EXAMINATION OF THE RELATION BETWEEN SCHOOL OF PHYSICAL EDUCATION AND SPORT STUDENTS' APPROACH TO LEARNING AND STUDYING AND TEST ANXIETY

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ABSTRACT

In this study, the aim of this study was to examine the relation between school of physical education and sport students' approach to learning and studying and test anxiety. Students in departments of physical education and sport teacher (n=103), coaching education (n=155) and sport management (n=110) at Mugla Sıtkı Koçman University participated in the study (n=368). 145 of participant were female, 223 of them were male. Test Anxiety Inventory (TAI), developed by Speilberger (1980) and adapted to Turkish by Öner and Albayrak-Kaymak (1993) (cited in Erözkan, 2004), was used to identify students' test anxiety levels. Approaches to Learning and Studying Inventory (ALSI), developed by Hounsell, Entwistle, Anderson et al. (2002) and adapted to Turkish by Topyaka, Yaka and Öğretmen (2011), was used to identify students' approaches to learning and studying. ALSI consists of 18 items with 5 Likert. TAI consists of 20 items with 4 likert. One-Way ANOVA and Independent T-Test in SPSS 16.0 were used to analyze the collected data. Confirmatory Factor Analysis (CFA) was used to find out whether used inventories were suitable for the sample. When the differences about approaches to learning and studying between departments were examined, while no significant difference was found in surface and deep approaches, significant difference was found in strategic approaches. No significant difference was found between grades. Significant gender differences were found in emotionality, worry and total test anxiety. Positive correlation was found between surface approach and emotionality, worry and total test anxiety. Consequently, it was found that students who adopt surface approach have high-test anxiety, because it was found that while adopting surface approach, students could have high-level of emotionality and worry. It is important to create learning environment that discourage students to adopt surface approach.

Key Words: Studying Approach, Learning Approach, and Test Anxiety.

BEDEN EĞİTİMİ VE SPOR YÜKSEKOKULU ÖĞRENCİLERİNİN ÖĞRENME VE DERS ÇALIŞMA YAKLAŞIMLARI İLE SINAV KAYGI DÜZEYLERİ ARASINDAKİ İLİŞKİNİN İNCELENMESİ

ÖZET

Bu çalışmada farklı öğrenme ve ders çalışma yaklaşımlarına sahip öğrencilerin sınav kaygı düzeyleri belirlenerek öğrenme ve ders çalışma yaklaşımları ile sınav kaygısı ilişkisinin incelenmesi amaçlanmıştır. Öğrencilerin sınav kaygı düzeylerinin belirlenmesi için Spielberger (1980) tarafından geliştirilen Öner ve Albayrak Kaymak (1993) tarafından Türkçeye uyarlanan Sınav Kaygısı Envanteri (SKE), ders çalışma ve öğrenme yaklaşımlarının tespit edilmesi için Hounsell, Entwistle, Anderson ve ark. (2002) tarafından geliştirilen Topkaya, Yaka & Öğretmen (2011) tarafından Türkçeye uyarlanan Öğrenme ve Ders Çalışma Yaklaşımları Envanteri (ÖDYE) kullanılmıştır. ÖDYE 5'li likert 18 maddeden oluşmaktadır. SKE 4'lü Likert 20 maddeden oluşmaktadır. Toplanan verilerin analizi için SPSS 16.0 paket programında One-Way ANOVA, Indipendent T-Test kullanılmıştır. Uygulanan ölçeklerin örneklem grubuna uygun olup olmadığını belirlemek için Doğrulayıcı Faktör Analizi (DFA) kullanılmıştır. Öğrenme ve ders çalışma yaklaşımında bölümler arasında farklılığa bakıldığında yüzeysel ve derinlemesine yaklaşımda anlamlı farklılık bulunmazken, stratejik yaklaşımda anlamlı farklılık elde edilmiştir ($p<0.05$). Sınıflara göre öğrenme ve ders çalışma yaklaşımları arasında anlamlı bir farklılık bulunamamıştır ($p>0.05$). Duyuşsallık, Kuruntu ve Toplam Sınav Kaygısı değerlerinde cinsiyetler arasında anlamlı bir farklılık bulunmuştur ($p<0.05$). Yüzeysel Yaklaşım ile Duyuşsallık ($p<0.05$, $r= 0.28$), Kuruntu ($p<0.05$, $r= 0.33$), ve Toplam Sınav Kaygısı ($p<0.05$, $r= 0.32$), arasında pozitif korelasyon tespit edilmiştir. Sonuç olarak Yüzeysel yaklaşıma sahip öğrencilerin sınav kaygılarının yüksek olabileceği istatistiksel olarak anlamlı bulunmuştur.

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Anahtar Kelimeler: Ders Çalışma Yaklaşımı, Öğrenme Yaklaşımı, Sınav Kaygısı.

INTRODUCTION

Students can exhibit different studying approach in different situations. It can be thought that test anxiety can vary by tests, environments and conditions. Students can develop different strategies for studying and learning. Biggs (1987) suggested that students learn the way they do.

Students stated that their approaches vary depending on teachers and lessons (Entwistle and McCune, 2004). When students learn, associate different tasks in a different ways (Ramdsen, 1992). It was suggested that two students in different learning environment could change their approaches that they adopted when their environment was changed (Eley, 1992; Richardson, 2008, 2010; Richardson, Barnes and Fleming, 2004). Different environment (Eley, 1992), nature of assessment (Scouller, 1998) and quality of teaching (Vermetten, Lodewijks and Vermunt, 1999) have impacts on studying approach. Richarson (2004) emphasized that there were direct association between students' learning approaches and perception of academic environment due to educational initiatives.

In literature, there is some research indicating that there are three sub-dimensions of learning and studying approaches: deep approach, surface approach and strategic approach (Biggs, 1999; Biggs and Tang, 2011; Entwistle and McCune, 2004). According to Biggs (1999a), deep approach refers to appropriate activities done to overcome the task so that an optimal result can be obtained; surface approach is related to the way that students organize the task. Biggs (1999a) defined appropriate learning as discouraging students to adopt surface approach and encouraging them to adopt deep approach, fostering them to optimal learning activities and dissuading from inappropriate ones (Biggs and Tang, 2011). In everyday life, assessment affects studying, so another approach called strategic approach reveals its self (Entwistle and McCune, 2004).

Biggs (1999a) suggested that the most basic feature was not imposed or conveyed directly, but it was created by learning activities of students and it was well summarized as "learning approaches." According to Ramdsen (1992), an approach refers to the relation between student and what he/she learns. Marton and Säljö (1976) saw learning approach as reaction to environment in which approach was experienced, and to task content (cited in Entwistle and McCune, 2004). Richardson (2011) proposed that there could be an intimate relationship between students' perceptions of their academic context and the approaches to studying that they adopt in that context if their perceptions of their academic environment mediated the effect of contextual factors on students' approaches to studying.

In terms of studying approach, context-specific nature of approach adopted by students would suggest that it could be possible to change adopted approaches by altering the context (Peters, Jones and Peters, 2007), however Entwistle (2001) suggested that altering only one component –like studying skills advise– would be little effect if teaching and assessment remained unchanged.

Students adopting deep approach have a tendency to participate the task meaningfully and appropriately (Biggs and Tang, 2011). Rowe (2001) stated that deep approach included intention to understand, effortful interaction with content, associating previous ideas with new ones, evidences with results, examining the logic of discussion. Biggs (1999b) suggested following statement for surface and deep approaches:

"Students may use inappropriate or low level activities, resulting in a surface approach to learning, or high-level activities appropriate to achieving the intended outcomes, resulting in

a deep approach to learning. Good teaching supports those appropriate learning activities and discourages inappropriate ones" (p. 17).

Surface approach refers to the intention to complete the task because it is seen as an external load. Rowe (2001) stated that students adopting surface approach focused on separate parts without integration and tended to fail in distinguishing principles form examples.. According to Entwistle (2000), in surface approach, students have an intention only to cope with task, which is seen as a collection of irrelevant information that causes more limited learning processes, especially routine memorizing. It is possible to encourage students to adopt deep approach as well as discouraging them to adopt surface approach (Biggs, 1999a). Teaching skills, assessment that encourages cynicism have an important impact on adopting surface approach (Biggs and Tang, 2011).

Strategic approach is another sub-dimension of learning and studying approaches. There are different approaches for conceptualization. Biggs (1987) used the term "achievement." Entwistle and his colleagues defined deep and surface approaches, but they found out another approach called strategic approach by using Marton and Säljö (1976). In this approach, students can adopt either deep or surface approach to obtain the highest achievement (cited in Case and Marshall, 2009). Richardson (2009) stated that strategic approach was based on achieving the highest possible degree and grade. Biggs (1987) suggested that achievement strategy led students to goals which they saw the most appropriate for the highest grades. Entwistle (2004) indicated that strategic approach was an intention to achieve personal goals depending on managing effort and concentration.

Campos, Keltner and Tapias (2004) suggested that anxiety was considered as one of the major factors causing students to go down below their actual performance. On the other hand, Campos, Keltner and Tapias (2004) said that test anxiety was associated with low motivation, suppressed immune function and damaged test performance.

Zeidner (1998) suggested that many children in their own culture became test-oriented and test anxious. Putwain (2008) stated that test anxiety appeared in specific situation or environment in which performance was assessed. Zeidner (1998) indicated that configuration of constitutional, familial, educational and experiential factors shaped test anxiety. These factors interact with each other to shape test anxiety. Toubiana (2005) suggested that test anxiety shoed it's self as various psychological, behavioral and cognitive indications. Zeidner (1998) stated that level of test anxiety especially increased when they believed that demands of exams exceeded their motivational, intellectual and social abilities.

Liebert and Morris (1967) proposed that emotionality and worry were sub-dimensions of test anxiety. 'Worry' (or 'lack of confidence') refers to cognitive factor; emotionality refers to various indices of autonomic arousal. Worry is about performance expectations (Liebert and Morris, 1967; Doctor and Altman, 1969). Liebert and Morris (1967) also suggested that worry was cognitive apprehension about failure expectation. According to Liebert and Morris (1967), when poor performance is expected, thoughts of worry should be high; when success is expected, they should be low. Uncertainty about examination reflects emotionality or autonomic indices of anxiety. Emotionality should be the highest when person's performance is the least certain. Doctor and Altman (1969) found that worry was more related to success expectation than emotionality.

With in the scope of this information about learning and studying approaches and test anxiety, ıt can be thought that learning conditions may affect students' learning and studying approaches, that

there can be significant relationship between students' different learning and studying approaches and test anxiety. The aim of this study was to examine the relation between school of physical education and sport students' approach to learning and studying and test anxiety.

METHOD

Students in departments of physical education and sport teacher (n=103), coaching education (n=155) and sport management (n=110) at Mugla Sıtkı Kocman University participated in the study (n=368). 145 of participant were female, 223 of them were male.

Approach to Learning and Studying Inventory (ALSI) developed by Hounsell, Entwistle, Anderson et al. (2002) to assess learning and studying approaches. ALSI consists of surface learning (four items), deep learning (six items), monitoring studying (four items), effort management (two items), and Organized Studying (two items). Deep approach examines the associating ides and using the evidence. Monitoring studying is related to deep approach; however, it defines the meta-cognitive aspects of learning. Effort management and organized studying represents the strategic approach. Surface approach consists of four items that belong to surface learning. Participants choose the answer that they feel most represents to extent to which a statement is true of them at a particular time (1=Not at all true of me - 5= very true of me). Turkish adaptation of the ALSI-Short Form made by Topkaya, Yaka & Öğretmen (2011), and has 18 items. Confirmatory factor analysis of ALSI was done in this study. According to analysis, fit indices of approach to learning and studying inventory were found to be TLI= .89, CFI = .91 and RMSEA= .05. χ^2 was found as 276, degrees of freedom were found as 130, and these results were significant (χ^2/df< 3). All the parameter estimations were significant and between -0.19 and 0.72. According to these results, ALSI with three sub-dimensions was fit for the sample group.

Test Anxiety Inventory was developed by Spielberger (1980). The instrument measures two sub-dimensions of test anxiety, emotionality and worry, and it includes total test anxiety score. Worry relates to the cognitive concerns about the consequences of failure. Emotionality relates to the reactions of the autonomic nervous system that are evoked by evaluative stress. Total score is the results of all 20 items, which measures both worry and emotionality (Speilberger, 2011). Test Anxiety Inventory (TAI) was adapted to Turkish by NeclaÖner&DenizAlbayrakKaymak (1993) (cited in Erözkan, 2004). The TAI yields scores on factorially derived eight-item subscales for assessing worry (W) and emotionality (E). The TAI *W* subscale measures individual differences in how often worry cognitions, such as negative expectations about test performance and concerns about the consequences of failure, are experienced in test situations (Toubiana, 2005). According to CFA, fit indices of TAI were found to be TLI = .91, CFI = .92 and RMSEA=0.6. χ^2 was found as 294.6, degrees of freedom were found to be 164, and these results were significant (χ^2/df< 3). All the parameter estimations were significant and between -0.26 and 0.74. According to these results, TAI with two sub-dimensions were fit for the sample group.

Participants in Mugla Sitki Kocman University School of Physical Education and Sport answered TAI and ALSI-Short Form just before their final exams in Autumn Term. Inventories were given 10 minutes before exams started. Students from Coaching Education, Sport Management and Physical Education Sports Teacher parts participate the study.

Collected data analyzed SPSS 16.0. Independent T-Test was used to find out differences between male and female.

One-Way ANOVA and Tukey Test were used to find out the differences between classes. Pearson Product Correlation Test was used to examine the relations between approach to learning and studying and test anxiety. Structural Equation Modeling (AMOS) was used for confirmatory factor analysis of ALSI and TAI.

RESULTS

Table 1. Differences between male and female students in terms of approach to learning and studying

Approach	Gender	N	Mean	S.D.	t	p
Surface	Female	145	2.65	0.81	0.18	0.85
	Male	223	2.64	0.73		
Deep	Female	145	4.02	0.68	2.42	**0.01***
	Male	223	3.84	0.72		
Strategic	Female	145	3.72	0.79	3.15	**0.00***
	Male	223	3.43	0.88		

P<0.05*

In table 1, differences between male and female students were shown in terms of approach to learning and studying. According to analyzed data, while there was no significant difference between female and male students in terms of surface approach (p>0.05), there were statistically significant differences in terms of deep and strategic approaches.

Table 2. Differences between male and female students in terms of emotionality, worry and total test anxiety point

Test Anxiety	Gender	N	Mean	S.D.	t	p
Emotionality	Female	145	2.44	0.59	5.72	**0.00***
	Male	223	2.06	0.64		
Worry	Female	145	2.31	0.59	3.37	**0.00***
	Male	223	2.08	0.63		
Total Test Anxiety	Female	145	2.39	0.56	5.04	**0.00***
	Male	223	2.07	0.60		

P<0.05*

In table 2, differences between male and female students were shown in terms of emotionality, worry and total test anxiety. There were statistically significant differences between male and female students in terms of emotionality, worry, and total test anxiety (p<0.05).

Table 3. Correlations between approach to learning and studying with test anxiety

		Surface Approach	Deep Approach	Strategic Approach	Emotionality	Worry	Total Test Anxiety
Surface Approach	r	1	-0.11	-0.03	0.28	0.33	0.32
	p		**0.03***	0.56	**0.00***	**0.00***	**0.00***
	N	368	368	368	368	368	368
Deep Approach	r	-0.11	1	0.58	-0.06	-0.06	-0.07
	p	0.03		**0.00***	0.20	0.19	0.17
	N	368	368	368	368	368	368
Strategic Approach	r	-0.03	0.58	1	-0.03	-0.06	-0.04
	p	0.56	**0.00***		0.56	0.22	0.38
	N	368	368	368	368	368	368
Emotionality	r	0.28	-0.06	-0.03	1	0.79	0.96
	p	**0.00***	0.20	0.56		**0.00***	**0.00***
	N	368	368	368	368	368	368
Worry	r	0.33	-0.06	-0.06	0.79	1	0.92
	p	**0.00***	0.19	0.22	**0.00***		**0.00***
	N	368	368	368	368	368	368
Total Test Anxiety	r	0.32	-0.07	-0.04	0.96	0.92	**1**
	p	**0.00***	0.17	0.38	**0.00***	**0.00***	
	N	368	368	368	368	368	368

P<0.05*

In table 3, correlations between approach to learning and studying with test anxiety was shown. Negative correlation was found between surface and deep approaches (p<0.05). Positive correlation was found between deep and strategic approaches (p<0.05). Positive correlations were found between surface approach and emotionality, worry and total test anxiety (p<0.05). Although negative correlations were found between deep approach and emotionality, worry and total anxiety, these results were not statistically significant (p>0.05). The same can be said between strategic approach and emotionality, worry and total test anxiety.

Table 4. Comparison of departments in terms of surface approach

Dependent Variable	(I) Department	(J) Department	Mean Difference (I-J)	Std. Error	P
Surface Approach	Physical Education and Sport Teacher	Coaching Education	-0.05	0.09	0.81
		Sport Management	0.06	0.10	0.80
	Coaching Education	Sport Management	0.12	0.09	0.39
Deep Approach	Physical Education and Sport Teacher	Coaching Education	-0.10	0.08	0.49
		Sport Management	-0.21	0.09	0.07
	Coaching Education	Sport Management	-0.10	0.08	0.42
Strategic Approach	Physical Education and Sport Teacher	Coaching Education	-0.25	0.10	0.05
		Sport Management	-0.33*	0.11	0.01*
	Coaching Education	Sport Management	-0.08	0.10	0.68

P<0.05*

In table 4, comparison of departments in terms of surface, deep and strategic approach was shown. There were no significant differences between departments in terms of surface (p>0.05). There were no significant differences between departments in terms of deep approach (p>0.05). While there were no significant differences between physical education and sport department and coaching department in terms of strategic approach (p>0.05), significant difference was found between sport management department and physical education and sport teachers department (p<0.05).

Table 5. Comparison of departments in terms of emotionality and worry

Dependent Variable	(I) Department	(J) Department	Mean Difference (I-J)	Std. Error	Sig.
Emotionality	Physical Education and Sport Teacher	Coaching Education	-0.03	0.07	0.89
		Sport Management	0.00	0.08	0.99
	Coaching Education	Sport Management	0.04	0.07	0.84
Worry	Physical Education and Sport Teacher	Coaching Education	-0.04	0.08	0.85
		Sport Management	0.03	0.08	0.91
	Coaching Education	Sport Management	0.07	0.07	0.58

P<0.05*

In table 5, comparison of departments in terms of emotionality and worry was shown. No significant differences were found between departments in terms of emotionality and worry (p>0.05).

Table 6. Comparison of departments in terms of total test anxiety

Dependent Variable	(I) Department	(J) Department	Mean Difference (I-J)	Std. Error	Sig.
Total Test Anxiety	Physical Education and Sport Teacher	Coaching Education	-0.03	0.07	0.86
		Sport Management	0.01	0.07	0.97
	Coaching Education	Sport Management	0.05	0.07	0.72

P<0.05*

In table 6, comparison of departments in terms of total test anxiety was shown. There were no significant differences between departments (p>0.05).

DISCUSSION and CONCLUSION

When differences between departments in terms of approach to learning and studying were examined, while no significant differences were found in terms of surface and deep approaches (p>0.05), significant difference was in terms of strategic approaches (p<0.05). Tukey HSD analysis was applied to find out which group had significant difference. After applying Tukey HSD test, significant difference was found between physical education and sport teacher department and sport management department (p<0.05). Sport management department had higher scores than physical education and sport teacher department. It can be said that students in sport management departments engage in learning and studying activities to achieve the highest

possible grade. In table 3, while, there were no significant difference male and female students ($p>0.05$), significant differences were found between male and female students in terms of deep and strategic approaches. Female students had higher scores than male students in terms of deep and strategic approaches. It can be said that female students in school of physical education and sport engage in learning and studying activities to achieve the possible highest results and to learn given subject or task completely when compared with male students.

No significant differences were found between departments in terms of emotionality, worry and total test anxiety ($p>0.05$). No significant differences were found between grades in terms of emotionality, worry and total test anxiety ($p>0.05$). Erzökan (2004) found that higher grades had higher test anxiety values. In table 4, significant differences were found between male and female students in terms of emotionality, worry and total test anxiety ($p<0.05$). Female students had higher emotionality, worry and total test anxiety scores than male students. These results are consistent with some results of studies in literature (Toubiana, 2005; Farooqi, Ghani & Spielberger, 2012). Erözkan (2004) and Ergene (2011) found that males had more distressful attitude than females. Toubiana (2005) suggested that test anxiety levels vary by cultures.

Correlation analysis of approach to learning and studying with test anxiety was given in table 3. Negative correlation was found between surface and deep approaches ($p<0.05$). Positive correlation was found between deep and strategic approaches ($p<0.05$). Positive correlations were found between surface approach and emotionality, worry and total test anxiety ($p<0.05$). Ergene (2011) found negative correlation between test anxiety and good study habits.

Consequently, it can be said that students adopting surface approach have high level of test anxiety. Individual differences can have impacts on adopted approaches. Further studies can include individual differences. According to Swensson (1977), students adopting deep approach find materials more interesting and easy to understand, and these students have an intention to spend more time on tasks. However, studying using surface approach is a boring and with no earnings. Insisting on this approach causes procrastination and delay. Surface approach means that students will spend less time on particular studies and the possibility to fail in exams is higher (cited in Ramdsen, 1992). Biggs and Tang (2011) suggested that the reason to adopt surface approach was test anxiety.

It can be thought that individual differences, studying environment, quality of lesson influence approaches and test anxiety of students. Ramdsen (1992) suggested that teachers should understand differences of students' characteristics. Biggs (1999a) and Biggs and Tang (2011) state that students can be encouraged to leave surface approach and to adopt deep approach, but while approaches are tried to change (Ramdsen, 1992), students' experiences, perceptions and conceptions should be changed, not students themselves.

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