Classroom Emotional Climate and School Burnout in Secondary School Students: A Hierarchical Regression Model

Ortaokul Öğrencilerinde Sınıf Duygusal İklimi ve Okul Tükenmişliği: Bir Hiyerarşik Regresyon Modeli

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Abstract

This study aims to examine the relationship between gender, grade level, classroom emotional climate and school burnout levels of secondary school students. Using a correlational research design, data were collected by random sampling method in this study. The study included a sample of 404 students enrolled in secondary schools located in Batman city, Turkey. Personal information form, Classroom Emotional Climate Scale and Elementary School Student Burnout Scale for Grades 6-8 were used as data collection tools. Descriptive statistics, Pearson correlation coefficient and hierarchical regression analyses were used to analyse the data. The findings showed that there were significant negative correlations between the positive classroom emotional climate and school burnout and significant positive correlations between the negative classroom emotional climate and school burnout. Also, the findings obtained from the hierarchical regression analysis revealed that both positive and negative classroom emotional climate significantly predicted school burnout even after controlling for the potential effects of gender and grade level. These results suggest that interventions that focus on increasing the positive classroom emotional climate and simultaneously reducing the negative classroom emotional climate may effectively reduce school burnout among adolescents despite gender and grade level differences.

Keywords: Positive Emotional Climate, Adverse Emotional Climate, School Burnout, Secondary Students.

Öz

Bu çalışmanın amacı, ortaokul öğrencilerinin cinsiyet, sınıf düzeyi, sınıf duygusal iklimi ve okul tükenmişlik düzeyleri arasındaki ilişkiyi incelemektir. İlişkisel araştırma deseniyle tasarlanan bu çalışmada veriler tesadüfi örnekleme yöntemiyle toplanmıştır. Araştırmanın örneklemini Batman ilinde (Türkiye) ortaokullarda öğrenim gören 404 öğrenci oluşturmaktadır. Araştırmada veri toplama aracı olarak kişisel bilgi formu, Sınıf Duygusal İklimi Ölçeği ve İlköğretim 6-8. Sınıflar İçin Öğrenci Tükenmişlik Ölçeği kullanılmıştır. Verilerin analizinde tanımlayıcı istatistikler, Pearson korelasyon katsayısı ve hiyerarşik regresyon analizlerinden yararlanılmıştır. Elde edilen bulgulara göre sınıfın olumlu duygusal iklimi ile okul tükenmişliği arasında negatif yönde; sınıfın olumsuz duygusal iklimi ile okul tükenmişliği arasında ise pozitif yönde anlamlı ilişkiler olduğu saptanmıştır. Ayrıca hiyerarşik regresyon analizinden elde edilen bulgular, cinsiyet ve sınıf düzeyinin potansiyel etkileri hesaba katıldıktan sonra bile hem olumlu hem de olumsuz sınıf duygusal ikliminin okul tükenmişliğini önemli ölçüde yordadığını ortaya koymuştur. Bu sonuçlar sınıfın olumlu duygusal iklimini artırmaya ve aynı zamanda sınıfın olumsuz duygusal iklimini azaltmaya odaklanan müdahalelerin, cinsiyet ve sınıf düzeyi farklılıklarına rağmen ergenler arasında okul tükenmişliğini azaltmada etkili olabileceğini göstermektedir.

Anahtar Kelimeler: Olumlu Duygusal İklim, Olumsuz Duygusal İklim, Okul Tükenmişliği, Ortaokul Öğrencileri.

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In child development, the ecological model posits that the quality of interaction between the child and elements in the child's proximal environments influences developmental outcomes (Bronfenbrenner & Morris, 1998). The classroom is a primary micro-context where teachers and students interact (Frenzel et al., 2018; Schutz & Pekrun, 2007). The nature of the social and emotional interactions within the classroom boundaries -between and among students and teachers- forms the classroom emotional climate (De Rivera & Páez, 2007; Jia et al., 2009; Reyes et al., 2012). In this respect, the emotional climate of the classroom is expected to impact students' learning outcomes (Konstantopoulos, 2009; Reyes et al., 2012; Stuhlman & Pianta, 2009). Previous studies into classroom climate have shown a significant and positive relationship between students' cognitive and affective outcomes (Fraser, 2005; Rowe et al., 2010). In the classroom, students have different experiences regarding their teachers' perceptions and reactions toward the students' emotional states and needs. Such experiences can impact students' adaptation, motivation, learning, and achievement depending on the socio-emotional competence of teachers (Patrick & Ryan, 2005) and teachers' being highly responsive to students and emotionally supportive improves student satisfaction (Joe et al., 2017). Added to this, emotionally supported students have been reported to tend to experience reduced peer rejection and school failure (Kiuru et al., 2012). Accordingly, it can be alleged that teacher support positively impacts students' level of affection and subjective well-being (Liu et al., 2016; Pekrun, 2009). Based on the above ideas, the necessity of assessing the classroom's emotional climate is underscored to yield a comprehensive insight into what is happening in a classroom to guide educational interventions. Accumulating evidence supports the fact that the classroom emotional climate is related to a wide range of phenomena that can contribute to the subjective development of the child in social and cultural terms in addition to learning outcomes. Furthermore, the desired classroom emotional climate should be supportive, egalitarian, and democratic and adhere to predetermined rules and regulations for appropriate teaching-learning processes and students' integration into social life (Zedan, 2010).

In addition to positive-oriented research related to classroom emotional climate (Barr, 2016; Wang et al., 2020; Zedan, 2010), there has been an accumulating body of literature on the development of negative emotions towards the school/classroom such as peer bullying (Raskauskas et al., 2010), excessive assignment, test or test anxiety (Cho et al., 2023; Reyes et al., 2012; Salmela-Aro et al., 2008). However, little has been said in the literature regarding the classroom emotional climate causing student burnout. Nevertheless, it can be said that school burnout has gained increased attention among researchers and can lead to school dropout or severe psychopathological problems (Bask & Salmela-Aro, 2013; Roberts & Lopez-Duran, 2019; Romeo, 2013). As with many employees, burnout is experienced by students as well. This may be because of the substitution of '*studies*' that refer to daily activities undertaken by students for '*work/job*' among students (Schaufeli et al., 2002a). This is exemplified by students attending classes and carrying out activities along with specific performance objectives (e.g., grade, level). Academic burnout, therefore, refers to a multifaceted syndrome such as exhaustion because of study demands, cynical attitudes toward one's study and feeling incompetent in academic work (Salmela-Aro et al., 2009a; Schaufeli et al., 2002a). As with professional contexts, the symptoms of academic burnout tend to be associated with a vast number of adverse outcomes for students. These outcomes encompass controlled motivation patterns, low self-esteem and even suicidal ideation (Ishak et al., 2013; Walburg, 2014; Zhang et al., 2013). Viewed from this perspective, it is thought that the likelihood of a positive change in the school and the educational system in a broad sense depends on the concept of classroom emotional climate.

Theoretical Framework

Emotions

Understanding and making sense of human behaviours are undoubtedly possible by understanding emotions. Over time, emotions have been the focal point of several very different disciplines (Küpers & Weibler, 2008). This phenomenon has been explored by a broad range of studies in the literature in individual, intrapersonal and organizational terms (Härtel, Zerbe & Ashkanasy, 2005). However, although no consensus has been achieved among researchers regarding the definition of emotions (Dilekçi & Manap, 2022), considering related studies, emotions are regarded as mediators between social contexts and events and individuals' reactions and experiences concerning these events. In this regard, it can be asserted that emotion is of a multi-faceted definition representing synchronized, consistent central nerve and environmental-physiological reaction patterns that emerge through subjective experiences and are reflected in face, voice, and mimics (Scherer & Moors, 2019).

Initially classified as positive or negative, emotions were later defined more complicatedly (Eysenck, 2004). Emotion is characterized by a complex, multi-component and action-ready situation, and there are 6 main components of the emotion process. These are as follows: *cognitive appraisal, subjective experience, thought and action tendencies, internal body changes, facial expressions,* and *response to emotion* (Atkinson & Hilgard, 2010). These components do not create a single emotion, yet their combination works together to form a particular emotion. While positive emotions improve people's thoughts and actions, negative ones restrict them. Moreover, a growing body of literature indicates a positive-oriented correlation between positive emotions and longevity (Danner et al., 2001). As a result, some psychologists define emotion as a complex pattern of bodily and mental changes that includes specific behavioural reactions (Gerrig & Zimbardo, 2012). Emotions can be differentiated from mood in that they are brief and intense. Mood lasts longer and is less intense (Frijda, 2013).

Emotion and its physiological and psychological aspects are addressed based on different theories (Çiçek, 2022). When the changes in the body because of over-stimulation in a situation are monitored, it helps to understand emotional experiences that have psychological and physiological aspects (Danner et al., 2001). Robbins and Judge (2012) have identified sources of emotion and mood: *personality, day and time of the week, weather, stress, social activities, sleep, exercise, age,* and *gender.* Theories relating to the roots and functions of the concept of emotion, which is so comprehensive and central to human life, have been postulated by many psychologists.

Classroom Emotional Climate

Along with the pioneering use of the term "*classroom climate*" by Walberg and his colleagues, most initial work was conducted mainly with the Learning Environment Inventory to evaluate students' perceptions of their own educational experiences (Walberg & Anderson, 1968). However, the work by Moos (1973) popularized this concept and stimulated additional studies. As a psychiatrist, Moos was initially focused on the climate of psychiatric hospital wards. Then, *the Classroom Environment Scale* (Trickett & Moos, 1973), devoted to measuring classroom climate, was used by many educators for the next 30 years to carry out studies on the nature of the classroom. In the following years, numerous researchers developed an inventory and scale on this concept, and the effects of each on the psychosocial characteristics of the classroom were investigated (Fraser, 1998).

De Rivera and Páez (2007) consider the emotional atmosphere as the prevailing communal feelings that arise from the social exchange among individuals in a specific environment. The classroom emotional climate, beyond doubt, conceptually appears as a part of the classroom climate (Evans et al., 2009). Considering vital to educational activities, a classroom is where students broadly establish social,

emotional, and cognitive interactions with their peers and teachers. Accordingly, as environments where students share experiences for a long time, the classroom climate plays a pivotal role in their cognitive, affective, and behavioural development (Barr, 2016; Dilekçi, 2021). The quality of social and emotional interactions between and among students and teachers constitutes the classroom's emotional climate (Pianta et al., 2008).

In many countries, it has been seen that the main objective of the increasing number of education reform initiatives in the classroom and that a consensus is achieved to improve the in-class dynamics (Wang & Degol, 2016). Previous research has demonstrated that the classroom climate emerged as an aggregative structure contributing to the children and adolescents' academic, behavioural, and socio-emotional developments together with learning experiences (Chapman et al., 2013; Hattie, 2009; Pianta & Hamre, 2009). Fraser and Tobin (1991) point out that the classroom, which constitutes an integral part of students' daily lives, significantly influences their behaviours, academic success, motivation, and attitudes towards education. Taken together, the investigation of the factors affecting the classroom environment will allow us to identify and understand the social processes in the classroom and to explain the students' behaviours at emotional and cognitive levels.

Burnout

Freudenberger (1974) introduced the concept of burnout in the literature as a syndrome related to the field of psychology. Burnout is characterized by an increased sense of emotional exhaustion. It is the desensitization to the work resulting from chronic fatigue and restlessness and the lack of idealism and engagement towards one's work. Burnout is now conceived as a phenomenon associated with any activity resulting in chronic stress (Brewer & Shapard, 2004; Shin et al., 2014). It is also considered a psychological syndrome that can yield a myriad of consequences such as depression (Hakanen et al., 2008) and reduced work performance (Nahrgang et al., 2011).

Burnout is addressed in terms of different variables in almost every sector and organization; meta-analyses notably related to gender (Purvanova & Muros, 2010); age and professional seniority (Brewer & Shapard, 2004); employee self-efficacy (Shoji et al., 2016) and strategies for dealing with burnout (Shin et al., 2014) are noteworthy. Burnout may result in excessive workload or working hours and conditions deemed as organizational factors. Another organizational factor is role conflict. The uncertainty of expectations from individuals can result in role conflicts, causing burnout. When it comes to individual factors, burnout may be yielded by discrepancies between professional skills and job expectations, certain situations arising from gender, age, education status or personality traits (Ereş, 2017). Taken together, individuals first suffer from apathy, then a decrease in performance and success, resulting in a low commitment to work, absenteeism, health problems, and interpersonal communication disorders (Skaalvik & Skaalvik, 2020; Zhang et al., 2013).

School Burnout

Like professional burnout, school burnout is mostly used to denote the combination of three dimensions: *exhaustion, cynicism,* and *lack of efficacy* (Schaufeli et al., 2002a). Exhaustion means a sense of tension and chronic fatigue. Cynicism reflects indifference and a distant attitude towards schoolwork, or a loss of the capacity to attach meaning to schoolwork. Lack of efficacy, however, represents a decrease in the sense of competence, achievement, and feelings of achievement (Schaufeli et al., 2002b). Yılmaz and Altınkurt (2018), in their research on school burnout, concluded that gender, marital status, branch and educational status affected teacher burnout at a shallow level; professional seniority at a low or shallow level and the type of school, however, at low or moderate levels. Several meta-analysis studies regarding employee burnout in educational organizations have been encountered in the literature (Aloe

et al., 2014a; Aloe et al., 2014b; Halbesleben, 2006). In Weng's (2004) study, gender, marital and educational status, professional seniority, age, and length of service had a very low effect on burnout. In addition, Edmonson (2000a; 2000b) reported that gender, seniority, and age had a shallow impact on burnout. Prior studies on school burnout of students have focused on different groups ranging from secondary to higher education (Salmela-Aro & Read, 2017; Schaufeli et al., 2002a). School burnout is conceived as an incompatibility between an individual's socio-emotional skills and the demands imposed by the school context. Indeed, this term denotes the view that students suffer from energy depletion without gaining appropriate returns (Salmela-Aro & Upadaya, 2020). In recent years, school burnout experienced by secondary and high school students resulting from varying reasons and stress and anxiety accompanying this situation (Salmela-Aro et al., 2009b); school dropout (Bask & Salmela-Aro, 2013) and overall well-being (Andriyani et al., 2017; Liu et al., 2016; Wang et al., 2020) have gained increased attention among researchers. Students of all ages can suffer from chronic stress along with anxiety about assignments, tests, and exams (Salmela-Aro et al., 2008). These chronic stressors can lead to burnout over time. From this perspective, school burnout of adolescents involves exhaustion towards responsibilities and assignments, cynicism towards the school and lack of efficacy at school (Kim et al., 2021; Salmela-Aro et al., 2009b). This can result in low course achievement, psychological risk, low academic dedication, and school dropout (Bask & Salmela-Aro, 2013; Madigan & Curran, 2021). Besides, there is a correlation between burnout syndrome and maladaptive behaviours such as excessive internet use among teenagers. Adolescence is particularly worrisome as it is a period of vulnerability to stress, and being subjected to excessive stress can cause psychopathological problems (Roberts & Lopez-Duran, 2019; Romeo, 2013). Accumulating evidence in the literature reveals that school burnout is related to low academic achievement, albeit higher psychopathology (Madigan & Curran, 2021; Salmela-Aro, 2017). School burnout can reduce students' interest in school and learning and harm their motivation and ability to learn. Therefore, what may be of most significant importance, however, is the prevention and minimization of school burnout. To reduce school burnout, it is essential to organize and improve students' learning environments. Improving school settings and making them more attention-grabbing increases students' motivation and fosters their learning abilities (Ryan & Patrick, 2001).

Classroom Emotional Climate and School Burnout

Recent studies have unveiled that such concerns that students face during the secondary or high school years, such as intensive curriculum, exams or choosing a profession, adversely affect their emotional, behavioural and cognitive development (Özdemir, 2015; Kiuru et al., 2008; Salmela-Aro et al., 2008; Salmela-Aro et al., 2009b), none has been said about the relationship between the classroom settings where students spend the most time and the burnout levels arising from the emotional climate of this environment. Research in the related literature mainly centres on external factors of school burnout (Özdemir, 2015; Şahan & Baki, 2017). Indeed, the classroom climate, where students primarily interact with their peers and teachers, is significant in terms of being a learning environment and where experiences are organized (Schutz & Pekrun, 2007). Three dimensions of the classroom emotional climate (instructional, socio-emotional and behavioural) are correlated with young people's socio-emotional development, academic achievement and behavioural problems (Larson et al., 2020; Wang et al., 2020). These results are consistent with Bronfenbrenner's (1994) ecological model, which encompasses the interaction between the child and the elements in his/her immediate environment.

The literature reveals that classroom climate makes contributions not only to the classroom but, to the school and education as a whole and to the students' behavioural and emotional adaptations (Kuperminc et al., 2001; Roeser & Eccles, 2003). Furthermore, according to the findings yielded by longitudinal research by Salmela-Aro et al (2008), positive motivation received from teachers was negatively

correlated with school-related burnout among students; on the contrary, on an individual level, support from school and positive motivation obtained from teachers were negatively related to burnout among students. It is believed that the development of strong communication and interaction between students in school and classroom settings where the emotional climate is well-managed will contribute to the generation of a culture based on trust among students. Contrary to this, it can be alleged that the likelihood of fear, anxiety and burnout towards the school will increase in case of the lack of support in teacher-student relations (Cho et al., 2023). Also, the likelihood of burnout seems to be lower in schools where students feel they can get help from a variety of professionals in the school (Salmela-Aro et al., 2008). In school contexts where students are not involved in decision-making processes and success and effort are not sufficiently valued, it has been seen that they suffer from a sense of burnout and injustice (Slivar, 2001). Considering the studies regarding the effect of emotional climate on teacher burnout in education organizations (Dilekçi & Kaya, 2021; Shorosh & Berkovich, 2022), it has been asserted that there may be a significant association between the classroom emotional climate and students' burnout levels. Given the context provided above, this study aims to investigate whether the classroom emotional climate has an impact on secondary students' experience of school burnout after controlling for the influence of gender and grade level. To this end, the study aimed to address the following hypotheses:

1. There is a negative relationship between positive emotional climate and school burnout.

2. There is a positive relationship between negative emotional climate and school burnout.

3. The relationship between positive emotional climate and school burnout remains significant after controlling for the potential influences of gender and grade level.

4. The relationship between negative emotional climate and school burnout remains significant after controlling for the potential influences of gender and grade level.

Method

Participants

Using a cross-sectional research design, data were collected from the students enrolled in a secondary school in Batman (Türkiye) in the first semester of the 2022-2023 academic year. A sample of 404 secondary school students was involved in this study through a random sampling method (223 females, 55.2%; 181 males, 44.8%). Among the participants, 118 students (29.2%) were in their fifth year of study, while 145 students (35.9%) were in their sixth year. Also, 72 students (17.8%) were enrolled in their seventh year, and the remaining 69 students (17.1%) were in their final year. In terms of class size, 107 students (26.5%) attended classes comprising 10-20 students, 97 students (24%) were in classes with 21-30 students, and the largest proportion of 200 students (49.5%) were part of classes consisting of 31-40 students.

Measures

Classroom Emotional Climate Scale (Gizir & Fakiroğlu, 2021). The scale includes 28 self-reported items grouped into two factors: positive emotional climate (16 items) and negative emotional climate (12 items). Each item is answered on a five-point Likert scale ranging from *totally agree (1) to totally disagree (5)*. Sample items are *"Our teachers easily understand our emotions"* and *"Our teachers are often dissatisfied"*. In the present study, the coefficient of internal consistency was computed at .92 for the positive emotional climate and .88 for the negative emotional climate.

Elementary School Student Burnout Scale for Grades 6-8 (Aypay, 2011). The scale includes 26 self-reported items clustering into four factors: burnout from school activities, burnout from family,

inadequacy in school, and loss of interest. Each item is scored using a four-point Likert-type scale *ranging from completely disagree (1) to completely agree (4), with a higher score representing a greater level of school burnout.* Sample items are *"School tires me"* and *"I feel happy at school"*. For this study, we computed a total score. In the present study, Cronbach alpha coefficient was determined as .70.

Procedure

The study obtained the approval of the ethics committee of *Batman University* (10.11.2021 dated 021/03-08 number) to gather research data. In addition, necessary permissions were taken from the *Batman Provincial Directorate of National Education* on 30.09.2021 via the document numbered E-40456018-44-33472381. The data were collected from secondary schools in the city centre of Batman between December 10 and January 15 in the fall semester of the 2022-2023 academic year. The form involving the scales was administered to secondary school students face-to-face. Consent was obtained from all participants before taking part in the study. Participants were assured about the confidentiality and anonymity of responses.

Data Analysis

SPSS 22 package program was employed in data analysis. The research data were prepared in the first step and the necessary coding was conducted. Then, normality tests were performed, and Cronbach alpha coefficients of the scales were examined. According to the normality test results, the skewness and kurtosis values of the scales were between -1 and +1. Positive emotional climate skewness value (1.046) and kurtosis value (.858); negative emotional climate skewness value (-.582) and kurtosis value (-.293); and burnout scale skewness value (-.410) and kurtosis value (-.238) were determined. Frequencies (*n*) and percentages (%) were computed for the personal information of the participants. Moreover, to determine students' opinions towards the classroom emotional climate and school burnout, mean values and standard deviation of the scores yielded from the instruments were studied. Finally, correlation analysis revealed the relationship between the scales, and hierarchical regression analysis examined whether gender, grade level and classroom emotional climate predicted school burnout. Before performing the regression analysis, a preliminary check was conducted to assess whether the analysis satisfied key assumptions, including multicollinearity, normality, and linearity. This preliminary analysis confirmed that there were no issues with the assumptions of the regression.

Results

Table 1 presents descriptive statistics (e.g., mean, and standard deviation), the correlation between the classroom emotional climate and students' perceptions towards school burnout, and the effect of classroom emotional climate on the students' perceptions regarding school burnout.

Table 1

Correlation Analysis Between the Study Variables

Variable	M	SD	1.	2.	3.	4.	5.
1. Gender	1.45	.49					
2. Grade Level	2.23	1.05	-.077				
3. Positive emotional climate	1.89	.79	.013	.128**			
4. Negative emotional climate	3.69	.91	-.156*	-.172*	-.528*		
5. School burnout	2.91	.60	-.215*	-.244*	-.475*	.621*	

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

Table 1 shows significant relationships between all variables except gender and grade level and gender and positive emotional climate variables. While a significant negative relationship was found between school burnout and gender ($r=-.215$), grade level ($r=-.244$) and positive emotional climate ($r=-.475$), a significant positive relationship was found between school burnout and adverse emotional climate ($r=.621$). In addition, the adverse emotional climate has a negative significant relationship with gender ($r=-.156$), grade level ($r=-172$) and positive emotional climate ($r=-528$). While there was a significant positive relationship between positive emotional climate and grade level ($r=.128$), no significant relationship was found between positive emotional climate and gender.

To examine the role of classroom emotional climate in the prediction of school burnout after controlling for gender and grade level, a hierarchical regression analysis was conducted. The analysis treated school burnout as the outcome variable, while positive and negative emotional climates were considered predictors. Also, gender and grade levels were incorporated as covariates to ensure accurate adjustments. The hierarchical linear regression analysis results are as follows in Table 2. The results demonstrated that in the first step (Model 1), gender ($t=-4.99$, $\beta=-.24$, $p<.000$) and grade level ($t=-5.56$, $\beta=-.26$, $p<.000$) were included in the model, and the model explained 11% of the variance in the perceived school burnout variable. In the second step (Model 2), positive emotional climate and negative emotional climate variables were included in the model. All variables (gender [$t=-4.02$, $\beta=-.15$, $p<.000$], grade level [$t=-3.97$, $\beta=-.15$, $p<.000$], positive emotional climate [$t=-4.84$, $\beta=-.21$, $p<.000$], adverse emotional climate [$t=10.29$, $\beta=-.46$, $p<.000$]) explained 45% of the variance in the perceived school burnout variable. When the possible effects of gender and grade level were controlled, positive affective climate and negative affective climate variables significantly explained 34% of the variance in perceived school burnout ($R=0.68$, $R^2=.45$, R^2 change$=.34$ [$F=83.37$, $p<.000$]).

Table 2

Hierarchical Linear Regression Analysis on the Predictive Level of Gender, Grade Level and Classroom Emotional Climate on Students' Perceptions of School Burnout

Variable	t	p	β	R	R^2	R^2 Change	F	p
Model 1				.34	.11	.11	25.95	.000
Gender	-4.99	.000	-.24					
Grade Level	-5.56	.000	-.26					
Model 2				.68	.45	.34	83.37	.000
Gender	-4.02	.000	-.15					
Grade Level	-3.97	.000	-.15					
Positive emotional climate	-4.84	.000	-.21					
Negative emotional climate	10.29	.000	.46					

Discussion

The current study investigated the contribution of the classroom's emotional climate in predicting students' experience of school burnout after controlling for the influence of gender and grade level. The results typically supported the hypotheses of this study and are discussed in detail below. A classroom with a positive emotional climate is characterized by a sense of respect, trust, empathy and support between teachers and pupils (Reyes et al., 2012). Such a setting makes students feel safe, comfortable, and interested. This enhances their motivation, creativity and academic performances (Chikendo , 2022; Davidovitch & Yavich, 2022; Derakhshan et al., 2023). A previous study by Rimm-Kaufman et al. (2007) confirms that positive teacher-student relations are associated with positive outcomes, including improved academic motivation, commitment and success. By creating a positive classroom emotional

climate, teachers increase their students' academic achievement and support their social and emotional development (Reyes et al., 2012). Therefore, generating and sustaining a positive emotional climate is indispensable for effective teaching. The available evidence (Heller et al., 2012; Reyes et al., 2012; Rimm-Kaufman et al., 2007) provides empirical solid findings on the importance of a positive classroom emotional climate for effective teaching and learning. The negative emotional climate in the classroom can have detrimental effects on students' success and socio-emotional development. The adverse emotional climate is characterized by hostility, disrespect and conflict between and among students and teachers. Skaalvik and Skaalvik (2018) detected a relationship between negative emotions such as anxiety and disappointment and students' academic burnout. In the same vein, Skinner and Belmont (1993) reported that students' negative emotions, such as anxiety and anger, were related to reduced motivation and commitment. The students suffering from a negative classroom emotional climate are more likely to exhibit behavioural problems, withdraw from learning and experience negative emotions. Pekrun et al. (2009) stated that a relatively low academic success might be attributed to several negative emotions such as anxiety, anger and boredom. Besides, the adverse emotional climate may pose long-lasting effects on students' social-emotional development, such as lower self-esteem, poorer peer relations and increased aggression (Kasen et al., 2004). As a result, it is of great importance for educators to prioritize classroom emotional climate to enhance students' success and social-emotional states.

Student burnout is a complicated phenomenon that can result from various academic and personal factors (Chen et al., 2023). The burnout may be attributable to the adverse emotional climate characterized by high levels of stress, anxiety and conflict. According to Özhan and Yüksel (2021), as the level of meeting basic psychological needs (autonomy, competence and connectedness) increases in teacher-student relationships, the students' burnout levels will also decrease. Prior studies exploring students' burnout within the context of teacher relations have revealed a significant negative correlation between the received autonomy support from teachers and the experienced burnout, and a positive association between the perceived psychological support from teachers and school burnout (Salmela-Aro et al., 2008). On the contrary, a positive emotional climate with high levels of support, respect and engagement can prevent students from burnout. A study by Salmela-Aro and Upadaya (2012) demonstrated that students experiencing a positive classroom emotional climate were less likely to suffer from academic burnout. Consequently, a positive emotional climate in the classroom is essential to promote students' academic achievement and social-emotional states and wart burnout. However, the substantial positive relationship between adverse emotional climate and school burnout aligns closely with existing literature, highlighting the detrimental impact of an unsupportive emotional climate on students' overall well-being and academic engagement (Evans et al., 2009; Reyes et al., 2012). This connection is consistent with studies indicating that an adverse emotional climate within educational settings can exacerbate stressors and contribute to a heightened sense of burnout among students.

The research's second sub-question is related to examining the relationship between gender, grade level classroom emotional climate and students' burnout levels. The results have indicated a negative and significant association between the classroom's positive emotional climate and students' school burnout levels and a positive and significant correlation between the adverse emotional climate in the classroom and their school burnout levels. The findings suggest that a high level of positive emotional climate in classrooms leads to a decrease in school burnout, whereas classrooms characterized by a high level of adverse emotional climate result in an increase in burnout. A study investigating students' burnout levels across various factors revealed that school-related burnout is not solely associated with the classroom environment but also with students' emotional states (Pilkauskaite-Valickiene et al., 2011). Wang and Jiang (2023) carried out a study on 13.087 adolescents aged between 12 and 18 and found that classroom

climate was an insignificant and negative association with symptoms of depression. Similarly, school burnout has been demonstrated to be correlated with classroom climate in a related study (Cırcır, 2018). The observed negative relationship between school burnout and both gender and grade level is consistent with previous studies, which have posited that students identifying as female, for instance, might be more prone to experiencing heightened levels of burnout due to various socio-psychological factors (Salmela-Aro et al., 2008; Salmela-Aro et al., 2018; Salmela-Aro et al., 2019; Yıldız & Kilic, 2020). Similarly, the inverse association between grade level and burnout corroborates earlier research indicating that burnout tends to increase as students progress through their academic journey (Virtanen et al., 2018; Wang et al.,2015). These congruences with established literature validate the present study's results and emphasize the robustness of the identified trends. The observed lack of a significant relationship between gender and positive emotional climate is by some prior research, suggesting that gender-related dynamics might not primarily shape emotional climate.

Another sub-question of the current study is whether gender, grade level and classroom emotional climate are significant predictors of students' school burnout levels. Based on hierarchical regression analysis, gender and grade level they explained 11% of the perceived school burnout variable variance. All variables (gender, grade level, positive emotional climate, adverse emotional climate) explained 45% of the variable perceived school burnout variable variance. When the possible effects of gender and grade level were controlled, positive emotional climate and negative emotional climate variables explained 34% of the variance in perceived school burnout significantly. One aim of the present study is to examine for the first time the relationship between classroom emotional climate and school burnout, and according to the explained level of the variance is significantly high. Students' academic and psychological well-being is also expected to be high in classroom settings where a positive emotional climate is encouraged. In a meta-analysis into the overall strength of the link between classroom climate and student outcomes, as well as the degree of theoretical factors governing this relationship, it has been stated that the classroom climate, as a multi-faceted structure, is in positive-oriented correlation with social competence, motivation, academic success and participation behaviours, yet in negative-oriented association with socio-emotional distress and exclusion (Wang et al., 2020). The literature confirms the importance of a positive emotional climate on student outcomes. One fact justifying this assertion is that students experience more interest, enjoyment and commitment in emotionally supportive classrooms (Marks, 2000; Rimm-Woolley, Kol & Bowen, 2009). Likewise, Klem and Connell (2004) reported that students in emotionally supportive classrooms had three times more qualified relationships with their teachers than those reporting they did not have such a classroom setting.

Additionally, in a study comparing the perceptions of students who are positively engaged in school activities and daily practices towards the school climate and those of the ones feeling distant and less engaged in school, burnout levels were reported to be high in students with low levels of commitment to school (Molinari & Grazia, 2021). In the same vein, previous studies indicating that students with high burnout levels tended to have negative feelings toward school (Tuominen-Soini & Salmela-Aro, 2014) concur with the present research findings. Reyes et al. (2012) concluded that students were less emotionally connected with their teachers in addition to a lack of mutual respect and the presence of humiliating threats involving a tendency to violence in classrooms with adverse emotional climate. School burnout has been acknowledged to be related to external factors, such as parental work-related burnout (Salmela-Aro et al., 2011), learning disabilities (Kiuru et al., 2011), or previous disorders (Salmela-Aro et al., 2009b). From this perspective, emotional support in the classroom and teacher-student solid and student-student communication will help minimize these external factors or even eliminate them over time.

Limitations

Some limitations on the findings of our research are of note. First, the study sample consisted of students enrolled in secondary schools in the province of Batman. Second, students studying in private schools were not included in the study, and only secondary school students in public schools were involved. Third, the research data were collected by administering scales. The opinions of secondary school students are limited to the items in the instruments. Finally, only gender and grade level were included in the hierarchical regression analyses as personal variables of the students.

Suggestions

Despite the limitations above, some suggestions for practitioners and researchers have been developed and listed based on research findings. *Recommendations for practitioners;* implementing a positive emotional climate in the classroom setting is not a topic that is primarily addressed in teacher training and professional development programs. Considering the cognitive, affective, and academic outcomes of a positive emotional climate, *"emotional skills"* training can be held for teachers in pre-service and in-service processes. Proactive measures can be taken against the factors leading to burnout by investigating unnoticeable homework, test, and exam anxiety at regular intervals by school guidance services. In addition, the teachers who are responsible for all educational activities in the classroom *a)* can attach more importance to their students' feelings, *b)* can be clearer and precise while communicating, *c)* can provide positive feedback, *d)* can encourage group work, *e)* can provide students with the opportunity to express themselves, *f)* can arrange in- class activities regarding the development of relations between students. Recommendations for researchers: in addition to the classroom emotional climate, other variables can also be studied as a predictor of school burnout. The relationship between the classroom emotional climate and school burnout can be examined via different modeling using intermediary variables. Since the current research was carried out only by secondary school students in Batman, further extensive investigation can be conducted by including different cities. Also, a similar study can be conducted involving primary high school and university students. In addition to the ones in public schools, the students enrolled in private schools can also be examined. Qualitative research can be performed to provide insight into the factors affecting the classroom's emotional climate and school burnout.

Compliance with Ethical Standards

Ethical Approval

All study procedures involving human participants followed institutional and/or national research committee ethical standards and the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Ethical approval was also received from the Batman University Ethics Board.

Author Contributions

The first author planned, supervised, and made substantial contributions to the main body of the literature and academic writing process. The second author has contributed to the methodology, design, and analysis of the findings. The third and fourth authors have been involved in drafting the manuscript and giving final approval of the version to be published.

Declaration of Conflicting Interests

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

Funding

References

Aloe, A. M., Amo, L. C., & Shanahan, M. E. (2014a). Classroom management self-efficacy and burnout: A multivariate meta-analysis. *Educational Psychology Review, 26*, 101-126. https://doi.org/10.1007/s10648-013-9244-0

Aloe, A. M., Shisler, S. M., Norris, B. D., Nickerson, A. B., & Rinker, T. W. (2014b). A multivariate meta-analysis of student misbehaviour and teacher burnout. *Educational Research Review*, *12*, 30-44. https://doi.org/10.1016/j.edurev.2014.05.003

Andriyani, A., Himma, A., Alizar, S., Amin, Z., & Mulawarman, M. (2017). The relationship of anxiety, school burnout and well-being in high school students. In *International Conference on Teacher Training and Education 2017 (ICTTE 2017- October)* (pp. 43-48). Atlantis Press. https://doi.org/10.2991/ictte-17.2017.5

Atkinson, R. C., & Hilgard, E. R. (2010). *Atkinson & Hilgard's introduction to psychology*. Harcourt Brace College Publishers.

Aypay, A. (2011). İlköğretim II. kademe öğrencileri için okul tükenmişliği ölçeği: Geçerlik ve güvenirlik çalışması [Elementary school student burnout scale for grades 6-8: A study of validity and reliability]. *Kuram ve Uygulamada Eğitim Bilimleri [Educational Sciences: Theory & Practice]*, *11*(2), 511-527.

Barr, J. J. (2016). Developing a positive classroom climate. *IDEA Paper*, *61*, 1-9.

Bask, M., & Salmela-Aro, K. (2013). Burned out to drop out: exploring the relationship between school burnout and school dropout. *European Journal of Psychology of Education*, *28*, 511-528. https://doi.org/10.1007/s10212-012-0126-5

Brewer, E. W., & Shapard, L. (2004). Employee burnout: A meta-analysis of the relationship between age or years of experience. *Human Resource Development Review*, *3*(2), 102-123. https://doi.org/10.1177/1534484304263335

Bronfenbrenner, U. (1994). Ecological models of human development. *International Encyclopedia of Education*, *3*(2), 37-43.

Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon & R. M. Lerner (Eds.), *Handbook of Child Psychology: Theoretical Models of Human Development* (pp. 993-1028). John Wiley & Sons Inc.

Chapman, R. L., Buckley, L., Sheehan, M., & Shochet, I. (2013). School-based programs for increasing connectedness and reducing risk behavior: A systematic review. *Educational Psychology Review*, *25*, 95-114. https://doi.org/10.1007/s10648-013-9216-4

Chen, X., Yang, Q., Yıldırım, M., Ye, B., & Wang, R. (2023). How COVID-19 prevention burnout impacts emotional symptoms among Chinese college students: a moderated mediation model. *Journal of Health Psychology*, https://doi.org/10.1177/13591053231189419

Chikendo, R. E. (2022). Teachers-Students Relationship and Academic Performance: Evidence from Senior Secondary Schools in Enugu State. *International Journal of Research in Education and Sustainable Development*, 2(2), 1-9.

Cho, S., Lee, M., & Lee, S. M. (2023). Burned-out classroom climate, intrinsic motivation, and academic engagement: Exploring unresolved issues in the job demand-resource model. *Psychological Reports, 126*(4) 1954-1976. https://doi.org/10.1177/00332941211054776

Cırcır, O. (2018). *Ergenlerde okul tükenmişlik düzeylerinin aleksitimi ve okul iklimi açısından yordanması [Prediction of teenagers' school burnout level in respect to alexithymia and school climate]* (Yayınlanmamış yüksek lisans tezi [Unpublished master's thesis]). Necmettin Erbakan Üniversitesi, Konya. https://tez.yok.gov.tr/UlusalTezMerkezi/

Çiçek, İ. (2022). Duygu [Emotion]. In *Kültürel Psikoloji [Cultural Psychology]*, (pp. 149-162). Eğiten Kitap.

Danner, D. D., Snowdon, D. A., & Friesen, W. V. (2001). Positive emotions in early life and longevity: Findings from the nun study. *Journal of Personality and Social Psychology, 80*(5), 804-813. https://doi.org/10.1037/0022-3514.80.5.804

Davidovitch, N., & Yavich, R. (2022). Classroom climate and student self-efficacy in e-learning. *Problems of Education in the 21st Century*, *80*(2), 304. https://doi.org/10.33225/pec/22.80.304

De Rivera, J., & Páez, D. (2007). Emotional climate, human security, and cultures of peace. *Journal of Social Issues*, *63*(2), 233-253.

Derakhshan, A., Solhi, M., & Azari Noughabi, M. (2023). An investigation into the association between student-perceived affective teacher variables and students' L2-grit. *Journal of Multilingual and Multicultural Development*, 1-17. https://doi.org/10.1080/01434632.2023.2212644

Dilekçi, Ü. (2021). Örgütlerde tutum, duygu ve algılama [Attitude, emotion and perception in organizations]. In (Ed. Yusuf, Ç.). *Eğitimde Örgütsel Davranış [Organizational Behavior in Education]*, (pp. 125-158). Asos Yayınevi.

Dilekçi, Ü., & Kaya, A. (2021). Öğretmen tükenmişliğinin bir yordayıcısı olarak okulun duygusal iklimi [School's emotional climate as a predictor of teacher burnout]. *MSGSÜ Sosyal Bilimler Dergisi [MSFAU Journal of Social Sciences]*, *23*(1), 325-348.

Dilekçi, Ü., & Manap, A. (2022). A bibliometric analysis of research on teacher emotions. *International Journal of Psychology and Educational Studies*, *9*(4), 1222-1235. https://dx.doi.org/10.52380/ijpes.2022.9.4.860

Edmonson, S. L. (2000a). *Job burnout among special educators: A meta-analysis* (Unpublished doctoral dissertation). Texas A &M University-Commerce.

Edmonson, S. L. (2000b). *Women and special educator burnout: A research synthesis*. Paper presented at the Research on Women and Education Annual Conference (San Antonio, TX, October 12-14, 2000).

Ereş, F. (2017). Mesleki tükenmişlik [Professional burnout]. In (Ed. Cemaloğlu, N., & Özdemir, S.) *Örgütsel Davranış ve Yönetimi [Organizational Behavior and Management]*, (pp. 527-552). Pegem Akademi Yayıncılık.

Evans, I. M., Harvey, S. T., Buckley, L., & Yan, E. (2009). Differentiating classroom climate concepts: Academic, management, and emotional environments. *Kōtuitui:New Zealand Journal of Social Sciences Online*, *4*(2), 131-146. https://doi.org/10.1080/1177083X.2009.9522449

Eysenck, M. W. (2004). *Psychology: An international perspective*. New York: Psychology Press.

Farber, B. A. (2000). Introduction: Understanding and treating burnout in a changing culture. *Journal of Clinical Psychology*, *56*(5), 589-594.

Fraser, B. J. (1998). Classroom environment instruments: Development, validity and applications. *Learning Environments Research*, *1*, 7-33.

Fraser, B. J. (Ed.). (2005). *Using learning environment assessments to improve classroom and school climates* (2. ed.). London: Falmer Press, Taylor & Francis.

Fraser, B. J., & Tobin, K. (1991). Combining qualitative and quantitative methods in classroom environment research. In B. J. Fraser & H. J. Walberg (Eds.), *Educational Environments: Evaluation, Antecedents and Consequences* (pp. 271-292). Pergamon.

Frenzel, A. C., Becker-Kurz, B., Pekrun, R., Goetz, T., & Lüdtke, O. (2018). Emotion transmission in the classroom revisited: A reciprocal effects model of teacher and student enjoyment. *Journal of Educational Psychology, 110*(5), 628-639. https://doi.org/10.1037/edu0000228

Freudenberger, H. J. (1974). Staff burnout. *Journal of Social Issues*, *30*, 159-165. https://doi.org/10.1111/j.1540-4560.1974.tb00706.x

Frijda, N. H. (2013). *The laws of emotion.* Psychology Press. https://doi.org/10.4324/9781315086071

Gerrig, R. J., & Zimbardo, P. G. (2012). *Psikolojiye giriş: Psikoloji ve yaşam [Introductory psychology: Psychology and life]* (Trans. G. Sart), Nobel Akademik Yayıncılık.

Gizir, S., & Fakiroğlu, M. (2021). Sınıf duygusal iklimi ölçeği: geçerlik ve güvenirlik çalışmaları [Classroom emotional climate scale: validity and reliability studies]. *The Journal of International Education Science*, *26*(8), 33-49.

Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress, 22*(3), 224-241. https://doi.org/10.1080/02678370802379432

Halbesleben, J. R. B. (2006). Sources of social support and burnout: A meta-analytic test of the conservation of resources model. *Journal of Applied Psychology, 91*(5), 1134-1145. https://doi.org/10.1037/0021-9010.91.5.1134

Härtel, C. E., Zerbe, W. J., & Ashkanasy, N. M. (Eds.). (2005). *Emotions in organizational behavior.* Lawrence Erlbaum Associates Publishers.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* Routledge.

Heller, S. S., Rice, J., Boothe, A., Sidell, M., Vaughn, K., Keyes, A., & Nagle, G. (2012). Social-emotional development, school readiness, teacher–child interactions, and classroom environment. *Early Education & Development*, *23*(6), 919-944. https://doi.org/10.1080/10409289.2011.626387

Ishak, W., Nikravesh, R., Lederer, S., Perry, R., Ogunyemi, D., & Bernstein, C. (2013). Burnout in medical students: a systematic review. *The Clinical Teacher*, *10*(4), 242-245. https://doi.org/10.1111/tct.12014

Jia, Y., Way, N., Ling, G., Yoshikawa, H., Chen, X., Hughes, D., & Lu, Z. (2009). The influence of student perceptions of school climate on socio-emotional and academic adjustment: A comparison of Chinese and American adolescents. *Child Development*, *80*(5), 1514-1530. https://doi.org/10.1111/j.1467-8624.2009.01348.x

Joe, H. K., Hiver, P., & Al-Hoorie, A. H. (2017). Classroom social climate, self-determined motivation, willingness to communicate, and achievement: A study of structural relationships in instructed second language settings. *Learning and Individual Differences*, *53*, 133-144. https://doi.org/10.1016/j.lindif.2016.11.005

Yildiz, V. A., & Kiliç, D. (2020). Investigation of school burnout and school attachment among secondary school students. *Educational Sciences: Theory and Practice, 20*(3), 44-55. https://doi.org/10.12738/jestp.2020.3.004

Kasen, S., Berenson, K., Cohen, P., & Johnson, J. G. (2004). The effects of school climate on changes in aggressive and other behaviors related to bullying. *Bullying in American schools: A social-ecological perspective on prevention and intervention*, 187-210.

Kim, S., Kim, H., Park, E. H., Kim, B., Lee, S. M., & Kim, B. (2021). Applying the demand–control–support model on burnout in students: A meta-analysis. *Psychology in the Schools*, *58*(11), 2130-2147. https://doi.org/10.1002/pits.22581

Kiuru, N., Leskinen, E., Nurmi, J. E., & Salmela-Aro, K. (2011). Depressive symptoms during adolescence: Do learning difficulties matter? *International Journal of Behavioral Development*, *35*(4), 298-306. https://doi.org/10.1177/0165025410396764

Kiuru, N., Poikkeus, A. M., Lerkkanen, M. K., Pakarinen, E., Siekkinen, M., Ahonen, T., & Nurmi, J. E. (2012). Teacher-perceived supportive classroom climate protects against detrimental impact of reading disability risk on peer rejection. *Learning and Instruction*, *22*(5), 331-339. https://doi.org/10.1016/j.learninstruc.2011.12.003

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, *74*(7), 262-273.

Konstantopoulos, S. (2009). Effects of teachers on minority and disadvantaged students' achievement in the early grades. *The Elementary School Journal, 110*(1), 92-113. https://doi.org/10.1086/598845

Kuperminc, G. P., Leadbeater, B. J., & Blatt, S. J. (2001). School social climate and individual differences in vulnerability to psychopathology among middle school students. *Journal of School Psychology, 39*(2), 141-159. https://doi.org/10.1016/S0022-4405(01)00059-0

Küpers, W., & Weibler, J. (2008). Emotions in organisation: An integral perspective. *International Journal of Work Organisation and Emotion, 2*(3), 256-287.

Larson, K. E., Nguyen, A. J., Solis, M. G. O., Humphreys, A., Bradshaw, C. P., & Johnson, S. L. (2020). A systematic literature review of school climate in low and middle income countries. *International Journal of Educational Research*, *102*, 101606, 1-20. https://doi.org/10.1016/j.ijer.2020.101606

Liu, W., Mei, J., Tian, L., & Huebner, E. S. (2016). Age and gender differences in the relation between school-related social support and subjective well-being in school among students. *Social Indicators Research*, *125*(3), 1065-1083. https://doi.org/10.1007/s11205-015-0873-1

Madigan, D. J., & Curran, T. (2021). Does burnout affect academic achievement? A meta-analysis of over 100,000 students. *Educational Psychology Review*, *33*, 387-405. https://doi.org/10.1007/s10648-020-09533-1

Marks, H. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American Educational Research Journal*, *37*(1), 153-184.

Molinari, L., & Grazia, V. (2021). Students' school climate perceptions: Do engagement and burnout matter? *Learning Environments Research*, *26*, 1-18. https://doi.org/10.1007/s10984-021-09384-9

Moos, R. H. (1973). Conceptualizations of human environments. *American Psychologist, 28*(8), 652-665. https://doi.org/10.1037/h0035722

Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, *96*(1), 71-94. https://doi.org/10.1037/a0021484

Özdemir, Y. (2015). Ortaokul öğrencilerinde okul tükenmişliği: Ödev, okula bağlılık ve akademik motivasyonun rolü [School burnout in secondary school students: Role of homework, school engagement and academic motivation]. *Adnan*

Menderes Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Dergisi [Adnan Menderes University Faculty of Education Journal of Education Sciences], 6(1), 27-35.

Özhan, M. B., & Yüksel, G. (2021). The effect of school burnout on academic achievement and well-being in high school students: A holistic model proposal. *International Journal of Contemporary Educational Research, 8(*1), 145-162. https://doi.org/10.33200/ijcer.824488

Patrick, H., & Ryan, A. M. (2005). Identifying adaptive classrooms: Dimensions of the classroom social environment. In *What do Children Need to Flourish?* (pp. 271-287). Springer, Boston, MA. https://doi.org/10.1007/0-387-23823-9_17

Pekrun, R. (2009). Emotions at school. In K. R. Wenzel, & A. Wigfield (Eds.), *Handbook of Motivation at School* (pp. 575-604). Routledge/Taylor & Francis Group.

Pekrun, R., Elliot, A. J., & Maier, M. A. (2009). Achievement goals and achievement emotions: Testing a model of their joint relations with academic performance. *Journal of Educational Psychology, 101*(1), 115-135. https://doi.org/10.1037/a0013383

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher*, *38*(2), 109-119. https://doi.org/10.3102/0013189X09332374

Pianta, R. C., Belsky, J., Vandergrift, N., Houts, R., & Morrison, F. J. (2008). Classroom effects on children's achievement trajectories in elementary school. *American Educational Research Journal*, *45*(2), 365-397. https://doi.org/10.3102/0002831207308230

Pilkauskaite-Valickiene, R., Zukauskiene, R., & Raiziene, S. (2011). The role of attachment to school and open classroom climate for discussion on adolescents' school-related burnout. *Procedia-Social and Behavioral Sciences*, *15*, 637-641. https://doi.org/10.1016/j.sbspro.2011.03.155

Purvanova, R. K., & Muros, J. P. (2010). Gender differences in burnout: A meta-analysis. *Journal of Vocational Behavior*, *77*(2), 168-185. https://doi.org/10.1016/j.jvb.2010.04.006

Raskauskas, J. L., Gregory, J., Harvey, S. T., Rifshana, F., & Evans, I. M. (2010). Bullying among primary school children in New Zealand: Relationships with prosocial behaviour and classroom climate. *Educational Research*, *52*(1), 1-13. https://doi.org/10.1080/00131881003588097

Reyes, M. R., Brackett, M. A., Rivers, S. E., White, M., & Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology, 104*(3), 700-712. https://doi.org/10.1037/a0027268

Rimm-Kaufman, S. E., & Chiu, Y. J. I. (2007). Promoting social and academic competence in the classroom: An intervention study examining the contribution of the Responsive Classroom approach. *Psychology in the Schools*, *44*(4), 397-413. https://doi.org/10.1002/pits.20231

Rimm-Kaufman, S. E., Fan, X., Chiu, Y. J., & You, W. (2007). The contribution of the responsive classroom approach on children's academic achievement: Results from a three-year longitudinal study. *Journal of School Psychology*, *45*(4), 401-421. https://doi.org/10.1016/j.jsp.2006.10.003

Robbins, S. P., & Judge, T. A. (2012). *Örgütsel davranış [Organizational behavior]* (Trans. Ed. İ. Erdem). Nobel Akademik Yayıncılık.

Roberts, A. G., & Lopez-Duran, N. L. (2019). Developmental influences on stress response systems: Implications for psychopathology vulnerability in adolescence. *Comprehensive Psychiatry*, *88*, 9-21. https://doi.org/10.1016/j.comppsych.2018.10.008

Roeser, R. W., & Eccles, J. S. (2003). Schooling and mental health. In A. J. Sameroff, M. Lewis & S. M. Miller (Eds.) *Handbook of Developmental Psychopathology*, (2nd ed.), (pp. 135-56). Kluwer Academic Publishers.

Romeo, R. D. (2013). The teenage brain: The stress response and the adolescent brain. *Current Directions in Psychological Science*, *22*(2), 140-145. https://doi.org/10.1177/0963721413475445

Rowe, E. W., Kim, S., Baker, J. A., Kamphaus, R. W., & Horne, A. M. (2010). Student personal perception of classroom climate: exploratory and confirmatory factor analyses. *Educational and Psychological Measurement*, *70*(5), 858-879. https://doi.org/10.1177/00131644103780

Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal, 38*(2), 437-460. https://doi.org/10.3102/00028312038002437

Şahan, B., & Baki, D. U. Y. (2017). Okul tükenmişliği: Okula bağlanma, sosyal destek ve öz yeterliliğin yordayıcı rolü [School burnout: predictive role of self-efficacy, school attachment and social support]. *Mersin Üniversitesi Eğitim Fakültesi Dergisi [Mersin University Journal of the Faculty of Education]*, *13*(3), 1249-1270. http://dx.doi.org/10.17860/mersinefd.297590

Salmela-Aro, K., Kiuru, N., Pietikäinen, M., & Jokela, J. (2008). Does school matter? The role of school context in adolescents' school-related burnout. *European Psychologist*, *13*(1), 12-23. https://doi.org/10.1027/1016-9040.13.1.12

Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. E. (2009a). School burnout inventory (SBI): Reliability and validity. *European journal of psychological assessment*, *25*(1), 48-57. https://doi.org/10.1027/1015-5759.25.1.48

Salmela-Aro, K., Savolainen, H., & Holopainen, L. (2009b). Depressive symptoms and school burnout during adolescence: Evidence from two cross-lagged longitudinal studies. *Journal of Youth and Adolescence*, *38*, 1316-1327. https://doi.org/10.1007/s10964-008-9334-3

Salmela-Aro, K., Tynkkynen, L., & Vuori, J. (2011). Parents' work burnout and adolescents' school burnout: Are they shared? *European Journal of Developmental Psychology*, *8*(2), 215-227. https://doi.org/10.1080/17405620903578060

Salmela-Aro, K., & Upadaya, K. (2012). The schoolwork engagement inventory. *European Journal of Psychological Assessment*, *28*(1), 60-67. https://doi.org/10.1027/1015-5759/a000091

Salmela-Aro, K., & Read, S. (2017). Study engagement and burnout profiles among Finnish higher education students. *Burnout Research*, *7*, 21-28. https://doi.org/10.1016/j.burn.2017.11.001

Salmela-Aro, K., Read, S., Minkkinen, J., Kinnunen, J. M., & Rimpelä, A. (2018). Immigrant status, gender, and school burnout in Finnish lower secondary school students: A longitudinal study. *International Journal of Behavioral Development, 42*(2), 225-236. https://doi.org/10.1177/0165025417690264

Salmela-Aro, K., Muotka, J., Alho, K., Hakkarainen, K., & Lonka, K. (2019). School burnout and engagement profiles among digital natives in Finland: A person-oriented approach. *In Bildung Psychology* (pp. 79-93). Routledge. https://doi.org/10.1080/17405629.2015.1107542

Salmela-Aro, K., & Upadaya, K. (2020). School engagement and school burnout profiles during high school–The role of socio-emotional skills. *European Journal of Developmental Psychology*, *17*(6), 943-964. https://doi.org/10.1080/17405629.2020.1785860

Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002a). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology*, *33*(5), 464-481. https://doi.org/10.1177/0022022102033005003

Schaufeli, W., Salanova, M., González-romá, V., & dan Bakker, A. (2002b). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*(1), 71-92.

Scherer, K. R., & Moors, A. (2019). The emotion process: Event appraisal and component differentiation. *Annual Review of Psychology, 70,* 719-745. https://doi.org/10.1146/annurev-psych-122216011854

Schutz, P. A., & Pekrun, R. (Eds.). (2007). *Emotion in education.* Elsevier Academic Press.

Shin, H., Park, Y. M., Ying, J. Y., Kim, B., Noh, H., & Lee, S. M. (2014). Relationships between coping strategies and burnout symptoms: A meta-analytic approach. *Professional Psychology: Research and Practice*, *45*(1), 44-56. https://doi.org/10.1037/a0035220

Shirom, A. (2003). Job-related burnout: A review. In J. C. Quick & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 245-264). American Psychological Association. https://doi.org/10.1037/10474-012

Shoji, K., Cieslak, R., Smoktunowicz, E., Rogala, A., Benight, C. C., & Luszczynska, A. (2016). Associations between job burnout and self-efficacy: A meta-analysis. *Anxiety, Stress, & Coping*, *29*(4), 367-386. https://doi.org/10.1080/10615806.2015.1058369

Shorosh, S., & Berkovich, I. (2022). The relationships between workgroup emotional climate and teachers' burnout and coping style. *Research Papers in Education, 37*(6), 840-859. https://doi.org/10.1080/02671522.2020.1864772

Skaalvik, E. M., & Skaalvik, S. (2018). Job demands and job resources as predictors of teacher motivation and well-being. *Social Psychology of Education*, *21*, 1251-1275. https://doi.org/10.1007/s11218-018-9464-8

Skaalvik, E. M., & Skaalvik, S. (2020). Teacher burnout: relations between dimensions of burnout, perceived school context, job satisfaction and motivation for teaching. A longitudinal study. *Teachers and Teaching*, *26*(7-8), 602-616. https://doi.org/10.1080/13540602.2021.1913404

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, *85*(4), 571-581. https://doi.org/10.1037/0022-0663.85.4.571

Slivar, B. (2001). The syndrome of burnout, self-image, and anxiety with grammar school students. *Horizons of Psychology*, *10*(2), 21-32.

Stuhlman, M., & Pianta, R. (2009). Profiles of educational quality in first grade. *The Elementary School Journal*, *109*(4), 323-342. https://doi.org/10.1086/593936

Trickett, E. J., & Moos, R. H. (1973). Social environment of junior high and high school classrooms. *Journal of Educational Psychology, 65*(1), 93-102. https://doi.org/10.1037/h0034823

Tuominen-Soini, H., & Salmela-Aro, K. (2014). Schoolwork engagement and burnout among Finnish high school students and young adults: Profiles, progressions and educational outcomes. *Developmental Psychology, 50,* 649-662. https://doi.org/10.1037/a0033898

Virtanen, T. E., Lerkkanen, M. K., Poikkeus, A. M., & Kuorelahti, M. (2018). Student engagement and school burnout in Finnish lower-secondary schools: Latent profile analysis. *Scandinavian Journal of Educational Research*, *62*(4), 519-537. https://doi.org/10.1080/00313831.2016.1258669

Walberg, H. J., & Anderson, G. J. (1968). Classroom climate and individual learning. *Journal of Educational Psychology, 59* (6, Pt.1), 414-419. https://doi.org/10.1037/h0026490

Walburg, V. (2014). Burnout among high school students: A literature review. *Children and Youth Services Review, 42,* 28-33. https://doi.org/10.1016/j.childyouth.2014.03.020

Wang, M., Chow, A., Hofkens, T., & Salmela-Aro, K. (2015). The trajectories of student emotional engagement and school burnout with academic and psychological development: Findings from Finnish adolescents. *Learning and Instruction, 36*, 57-65. https://doi.org/10.1016/j.learninstruc.2014.11.004

Wang, L., & Jiang, S. (2023). Class climate, adolescent financial and academic strain, and depressive symptoms. *Journal of Affective Disorders*, *324*, 270-278. https://doi.org/10.1016/j.jad.2022.12.081

Wang, M. T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review*, *28*, 315-352. https://doi.org/10.1007/s10648-015-9319-1

Wang, M. T., Degol, J. L., Amemiya, J., Parr, A., & Guo, J. (2020). Classroom climate and children's academic and psychological wellbeing: A systematic review and meta-analysis. *Developmental Review*, *57*, 100912, 1-21. https://doi.org/10.1016/j.dr.2020.100912

Weng, C.-H. (2004). *Meta-Analysis of teacher burnout in public schools in the United States* (Unpublished doctoral dissertation). The University of South Dakota, SD.

Woolley, M., Kol, K., & Bowen, G. (2009). The social context of school success for Latino middle school students: Direct and indirect influences of teachers, family, and friends. *The Journal of Early Adolescence*, *29*(1), 43-70. https://doi:10.1177/0272431608324478

Yorulmaz, Y. İ., & Altınkurt, Y. (2018). The examination of teacher burnout in Turkey: A meta-analysis. *Turkish Journal of Education*, *7*(1), 34-54. https://doi.org/10.19128/turje.348273

Zedan, R. (2010). New dimensions in the classroom climate. *Learning Environments Research*, *13*(1), 75-88. https://doi.org/10.1007/s10984-009-9068-5

Zhang, X., Klassen, R. M., & Wang, Y. (2013). Academic burnout and motivation of Chinese secondary students. *International Journal of Social Science and Humanity*, *3*(2), 134-138. https://doi.org/10.7763/IJSSH.2013.V3.212