identity upon sport career termination. This, by all probability, is due to a decreased apprehension by earlier retired athletes of their athletic skills (Grove et al., 2004; Stephan & Brewer, 2007).

Athletic identity exhibits gender-related differences as well. More specifically, research findings established that athletic identity is stronger in males than females (e.g., Van Raalte & Cook, 1991; Brewer et al., 1993; Wiechman & Williams, 1997; Tasiemski et al., 2004). On the contrary, a whole range of other research studies conclude that gender is not affected by athletic identity (e.g., Groff & Zabriskie, 2006; Hoiness et al., 2008; Fraser et al., 2008). These prospective changes in the perception of the athletic role between males and females are probably due to the difference in gender roles, which are of a more social nature, affecting the perceptions and behaviour of individuals on a daily basis. These roles are culturally

dependent and reinforced from birth (Ozkan & Lajunen, 2005; Williams & Best, 1990).

In order to investigate the athletes' athletic identity, Brewer et al. (1993) developed the Athletic Identity Measurement Scale (AIMS). AIMS, initially, comprised 10 items designed to be a face valid representation of social, cognitive, and affective aspects of athletic identity. These items are summed to produce a single self-evaluation score that represents their athletic identity. However, Brewer and Cornelius (2001) supported a new higher-order 7-item model consisting of three first-order factors (social identity, exclusivity, and negative affectivity). The factor (construct) social identity is the degree to which an individual views him/herself as occupying the role of an athlete. Exclusivity is the degree to which an individual's self-worth is established through participating in the athletic role; while negative affectivity is the degree to which an individual experiences negative emotions from unwanted sporting outcomes.

As it has already been mentioned, athletic identity constitutes a multidimensional concept, which examines all psychological, social, and behavioural dimensions of an athletic identity. And this is where the significance of the present study lies, since, by investigating the psychological dimension – either cognitive structure or a self-schema – students could identify possible ways to anticipate several problems arising. In addition, the investigation of the social dimension of athletic identity can greatly contribute to the better understanding of any possible impacts of the outside world on the student. Furthermore, the significance of the present study – the assessment of the perceived level of athletic identity – is further supported by the maintenance that athletic identity is indeed a stable, trait-like predictor of other psychological variables (Brewer et al., 1999).

The purpose of the present study was to conduct an initial investigation of the physical education students' athletic identity. More specifically, it aimed to determine their self-concept regarding their athletic role, as well as the impact of experience (college age), the level of participation in physical activities (sport, recreational, none) and gender upon this athletic identity. Based on the literature reviewed in the present research, it has been hypothesised that the perception of the athletic role varies depending on their college age, the type of participation in physical activities and gender.

## **METHOD**

### **Participants**

Three hundred and thirty three physical education students (209 males and 121 females) participated in the present study; 81 of them were freshmen, 99 at the 2<sup>nd</sup> year of studies, 49 at the 3<sup>rd</sup> year, and 101 at the 4<sup>th</sup> year. Their ages ranged from 18 to 24 years. In addition, 181 participated in a total of 16 sports (9 gymnastics, 26 basketball, 7 volleyball, 81 football, 21 track & field, 11 martial arts, 2 table tennis, 13 handball, 9 swimming, 4 water polo, 2 weightlifting, 3 tennis, 3 cycling, 4 rowing, 1

badminton, and 1 shooting), 124 in recreational activities, and 25 in no physical activity at all.

### Measures

Athletic identity was measured using the Athletic Identity Measurement Scale (AIMS; Brewer and Cornelius, 2001). The AIMS consists of 7 statements concerning the athletes' perception of their identity in relation to sport. For each item, subjects responded on a scale from 1 (strongly disagree) to 7 (strongly agree). The 7-item AIMS instrument was supported as both a unidimensional instrument (e.g., Brewer & Cornelius, 2001; Brewer et al., 2010; Visek et al., 2010), and a multidimensional instrument (Brewer & Cornelius, 2001; Visek et al., 2008).

The evaluation of the unidimensional scale can be performed on the total scores of all items which range from 7 to 49, with higher scores indicating stronger athletic identity. The unidimensional AIMS instrument indicated a very good internal consistency of 0.81 (Brewer & Cornelius, 2001). The multidimensional scale contains three subscales, social identity (three items; e.g., most of my friends are athletes), exclusivity (two items; e.g., sport is the most important part of my life), and negative affectivity (two items; e.g., I feel bad about myself when I perform poorly in sport), with each subscale being evaluated on the basis of the 1–7 score. *Social identity* is the degree to which an individual views him/herself as occupying the role of an athlete. *Exclusive* is the degree to which an individual's self-worth is established by participating in the athletic role. Finally, *negative affectivity* is the degree to which an individual experiences negative emotions due to unwanted sporting outcomes. For the needs of the present study, both unidimensional and multidimensional versions of the 7-item AIMS were used.

### Procedure

Before conducting the research, the Head of the Faculty was asked to give his permission. The students opted to participate in the research; they were asked first to verbally consent to participate in the research and then to complete the questionnaire. This procedure took place in the classroom (e.g., amphitheatre) before the session started. Then, the researcher briefed the students in the content of the questions included in the questionnaire, as well as the aim of the study.

## RESULTS

The internal consistency of the total AIMS scores was examined and each subscale was found to be satisfactory, holding the criterion of 0.70 (see Table 1). An exception was subscale *negative affectivity* with a value slightly lower than the one set by the criterion. In order for the results of the present study to be reliable, it is suggested that the results of this subscale be considered with some reservation.

Table 1. Means (SD) and Cronbach's alpha for subscales

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>α</i>
Athletic identity	34.97	7.46	0.83
Social identity	14.08	3.47	0.77
Exclusivity	9.09	2.91	0.80
Negative affectivity	11.78	2.33	0.63

The students' AIMS scores were evaluated whilst simultaneously examining any possible differences between the relevant groups. Descriptive statistics (Table 1) revealed that the university physical education students in general had a moderate self-concept score concerning their athletic identity, based on the fact that the scale ranges from 7 to 49 points and the points close to 49 are considered high. In addition, the same analysis of athletic identity subscales indicated an increased role of social identity, a relatively high negative affectivity and a moderate exclusivity as far as athletic identity is concerned.

Males scored higher in the variables total athletic identity, social identity, and negative affectivity compared with females, while both genders achieved similar scores in the exclusivity variable (Table 2). One-way MANOVA revealed that there were no significant differences between males and females in total AIMS and the dimensions of athletic identity.

Table 2. Means (SD) for subscales by gender

<i>Variable</i>	<i>Males (n=209)</i>		<i>Females (n=121)</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Athletic identity	35.11	6.97	34.71	8.26
Social identity	14.13	3.31	14.02	3.75
Exclusivity	9.06	2.87	9.16	2.98
Negative affectivity	11.92	2.14	11.54	2.61

As far as the college age is concerned, in all variables the scores are decreased as the college age increases (Table 3).

Table 3. Means (SD) and *post hoc* analysis for subscales between Grades

<i>Variable</i>	<i>1<sup>st</sup> (n=81)</i>		<i>2<sup>nd</sup> (n=99)</i>		<i>3<sup>rd</sup> (n=49)</i>		<i>4<sup>th</sup> (n=101)</i>		<i>Post hoc</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Athletic Identity	36.44	7.33	35.51	6.91	34.82	6.79	33.29	8.07	1>4**
Social Identity	14.61	3.47	14.47	3.29	14.24	3.12	13.22	3.67	1>4** 2>4*
Exclusivity	9.36	3.12	9.23	2.82	9.18	2.49	8.70	3.00	***
Negative affectivity	12.48	1.95	11.81	2.11	11.39	2.44	11.38	2.63	1>3*

Note: \* $p < 0.01$ , \*\* $p < 0.001$ , \*\*\*Not significant

MANOVA was conducted to examine whether any grade differences existed in the dependent variables measured in the present study. A MANOVA is noted to work acceptably well with moderately correlated dependent variables (Tabachnick & Fidell, 2001).

In the MANOVA, grade served as the independent variable, and a significant multivariate effect was found, Wilks' Lambda = 0.942,  $F(9, 788) = 2.16$ ,  $p < 0.05$ ,  $\eta^2 = 0.02$ . According to Cohen (1988), guidelines for interpreting an eta square value ( $\eta^2$ ) is that 0.01 indicates a small effect, 0.06 indicates a moderate effect, and 0.14 indicates a large effect. Therefore, our finding that the  $\eta^2 = 0.02$  indicates that 2% of the total variance in variables of athletic identity is accounted for by grade differences and this can be classified as a moderate effect. Follow-up ANOVAs revealed profile differences on all dependent variables except exclusivity. More specifically, significant differences in subscales of the total AIMS, i.e., social identity and negative affectivity [ $F(2, 330) = 2.99$ ,  $p < 0.05$ ,  $\eta^2 = 0.02$ ;  $F(2, 330) = 3.22$ ,  $p < 0.05$ ,  $\eta^2 = 0.03$ ;  $F(2, 330) = 4.05$ ,  $p < 0.01$ ,  $\eta^2 = 0.04$ , respectively] were established. Tukey *post hoc* comparisons ( $p < 0.05$ ) of profile groups were conducted for the dependent variables exhibiting a significant univariate effect to assess the nature of these differences (see Table 3).

A similar variation is exhibited in scores, which are decreased as the students' participation in physical activities is decreased (Table 4).

Table 4. Means, standard deviations, and *post hoc* analysis for subscales between participation level

Variable	Competitive (C) ( <i>n</i> =181)		Recreational (R) ( <i>n</i> =124)		Non-participation (NP) ( <i>n</i> =25)		Post <i>hoc</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Athletic Identity	37.75	5.99	32.42	7.37	27.40	7.89	C>R** C>NP** R>NP**
Social Identity	15.36	2.93	12.95	3.35	10.40	3.14	C>R** C>NP** R>NP**
Exclusivity	9.91	2.61	8.32	2.94	7.04	2.84	C>R** C>NP**
Negative affectivity	12.46	1.82	11.14	2.46	9.96	3.07	C>R* C>NP** R>NP*

\* $p < 0.01$ , \*\* $p < 0.001$

A MANOVA was then conducted with level of participation serving as the independent variable, and a significant multivariate effect was found, Wilks' Lambda = 0.782,  $F(6, 650) = 14.18$ ,  $p < 0.001$ ,  $\eta^2 = 0.12$ . The finding for eta squared ( $\eta^2$ ) indicates that 12% of the total variance in variables of athletic identity is accounted for by form participation differences – which is considered a large effect. Follow-up univariate *F*-tests confirmed that the difference between the three levels of participation on the variables of athletic identity, total AIMS, social identity, exclusivity

and negative affectivity was significant [ $F(2, 330) = 40.53, p < 0.001, r^2 = 0.20$ ;  $F(2, 330) = 41.30, p < 0.001, r^2 = 0.20$ ;  $F(2, 330) = 19.67, p < 0.001, r^2 = 0.11$ ;  $F(2, 330) = 22.75, p < 0.001, r^2 = 0.12$ , respectively]. A Tukey follow-up test found that the students who participated in competitive sport scored higher than those who participated in recreational activities; and the same was the case between the latter and those who participated in no physical activity at all – in all aspects of athletic activity (see Table 4).

## DISCUSSION

The aim of the present study was to investigate the psychological concept of athletic identity; more specifically, the investigation of the university physical education students' perception concerning their athletic role in relation to their college age, the type of participation in physical activities and gender.

Initially, the results of the study revealed that the students moderately perceived their athletic role, underlining the elements of social identity and negative affectivity; while students were not proved to base their athletic identity on the element of exclusivity. Determining the perception of the athletic role of student athletes can presumably demonstrate their performance in practical courses (e.g., artistic gymnastics, volleyball) (Cornelius, 1995). For example, if the exclusive athletic identity of students is intense, they would be expected to exhibit a high athletic performance (Danish, 1983; Werthner & Orlick, 1986).

In addition, determining the perception of the athletic role of student athletes is useful because athletic identity has some predictive traits (Brewer et al., 1999). This is attainable because athletic identity is revealed as a unique and significant part of the self-concept that can be considered as a cognitive structure, or self-schema, and a social role (Brewer et al., 1993). A cognitive structure reveals the way in which an athlete copes with certain events, like an injury, is determined by the strength of athletic identity (Brewer et al., 1993). A schema is a cognitive structure which consists of the mental representation of some stimulus phenomena, including the relationship among the elements. Schemas are general cognitive structures in that they provide a skeletal conception that is exemplified (or instantiated) by particular cases or experiences (Rest et al., 1999: p. 136). On the contrary, a social role of athletic identity reveals the impact level of the outside world, such as family, coaches, trainers, friends, and the media, and the appraisal of their attitudes towards one's self (Brewer et al., 1993).

Another result of the present study was the impact of the years of studies (experience) and the type of participation in physical activities on the students' perception of their athletic role. This result further supports the findings of other researchers which maintain the impact of situational factors on athletic identity (Van Raalte & Cook, 1991; Lavalley et al., 1997; Brewer et al., 1999; Grove et al., 2004), and generally that the self is a flexible and malleable structure susceptible to developmental and situational influences (Cantor et al., 1986; Markus & Kunda, 1986). More specifically, these findings revealed that experience gained by the

university physical education students during their studies negatively affect their athletic identity. This finding is further supported by findings of previous research which maintained that athletic identity decreases with time (Brewer et al., 1993; Brewer et al., 2010; Grove et al., 2004). Thus, according to the literature, the gradual decrease of competitive sport activities during their studies for several reasons, such as abandoning sport (Grove et al., 1997; Lavallee et al., 1997) and changing of interests (Shachar et al., 2004) can be considered a possible cause for the decrease of the students' interest in their athletic role.

Brewer et al. (1993), Cornelius (1995), and Murphy et al. (1996), support that the athletic identity is an important part of the self-concept in athletes and non-athletes alike. Researchers indicate that individuals currently participating in organized sports manifest higher levels of athletic identity than non-participants (Brewer et al., 1993; Tasiemski et al., 2004). The findings of the present study further support those of previous work revealing that the individuals who participated in organized sports perceive, with greater intensity, their athletic role than those who participated in recreational activities and those who performed no physical activity at all. A similar result was reported in a recent research which establishes the present conclusion (Lamont-Mills & Christensen, 2006). The non-participants' high level of athletic identity in organized sports is probably due to the fact that athletic identity appears to be related to the higher levels of athletic achievement (Williams & Krane, 1993).

In this study, the gender differences between males and females concerning the perception of their athletic role were also investigated. Despite the finding that males scored higher in athletic identity than females, such a difference was not statistically significant. This result is further supported by the findings of other studies (Chen et al., 2010; Fraser et al., 2008). Lack of differences between boys and girls in the perception of their athletic identity is, probably, due to the same level of sport obligations (Chen et al., 2010). Taking into consideration the results of previous work, which do not exhibit any clear significant differences in gender (e.g., Tasiemski et al., 2004; Fraser et al., 2008; Hoiness et al., 2008; Groff et al., 2009), it can be considered that gender is an unstable factor in shaping the perception of athletic identity.

## CONCLUSIONS

Numerous conclusions were extracted from the findings of the present study: (a) the university physical education students are characterized by a moderate perception concerning their athletic identity, (b) athletic identity constitutes a psychological characteristic affected by situational factors such as experience gained during their college years and the type of participation in physical activities, (c) no significant differences in athletic identity between males and females establishes that no difference in the personal characteristics among the university physical education students should be anticipated.

A final conclusion is that the university constitutes an environment in which psychological changes take place, similarly in males and females, regarding their

perception of the self and more specifically their athletic role. Due to the significance of the role of athletic identity in the improvement of human psychological traits (e.g., self-esteem, socialization, mutual respect among peers), future research is suggested to be conducted on the establishment of intervention programmes in order to maintain an increased level of perception of the athletic identity of students especially in the faculties of physical education.

## FIRST AUTHOR'S BIOGRAPHY

Miltiadis Proios is now an assistant professor in the Department of Physical Education and Sport Science (TEFAA) of the Aristotle University of Thessaloniki. His research interests include moral judgment and moral decision making in physical education and sport. Data accumulation for the conduct of the present paper was made in the context of his doctoral studies.

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