

Research Article / Araştırma Makalesi

# The relationship of burnout with perceived expressed emotion, anxiety and depression levels in professional adolescent volleyball players

## Profesyonel adolesan voleybolcularda tükenmişliğin algılanan duygu dışavurumu, anksiyete ve depresyon düzeyleri ile ilişkisinin incelenmesi

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### ABSTRACT

**Objective:** Athlete burnout is an increasing problem among adolescents. Based on previous studies, it has been thought that anxiety, depression and perceived expressed emotion may be important factors in terms of athlete burnout, and these four factors may interact with each other. We aimed to examine the relationship between athlete burnout, perceived expressed emotion, anxiety and depression, and to reveal the factors that predict athlete burnout.

**Material and Methods:** The study consists of 62 professional volleyball players between the ages of 12-17. The participants completed the sociodemographic form, Athlete Burnout Questionnaire, Shortened Level of Expressed Emotion Scale, and Hospital Anxiety and Depression Scale.

**Results:** Perceived irritability and anxiety and depression levels were correlated in our study. Lack of emotional support had positive association with depression levels, and perceived intrusiveness had positive association with anxiety. A correlation was obtained between reduced sense of accomplishment and emotional/physical exhaustion, which are subscales of Athlete Burnout Questionnaire, and both anxiety and depression levels. In addition, reduced sense of accomplishment had positive association with perceived intrusiveness. The linear regression model demonstrated that anxiety significantly contributed to reduced sense of accomplishment.

**Conclusions:** As a result of our study, it was concluded that determining anxiety-depression levels, and evaluating the parent-child relationship in adolescent athletes may be important in terms of both prevention and treatment programs for athlete burnout.

**Keywords:** Adolescent, anxiety, burnout, depression, expressed emotion

### ÖZ

**Giriş:** Sporcu tükenmişliği adolesan yaş grubunda giderek artan sıklıkta karşımıza çıkmaktadır. Daha önceki çalışmalardan yola çıkarak sporcu anksiyete, depresyon ve algılanan duygu dışavurumunun sporcu tükenmişliği açısından önemli faktörler olabileceği ve bu dört faktörün birbirleri ile karşılıklı etkileşim içinde bulunabileceği düşünüldü. Bu çalışmada sporcu tükenmişliğinin, algılanan duygu dışavurumu, anksiyete ve depresyon ile ilişkisinin incelenmesi ve sporcu tükenmişliğini öngören faktörlerin belirlenmesi amaçlandı.

**Gereç ve Yöntem:** Çalışmaya 12-17 yaş aralığında 62 profesyonel voleybolcu katıldı. Katılımcılar tarafından sosyodemografik form, Sporcu Tükenmişlik Ölçeği (STÖ), Ergenlerde Kısaltılmış Duygu Dışavurum Ölçeği (KDDÖ) ve Hastane Anksiyete ve Depresyon Ölçeği (HADÖ) dolduruldu.

**Bulgular:** Çalışmamızda algılanan sinirlilik ile anksiyete ve depresyon düzeyleri arasında ilişki saptandı. Ayrıca duygusal destek yokluğu depresyon düzeyleri ile; algılanan müdahalecilik ise anksiyete düzeyleri ile pozitif ilişki ortaya koydu. STÖ'nün alt ölçekleri olan azalmış başarı hissi ve duygusal/fiziksel tükenme ile hem anksiyete hem de depresyon düzeyleri arasında ilişki bulundu. Buna ek olarak, azalmış başarı hissi ile algılanan müdahalecilik arasında pozitif ilişki belirlendi. Lineer regresyon modelinde ise anksiyete düzeylerinin azalmış başarı hissi düzeylerine anlamlı düzeyde katkıda bulunduğu gösterildi.

**Sonuç:** Çalışmamız neticesinde adolesan sporcularda anksiyete-depresyon düzeylerinin belirlenmesi ve ebeveyn-çocuk ilişkisinin de değerlendirilmesinin sporcu tükenmişliğini hem önlemesi hem de tedavi programları açısından önemli olabileceği sonucuna varıldı.

**Anahtar Sözcükler:** Adolesan, anksiyete, depresyon, duygu dışavurumu, tükenmişlik

## INTRODUCTION

Sport has positive effects on both physical and mental health and is associated with emotional well-being, reduced depression and anxiety, higher self-esteem, and positive self-perception, and high quality of life (1). Although there

are benefits of sports in many areas of life, there is an increase in studies on athlete burnout as well. Athlete burnout is a concept examined in different dimensions including emotional and physical exhaustion (EXH), reduced sense of ac-

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accomplishment (RA), and devaluation. While the emotional and physical exhaustion sub-dimension is a stress-related variable, the other two components reflect the negative attitude of the person towards his/her ability to perform effectively as an athlete (2,3). It is stated that mild athlete burnout rate is 28% and severe athlete burnout rate is 2.7% in the adolescents (3).

In studies examining variables that may be effective on athlete burnout, concepts such as high stress and anxiety levels, and decreased intrinsic motivation come to the fore (4). In addition, parents also play a role in athletes' burnout sensitivities (5). It is thought that parents may play a protective role in terms of athlete burnout, and in some cases, parents may be a source of stress that increases burnout. Athlete burnout is more common, especially when parents have high expectations for their children's success (3).

There are different definitions in the literature regarding the attitudes of parents towards their children. Parental affection, which includes concepts such as responsiveness, warmth, and acceptance has positive results in terms of child and adolescent development. Psychological control which is defined as the effort to control the emotions and thoughts of adolescents, and which is another parental attitude style, causes problem behaviors and stress, and inhibits the need for autonomy of adolescents. As a result, this situation predisposes adolescents to experience burnout (6). It has been shown that perceived family pressure and athlete burnout are positively related. On the other hand, it is stated that parental affection plays a protective role against burnout, but when parental affection is combined with psychological control, its protective role against burnout disappears (7).

Evaluation of family climate is thought to be important in terms of the role of parents in athlete burnout. Expressed emotion (EE) is considered a barometer of family climate at home, reflecting communication styles between family members such as emotional support, irritability, and intrusiveness (7). It has been reported that high parental EE is associated with more severe psychopathology symptoms (8). Perceived EE is a concept that explains how the adolescent perceives the family climate (9). It is emphasized that there is a strong relationship between perceived EE and emotional problems (7).

Two other important factors in terms of athlete burnout are anxiety and depression. It has been reported that the increase in perceived anxiety is associated with athlete burnout (4). Depressive symptoms are also an important factor associated with burnout (10). Considering the relationship of high EE with psychopathology (8), it is said that anxiety,

depression, perceived EE, and athlete burnout may be related.

In the light of all these data, the aim of this study is to investigate the relationship between athlete burnout, perceived family climate, anxiety, and depression. We also aimed to determine the factors that predict athlete burnout. Explaining the factors that predict athlete burnout will help to develop prevention and intervention programs for athlete burnout. To our knowledge, this is the first study to examine the relationship between athlete burnout and perceived family climate, anxiety, and depression in adolescents. Our hypotheses were as follows: a) There will be a correlation between anxiety and depression levels and perceived expressed emotion levels; b) there will be a relationship between perceived expressed emotion levels and athlete burnout levels; and c) anxiety and/or depression levels will predict athlete burnout.

## **MATERIALS and METHODS**

### **Participants and Study Design**

This study was conducted with 62 adolescent professional volleyball players who continue their sports careers in the Turkish Volleyball League. Participants completed a battery of scales that included a sociodemographic form, Shortened Level of Expressed Emotion Scale (SLEES), Hospital Anxiety and Depression Scale (HADS), and Athlete Burnout Questionnaire (ABQ). Participants who reported previous or current psychiatric disorders, and/or that they had used psychotropic drugs were not included in the study. Participants and their parents were informed before the study, and written informed assent and consent was obtained as required by the Helsinki Committee. The study was approved by the Local Ethics Committee of University of Afyonkarahisar Health Sciences on January 7, 2022 (no. 2022/12).

### **Data Collection**

*Shortened Level of Expressed Emotion Scale:* This scale was developed in 2011 by Nelis et al (11). The validity and reliability of the Turkish sample have been established by Vural et al. (12). The scale, which is completed by patients, has a four-point Likert-type format. There are three subscales: lack of emotional support (LES; 15 items), irritability (12 items), and intrusiveness (6 items). Higher scores indicate higher levels of EE.

*Hospital Anxiety and Depression Scale:* It is a self-report scale developed by Zigmond and Snaith (13). The validity and reliability study of the Turkish version was conducted by Aydemir et al. (14). It contains 14 questions in total, seven of which (odd numbers) evaluate the level of anxiety, and the other seven (even numbers) evaluate the level of

depression. Responses are evaluated in a four-point Likert-type and scored between 0-3. Each of the anxiety and depression subscales score between 0 and 21, and higher scores indicate higher levels of anxiety and depression.

**Athlete Burnout Questionnaire:** This scale was developed by Raedeke and Smith (15). There are three subscales (reduced sense of accomplishment, emotional/physical exhaustion, devaluation), each consisting of five items in the original form of the scale. The Turkish adaptation was conducted by Kelecek et al (2). Two items have been removed and it consists of 13 items in total in the Turkish version.

**Statistical Analysis**

Data were evaluated using the IBM Statistical Package for Social Sciences Statistics v22 program. Descriptive statistics are presented as means ± standard deviation for parametric data, median (interquartile range, IQR) for non-parametric data, and as percentages for categorical data. Pearson and Spearman correlation coefficients were used to examine the relationships between variables. The independent effects of different predictors on reduced sense of accomplishment were examined using linear regression analysis. A p-value of <0.05 was considered statistically significant.

**RESULTS**

The study was conducted with 62 adolescent volleyball players aged 12-17 years old with a mean age of 15.1 ± 1.9. This study included six (9.7%) female and 56 (90.3%) male participants. Characteristics of the participants, and means ± standard deviations of the ABQ, SLEES, and HADS scores are reported in Table 1.

Correlations existed between irritability subscale scores and total scores of SLEES, and both anxiety and depression subscale scores of HADS. A correlation was found between LES subscale scores of SLEES and depression subscale scores of HADS. Intrusiveness subscale scores of SLEES revealed a statistically positive correlation with anxiety subsca-

le scores of HADS. RA and EXH subscale scores of ABQ displayed a statistically positive correlation with both anxiety and depression subscale scores of HADS. A significant correlation was found between devaluation subscale scores of ABQ and anxiety subscale scores of HADS. There was a correlation between the RA subscale scores of ABQ and the intrusiveness subscale scores of SLEES. Correlations between SLEES scores and ABQ scores and HADS scores are given in Table 2.

**Table 1.** Participants' characteristics and descriptive statistics of the measured variables

Participants' characteristics (N=62)	
<b>Gender [%]</b>	
Female	9.7
Male	90.3
<b>Age [Mean (SD)]</b>	15.06 (1.88)
<b>Socioeconomic level [%]</b>	
Low	16.1
Middle	45.1
High	38.8
<b>Educational level of the mother [%]</b>	
Primary school	22.6
Secondary school	12.9
High school	33.9
University	30.6
<b>Educational level of the father [%]</b>	
Primary school	11.5
Secondary school	13.1
High school	32.8
University	42.6
<b>ABQ scores</b>	
Reduced Sense of Accomplishment [Mean (SD)]	7.82 (2.74)
Emotional/Physical Exhaustion [Median (IQR)]	8.50 (7-9)
Devaluation[Median (IQR)]	4.00 (4-5)
<b>SLEES total scores [Median (IQR)]</b>	53.00 (42.75-59)
Lack of emotional support [Mean (SD)]	24.53 (9.13)
Irritability [Median (IQR)]	15.50 (13-18.25)
Intrusiveness [Mean (SD)]	12.17 (3.29)
<b>Anxiety Subscale of HADS [Mean (SD)]</b>	6.67 (3.82)
<b>Depression Subscale of HADS [Mean (SD)]</b>	5.12 (3.23)

ABQ: Athlete Burnout Questionnaire; SLEES: Shortened Level of Expressed Emotion Scale; HADS: Hospital Anxiety and Depression Scale

**Table 2.** Pearson and Spearman correlation coefficients

Parameter		1	2	3	4	5	6	7	8	9
1. Total SLEES	r	1.00								
	p									
2. LES	r	<b>.581<sup>b</sup></b>	1.00							
	p	<b>&lt;.001</b>								
3. Irritability	r	<b>.605<sup>b</sup></b>	<b>.298<sup>b</sup></b>	1.00						
	p	<b>&lt;.001</b>	<b>.019</b>							
4. Intrusiveness	r	<b>.658<sup>b</sup></b>	<b>.345<sup>a</sup></b>	<b>.404<sup>b</sup></b>	1.00					
	p	<b>&lt;.001</b>	<b>.006</b>	<b>.001</b>						
5. RA	r	.225 <sup>b</sup>	.022 <sup>a</sup>	.249 <sup>b</sup>	<b>.284<sup>a</sup></b>	1.00				
	p	.079	.865	.051	<b>.025</b>					
6. EXH	r	.235 <sup>b</sup>	.093 <sup>b</sup>	.176 <sup>b</sup>	.178 <sup>b</sup>	<b>.437<sup>b</sup></b>	1.00			
	p	.066	.473	.171	.167	<b>&lt;.001</b>				
7. Devaluation	rp	.238 <sup>b</sup>	.175 <sup>b</sup>	.161 <sup>b</sup>	.209 <sup>b</sup>	<b>.310<sup>b</sup></b>	<b>.323<sup>b</sup></b>	1.00		
	p	.063	.173	.212	.102	<b>.014</b>	<b>.010</b>			
8. HADS-A	r	<b>.390<sup>b</sup></b>	.192 <sup>a</sup>	<b>.425<sup>b</sup></b>	<b>.378<sup>a</sup></b>	<b>.542<sup>a</sup></b>	<b>.364<sup>b</sup></b>	<b>.395<sup>b</sup></b>	1.00	
	p	<b>.002</b>	.134	<b>.001</b>	<b>.002</b>	<b>&lt;.001</b>	<b>.004</b>	<b>.002</b>		
9. HADS-D	r	<b>.338<sup>b</sup></b>	<b>.235<sup>a</sup></b>	<b>.311<sup>b</sup></b>	.170 <sup>a</sup>	<b>.379<sup>a</sup></b>	<b>.278<sup>b</sup></b>	.190 <sup>b</sup>	<b>.559<sup>a</sup></b>	1.00
	p	<b>.007</b>	<b>.066</b>	<b>.014</b>	.186	<b>.002</b>	<b>.029</b>	.139	<b>&lt;.001</b>	

a. Pearson correlation coefficient; b. Spearman correlation coefficient; SLEES: Shortened Level of Expressed Emotion Scale; LES: Lack of Emotional Support; RA: Reduced Sense of Accomplishment; EXH: Emotional/ Physical Exhaustion; HADS-A: Hospital Anxiety and Depression Scale Anxiety Subscale; HADS-D: Hospital Anxiety and Depression Scale Depression Subscale

To evaluate the variables that predict RA levels of the adolescents, linear regression analysis was performed. The analysis revealed that anxiety subscale scores of HADS sig-

nificantly contributed to RA scores (t: 3.01; p: 0.004) (Table 3).

**Table 3.** Linear regression analysis to determine independent predictors of the Reduced Sense of Accomplishment scores

Parameters	Unstandardized coefs.		Standardized coefs. Beta	t	p
	B	Std. error			
(Constant)	7.070	3.481		2.031	<b>.047</b>
Age	-.095	.170	-.065	-.557	.580
Gender	-.768	1.038	-.083	-.740	.462
Intrusiveness Subscale of SLEES	.084	.101	.101	.835	.407
Anxiety Subscale of HADS	.309	.103	.429	3.010	<b>.004</b>
Depression Subscale of HADS	.108	.118	.127	.914	.365

SLEES: Shortened Level of Expressed Emotion Scale; HADS: Hospital Anxiety and Depression Scale

## DISCUSSION

In this study, we investigated athlete burnout, perceived EE, anxiety, and depression of professional adolescent volleyball players. There were positive correlations between anxiety and depression levels, and emotional/physical exhaustion. In addition, negative associations were determined between reduced sense of accomplishment and perceived intrusiveness, anxiety, and depression. Anxiety level significantly predicted reduced sense of achievement.

The relationship between high EE and child and adolescent psychopathology has been documented previously. For example, high paternal EE is associated with depressive symptoms in children and adolescents (16,17). Similarly, high paternal EE is associated with both the development of anxiety disorder and treatment response in adolescents (18). Similar to these findings, we found significant correlations between perceived EE and anxiety and depression levels. In this context, it may be interpreted that it is necessary to evaluate the family climate in terms of both the de-

velopment and treatment of anxiety and depression in adolescent athletes.

Parent-child relationship is an important parameter affecting athlete burnout. Studies have shown that parental affection, psychological control, and perceived family pressure are important factors in terms of athlete burnout (6). In this context, two different interaction styles have been defined as autonomy-supportive or controlling. Autonomy-supportive attitudes support basic psychological needs for competence, autonomy and relatedness, while controlling behaviors have the opposite effect (19). In a study conducted with 391 adolescents by Aunola et al., it was shown that psychological control attitudes have opposite effect to the protective effect of maternal affection against burnout (6). In addition, it has been reported that intrusive parenting has a negative effect on ego resilience. Ego resilience reflects the capacity to adapt to environmental stress and changes. Ego resilience is associated with both lower psychopathological symptoms and higher social competence (20). In our study, a negative correlation was obtained bet-

ween perceived intrusion and reduced sense of accomplishment, and only anxiety level was determined as a predictor of reduced sense of accomplishment. Anxiety and chronic stress predispose to athlete burnout (21). Specifically, in a study conducted with 554 professional male soccer players, anxiety was found to predict burnout levels (22). In this context, it is thought that anxiety has a role in the relationship between perceived intrusion and reduced sense of accomplishment, and that ego resilience and autonomy may play a role in the development of anxiety. Longitudinal studies are needed to clarify this situation.

The first limitation of our study is that psychopathology was not screened with a structured psychiatric interview, and psychometric evaluation was done with self-report measurement tools. The second limitation was the small sample size. A third limitation is that the psychopathology of family members was not evaluated. Another important limitation of the study is that it was a cross-sectional study, and therefore a causal relationship could not be established.

## CONCLUSION

Family climate, anxiety and depression levels should be considered in the evaluation of athlete burnout. Longitudinal studies with larger sample size are needed to elucidate this situation.

### Ethics Committee Approval / Etik Komite Onayı

This study was approved by the Local Ethics Committee of University of Afyonkarahisar Health Sciences (approval number 2022/12, date: 07.01.2022).

### Conflict of Interest / Çıkar Çatışması

The authors declared no conflicts of interest with respect to authorship and/or publication of the article.

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### Author Contributions / Yazar Katkıları

Concept: HAG; Design: HAG, İK; Supervision: HAG; Materials: HAG, İK; Data Collection and Processing: İK; Analysis and Interpretation: HAG; Literature Review: HAG, İK; Writing Manuscript: HAG; Critical Reviews: İK

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