# The Relationship Between Academic Locus of Control and Achievement Goals among Physical Education Teaching Program Students

*Zisan Kazak Cetinkalp*

School of Physical Education and Sport Bornova, Ege University, Izmir, Turkey

**Abstract:** This study aims to examine the relationship between the academic locus of control and the achievement goals and the determined the role of achievement goals in academic locus of control. Participants were 588 students who are 269 female and 319 male with a mean of age $21.51 \pm 2.35$ years from 9 state universities in Turkey. A one-way MANOVA and multiple regression analysis were used to analyse data. Results indicated that males reported significantly higher external LOC, lower learning approach goal orientation and lower learning avoidance goal orientation than females. Besides, it's understood that the learning approach goals and learning avoidance goals were positive predictors of ILOC. ELOC was substantially predicted by the performance avoidance goal and the learning approach goals.

**Key words:** Academic locus of control · Achievement goals · Physical education

## INTRODUCTION

The locus of control (LOC) is an important variable that explains individual differences. The structure of locus of control is based on Rotter's social learning theory [1] defending that individuals display a dispersion pattern on the dimensions of internal and external locus of control depending on the degree of their perceptions, on their responsibilities [2]. Individuals with an internal locus of control (ILOC) believe that the outcomes of events to be internally controllable. In other words, they believe that their own personal efforts, behaviors, or skills will influence and determine outcomes and they take responsibility for their actions. Research has supported a positive relationship between internal locus of control and motivation and achievement in school [3]. On the contrary, individuals with an external locus of control (ELOC) believe that their behaviors or the events they experience are more determined by external forces rather than by themselves. They believe and behave as if forces beyond their control such as chance, luck, or others with greater power represent the important factors in determining the occurrence of reinforcing events [4, 5]. Davies [6] implies that individuals having external locus of control tend to assert their abilities less frequently and experience feelings of despair more frequently and their level of self-esteem and expectation of success is lower.

In an academic environment, locus of control refers to the way a student accounts for personal successes and personal failures in school. These attributions may or may not be accurate perceptions but are believed to influence future behaviors extremely [7].

The achievement goals are one of the main structures related to LOC. Dweck and Leggett [8] suggest that goal orientation moderately determines one's locus of control. LOC refers to individuals' perceived control over rewards or outcomes, while achievement goal orientations involve perceptions of control over the basic attributes that influence these outcomes [9]. The achievement goals have focused on the success behaviour. In the most recent research on achievement goals, two types of goals; learning and performance [8, 10], have been identified and each has both approach and avoidance valences. Individuals adopting learning goal are focused on developing competence by learning new skills and mastering new situations [11]. In contrast, individuals with performance goal are concerned with gaining favorable judgments of their competence [8] and are be motivated by external reasons such as proving his/her ability to others [12]. Ames [13] noted that individuals with performance goal were significantly more likely to focus on ability attributions. Similarly, Tobias [14] indicated that performance goals led to negative attributions as lack of ability. Ames and Archer [15]

**Correspondin Authors:** Zisan Kazak Çetinkalp, Ege University, School of Physical Education and Sport,
35100, Bornova, Izmir/Turkey, Tel: +90 232 342 5714.
Fax: +90 232 339 9000, E-mail: f.zisan.kazak@ege.edu.tr.

have found that students' perception of the performance goal was moderately related to a tendency to attribute failure to lack of ability and to difficult task, whereas their perception of the mastery (learning) goal was negatively related to attribute failure to teacher. Mastery (learning) approach goals related positively to many motivational variables such as positive attributions [16]. Besides, Hadless [17] suggested that the influence of achievement goals may be moderated by the extent to which students attribute success or failure to internal or external factors. Students who perceive behavioural outcomes as successes and failures to be under their control (internal control) should be motivated to engage in academic activities, expend effort and persist in challenging tasks [18]. In other words, they tend to be more learning goal oriented. Therefore, the best way to promote students' internal locus of control is to encourage learning goal orientation among them. As it can be followed from the existing literature, the relation between LOC and the goals of performance were manifested explicitly.

The purpose of this study as different from the previous study areas is to determine the academic locus of control and the level of achievement goals of physical education students and to manifest the relation between the locus of control and the level of achievement goals. There aren't many studies examining relationship between academic locus of control and achievement goals in physical education field. Therefore, It is thought that having knowledge regarding the general characteristics of goal structures and locus of control bring in meaningful information to the studies of physical education.

## METERAL AND METHOD

**Participants:** The sample of the study is composed of the students of physical education studying in 9 state universities in Turkey, 269 of them is female (Mage = $21.01 \pm 2.28$) and 319 of them is male (Mage = $21.93 \pm 2.33$) with a total of 588 students. (Mage = $21.51 \pm 2.35$). 45.7% of the sample is freshmen and 54.3 % of it is senior students.

## Measures
**Academic Locus of Control:** Academic Locus of Control Scale (ALCS) developed by Akýn [19] was used. Scale consists of 17-items, which included two factors (i.e. internal academic locus of control and external academic locus of control) and account for the 71.7 % of the total variance. The internal consistency reliability coefficients

were .94 for internal academic locus of control and .95 for external academic locus of control. Test-retest reliability coefficients were .97 and .93 for two subscales, respectively [19].

**Achievement Goals:** The 2x2 AGQ was used to determine students' goal orientations. The 2x2 AGQ, which was developed by Akın [20] has 4 subscales: Learning approach orientation, learning avoidance orientation, performance approach orientation and performance avoidance orientation. Scale is a 26-item Likert type scale showing the agreement on each item. Each of the 26 AGQ items describes different ways that participants can strive for competence or avoid incompetence. Participants are asked to indicate on a scale ranging from 1 (strongly disagree) to 5 (strongly agree) how much they agree or disagree with each statement. The 2x2 AGQ shows an internal consistency of the four subscales ranging from .92 to .97 and a test-retest coefficient ranging from r = .77 to .86 [20].

**Data Collection and Analysis:** The data of this study was collected during 2009-2010 academic year. A questionnaire involving demographic questions and the scales measuring academic locus of control and the achievement goals were applied to the participants. The participants were briefed about the study and the necessary explanations were given about the questionnaire. The completion of the forms took approximately 10 minutes. In the analysis of the data obtained from the research, a one-way MANOVA and a multiple regression analysis was conducted gradually.

## RESULTS

**Descriptive Statistics and Gender Differences:** Means and Standard deviations of academic locus of control and achievement goals are reported in Table 1. The statistics are provided for the whole sample, as well as for females and males separately.

A one-way MANOVA was conducted to test gender differences in academic locus of control and achievement goal types. A significant multivariate main effect emerged, $F (6, 581) = 4.29$, $p < .001$. Subsequent univariate analyses (Table 1) indicated that males reported significantly higher external LOC, $F (1, 586) = 5.57$, $p < .001$; lower learning approach goal orientation, $F (1, 586) = 7.14$, $p < .01$; and lower learning avoidance goal orientation than females, $F (1, 586) = 3.84$, $p < .05$.

Table 1: Means and Standard Deviations of Academic Locus of Control and Achievement Goals

|  | All participants(n = 588) | | Females(n = 269) | | Males(n = 319) | |
|---|---|---|---|---|---|---|
| Variable | M | SD | M | SD | M | SD |
| ILOC | 4.24 | .64 | 4.29 | .59 | 4.20 | .68 |
| ELOC | 2.19 | .61 | 2.09 | .62 | 2.28*** | .58 |
| Learning approach goal | 3.95 | .63 | 4.03 | .62 | 3.89** | .63 |
| Learning avoidance goal | 3.13 | .73 | 3.19 | .72 | 3.07* | .74 |
| Performance approach goal | 2.78 | .81 | 2.82 | .81 | 2.75 | .82 |
| Performance avoidance goal | 2.45 | .73 | 2.40 | .74 | 2.49 | .72 |

* p < .05, **p < .01, **p < .001

Table 2: The Summary of Multiple Regression Analysis of Achievement Goals Predicting Performance

| Variable | | Total Sample | | | | Females | | | | Males | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | $\beta$ | $R^2$Change | t-value | p | $\beta$ | $R^2$Change | t-value | p | $\beta$ | $R^2$ Change | t-value | p |
| ILOC | $L_{Ap}$ | .31 | .12 | 7.54 | .000 | .33 | .11 | 5.63 | .000 | .36 | .13 | 6.87 | .000 |
|  | $L_{Av}$ | .09 | .01 | 2.27 | .024 |  |  |  |  |  |  |  |  |
| ELOC | $L_{Ap}$ | -.33 | .12 | -8.87 | .000 | -.29 | .08 | -5.28 | .000 | -.34 | .13 | -6.81 | .000 |
|  | $P_{Av}$ | .32 | .10 | 8.68 | .000 | .32 | .10 | 5.71 | .000 | .32 | .09 | 6.38 | .000 |

**Multiple Regression Analysis:** In order to determine which of the achievement goals (Learning approach, learning avoidance, performance approach and performance avoidance) best predicted students' academic locus of control for PE regression analyses were conducted gradually for the whole sample, as well as for the females and the males separately (Table 2).

In the totality of the sample, learning approach goals emerged as the most important predictors of ILOC accounting for 12 % of the variance. Besides, learning avoidance goals was a positive predictor of ILOC and accounted for 1 % of the variance in ILOC ($F$ (2, 585) = 43.75, $p$< .001). Learning approach goals emerged as a negative predictor of ELOC accounting for 12 % of the variance. Furthermore, performance avoidance goals accounted for 10 % of the variance in ELOC ($F$ (2, 585) = 81.41, $p$< .001) and were a positive predictor of ELOC.

When the predictor variables are evaluated from the point of females and males; as shown in Table 2, ILOC was positively predicted by learning approach goal orientation, which explained 11 % of variance for females and explained 13 % of variance for males. If we consider ELOC, we observed that learning approach goal orientation and performance avoidance goals emerged as significant predictors for both females and males. In females, performance avoidance goal was a positive predictor and explained 10 % of variance; whereas learning approach goal was a negative predictor of ELOC and explained 8 % variance. In males, learning approach

goal was a negative predictor and explained 13 % of variance, while performance avoidance goal was a positive predictor and explained 9 % of variance.

**DISCUSSION**

The aim of this study is to present the relation between academic locus of control and the achievement goals for the students studying in the physical education departments of the universities in Turkey. When the results gathered from the study were assessed; it's determined that male students have more external locus of control than the females have. In contrast, researches found that females have more external locus of control than do males [21, 22]. On the other hand, if we look from the viewpoint of gender, a meaningful discrepancy could not be found between averages of internal locus of control scores. On the other hand, Bulut Serin, Serin and Şahin [23] found that male students have more internal control than female students. In another study, Chubb, Fertman and Ross [24] found that a significant difference in locus of control between males and females was not found. In the present study, it is determined that both learning goals of female students are higher than do male students. In the same line as these results anderman and Young [25] examined the relationship between goal orientations and gender. They found that girls adopted more mastery (learning) goals than boys. France, Pierrakos, Russell and Anderson [26] also indicated that

females scored higher on mastery (learning) approach goal and mastery (learning) avoidance goal than males. Similarly, Morris and Kavussanu [27] determined that the average scores of mastery (learning) avoidance goals for the females are higher than do the males. In terms of gender, a meaningful discrepancy could not be found between the average scores for performance goals. France, Pierrakos, Russell and Anderson [26] found that males and female scored similarly on performance goals (PAP and PAV).

It's determined that the learning approach goals are important determinants of internal locus of control. Besides, it's observed that learning approach goals are the negative predictor of external locus of control and the performance avoidance goals are the positive determinants of it. According to the results of the research made by Akın [12] there is a positive relation between external locus of control and the goals of learning approach, performance approach and performance avoidance. Besides, Akın's [12] research exposed that there is a positive relation between internal locus of control and learning goals and a negative relation between internal locus of control and performance goals. Eren [28] found that student teachers' performance-avoidance goals were moderately and positively correlated with external locus of causality. Hau and Salili [29] indicated that learning-oriented students attributed more to internal causes, while performance-oriented students attributed more to uncontrollable causes.

When the predictors of external and internal locus of control are scrutinized in terms of gender, it is determined that performance avoidance goals for females are the most important predictors to predict ELOC and learning approach goals for males are the most important predictors to predict ELOC. Learning approach goals was a positive predictor of ILOC for both females and males. When a general evaluation of the results gathered through the research is made, it is found that the learning approach and avoidance goals those physical education students have meaningful effects on internal and external locus of control.

The scarcely any studies in academic environment presenting the relation between goal orientations and locus of control has been a limiting factor leading to an impediment to pave the way to the expected discussions on the results of the studies concerned. In this context, it's thought that the gathered findings through this study would contribute the future studies on this discipline. On the other hand, this study provides an important perspective that may be beneficial to physical educators.

Finally, the future studies taking into consideration more variables, such as students' age, class and other personality traits may contribute to a deeper understanding of the topic. In addition, various education fields may result in different conclusions. Finally, future studies taking into consideration more variables, such as students' age, class and other personality traits may contribute to a deeper understanding of the topic. In addition, various education fields may result in different conclusions.

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