

## THE RELATIONSHIPS BETWEEN GENDER, PHYSICAL SELF-PERCEPTION, SPORT EXPERIENCE, MOTIVATION ORIENTATIONS AND ACADEMIC SUCCESS

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### ABSTRACT

The purpose of this study was to explore the academic success differences of physical education and sport (PES) college students according to the gender, physical self perception, and sport experience and motivation orientations. For this purpose, 156 second grade students (female=72, male=84) from 3 different physical education and sport colleges, were applied Physical Self-Perception Profile (PSPP) and Academic Motivation Scale (AMS). Besides the students were asked to answer questions about their cumulative academic average (GPA) and sport experience level. The findings of the tests were evaluated in Statistical Package for the Social Sciences (SPSS) 19.0 programme through descriptive statistics, independent samples t test, and Pearson Product Moment Correlation. According to the findings of AMS, although significant differences were found between females and males in extrinsic motivation-external regulation and amotivation levels of the students, no significant difference was observed in GPAs. According to the findings of PSPP, male students recorded to have significantly higher averages in sport competence and physical strength sub-scales. When the correlation between gender, physical self-perception, sport experience and academic motivation orientations were tested, only positive correlation was found between intrinsic motivation sub-scales and academic success, and negative correlation was found between amotivation, sport experience level and academic success.

**Key words:** Physical Self Perception; Motivation; Academic Motivation Orientations; Academic Success

### 1. INTRODUCTION

Academic motivation has long been an interest of both educationalists and psychologists. Many researches have been carried to find out the relationships and interactions between academic achievement, school success, and psychological motivation orientations and other psychological issues.

Academic motivation can be shortly defined as the production of the necessary energy needed to accomplish academic tasks. In order to measure the motivation, many different scales have been developed and attributed in various settings. The most common and valid scale (AMS) in education domain was developed by Vallerand et al. in 1992 (1). Even an academic motivation scale in Turkish (Akademik Gudulenme Olcegi) was developed by Bozanoglu in 2004 (2). He suggested researchers to apply this scale in different studies, so that the measurement capacity of this scale would be increased while being tested within alternative case studies.

All these measurement instruments were basically based upon motivation theories developed by Deci and Ryan, and were all based on self-determination theory (3). They divided motivation into three major parts: intrinsic motivation, extrinsic motivation and amotivation. Intrinsic motivation refers to being engaged in an activity for itself, out of interest, and for the pleasure and satisfaction derived simply performing this activity. Contrary to intrinsic motivation, extrinsic motivation attributes to a variety of behaviors where the goals of the action extend beyond those inherent in the activity itself. The divisional conceptualization of motivation as intrinsic – extrinsic has been proven to be valid in different life domains, including physical education and sport domain (3,4). On the other hand when there is lack of motivation, both intrinsic and extrinsic; this psychological state is called as amotivation (3, 5).

Intrinsic and extrinsic motivations also have sub-divisions. The intrinsic motivation is divided into three types: intrinsic motivation to know, intrinsic motivation to accomplish things, and intrinsic motivation to experience stimulation. The first shows the pleasure of learning and knowing through participation, the second shows the pleasure of engaging and doing activities, and the last shows the pleasure of experiencing stimulating sensations. The sub-divisions of extrinsic motivation, from higher to lower levels of self determination, are named as external regulation, introjected regulation, and identified regulation. Generally external regulation is associated with the extrinsic motivation, and conveys the behaviors regulated through external means such as rewards and constraints. Introjected regulation occurs when the external contingencies become internalized and individuals force themselves to perform the activity. Finally, the identified regulation occurs when the individual comes to judge and value the behavior as very important, therefore should be performed out of choice (6).

In this study, one of the other parameters which will be related to academic success is physical self-perception. Physical-self perception can be evaluated as a sub-category of self-concept, which has been an

interest of researches for long decades. Before 80s, researchers, such as Coopersmith (7), Rosenberg (8), and Marx and Winne (9), at the beginning had suggested that self-concept is a unidimensional entity reflecting general view of the self. But during late 80s and early 90s, the later researchers pointed out that that self-concept is a multifaceted, hierarchal and dynamic construct (10-13). Fox and Corbin (1989), following the steps of previous researches, developed a model in which global-esteem was established at the top of the apex of a hierarchy, followed by the physical self-worth at the domain level, and sport competence, attractive body, physical strength, and physical condition at the sub-domain levels (14, 15). With this model they developed Physical Self-Perception Inventory (PSPP), which was composed of 30 items, each 6 assessing one of the sub-domains.

Physical self-perception also has close relations with body image and self-esteem. Body image is characterized by individuals views, emotions, and personal judgments of their bodies through body size estimate, perceived body attractiveness, and feelings connected to one's body shape and size (16,17). Very often we hear that people who are not pleased with their body image can easily fall into despair as a result of low self-esteem, and try to renew their outlook through different styles of dresses, or even aesthetic operations (18).

This present study was also concentrated on the relationship between sport experience and academic success relation in PES college students. This is also a key issue to be studied with different approaches by sport scientists as academic successes of PES students are very often questioned. In this study sport experience was directly accepted as participation to formal sport activities than ordinary physical activities. Therefore the athlete students and their academic success were explored.

Previous literature has very often questioned the relationship between academic success and sport participation. Generally the studies in the literature conveyed that sport participation had positive effects on academic success of the students (e.g. 19-23), but some found different results as there were either no effects (e.g. 19,24,25) or only one of the sexes was affected positively (e.g. 19,21,26).

The last variable used in this study to explore academic success of PES students was gender. Gender differences were not only questioned for academic success, but also for the three subjects mentioned above (academic motivation orientations, physical self-perception, and sport experience). Therefore gender in this study served as a two dimensional component to find out PES college students' academic success. Various studies so far have indicated that differences exist in many psychological states and skills between the genders (4,6,27-33), but there are very rare studies which explored gender differences in the relationship between academic success and sport participation (19). Therefore this present study also distinguishes in the literature as it concentrated on some psychological differences between genders and their relationships with academic success.

## 2. MATERIAL AND METHODS

### 2.1. Sample group

156 second grade PES college students ( $\bar{x}$  age = 21.49) voluntarily participated to this study; 54 students from Bartın University, 48 from Gazi University, and 50 from Kirikkale University. They were applied the tests during Spring Semester in 2013. The gender distribution of the sample group is presented in Table 1.

**Table 1.** Gender distribution of the sample group

	n	$\bar{x}$ (age)	SD (years)
Male	84	22.12	2.90
Female	72	20.86	1.76

### 2.2. Data gathering tools

Academic Motivation Scale (AMS): This test, which is valid and reliable to measure the academic motivations of students, was developed by Vallerand et al. in 1992 (1). As in other motivation scales, it includes 7 sub-scales (intrinsic motivation to know, Intrinsic motivation to accomplish, intrinsic motivation to experience stimulation, extrinsic motivation external regulation, extrinsic motivation introjected regulation, extrinsic motivation identified regulation, and amotivation) each composed of 4 questions, in total 28 questions. Each item in this test is ranked with a 5 point likert scale, ranging from 1 (does not correspond at all) to 5 (corresponds exactly).

Physical Self-Perception Profile (PSPP): This inventory was developed by Fox and Corbin in 1989 (14), and measures 5 subscales (sports competence, physical condition, body attractiveness, sport ability and general physical competence). Each of the sub-scale is composed of 6 items. All the items have either positive or negative expressions, and these expressions are scored from 1 to 4 points. 4 point shows the highest competence, and 1 shows the lowest. This inventory was translated and applied in Turkish for the first time in 1995 by Asci et al (20).

In order to find out the academic success levels of the students, the GPA scores of the first three semesters were asked them. Therefore self-reported GPA data was used in this study.

And to calculate the sport experience levels, students were asked to define themselves in one of these 5 groups; nonathlete, recreational level, club level, elite level, and professional level. In order to receive valid answers, each group was defined shortly to help the students categorise themselves more easily and correctly. The categories were scored from 1 to 5, showing the increase in sport experience. Calculating the answers of the students, the averages of the sport experience levels were found separately for both female and male students as shown in Table 2.

**Table 2.** Sport experience level scores

Sport Experience Level	Female		Male		Total	
	N	Score	N	Score	N	Score
Nonathlete	9	9	6	6	15	15
Recreational level	24	48	14	28	38	76
Club level	18	54	22	66	40	120
Elite level	14	56	28	112	42	168
Professional level	7	35	14	70	21	105
<b>TOTAL</b>	72	202	84	282	156	484
<b>Averages of SEL</b>		2.80		3.36		3.10

### 2.3. Analyses of the data

The data derived from the two questions and two tests mentioned above was evaluated using SPSS 19.0 for windows statistical package programme through descriptive statistics, independent samples t test, and Pearson Product Moment Correlation. For the statistical significance level, p value was taken as 0.05 ( $p < 0.05$ ).

The arithmetic averages and standard deviations of the motivation orientations sub-scales, physical self-perception sub-scales, GPAs and sport experience levels were calculated separately for both female and male students, and independent samples t test was applied to explore gender differences in each variable. In order to find out the relationships and useful associations between academic success and variables such as gender, sport experience level, motivation orientation sub-scales, and physical self-perception sub-scales, Pearson Product Moment Correlation analyses was used.

### 3. FINDINGS

The sub-scale scores of academic motivation orientations and self reported GPAs are given in Table 4. When it is examined, it is observed that intrinsic motivation levels of female students are higher, but amotivation and external regulation levels are lower than male students. Identified regulation and introjected regulation levels are very close. According to the t test results, there are significant differences between genders in only external regulation and amotivation, as the male students have much higher scores.

Female students also have higher scores than males in self-reported GPAs, but there is again no significant difference between them.

**Table 3.** Descriptive statistics for motivation orientation sub-scales, academic success levels, and t test results by gender

	Female N=72		Male N=84		p
	$\bar{X}$	SD	$\bar{X}$	SD	
<b>Motivation orientations:</b>					
IM-to know	5.14	1.25	4.84	1.35	0.07
IM-to accomplish	4.78	1.11	4.66	1.40	0.68
IM-to experience stimulation	4.82	1.02	4.42	1.56	0.14
EM-External regulation	3.44	1.41	4.64	1.27	0.00*
EM-Identified regulation	4.14	1.14	4.04	1.50	0.66
EM-Introjected regulation	4.48	1.28	4.58	0.87	0.62
Amotivation	2.66	1.00	3.24	1.47	0.00*
<b>Academic success levels:</b>					
GPA	69.80	14.57	64.18	19.52	0.49

\* $p < 0.05$

The subscale scores of physical self-perception inventory and the calculated averages of sport experience levels (Table 2) are presented in Table 4. According to this table, male students demonstrated higher averages in all physical self-perception sub-scales, but only in body attractiveness in which female students have a slightly higher average. However, there are significant differences between genders in only sport competence and physical strength sub-scales.

There is also a significant difference recorded between genders in sport experience levels, as male students have obviously higher average than females.

**Table 4.** Descriptive statistics for physical self-perception sub-scales, sport experience levels, and t test results by gender

	Female N=72		Male N=84		p
	$\bar{X}$	SD	$\bar{X}$	SD	
<b>Physical self-perception subscales:</b>					
Sport competence	15.21	2.17	18.04	2.65	0.00*
Physical condition	16.29	2.68	17.74	2.16	0.35
Body attractiveness	17.35	2.48	17.18	2.41	0.68
Physical strength	15.87	2.79	17.86	2.75	0.02*
Sport ability	16.54	3.14	16.92	2.86	0.14
<b>Sport experience level:</b>					
Averages of SEL	2.81	0.68	3.36	0.88	0.00*

\* $p < 0.05$

When the above findings are tested in Pearson Product Moment Correlation analyses, it is found out that there is no correlation between gender and academic success. Besides there is also no correlation between physical self-perception and academic success. But as expected, some sub-scales of academic motivation orientations and academic success are correlated. There are positive correlations between all 3 subscales of intrinsic motivation (to know=.584; to accomplish=.365; to experience stimulation=.434) and academic success. On the other hand there is negative correlation between amotivation and academic success ( $r=-.246$ ). None of the sub-scales of extrinsic motivation are correlated with academic success.

And last, there is an important finding in the relationship between sport experience level and academic success as there is a negative correlation between them ( $r=-.385$ ).

**Table 5.** Correlations found between academic success, and gender, motivation orientations, physical self-perception and sport experience

Variables	r
Intrinsic motivation to know	.584
Intrinsic motivation to accomplish	.365
Intrinsic motivation to experience stimulation	.434
Amotivation	-.246
Sport experience	-.385

#### 4. DISCUSSION AND CONCLUSIONS

The researches on the academic success levels of PES college students have vital importance as there is a common criticism on the quality of education in physical education and sport departments, which have been almost duplicated in Turkey during recent years. This increase has also lead stronger criticisms in the context of academic competence and success.

There has been a vast literature dedicated on the research of the relationships between physical activity, physical education, sport, and academic and/or school success (19). Generally sport participation and physical activity are approved as positive contributors on academic success in the schools as discussed before. On the other hand the academic success of college level students, and especially PES College students, have not been explored sufficiently in sport literature with special reference to academic motivation orientations. Therefore the present study is a unique one as it takes this subject into discussion and opens a new pathway to researchers.

This study found a strong relationship between intrinsic motivation and academic success which is in line with the previous researches (35-37). Therefore based on these researches, it can be easily stated that there is a strong correlation between intrinsic motivation and academic success. This is also to mean that intrinsically motivated students are more successful in their academic life. However, it is also important here to note that the referred studies found correlation between 2 sub-scales of intrinsic motivation (to know and to experience stimulation), but this study found correlation between all 3 sub-scales of intrinsic motivation and academic success. The lack of correlation between intrinsic motivation to accomplish and academic success can be interpreted as a result of theoretically concentrated nature of the classes. This case is not similar with PES college students, as they have chance to attend to practical classes as well. Furthermore this difference can also be explained as a result of bodily/kinaesthetic intelligence levels which are expected to be higher in PES college students. So this research also inspires new empirical studies to explore the relationship between motivation orientations and multiple intelligence theory, more specifically intrinsic motivation to accomplish and bodily/kinaesthetic intelligence.

On the other hand this study found no correlation between extrinsic motivation and academic success. This finding is controversial to the findings of some previous researches which found negative correlation between extrinsic motivation and academic success (38,39). Further studies should also explore the relationship between extrinsic motivation and academic success in order to reach a more generalized idea about this relationship.

The negative correlation between amotivation and academic success is an expected result, as lack of motivation would normally lead to failure in academic performance.

Most important correlation found in this study is the negative correlation between sport experience and academic success, which is very significant as it shows that higher level sport experience results with lower academic success. At first sight, this finding appears to be controversial with the general approval that sport participation has positive effects on school success. But the present study has two main differences than referred citations as it was carried on college level students and only in PES departments. Therefore the calculation of sport experience levels of PES students in this study may differ than the definition of sport participation in the literature. Secondly, many of the students in this study demonstrating higher levels of sport participation are elite athletes who most probably had more days of absence to the classes. This would certainly result with academic failure and a parallel result was found in a study carried on PES college students in Ataturk University (40). This prediction is totally contradictory to the findings of another study which found that athlete students had less absence than nonathletes (41).

Another limitation of this study was that all the students were second graders and their GPAs after 3 semesters were calculated, this may not give valid results to evaluate academic success. Further studies should include third and fourth graders, measure the absences from classes, and also test the differences between grades. Previous research conveyed evidence for differences of academic motivation levels between grades (37).

Hickey (1992) stated that there was positive correlation between sport motivation and academic motivation (42), but this relationship has not been tested with Turkish samples so far. So the researchers should attribute

Academic Motivation Scale (AMS) and Sport Motivation Scale (SMS) to students in Turkey to explore the relationships between them.

One of the main aims of this study was to explore gender differences in physical-self perception, motivation orientations, sport experience, and also academic success. In this study male students scored higher averages in 4 sub-scales of physical self-perception (sport competence, physical condition, physical strength, and sport ability), and female students scored higher average in only body attractiveness. However, there were only significant differences in physical strength and physical competence levels in favour of male students. These findings are generally in line with the previous researches cited. When it comes to motivation orientations of the students, female students were more intrinsically motivated than males, but their amotivation and external regulation levels were found to be lower, and significance differences were only found in these two sub-scales. These findings are totally in line with previous literature (6, 27, 43, 44). Another significant difference between genders found in this study was sport experience level, but this finding cannot be generalized to any other population and is valid only in this sample group.

When the gender factor is evaluated in correlation analyses, there is no correlation found between gender and academic success. Therefore it is important to underline that although there are significant differences between genders in academic motivation levels, this doesn't necessarily result with differences in academic success levels. This finding is contradictory with some previous literature which found that females consistently outperformed males in their GPAs (45-47).

For the future, researchers need to pay more attention to the relationship between sport experience and academic success, and also to determine whether these differences can be replicated in athletes and nonathletes, bearing in mind that all the PES students are not actually athletes. In a previous research, in line with the findings of this study, it was found that participation to sport activities of nonathletes resulted with their academic failure (48). Therefore, further studies should explore the correlation between sport and academic related motivation orientations through a multidisciplinary design approach.

In conclusion, the results of this investigation indicate that there is a need for additional research in order to shed light on the possible reasons behind the inconsistency between the findings of this study and other studies. Continued research is needed in physical education and sport context, as empirical studies on college level are very limited in number, and more accurate idea needed about the relationship between sport experience and academic success of collegiate students. Accordingly, it is recommended to examine the relationships between academic success and other psychological skills. Furthermore, sport scientists should always bear in mind that motivational factors play a big role in both athletic performance and academic success, so they need to produce useful information for the teachers, academicians, trainers, and coaches working in physical education and sport field.

## REFERENCES

1. R.J. Vallerand, L. Pelletier, M. Blais, N. Briere, C. Senecal and E. Vallieres. The academic motivation scale: a measure of intrinsic motivation, extrinsic motivation, and amotivation in education. *Education and Psychological Measurement*, 1992, 52, pp. 1003-1017.
2. I. Bozanoglu. Akademik Gudulenme Olcegi: Gelistirmesi, gecerligi, guvenirligi. Ankara University, *Journal of Faculty of Educational Sciences*, 2004, 37(2), pp. 83-98 [in Turkish].
3. L. Deci and M. Ryan. *Intrinsic motivation and self-determination in human behavior*. New York: Plenum, 1985.
4. R.J. Vallerand, E.L. Deci and R.M. Ryan. Intrinsic motivation in sport, in K. B. Pandolf (ed.) *Exercise and Sport Sciences Reviews*, Vol. 15, pp. 389-425, New York: Mc Millian, 1987.
5. K. Cockley, N. Bernard, D. Cunningham, and J. Motoike. A psychometric investigation of the Academic Motivation Scale using a United States sample". *Measurement and Evaluation in Counselling and Development Journal*, 2001, 34, pp. 109-119.
6. M. Turkmen, T. Bozkus, and A. Altintas. The relationship between motivation orientations and competitive anxiety in Bocce players: Does gender make a difference? *Psychology and Behavioral Sciences*, 2013, 2(4), pp. 162-168.
7. S. Coopersmith. *The antecedents of self-esteem*. San Fransisco: W. H. Freeman, 1967.
8. M. Rosenberg. *Conceiving the self*. New York: Basic Books, 1979.
9. R.W. Marx and P.H. Winne. Construct interpretation of three self-concept inventories. *American Educational Research Journal*, 1978, 15, pp. 99-108.
10. B.M. Byrne. The Self-Description Questionnaire III: Testing for equivalent factorial validity across ability. *Educational and Psychological Measurement*, 1988, 48, pp. 297-406.
11. S. Harter. *Manual for the Self-Perception Profile for adolescents*. Denver, CO: University of Denver, 1988.
12. H.W. Marsh and R.S. Redmayne. A multidimensional physical self-concept and its relations to multiple components of physical fitness. *Journal of Sport and Exercise Psychology*, 1994, 16, pp. 43-55.
13. H.W. Marsh, G.E. Richards, S. Johnson, S. Roche, and P. Tremayne. Physical Self-Description Questionnaire: Psychometric properties and a multitrait-multimethod analysis of relations to existing instruments. *Journal of Sport and Exercise Psychology*, 1994, 16, pp. 270-305.
14. K.R. Fox and C.B. Corbin. The physical self-perception profile: Development and preliminary validation. *Journal of Sport and Exercise Psychology*, 1989, 11, pp. 408-430.

15. K.R. Fox. Physical Education and the development of self-esteem in children. In N. Armstrong. (Ed.), *New Directions in Physical Education Towards a National Curriculum*. (pp. 33-54), Champaign: Human Kinetics, 1990.
16. S. Grogan. Body image and health. *Journal of Health Psychology*, 11(4), pp. 523-530, 2006.
17. J.L. Muth and T.F. Cash. Body image attitudes: What difference does gender make? *Journal of Applied Social Psychology*, 27, pp. 1438-1452, 1997.
18. C. Yaman, O. Tesneli, N. Gelen, S. Kosu, M. Tel, and N. Yalvarici. Elit seviyedeki degisik spor branlarinin fiziksel benlik algisi uzerine etkisi, *International Human Sciences Journal*, 5(2), 2008 [in Turkish].
19. Centers for Disease Control and Prevention. *The association between school based physical activity, including physical education, and academic performance*. Atlanta, GA: U.S. Department of Health and Human Services; 2010.
20. D.F. Soltz. Athletics and academic achievement: What is the relationship? *NASSP Bulletin*, 1986, 70(492), pp: 20-24.
21. A. D. Goldberg and t. J. L. Chandler. Academics and athletics in the social world of junior high school students. *The School Counselor*, 1992, 1, pp. 40-45.
22. L.J. Stephens. The effect of interscholastic sports participation on academic achievement of middle level school students. *NASSP Bulletin*, March 2002.
23. F. Senduran. Askeri liselerde sporcu ogrenciler ile sporcu olmayan ogrencilerin problem cozebilme, strese karsi koyabilme, uyum becerileri ve basari duzeyleri. Marmara University Health Sciences Institute, Unpublished Phd Dissertation, İstanbul, 2006 [in Turkish].
24. S. Serbes, I. Topkaya, and Y.E. Ersoy. Okul spor takimlarinda yer alan ilk ve ortaogretim ogrencilerinin akademik basari acisindan incelenmesi (Sakarya ornegi). 9<sup>th</sup> International Sport Sciences Congress Proceedings Book, Nobel Publications, 3-5 Nov 2006, Mugla [in Turkish].
25. C. Bayraktar. Spor yapan ogrenciler ile spor yapmayan ogrencilerin uyum ve derslerindeki basari duzeylerinin karsilastirilmesi. Marmara University Health Sciences Institute, Unpublished Phd Dissertation, İstanbul, 1999 [in Turkish].
26. S.B. Garber. Extracurricular activities and academic achievement. *Journal of Research and Development in Education*, 1996, 30(1), pp. 42-50.
27. R.J. Vallerand and R. Bissonnette, Intrinsic, extrinsic, and motivational styles as predictors of behaviour: A prospectus study, *Journal of Personality*, 1992, 60, pp. 599-620.
28. S.A. White. The relationship between psychological skills, experience, and practice commitment among collegiate male and female skiers. *The Sport Psychologist*, 1993, 7, pp. 49-57.
29. M.S. Fortier, R.J. Vallerand, N.M. Briere, and P.J. Provencher. Competitive and recreational sport structures and gender: a test of their relationship with sport motivation. *International Journal of Sport Psychology*, 1995, 26, pp. 24-39.
30. D.F. Sewell and A.M. Edmondson. Relation between field position and pre-match competitive state anxiety in soccer and field hockey. *International Journal of Sport Psychology*, 1996, 27, pp. 159-172.
31. J.L. Muth and T.F. Cash. Body image attitudes: What difference does gender make? *Journal of Applied Social Psychology*, 1997, 27, pp. 1438-1452.
32. T. MacIntyre, C. Mahoney, and A. Moran. Professional sport psychology in Ireland. *Irish Journal of Psychology*, 1998, 19, pp. 504-515.
33. B. Gurbuz, A. Ozkan, and F. H. Asci. Genc sporcularin yarisma kaygi duzeylerinin cinsiyete ve spor deneyimine gore karsilastirilmesi (The comparison of competitive anxiety of young athletes according to gender and sport experience). *Beden Egitimi ve Sporda Sosyal Alanlar Kongresi Bildiriler Kitabi*, 10-11 September 2003, Ankara: pp. 453-455, (in Turkish).
34. F.H. Asci, A. Asci, and E. Zorba. Kendini Fiziksel Algilama Envanterinin gecerlik ve guvenirlik calismasi, V. Milli Spor Hekimligi Kongresi Bildiri Ozetleri, Izmir: 22-24 Eylul 1995, p 44, 1995 (in Turkish).
35. S. Ariogul. Academic motivations of pre-service English Language Teachers. *Hacettepe University Journal of Education*, 2009, 36, pp. 12-19.
36. Y.E. Kurum. The effect of motivational factors on the foreign language success of the students at the Turkish Military Academy. *Novitas-ROYAL (Research on Youth and Language)*, 2011, 5(2), pp. 299-307.
37. G. Eymur and O. Geban. An investigation of the relationship between motivation and academic achievement of pre-service chemistry teachers. *Education and Science*, 2011, 36(161), pp. 246-255.
38. R.M. Ryan and E.L. Deci. Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci and R. M. Ryan (eds). *Handbook of self-determination research* (pp. 3-33). Rochester, NY: The University of Rochester Press, 2002.
39. J.V. Mitchell. Interrelationships and predictive efficacy for indices of intrinsic, extrinsic, and self-assesses motivation for learning. *Journal of Research and Development in Learning*, 1992, 25(3), pp. 149-155.
40. A. Sirinkan, S. Sirinkan, M. Kaldirimci, E. Caliskan, and D. Katkat. Comparison of academic success between athlete and non-athlete students of Ataturk University PES College. *Ataturk Universitesi Beden Egitimi ve Spor Bilimleri Dergisi*, 2006, 8(3), pp. 15-24.
41. M.J. Gorton. Exploring the impact of sports participation on academic achievement in a middle school. *The College at Brockport: State University of New York, Counselor Education Master's Theses*. 2010.

42. C. Hickey. Physical education in Victorian primary schools: A review of current provision. *The ACHPER National Journal*, 1992, 39(1), pp. 18-23.
43. M.B. Andersen and J. H. Williams, "Gender role and sport competition anxiety: A re-examination", *Research Quarterly for Exercise and Sport*, 1987, 58 (1), pp. 52-56.
44. L.G. Pelletier, M.S. Fortier, R.J. Vallerand, K.M. Tuson, N.M. Brière, and M.R. Blais, "Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The sport motivation scale", *Journal of Sport and Exercise Psychology*, 1995, 17, pp. 35-53.
45. J.R. Stencel. A study of the relationship between interscholastic athletic participation and academic achievement for a group of Tennessee high school students. (Unpublished Doctoral dissertation, Union University). 2005, Retrieved from ProQuest Dissertations and Theses.
46. M. Akandere, N.T. Ozyalvac, and S. Duman. The attitudes of the students in secondary education to physical education lesson and the investigation of their success motivations (Konya Anatolian High School Sample). *Selcuk Universitesi Sosyal Bilimler Enstitusu*, 2010, 24, pp. 1-10 [in Turkish].
47. A. Lumpkin and J. Favor. Comparing the academic performance of high school athletes and non-athletes in Kansas in 2008-2009. *Journal of Sport Administration and Supervision*, 2012, 4(1), pp. 41-62.
48. K. Meier, W. Eller, III M. Marchbanks, S. Robinson, J.L. Polinard, and R. Wrinkle. A lingering question of priorities: athletic budgets and academic performances revisited (Electronic version). *Review of Policy Research*, 2004, 6, pp. 799-807.