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RELATIONSHIP BETWEEN LEISURE PARTICIPATION AND EDUCATIONAL STRESS IN SECONDARY SCHOOL STUDENTS

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Abstract: The aim of this study is to examine the relationship between the participation in leisure activities and educational stress of secondary school students studying in TRNC and Türkiye. The sample of the study consisted of 367 middle school students, 214 boys and 153 girls, studying in four different middle schools, and the relational research model was used in this study. Data collection tools involved a personal information form and "Educational Stress Scale (ESS)". The ANOVA results indicated a significant difference in the "workload", "despondency", "worry about grades" and "self-expectation" sub-dimensions of ESS by gender. According to the analysis results, there was no significant difference in frequency of participation in leisure activities on the sub-dimensions of ESS. A significant difference was found the effect of participating in country*in-school activities in the "pressure from study" and "despondency" sub-dimensions of ESS. As the findings were assessed as a whole, it was concluded that as the frequency of secondary school students' participation in leisure activities increases, their educational stress decreases. Greater emphasis should be placed on promoting leisure activities, which have significant potential to alleviate the stress of education.

Keywords: Leisure participation, educational stress, secondary school students

ORTAOKUL ÖĞRENCİLERİNDE SERBEST ZAMAN AKTİVİTELERİNE KATILIM VE EĞİTİM STRESİ İŞİLKİSİ

Öz: Bu çalışmanın amacı KKTC ve Türkiye'de öğrenim gören ortaokul öğrencilerinin serbest zaman aktivitelerine katılımları ve eğitim stresleri arasındaki ilişkiyi incelemektir. Çalışmanın örneklemi, dört farklı ortaokulda öğrenim gören 214 erkek ve 153 kız olmak üzere toplam 367 ortaokul öğrencisi oluşturan bu çalışmada ilişkisel araştırma modeli kullanılmıştır. Veri toplama araçları olarak kişisel bilgi formu ve "Eğitim Stresi Ölçeği (ESÖ)" kullanılmıştır. ANOVA sonuçları, cinsiyete göre ESÖ'nün "iş yükü", "umutsuzluk", "notlarla ilgili endişe" ve "kendinden beklenti" alt boyutlarında anlamlı bir farklılık olduğunu göstermiştir. Analiz sonuçlarına göre, serbest zaman aktivitelerine katılım sıklığının ESÖ'nün alt boyutları üzerinde anlamlı bir fark yaratmadığı görülmüştür. Ülke*okul içi aktivitelere katılma durumunun ise ESÖ'nün "derslerden kaynaklanan baskı" ve "umutsuzluk" alt boyutlarına etkisinde anlamlı bir farklılık bulunmuştur. Bulgular bir bütün olarak değerlendirildiğinde, ortaokul öğrencilerinin serbest zaman aktivitelerine katılım sıklığı arttıkça eğitim streslerinin azaldığı sonucuna varılmıştır. Eğitim stresini hafifletmek için önemli bir potansiyele sahip olan serbest zaman aktivitelerinin teşvik edilmesine daha fazla önem verilmelidir.

Anahtar Kelimeler: Serbest zaman aktiviteleri, eğitim stresi, ortaokul öğrencileri

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INTRODUCTION

Secondary school students, typically aged between 11 and 14, are adolescents who work diligently to gain admission to higher-level schools. They spend a significant amount of time in the classroom and often engage in additional study hours outside of school, frequently through tutorials. This intense academic effort can lead to various adverse health effects, including stress, as students strive for academic excellence (Assana et al., 2017). Consequently, educational stress is a widespread emotional condition among secondary school students worldwide (Hicks & Heastie, 2008). Educational stress refers to the mental and physical difficulties that students experience at any stage of their education (Polat & Özdemir, 2018). It can arise from multiple sources, including family pressures, peer competition, school administration, and even government and educational policies. Each student experiences educational stress differently, depending on their personal circumstances (Ramirez, 2009). This form of stress is a significant contributing factor to numerous psychological and physical problems, such as depression, emotional anxiety, and suicidal behavior (Bjorkman, 2007). Beyond these behavioral disorders, students may experience fatigue from school life, develop negative attitudes towards school and learning, lose interest in academic activities, and struggle to fulfill their responsibilities as students (Lu, 2008; Seçer & Gençdoğan, 2012).

In order to support both their educational and personal development, students need to address the challenges associated with educational stress. Several researchers have noted that engaging in regular leisure activities can lead to improvements in mild forms of mental health issues, including depressive disorders, stress, and anxiety (Krivokapic, 2016; Perrotta, 2010). Participation in leisure activities has been shown to enhance young people's quality of life by providing emotional, physical, and social benefits (Lemonia et al., 2017). Moreover, studies have demonstrated that adolescents gain valuable experiences through leisure activities, which contribute to both personal and social development (Sevdalis & Keller, 2011; Temple et al., 2016). According to Goulimaris et al. (2014), leisure activities positively influence physical, spiritual, and psychological well-being. Additionally, research has indicated that regular participation in leisure activities can help reduce deviant behaviors among youth (Acquaviva, 2012; Mahoney et al., 2004). Krivokapic (2016) further reported that individuals who engage in vigorous physical activity reduce their risk of depression by approximately 30% compared to those who participate in low-intensity exercise. Those engaging in moderate to vigorous physical activity reduce their risk by about 20%.

Participation in leisure activities leads to various physiological and biochemical changes in the body, along with shifts in perception and self-concept, all of which contribute to enhanced psychological functioning (Krivokapic, 2016; Sönmez & Gürbüz, 2022). Additionally, research has shown that leisure engagement helps children and adolescents relax, improve sleep quality, and better manage stress ultimately enhancing their overall quality of life (Wang & Boros, 2021). Leisure activities also foster emotional well-being by promoting self-esteem, emotional regulation, creativity, confidence, and reduced anxiety (Woodyard, 2011). The theoretical foundation of this study is rooted in Leisure Coping Theory, which posits that leisure serves as a key coping mechanism in managing stress. According to this perspective, leisure participation offers a psychological buffer against the adverse effects of stress by providing opportunities for distraction, emotional release, and problem-solving (Iwasaki & Mannell, 2000). In the context of education, such leisure involvement can mitigate the psychological strain caused by academic demands. The scarcity of empirical studies exploring the relationship between educational stress and leisure participation among school-aged adolescents underscores the importance of this research. Grounded in these theoretical frameworks, the present study seeks

to investigate the relationship between leisure activity participation and educational stress in secondary school students. It is hypothesized that as the frequency of students' participation in leisure activities increases, their level of educational stress decreases.

METHOD

Research Model

In this study, which relied on a quantitative research approach, the correlational model was utilized to achieve the research goal. The main purpose of correlational research is to test possible relationships between two or more variables (Büyüköztürk et al., 2008). Correlational designs are utilized in quantitative research to assess the strength and direction of relationships between variables, offering insight into patterns of covariance relevant to the research context.

Research Sample

A total of 367 secondary school students participated in the study, including 153 girls and 214 boys. The average age of the participants is 12.49 (± 1.08). In this research 367 participants were selected, who regularly participated in daily leisure activities such as volleyball, basketball, and football organized by academies for more than two years and at least once a week. The selection of the participants was made with the convenience sampling method. All participants voluntarily agreed to take part in the study, and data were collected during self-study sessions at their schools. A brief introduction was made by the researcher then assent forms and information forms were distributed. The average time for completion of the questionnaires was 10 minutes.

Research Instruments

Personal Information Form: A personal information form developed by the researchers was used as a data collection tool to collect demographic information such as gender, age, type of leisure activities and frequency of participation in leisure activities.

Educational Stress Scale: The scale was developed by Sun et al. (2011) and adapted to the Turkish by Celik et al. (2014) to determine the stress factors of participants. The scale has 5 subscales and consists of 16 items. These subscales are “study pressure”, “despair”, “self-expectation”, “perceived burden” and “attitudes toward study and grade”. The items on the questionnaire were scored on a 5-point Likert-type scale, with the scores ranging from 1 to 5.

Procedure

The study was approved by the Ethics Committee of the Eastern Mediterranean University (ETK00-2024-0219) and conducted in accordance with the ethical principles for medical research involving human subjects as outlined in the World Medical Association's Declaration of Helsinki. All participants were adequately informed of the nature of the study and the conditions of participation before enrolment.

Data Analysis

The data collected for the purposes of this research were subjected to descriptive statistical analysis, with the use of ANOVA and MANOVA techniques, which were performed using SPSS software version 22.0. First of all, the basic assumptions necessary for conducting MANOVA and ANOVA analyzes were examined. When the analysis results were examined, it was found that the p-values for homogeneity of Box's M and Levene variances were greater than 0.05. The Cronbach Alpha internal consistency coefficient of the scale in this study was 0.75.

RESULTS

The research group of our study consisted of 153 female and 214 male students studying in Türkiye and Turkish Republic of Northern Cyprus secondary schools. The average age of the participants was 12.49 ± 1.08. Table 1 indicated that scale scores basis of factors, it was seen that the highest mean was scored in the "pressure from study" (3.12) sub-dimension. The lowest mean was scored in the "worry about grades" (2.49) sub-dimension. An investigation of the skewness and kurtosis values revealed that the data exhibited a normal distribution.

Table 1. Distribution of scale scores

Scale	Sub-Dimensions	Items	N	Mean	Sd.	Sk.	Kur.
Educational Stress Scale	Pressure from study	4	367	3.12	.95	-.317	-.494
	Work load	3	367	3.03	.93	-.131	-.640
	Worry about grades	3	367	2.49	1.12	.527	-.600
	Self-expectation	3	367	2.90	.98	.033	-.539
	Despondency	3	367	3.04	1.05	-.179	-.752
Total		16	367	2.92	.62	-.408	.471

***p<0.001**

As demonstrated in Table 2, the main effect of the gender variable on the sub-dimensions of "ESS" was statistically significant. A one-way analysis of variance (ANOVA) was conducted with the objective of identifying the dependent variable that contributed to multivariate significance. In terms of the primary effect of gender, it was observed that the mean scores of all sub-dimensions exhibited a statistically significant difference, with the exception of the "workload" sub-dimension [λ=0.883, F (5, 361) = 9.56, p<0.05].

Table 2. Scale scores by gender

		Male (n=214)		Female (n=153)		
Scale	**Sub-Dimensions**	**Mean**	**Sd.**	**Mean**	**Sd.**	**P**
Educational Stress Scale	Pressure from study	3.02	.91	3.24	.98	**.026***
	Work load	3.02	.95	3.03	.94	.872
	Worry about grades	2.78	1.15	2.12	.98	**.000***
	Self-expectation	3.02	1.00	2.73	.94	**.004***
	Despondency	2.90	1.10	3.19	.98	**.010***
Total		2.95	.62	2.89	.62	.307

***p<0.001**

The results of the analysis indicated that the mean scores of female participants were higher in the sub-dimensions of "pressure from study" and "despondency." Additionally, the mean scores of male participants were found to be higher in the "worry about grades" and "self-expectation" sub-dimensions, with a significant difference observed.

Table 3 presents the results of the analysis in terms of the frequency of participation in leisure activities. The MANOVA analysis revealed that the main effect of frequency of participation in leisure activities on the sub-dimensions of "ESS" was not statistically significant [λ=0.994, F (10, 720) = 0.23, p>0.05].

Table 3. MANOVA Results by Frequency of Participation in Leisure Activities

		Not participating (n=53)		**Irregularly participating (n=100)**		**Regularly participating (n=214)**		
Scale	**Sub-Dimensions**	**Mean**	**Sd.**	**Mean**	**Sd.**	**Mean**	**Sd.**	**P**
Educational Stress Scale	Pressure from study	3.20	.99	3.16	.90	3.06	.96	.533
	Work load	3.06	1.04	3.05	.90	3.00	.95	.866
	Worry about grades	2.42	1.05	2.50	1.00	2.52	1.20	.819
	Self-expectation	2.95	.97	2.89	1.00	2.90	.99	.926
	Despondency	3.10	.97	3.08	.99	2.97	1.10	.568
Total		2.96	.65	2.95	.60	2.90	.62	.732

***p<0.001**

Table 4 shows the analysis results by country*in-school activities participation scores. According to MANOVA analysis results, the main effect of participating in country*in-school activities on all sub-dimensions of "ESS" was significant, except for the "work load" sub-dimension [λ=0.792, F (5, 361)=19.01, p<0.05]. The results indicated that the mean scores of Northern Cyprus participants who were not involved in school activities were higher than the mean scores of other participants in the "pressure from study" sub-dimension.

Table 4. MANOVA Results by Country*In-School Activities Participation Scores

		Northern Cyprus				**Türkiye**				
		Yes (n=189)		**No (n=86)**		**Yes (n=54)**		**No (n=38)**		
Scale	**Sub-Dimensions**	**Mean**	**Sd.**	**Mean**	**Sd.**	**Mean**	**Sd.**	**Mean**	**Sd.**	**P**
Educational Stress Scale	Pressure from study	3.21	.91	3.28	.91	2.53	.93	3.07	.94	**.000***
	Work load	3.08	.92	3.03	.96	2.80	1.03	3.09	.91	.203
	Worry about grades	2.41	1.07	2.05	.94	3.28	1.05	2.91	1.20	**.000***
	Self-expectation	2.82	.95	2.79	.95	3.11	1.08	3.24	1.05	**.003***
	Despondency	3.26	.94	3.02	1.11	2.25	1.02	2.89	1.05	**.000***
Total		2.97	.60	2.86	.63	2.78	.69	3.04	.55	.503

***p<0.001**

In the sub-dimension "worry about grades", the mean scores of the Turkish participants who were involved in school activities were higher than the mean scores of the other participants. The mean scores of Turkish participants who were not involved in school activities were found to be higher than the mean scores of other participants in the "self-expectation" sub-dimension. In the sub-dimension of “despondency”, the mean scores of the Northern Cyprus participants who were involved in school activities were higher than the mean scores of other participants.

DISCUSSION AND CONCLUSION

The objective of this study was to examine the relationship between leisure participation and educational stress among secondary school students. The first key finding revealed that the students experience the highest levels of stress in the sub-dimension of “pressure from study”. This result aligns with the findings of Özdemir and Özdemir (2015), who emphasized that excessive academic demands significantly elevate stress levels among adolescents. Although examinations are widely regarded as an essential component of education, scheduling them in a manner that does not allow adequate preparation time can significantly contribute to stress. For instance, the exam-oriented nature of the education systems in both Northern Cyprus and Türkiye, where national-level exams are often considered the sole determinant of academic progression from secondary school onwards, inevitably intensifies educational stress (Karakus, 2012).

Another finding of the study was that gender differences were found in secondary school students and educational stress levels. Female students were found to experience higher levels of educational stress, particularly in the "workload" and "despondency" sub-dimensions, consistent with the findings of Deb et al., (2015) and Kılıç, (2018). It can be inferred that the higher workload and despondency levels of female students cause an increase in educational stress levels. Additionally, the educational stress mean scores of male participants were found to be higher than those of female participants in the "worry about grades" and "self-expectation" sub-dimensions, which overlaps with the findings of Watson et al. (2017). It can be inferred that the difference in the results of the study is due to the difference in the socio-cultural structure of the sample groups in which the research was conducted. For instance, in some cultural settings, female students may feel compelled to demonstrate diligence and emotional investment in their studies, while male students may feel greater pressure to meet performance benchmarks. These findings underscore the importance of considering gender-specific factors and cultural context when developing strategies to manage educational stress among adolescents.

Another key finding of the research relates to the frequency of participation in leisure activities. The main effect of frequency of participating in leisure activities on ESS sub-dimensions was not significant. When the studies in the literature were examined, Badura et al. (2016) and Fredricks (2012) have reached different results that do not overlap with the current findings. In Badura et al.'s (2016) study, they aimed to examine the relationships between participation in leisure activities, school engagement, and educational stress. They found that adolescents who participated in more leisure activities generally had more positive academic outcomes and lower levels of stress than non-participants. In another study, Fredricks (2012) sought to investigate the relationship between leisure participation and academic outcomes among American high school students. Study findings show leisure participation as a tool to promote positive youth development and academic achievement. Most of the students participating in the research were studying for the high school entrance exams, which may have reduced their participation in leisure activities. Therefore, because of their participation in activities is low, it may have

resulted in no difference in stress levels. The inconsistency between the present study and previous research may be attributed to contextual factors. Notably, the majority of students in the current study sample were preparing for high school entrance examinations, which likely limited their time and opportunity to participate in leisure activities. Consequently, the overall low frequency of leisure engagement may have contributed to the absence of statistically significant differences in stress levels across participation groups. This suggests that while leisure participation may have a protective effect against stress, its benefits might only become evident when participation reaches a certain threshold or is sustained over time.

The management of educational stress, which has a determining effect on the students' relationship with the school, is an important educational problem. There are many factors that create stress for students. In our study, "pressure from study" is the most effective factor that creating stress for students. Also, "worry about grades" is the least stressful factor. It is not possible to completely eliminate stress in education. In addition, there are studies showing that low levels of stress can positively affect students' grades. According to the Yerkes-Dodson Law, a moderate level of stress can enhance performance by increasing motivation and focus (Diamond et al., 2007). However, when stress exceeds optimal levels, it becomes detrimental. For instance, Kim and Diamond (2002) demonstrated that excessive stress impairs cognitive functions, while the Easterbrook hypothesis (Easterbrook, 1959) and further evidence by Chaby et al. (2015) suggest that heightened stress narrows attention, reducing the capacity to process information effectively. Therefore, reducing academic stressors such as "study pressure" or "workload" to controlled levels may lead to more effective results. From a broader perspective, the study found no significant correlation between the frequency of leisure activity participation and the level of educational stress among secondary school students. This indicates that while leisure participation may offer general psychological benefits, it may not directly buffer the specific types of stress experienced in highly exam-oriented academic environments.

Research on educational stress among adolescents remains relatively limited. As such, further investigation into the causes and potential consequences of educational stress particularly in relation to other psychological, social, and behavioral variables can make a valuable contribution to the existing literature. It is essential that the factors which increase or reduce students' educational stress be identified and monitored periodically, as these factors may evolve with changes in academic environments and societal expectations.

Greater emphasis should be placed on promoting leisure activities, which hold significant potential for alleviating educational stress. To maximize their effectiveness, it is crucial to identify the factors that motivate or hinder student participation in such activities. Moreover, leisure programs should be designed and structured in alignment with students' interests and needs, ensuring that they are both accessible and engaging. This student-centered approach may enhance participation rates and, in turn, contribute to improved well-being and academic resilience among adolescents.

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