The Relationships Between School Climate, School Belonging and School Burnout in Secondary School Students

Fatma Kalkan[1], Emine Dağlı[2]
[1]Ministry of National Education, 0000-0002-2425-2224
[2]Hatay Mustafa Kemal University, 0000-0001-6518-0282

To cite this article:

Kalkan, F. & Dağlı, E. (2021). The relationships between school climate school belonging and school burnout in secondary school students. *International Journal of Contemporary Educational Research, 8*(4), 59-79. https://doi.org/10.33200/ijcer.878682

The Relationships Between School Climate, School Belonging, and School Burnout in Secondary School Students

Fatma Kalkan[1*], Emine Dağlı[2]
[1]Ministry of National Education
[2]Hatay Mustafa Kemal University

Abstract

This study examined the relationships between school climate, school belonging, and school burnout in secondary students. 667 middle school students from the Dörtyol district of Hatay, selected through a stratified sample, participated in the study. School Climate Scale, School Belonging Scale, and School Burnout Scale were used to collect data. Descriptive statistics, regression analysis, path analysis, and Sobel test were used to analyse the data. The study's findings show that secondary school students' perceptions of school climate and belonging are high, and their school burnout levels are medium. Additionally, the research findings show significant relationships between school climate, school belonging, and school burnout. School climate and school belonging are significant predictors of school burnout. School belonging has a mediating effect on the relationship between school climate and school burnout. School climate, which has a significant impact on the school burnout of secondary school students, has this effect directly and indirectly through school belonging.

Keywords: School climate, School belonging, School burnout

Introduction

Burnout is characterised by emotional exhaustion, cynical attitudes, and lack of personal accomplishment (Maslach, Jackson, & Leiter, 1996). To put it more clearly, burnout is an individual's reaction to themselves, the job, and the work environment, depending on the feeling of difficulty and inability to fulfil their duties and responsibilities related to their job. Although burnout is seen as a problem experienced by employees regarding the factors in the work and work environment, it has recently emerged as a similar situation in students (Kwak, Ji, Baek, & Baek, 2020; Rajpurohit, Ankola, Hebbal, & Mehta, 2015; Sufia & Latif, 2016). This situation that students experience concerning the school is expressed specifically with the concept of school burnout (Almašiová, Kohútová, & Budniak, 2019; Kiuru, Aunola, Nurmi, Leskinen, & Salmela-Aro, 2008; Onuaoha, 2015; Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009; Tomaszek & Muchacka-Cymerma, 2019). Since students spend most of their daily lives at school, the school environment and the quality of the environment are important (Bakır-Ayğar & Kaya, 2017). Because, just like the effect of the working conditions on employee burnout (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000), it has been revealed by research that school climate affects student burnout (Cırcır & Sargın, 2018; Durmuş, Aypay & Ayberk, 2017). The school climate seems to be linked to school characteristics that contribute to students' sense of school belonging. The research findings on this subject show that students' perceptions of school climate are positively associated with their school belonging (Bakır-Ayğar & Kaya, 2017; Huang, Xiao, & Huang, 2013). Students also need to feel belonging to the school to establish healthy relationships with their friends and teachers. It is highly probable that students who do not feel belonging to their environment, do not have positive relationships with the individuals at the school, cannot fulfil their duties and responsibilities related to the school, and cannot get the support of others in this regard, will experience burnout. Recent research findings in education also support this relationship (Aksoy, 2017; Xie & Xiao, 2018). Although the effect of school climate and school belonging on school burnout is known, it is not known whether this effect occurs directly or through school belonging, requires a study to reveal the link between school climate and school burnout. In this direction, it was aimed to reveal the mediating effect of school belonging on the relationship between school climate and school burnout by examining the relationships between school climate, school belonging, and school burnout in secondary school students. It is expected that revealing the relationships between school climate, school belonging, and school burnout will shed light on educators about

what kind of studies should be done in which dimensions of school climate to reduce students' school burnout or strengthen their sense of school belonging.

School Climate

Since some individual factors (e.g., grade level, gender, etc.) cannot or are difficult to change, educational research focuses on school-related variables. Because while the factors that educators cannot easily change are less useful in eliminating the problems, the factors that can be changed in school systems (e.g., curriculum, teacher behaviour) can serve as the basis of reform for solving problems (Byrnes, 2003). In this context, the quality of the school environment can be changed in line with the intervention of educators. In addition to the physical characteristics of the school, the quality of the school environment is also determined by the quality of the relations between the individuals in the school (which is also expressed as the school climate and the learning-teaching process). In addition to the school's physical characteristics, the school environment's quality is also determined by the school climate, which is also expressed as the qualities of the relations between the individuals in the school and the learning-teaching process. School climate includes norms, values, and expectations that support individuals to feel socially, emotionally, and physically safe (The National School Climate Council, 2007). The school's climate can be considered as the all of internal characteristics that affect the behaviour of individuals and distinguish it from other schools (Baykal, 2007). School climate is a product of social interaction between teachers and students and is influenced by educational and social values. It can be stated that the school climate is also related to the social conditions within the school and classrooms as a whole (Koth, Bradshaw, & Leaf, 2008). School climate refers to teachers' collective perceptions of the formal and informal organisational structure, their colleagues, the principal's leadership, and how things are done in the organisation (Kılınç, 2013). For this reason, the school climate has a multidimensional structure and has been studied by researchers from different aspects. School climate has been examined in four dimensions by Cohen, McCabe, Michelli, and Pickeral (2009): (a) safety dimension refers to the physical and socio-emotional security of individuals; (b) teaching and learning dimension refers to teaching quality, socio-emotional and ethical behaviour in learning, professional development, and school leadership; (c) relationships dimension refers to respect for diversity, collaboration with the school community, morale, and connectedness; (d) the environmental-structural dimension refers to the physical condition of the school and curriculum and extracurricular issues. Çalık and Kurt (2010), on the other hand, developed a measurement tool that measures school climate with a structure consisting of three dimensions: Achievement Orientation, supportive teacher behaviours, safe learning environment, and positive peer interaction. Çalık and Kurt (2010) stated that in most of the previous scales, the school climate was determined by taking the opinions of teachers or school administrators, and there was a need for a scale to measure students' perceptions.

The school climate can have positive or negative characteristics, "Positive school climate is associated with well-managed classrooms and common areas, high and clearly stated expectations concerning individual responsibility, feeling safe at school, and teachers and staff that consistently acknowledge all students and fairly address their behaviour" (Osher, Spier, Kendziora, & Cai, 2009, p.1). While a supportive, guiding, and friendly school climate increases teachers' academic optimism (Kılınç, 2013), it is also closely related to student achievement (Uline & Tschannen-Moran, 2008). A positive school climate is necessary for the realisation of effective teaching activities, and it enables students to increase their academic achievement in an environment where they feel valuable (Dulay & Karadağ, 2017). Schools with a positive school climate have fewer behavioural problems, and an increase in academic achievement and school commitment is seen (Garcia, 2020). In a negative school climate, burnout and stress levels increase in all individuals within the system (Grayson & Alvarez, 2008). Previous research shows that as students' perceptions of school climate increase (as positive climate perception increases), students adopt human values more (Akgül, 2013), students' academic achievement in school (Konold, Cornell, Jia, & Malone, 2018; Maxwell, Reynolds, Lee, Subasic & Bromhead, 2017; Yıldırım, 2017), their engagement/attachment to school (Bilgin & Taş, 2018; Konold et al., 2018; Özgenel, Çalışkan- Yılmaz & Baydar, 2018) and belonging (Bakır- Ayğar, & Kaya, 2017) are higher. Whereas, as students' perceptions of school climate decrease (as negative climate perception increases), there are more bullying victimisation (Aldridge, McChesney, & Afari, 2018), students become more alienated from school (Sular, 2017), and level of school burnout are higher (Cırcır & Sargın, 2018).

School Belonging

School belonging is used to express students' feelings about how much they are personally accepted, respected, and supported by others in the social environment of the school (Goodenow, 1993; Goodenow & Grady,1993). "School belonging means students like their schools, like to be together with their teachers and classmates, and are proud to be members of the school" (Huang et al., 2013, p.26). Belonging is represented by the student's feelings that they are members of the school community, are accepted by other community members, are respected

in the community, and see themselves as a part of the school (Voelkl, 1996). In the literature, it is seen that researchers explain school belonging with different concepts. Willms (2003) explains school belonging with the concept of student engagement. School belonging is the psychological component of student engagement and is related to students' feelings of being accepted and valued by their peers and others in their school. Voelkl (1996) explains school belonging as the student sees themself as a part of the school and identify themself with the school. Students who do not identify with the school lack value and belonging to the school. Valuing school is the student's assessment of the importance of the school in general for the achievement and future of the education provided at school. Gray and Hackling (2009) explain school belonging with social connectedness. Students' sense of social connectedness to the learning environment or community of the school consists of the dimensions of support for studies and school belonging. Support for studies refers to students' support from their families, friends, and coordinators to remain at school and complete their schooling. On the other hand, school belonging refers to the participation of students in the school learning community and their enjoyment in participating in the community.

School belonging is important in many aspects of the educational environment. Findings obtained from studies on school belonging show that the sense of belonging is positively related to the student's motivation (Kiefer, Alley, & Ellerbrock, 2015; Walker & Greene, 2009) and academic achievement (Alvarez, 2003; Korpershoek, Canrinus, Fokkens-Bruinsma & de Boer, 2019; Moallem, 2013). In contrast, it is negatively related to depression (Parr, Shochet, Cockshaw, & Kelly, 2020), school absenteeism, and dropout (Korpershoek et al., 2019; O'Connor, 2017). There is also evidence that the student's sense of individual acceptance concerning school belonging also affects the quality of their relationships with others (Osterman, 2000). Students with a higher sense of belonging have better relationships with their teachers and peers, value education more, participates in activities more frequently, have higher self-esteem, and have a higher school attendance rate (Cemalciler, 2020). A student with high school belonging may want to perform well in all areas of the school. A sense of belonging can enhance academic performance and act as a buffer against burnout (Fearon, Barnard-Brak, Robinson & Harris, 2011).

In the literature, it is seen that many measurement tools have been developed under different names such as school belongingness, school engagement, psychological sense of school membership, social connectedness, and identification with the school to measure students' sense of school belonging (Arslan & Duru, 2017; Goodenow, 1993; Gray & Hackling 2009; Gunuc & Kuzu, 2015; Voelkl, 1996). In the present study, the "Psychological Sense of School Membership Scale", developed by Goodenow (1993) and used in many studies (Alkan, 2016; Alvarez, 2003; Farrell, 2008; Pittman & Richmond, 2007; Wagle et al., 2018), was used to measure students' sense of school belonging. The scale is used to determine the acceptance, respect, and support of students at school as a social environment. The scale items intend to reveal students' views on their relationships with their friends and teachers. Scale structures can differ culturally. For example, the Turkish adaptation of the scale by Sarı (2015) displays a two-dimensional structure different from the original scale. Positive items in the scale reflect the sense of school belonging, and the negative items reflect the feeling of rejection.

School Burnout

Since school life is seen as a business activity, it is thought that students can also experience burnout syndrome, and many studies have been conducted on this matter (Aypay & Eryılmaz, 2011a, b; Bibi, Wang, Ghaffari, Khalid, & Iqbal, 2019; Parker & Salmena-Aro, 2011; Salmela-Aro et al., 2009; Salmela-Aro, Kiuru, Pietikäinen, & Jokela, 2008). In these studies, the state of burnout experienced by the student was expressed as "school burnout" and defined by the researchers in various ways. School burnout is expressed as the emotional, cognitive, and physical wear or tiredness of the student due to the excessive demands of the school (Aypay & Eryılmaz 2011a). More broadly, school burnout is that the student feels exhausted due to the demands of the school, develops negative attitudes towards the school, has a cynical and detached attitude towards work, and feels inadequate as a student (Aypay & Eryılmaz, 2011a; Salmela-Aro et al., 2009; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). As can be seen from the definitions, school burnout has a similar structure to that theoretically put by Maslach et al. (1996). It consists of three dimensions: emotional exhaustion, cynicism, and reduced efficacy (Schaufeli et al., 2002).

Although there are many factors in the formation of school burnout, they can be classified as individual and environmental factors. Individual traits are characteristics that, in some cases, underpin burnout, increase or decrease the effect of burnout on the individual (Şener, 2018). Students' gender (Adhiambo, Odwar & Mildred, 2016; Çapulcuoğlu & Gündüz, 2013a; Ogbueghu et al., 2019; Onuoha, 2015), grade level (Demirel, 2018), exam anxiety (Andriyani, Himma, Alizar, Amin, & Mulawarman, 2017; Çapulcuoğlu & Gündüz, 2013b), self-efficacy perception (Charkhabi, Abarghuei & Hayati, 2013), coping with stress (Çapulcuoğlu & Gündüz, 2013b), and academic self-efficacy (Çapulcuoğlu & Gündüz, 2013b) are examples of individual characteristics. School,

family, and social support are the leading environmental factors that affect school burnout (Dündar, 2018; Jacobs & Dodd, 2003; Sarcheshmeh, Asgari, Chehrzad, & Leili, 2019; Yang, 2004). Students are obliged to fulfil many school-related duties and responsibilities. While social support provided to the student in overcoming these duties and responsibilities reduces school burnout, excessive pressure on this issue by the family and parent attitude that is not satisfied with the efforts of their children can improve school burnout (Durmuş et al., 2017; Kim, Jee, Lee, An, & Lee, 2017; Okkassov, 2018). School burnout is expressed in negative situations such as the student's chronic fatigue and stress due to excessive school work, feeling inadequate, and decreasing interest in many things related to school (Aypay, 2011). There is a negative relationship between school burnout and students' subjective well-being (Aypay & Eryılmaz, 2011b; Andriyani et al., 2017), engagement (Schaufeli et al., 2002), self-efficacy perception (Rahmati, 2015), academic motivation (Seçer, 2015a), and academic achievement (Yang, 2004). However, there is a positive relationship between school burnout and students' academic procrastination (Balkıs, 2013) and psychological disorders (Seçer, 2015b). In summary, school burnout is associated with psychological, behavioural, and academic problems.

In the literature, it is seen that burnout scales (Bresó, Salanova, & Schaufeli, 2007; Salmela-Aro et al., 2009; Schaufeli et al., 2002) developed to determine and measure the conceptual structure (emotional exhaustion, depersonalisation, low-personal accomplishment) of the burnout phenomenon concerning students school life are structured similar to the Maslach Burnout Inventory, which measures the theoretical structure proposed by Maslach and Jackson (1981). However, based on the idea that student burnout will differ according to education levels, Aypay (2011, 2012) developed different burnout scales for elementary and secondary school students. The present study used the "Elementary Students School Burnout Scale for Grades 6-8 (ESSBS)". The scale directly aims to reveal the burnout status of elementary school students and has a different structure compared to other scale types. Aypay (2011) conceptualises the burnout of elementary school students within the framework of school burnout and measures it with a structure consisting of four interrelated dimensions: burnout from school activities, burnout from family, loss of interest in school, and inadequacy in school.

The Relationships Between School Climate, School Belonging, and School Burnout

It can be said that students' negative feelings at school are a reflection of school burnout. School burnout is more likely to occur in an environment where there are no supportive teacher and peer relationships. Because school burnout occurs in schools without social support (Kim et al., 2017), in other words, a student's feeling of loneliness at school and lack of adequate support may cause school burnout. According to Cırcır and Sargın (2018), the strong relations between teachers and students, the school administrator's creation of a positive atmosphere, and the student's feeling safe at school reduce school burnout. According to Way, Reddy, and Rhodes (2007), students' emotional problems, especially depression symptoms, are closely related to their perceptions of school culture. As students' perceptions of teacher and peer support, autonomy, self-esteem, openness, and consistency in school rules decrease, the psychological and behavioural adjustment also decrease, and depressive symptoms and problem behaviours increase. According to Salmela-Aro and Upadyaya (2014), students' positive feedback from school increases their self-efficacy perceptions and school engagement. Meylan, Meylan, Rodriguez, Bonvin, & Tardif (2020) found that the negative emotions and burnout of high school students who were motivated by their teachers and supported in the face of academic or personal difficulties decreased.

Schools with supportive relationships, common goals, norms, and high participation increase the likelihood of student bonding to school (Payne, 2008). However, a safe school environment is one factor that will increase students' commitment to school and education (Bakır-Ayğar & Kaya, 2017). "In school settings, when students feel that their peers or classmates like and value them, they will have a higher sense of school belonging" (Huang et al., 2013, p.27). The fact that these school environment characteristics are seen in a positive school climate indicates that the school climate may affect the variables related to school belonging. There are positive relationships between school climate and school belonging (Bakır-Ayğar & Kaya, 2017; Huang et al., 2013), identification with school (Adomnik, 2012; Maxwell et al., 2017), student engagement (Konold et al., 2018), and student attachment (Özgenel et al., 2018). Özgenel et al. (2018) revealed that school climate is a predictor of student attachment. A study by Konold et al. (2018) revealed that a positive school climate leads to an increase in student engagement and academic performance. The study also found that school engagement had a mediating effect on the relationship between the characteristics of the school climate and academic achievement. Similarly, Maxwell et al. (2017) found that school identification had a mediating effect on the relationship between school climate and academic achievement. In summary, it can be said that school climate affects school belonging or other school-related variables through school belonging.

Establishing a relationship, bonding with other individuals, and wanting to continue this are basic needs that make people feel like they belong to their environment (Bowlby, 1980; cited in Şahan & Duy, 2017). Maslow (1962; as

cited in Jethwani-Keyser, 2008, p.19) asserted that belonging, love, and friendship are basic human needs that come soon after basic sustenance like food, water, and shelter. In this context, it can be said that school belonging meets one of the students' most basic needs. Although attachments to parents and positive relationships with friends are important in individuals' adjustment, those who do not have a sense of connection to a larger group or community will likely experience increased stress and emotional distress (Baumeister & Leary, 1995; cited in Pittman & Richmond, 2007). Burnout is associated with stress (Koçak & Seçer, 2017). Lack of close ties in students' school life, the stress they have in their private or school life, and their inability to cope with this stress can turn into burnout. Recent research results on the relationship between belonging and burnout in education also confirm this (Aksoy, 2017; Xie & Xiao, 2018). In the study conducted by Xie and Xiao (2018), a negative relationship was found between the school belonging and learning burnout levels of university students. Similarly, in a study conducted by Aksoy (2017), it was determined that high school students with high achievement scores had the lowest level of school burnout if their school belonging was high. Based on the results of these studies, it can be said that as the school belonging perceptions of the students increase, their school burnout levels decrease.

Rationale and Aim of the Study

Studies in the literature show that school climate and school belonging are environmental factors that affect school burnout and are closely related. The similar effects of school climate and school belonging on school burnout and the fact that these two variables are also related to each other raise the question of how these two variables together can affect school burnout. There is no study examining three variables together and revealing the relationship between three variables in the literature. The present study claims to reveal the possible predictors of school burnout in the context of school climate and school belonging variables. It is expected that revealing the variables affecting school burnout and the relationships between these variables will provide a significant contribution to the literature considering the behavioural, psychological, and academic effects of school burnout on the private and school life of the student. It can inform education administrators about what kind of school environment should be to reveal the relationships between school climate, school belonging, and school burnout, reduce students' school burnout, strengthen their sense of school belonging, and create a positive school climate. Depending on the study results, the findings to be obtained about the dimensions and level of burnout of the students may be useful in determining the source of burnout. Determining the source of burnout will enable more accurate studies to be carried out on this subject. The study results could benefit education administrators and policymakers in planning and conducting psychological counselling and guidance services to prevent school burnout. Therefore, this study aimed to reveal the mediating effect of school belonging on the relationship between school climate and school burnout by examining the relationships between school climate, school belonging, and school burnout in secondary school students. In line with these purposes, the problem sentence of the study was formed as follows: How and in what direction are there relationships between school climate, school belonging, and school burnout in secondary school students? Within the framework of the general purpose of the study, firstly, the answer to the following research question was sought, and then the listed hypotheses were tested:

RQ: What are the descriptive statistics of the variables of school climate, school belonging, and school burnout, and what is the level of correlation between the variables?
H1: School climate directly affects school burnout.
H2: School belonging directly affects school burnout.
H3: School climate directly affects school belonging.
H4: School belonging has a mediating effect on the relationship between school climate and school burnout.

Method

Research Model

The correlational research model was used in this study, which was conducted to reveal the relationships between school climate, school belonging, and school burnout. "Correlational research is conducted to determine the relationships between two or more variables" (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2010, p.14). In the model of the research, there are three variables, one of which is dependent (school burnout), one of which is independent (school climate), and one of which is the mediator variable (school belonging).
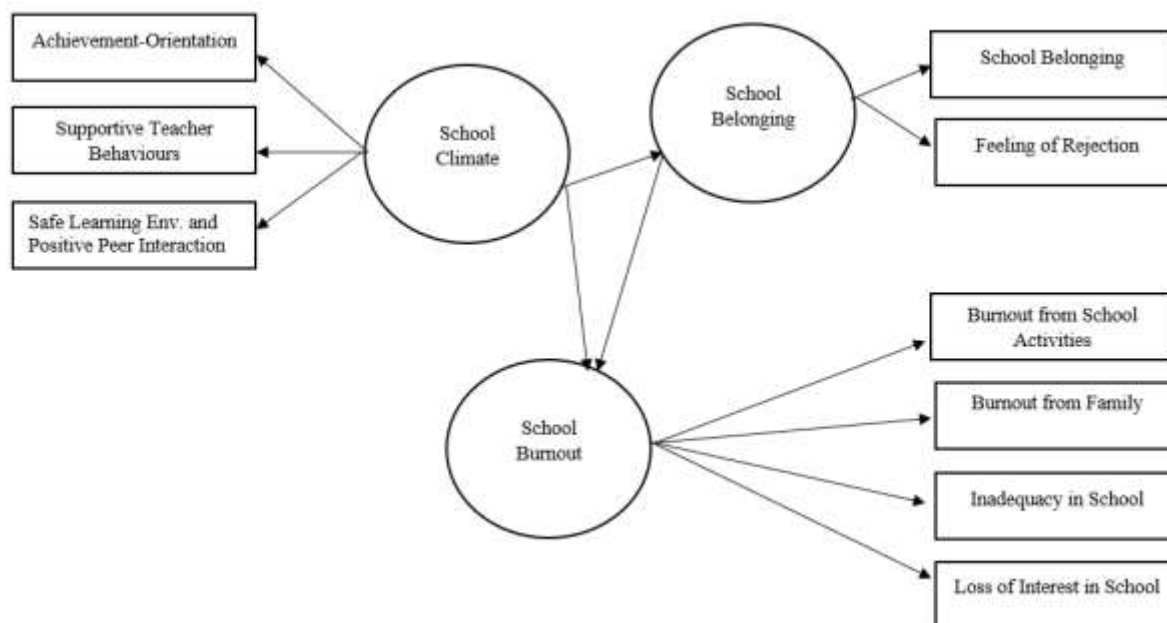The estimated model of the study is shown in Figure 1 below.

Figure 1. Estimated Model Expected in the Study

Data Collection Tools

The measurement tool, which has a structure of four parts, was used in the study. The first part of the measurement tool consists of demographic information (gender, grade level), the second part is the "School Climate Scale", the third part is the "School Belonging Scale", and the fourth part is the "School Burnout Scale". Within the scope of the research, the construct validity of the scales was determined through the confirmatory factor analysis (CFA), and their reliability was determined using the internal consistency coefficient. Information about the structure, validity, and reliability of the scales is presented below.

School Climate Scale: The "School Climate Scale" developed by Çalık and Kurt (2010) in a 5-point Likert type (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always) consists of 22 items. The scale has three sub-dimensions: achievement-orientation, supportive teacher behaviours, safe learning environment and positive peer interaction. The internal consistency coefficients (Cronbach's alpha) of the sub-dimensions of the scale were .77 for the achievement-orientation sub-dimension (4 items), .79 for the supportive teacher behaviours sub-dimension (8 items), .85 for the safe learning environment and positive peer interaction sub-dimension (10 items), and .81 for the overall scale. The total item correlations for each sub-dimension were between .33 and .67. The three-factor structure of the scale was tested by confirmatory factor analysis (CFA). As a result of CFA, fit indices were found to be $\chi^2 = 703.51$, $df = 203$, $p < .001$, $\chi^2/df = 3.47$, $RMSEA = .07$, $CFI = .94$, $GFI = .88$, and $AGFI = .85$.

CFA showed that the fit indices of the School Belonging Scale were $\chi^2 = 729.09$, $df = 206$, $p < .05$, $\chi^2/df = 3.54$, $RMSEA = .06$, $SRMR = .07$, $CFI = .93$, $NFI = .96$, $AGFI = .89$, $GFI = .91$ and $IFI = .93$. The internal consistency coefficients (Cronbach's alpha) for the sub-dimensions of achievement-orientation, supportive teacher behaviours, safe learning environment and positive peer interaction, and the overall scale of the school climate scale were calculated as .63, .79, .72, and .83, respectively.

School Belonging Scale: The "School Belonging Scale (The Psychological Sense of School Membership Scale)", developed by Goodenow (1993) in a 5-point Likert type (1 = Not at all true, 2 = Not true, 3 = Undecided, 4 = True, 5 = Completely true) and adapted to Turkish by Sarı (2015), consists of 18 items. The scale has sub-dimensions of school belonging and feeling of rejection. In the adaptation study of the scale, it was determined that it displayed a structure consisting of two dimensions, which explained 38.49% of the total variance. There are 13 positive items in the school belonging and five negative items in the feeling of rejection. Cronbach's alpha reliability coefficients of the subscales are .84 and .78, respectively. When the negative items were reversed and scored, the internal consistency coefficient of the total scale scores was found to be .84.

CFA showed that the fit indices of the School Belonging Scale were $\chi^2 = 413.02$, $df = 134$, $p < .05$, $\chi^2/df = 3.08$, $RMSEA = .05$, $SRMR = .05$, $CFI = .97$, $NFI = .95$ $AGFI = .92$, $GFI = .92$, and $IFI = .97$. The internal consistency

coefficients for the sub-dimensions of school belonging and feeling of rejection, and the overall scale was calculated as .65,.82, and .74, respectively.

School Burnout Scale: The "School Burnout Scale" developed by Aypay (2011) in a 4-point Likert type (1 = I strongly disagree, 2 = I disagree, 3 = I agree, 4 = I strongly agree) consists of 26 items. The scale has four sub-dimensions: burnout from school activities, burnout from family, inadequacy in school, and loss of interest in school. These four dimensions explain 59% of the total variance. Internal consistency coefficients of the sub-dimensions of the scale were .92 for burnout from school activities (12 items), .83 for burnout from family (5 items), .76 for inadequacy in school (4 items), and .81 for loss of interest in school (5 items). Total item factor load values for each dimension were between .41 and .81. The three-factor structure of the scale was tested through CFA. As a result of CFA, fit indices were found to be $\chi^2 = 787.6$, $df = 293$, $p < .01$, χ^2/df, = 2.06, $RMSEA = .07$, $CFI = .91$, $GFI = .94$, and $AGFI = .91$

CFA showed that the fit indices of the School Burnout Scale were $\chi^2 = 930.14$, $df = 295$, $p < .05$, $\chi^2/df = 3.15$, $RMSEA = .05$, $SRMR = .05$, $CFI = .97$, $NFI = .96$, $AGFI = .88$, $GFI = .90$, and $IFI = .97$. The internal consistency coefficients for the sub-dimensions of burnout from school activities, burnout from family, inadequacy in school, and loss of interest in school and the overall scale were calculated as 88, .74, .76, .76, and .91, respectively.

In evaluating the fit indices, the criteria given in Table 1 below were taken into consideration. According to these criteria, the construct validity of all scales used in the study is confirmed. However, when the Cronbach's alpha values obtained regarding the reliability of the scales are examined, it is seen that the sub-dimensions of achievement-orientation (.63) and school belonging (.65) have a value lower than .70. "Although it varies according to the measurement purpose, the recommended minimum value is .70 Cronbach's alpha. Cronbach's alpha value depends on the items in the scale. If the number of items in the scale is less than 10, Cronbach's alpha coefficient may be low" (Şeker & Gençdoğan, 2020, p.47). In cases where the number of questions is low, the cut-off value for the scale's reliability can be accepted as .60 and above (Durmuş, Yurtkoru, & Çinko, 2011). Since the number of items in the achievement-oriented and school belonging sub-dimensions was less than 10, the Cronbach's alpha limit value was accepted as .60, and the scales were decided to be reliable.

Table 1. Good and Acceptable Fit Indices

Good Fit Indices	Acceptable Fit Indices
$0 \leq \chi^2/df \leq 2$	$2 < \chi^2/df \leq 5$
$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$
$.97 \leq CFI \leq 1.00$	$.95 \leq CFI < .97$
$.95 \leq NFI \leq 1.00$	$.90 \leq NFI < .95$
$.95 \leq GFI \leq 1.00$	$.90 \leq GFI < .95$
$.95 \leq IFI \leq 1.00$	$.90 \leq IFI < .95$

Source: Çokluk, Şekercioğlu, & Büyüköztürk (2012); Meydan & Şeşen (2011); Schermelleh-Engel, Moosbrugger, & Hans (2003).

Population and Sample

The study population consists of 9777 students studying in 19 public secondary schools in the Dörtyol district of Hatay in the 2020-2021 academic year. The stratified sampling method was used to determine the research sample. Gender and grade levels were used as a stratum in the sample of the study. The sample calculation formula given by Büyüköztürk et al. (2010) was used to determine how many schools and students from the population will be included in the sample. It was assumed that 370 students from 19 public secondary schools would represent the Dörtyol population at a significance level of .05.

Considering the problems that may be encountered during the data collection process, it was planned to apply the measurement tool to 1000 students who were selected to represent the stratified sample. It was predicted that if approximately 50 to 60 students from each school in the research population respond to the measurement tool, data belonging to 1000 students will be obtained. In this direction, this information was given primarily to school administrators. Later, school administrators were asked to identify a class representing each grade level and inform the classroom counsellors of the determined classes about the research. The determined classroom counsellors were contacted before the application. Since the representation ratios of the strata in the population should be considered, the classroom counsellors were asked to identify an equal number of female and male students (at least 7) and contact the parents of these students. The classroom counsellors also shared the measurement tool in parent communication groups (e.g. WhatsApp, e-mail, etc.). As a result of the data collection process, the students'

feedback on 738 measurement tools was provided. However, after data analysis, 667 middle school students were included in the study. Demographic information about the participants in the population of the research is given in Table 2 below.

Table 2. Demographic Information Regarding the Population and Sample of the Study

Variable			N	%	n	%
Gender	Female		4881	49.92	330	49.48
	Male		4896	50.08	337	50.52
		Total	9777	100	667	100
Class	5th grade		2414	24.69	164	24.59
	6th grade		2193	22.43	152	22.79
	7th grade		2264	23.16	155	23.24
	8th grade		2906	29.72	196	29.39
		Total	9777	100	667	100

Source: Antakya Directorate of National Education R & D Unit

When Table 2 above is examined, it can be said that the characteristics and number of the participants in the sample are representative of the population.

Ethical Procedures

The following process was followed to obtain the necessary permissions before applying the measurement tool for data collection. First, the researchers who developed the scales in the measurement tool were reached by e-mail, and permission was obtained from the researchers to use the scales. Secondly, legal permission was obtained from the Hatay Provincial Directorate of National Education, to which the schools to be implemented are affiliated. Thirdly, in line with the Higher Education Institutions Scientific Research and Publication Ethics Directive, the ethics committee approval certificate dated 07.08.2020 and numbered 8/12 was obtained from Hatay Mustafa Kemal University Social and Human Sciences Scientific Research and Publication Ethics Committee. Finally, since the participants are under 18, permission was obtained from their legal representatives to apply the measurement tool.

Data Analysis

IBM SPSS Statistics 22 and LISREL 8.7 programs were used in the preparation and analysis of the data. Descriptive statistics (arithmetic mean and standard deviation) were used to determine the participants' perceptions of variables. Pearson's correlation coefficient was used to determine the relationships between variables, and regression, path analysis, and Sobel test were used to examine the predictive relationships.

Within the scope of the research, before the data were analysed, noisy data were checked and corrected. First, erroneous data in the data set was checked, and the data entered incorrectly were corrected. Second, missing data (forms of participants who did not fill in one or more of the research scales) were identified, and 48 forms with missing data were removed from the data set. Missing values (forms of participants who did not fill in one or more of the items of the research scales) are assigned according to mean values. Third, the control of the outlier data was performed according to the univariate outlier (Z scores) and multivariate outlier (Mahalonabis distance) analysis. The extreme values were controlled based on the +3 to -3 range of the Z scores and the .001 value cut-off at the Mahalanobis distance. As a result of the control, it was determined that the data of 23 participants were outliers. The forms of these participants were discarded from the data set. Finally, univariate normality (kurtosis and skewness coefficients) and multivariate normality (relative multivariate kurtosis coefficient) analysis of the remaining 667 data were performed. In the study, the values obtained by dividing the skewness and kurtosis coefficients by their standard errors are within the limits of -1.96 and +1.96 accepted for normal distribution (Can, 2013) and the relative multivariate kurtosis value (1.095) < 2 (Kline, 1998 as cited in Aşkar & Mazman, 2013) indicate that distribution is normal.

Correlation coefficients, tolerance values (TV), and variance increase factors (VIF) for independent variables were calculated to determine the multicollinearity problem between research variables. Binary correlations between variables greater than .90 signify the multiple connection problem (Çokluk et al., 2012). If the tolerance value is above .10 and the VIF value is less than or equal to 10, it indicates that there is a multiple linear connection problem (Pallant, 2020). As a result of the analysis, it was seen that the correlation values between the sub-dimensions of the research variables were less than .90 (See Table 4 below). The collinearity diagnostics statistics

(TV and VIF values) obtained from the multiple regression analysis are given in Table 3 below. As the tolerance values were greater than .10 and VIF values were less than 10, it was concluded that there was no multicollinearity problem between variables.

Table 3. The Collinearity Diagnostics Statistics

Dependent Variable	Independent Variable: School Climate	TV	VIF
School Climate	Achievement-Orientation	.620	1.614
School Burnout	Supportive Teacher Behaviours	.611	1.636
	Safe Learning Environment, and Positive Peer Interaction	.854	1.172
School Burnout	Independent Variable: School Belonging (Feeling of) School Belonging	.754	1.327
	Feeling of Rejection	.754	1.327

Findings

Descriptive Statistics and Correlations Among Variables

The arithmetic means and standard deviation values were calculated to determine the school climate perceptions, belonging, and burnout levels of secondary school students. Pearson's correlation coefficient analysis was conducted to determine the correlations between sub-dimensions of school climate, school belonging, and school burnout. Findings are given in Table 4 below(see page 68).

As Table 4 shows, it is observed that secondary school students responded to the items related to school climate ($\bar{x}$ = 3.45; *SD* = .59), school belonging ($\bar{x}$ = 3.65; *SD* = .67), and school burnout ($\bar{x}$ = 2.84; *SD* = .59) at the level of I agree. When these findings are analysed based on the assessment range of arithmetic means according to the Likert type (Kaplanoğlu, 2014), it can be said that secondary school students' perceptions of school climate and school belonging are at a high level. In contrast, their levels of school burnout are moderate. According to the perceptions of secondary school students, there is an achievement-oriented climate ($\bar{x}$ = 3.75) at schools, students' school belonging ($\bar{x}$ = 3.62) are higher than their feelings of rejection ($\bar{x}$ = 2.32), and they mostly experience burnout from family matters ($\bar{x}$ = 2.37). There is a moderate, positive, and significant relationship between school climate and school belonging (*r* = .59; *p* <.01). There is a moderate, negative, and significant relationship between school belonging and school burnout (*r* = -. 54; *p* <.01). Similarly, there is a moderate, negative, and significant relationship between school climate and school burnout (*r* = -.53; *p* <.01).

Direct and Indirect Effects between Variables

Simple regression analysis was conducted to determine the effects of the study's independent variables on the dependent variables, in other words, to determine whether the independent variables are a significant predictor of the dependent variables. On the other hand, it was examined by path analysis and Sobel test whether school belonging had a mediating effect on the relationship between school climate and school burnout. Findings are given in Table 5 below.

Table 5. Regression Analysis, Path Analysis, and Sobel Test Results

Effects	Independent Variable	Structural Path	Dependent Variables	β	*t*	*p*
Direct	School Climate	⟶	School Burnout	-.67	-19.76	.000
	School Climate	⟶	School Belonging	.88	25.04	.000
	School Belonging	⟶	School Burnout	-.33	-18.34	.000
Indirect	School Climate	⟶	School Burnout	-.41	-3.56	.000

In a relationship where School Belonging is the mediator	Total Effect	Direct Effect	Indirect Effect	Bootstrap Confidence Interval		Mediating Effect
School Climate ➤School Burnout	-.5293	-.3246	-.2047	-.2606 and - .1381		Partial

VAF = % 36.64

Table 4. Descriptive Statistics and the Correlation Coefficients ($n = 667$)

	Variable	$\bar{x}$	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	AO	3.75	.76												
2	STB	3.31	.80	.60**											
3	SLEPPI	3.35	.71	.33**	.35**										
4	SB	3.62	.69	.48**	.60**	.46**									
5	FR	2.32	.87	-.24**	-.25**	-47**	-50**								
6	BSA	2.24	.69	-.38**	-.40**	-.32**	-41**	.32**							
7	BFF	2.37	.79	-.22**	-.28**	-.33**	-34**	.30**	.49**						
8	IIS	2.35	.82	-.24**	-.30**	-.32**	-38**	.34**	.51**	.50**					
9	LIS	2.18	.75	-.37**	-.38**	-.41**	-46**	.40**	.61**	.38**	.45**				
10	OSC	3.45	.59	.83**	.84**	.69**	.65**	-.40**	-.47**	-.35**	-.36**	-.49**			
11	OSB	3.65	.67	.40**	.46**	.54**	.83**	-.89**	-.42**	-.36**	-.42**	-.49**	.59**		
12	OSBO	2.84	.59	-.38**	-.43**	-.44**	-.50**	.43**	.82**	.76**	.79**	.77**	-.53**	-.54**	

*p < .05; **p < .001

Note. AO: Achievement-Orientation, STB: Supportive Teacher Behaviours, SLEPPI: Safe Learning Environment, and Positive Peer Interaction, SB: (Feeling of) School Belonging, FR: Feeling of Rejection, BSA: Burnout from School Activities, BFF: Burnout from Family, IIS: Inadequacy in School, LIS: Loss of Interest in School, OSC: Overall School Climate, OSB: Overall School Belonging, OSBO: Overall School Burnout

According to the regression analysis results in Table 5, school climate is a significant predictor of school burnout (t = -19.76; p < .001) and school belonging (t = 25.04; p < .001). School belonging is also a significant predictor of school burnout (t = -18.34; p < .001). Based on the regression analysis results in Table 5, it can be said that the H1, H2, and H3 hypotheses of the study were confirmed.

According to the direct effect model in Table 5, while the standardised regression coefficient value between school climate and school burnout is β = -.67, this coefficient value is β = .-41 in the indirect effect model in which the mediating effect of school belonging is tested. The regression coefficient between the two variables in the direct effect model is lower when the mediating variable is included in the model is interpreted as the relationship between the dependent and independent variables occurs when the variable is partially mediated (Holmbeck, 1997; as cited in Arastaman & Özdemir, 2019).

According to the results of the Sobel test in Table 5, the Bootstrap confidence interval does not contain a zero value. Secondary school students' perceptions of school climate have an indirect (-.2047) and a direct effect (-.3246) on their perceptions of school burnout. The fact that the VAF value is between 20% and 80% indicates partial mediation (Hair, Hult, Ringle, & Sarstedt, 2017, as cited in Ramayah Cheah, Chuah, Ting, & Memon, 2018). In other words, school belonging acts as a partial mediator variable in the relationship between school climate and school burnout. Based on the path analysis and the Sobel test results in Table 5, it can be said that the H4 hypothesis of the research is confirmed.
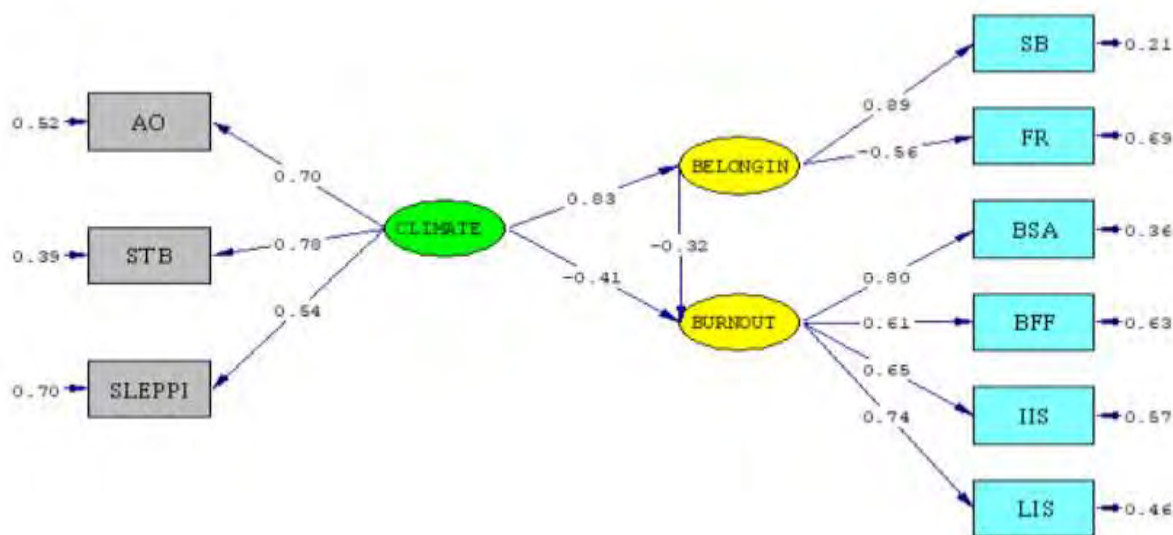

Figure 2. Path Analysis Results

As shown in Figure 2, the effect of school climate on school burnout occurs both directly and indirectly through school belonging. The goodness of fit values calculated for the indirect effect model are as follows: $\chi2$ = 224.67, df = 24, $\chi2/df$ = 9.36, p < .05, *SRMR* = .07, *GFI* = .92, *IFI* = .95, *CFI* = .95, *NFI* = .94. It is seen from the fit indices that only the $\chi2$ / df ratio exceeds the critical value. "In confirmatory factor analysis, the sample size is sensitive to 200" (Şekercioğlu, 2009, p.172). Floyd and Widaman (1995, as cited in Çokluk et al., 2012) state that it would be more useful to analyse the sample by dividing it into subsections rather than testing the model in large samples, and at the same time, it is important to repeat the analysis and obtain additional evidence. Accordingly, the model was retested on 383 randomly selected data, representing the population at .05 significance level, and the fit indexes of the model were obtained as follows: $\chi2$ = 88.65, df = 24, $\chi2/df$ = 3.69, p < .05, *SRMR* = .05, *GFI* = .95, *IFI* = .97, *CFI* = .97, *NFI* =. 96. When these indices are evaluated according to the criteria of fit indices and cut-off points for acceptance (see Table 1), it is seen that the model shows an acceptable fit.

Discussion, Conclusion, and Suggestions

In the study, descriptive statistics of the variables of school belonging and school burnout and the level of correlation between the variables were examined first. The descriptive statistics show that the perceptions of the participants regarding the school climate are high. Findings of the study regarding school climate show similarities with the findings of Akkanat (2019), Booren, Handy, and Power (2011), Özgenel et al. (2018), Terzi and Uyangör (2017), and Yavrutürk (2019), while they differ with the findings of Adomnik (2012), Akgül (2013), Gündoğan and Koçak (2017), Şenel and Buluç (2016), and Uzun (2018). In the studies conducted by Akgül (2013),

Gündoğan and Koçak (2017), Şenel and Buluç (2016), and Uzun (2018), students' perceptions of school climate were found to be at a moderate level. This difference in the findings may have resulted from the size of the schools included in the research sample. The results of studies on school climate reveal that students' perception of school climate differs according to school size (Bahçetepe, 2013; Cotton, 1996). Relationships between individuals in small schools are more positive (Bates, 1993; Cotton, 1996; Fowler & Walberg, 1991; Gregory & Smith, 1983). As a result of a study conducted by Bahçetepe (2013), it was revealed that the perceptions of students in large schools regarding supportive teacher behaviours, safe learning environment, and positive peer interaction dimensions of the school climate are lower than the perceptions of students in both small and medium-sized schools. Considering that this study was carried out in public secondary schools in a district, it can be said that it has participants who study in relatively smaller schools compared to studies conducted in provincial centres. For this reason, students' perception of school climate may have been high in the study. In addition, the high level of school climate observed in the study shows that the school has a supportive environment, students feel valued, develop positive relationships, and focus on academic achievement.

In the study, it was found that the perceptions of the participants about school belonging were high. The findings of the study regarding school belonging are similar to those of Altınsoy and Karakaya-Özer, (2018), Gencer (2019), Jethwani-Keyser (2008), Lee (2011), O'Farrell (2004), Özkök and Sarı (2016), and Özkan (2015), while they differ with the findings of Arıkan (2019), Goodenow and Grady (1993), Kılıçoğlu (2014), and Yıldız (2019). In the studies conducted by Arıkan (2019), Goodenow and Grady (1993), Kılıçoğlu (2014), and Yıldız (2019), it was found that students' perceptions of school belonging were moderate. The difference in the findings may have resulted from the structure of the schools included in the research sample. In this study, the school belonging level of secondary school students was determined. This difference in the findings may be the positive attitudes of students studying at schools in the sample group in the study and their trust in their friends and teachers. According to the research results (Birch & Ladd, 1997; Demanet & Van Houtte, 2012; Roeser, Midgley, & Urdan, 1996), the relationship between teacher and student affects students' sense of belonging to the school. According to Birch and Ladd (1997), teachers' closeness with students affects students' academic performance and attitudes towards school. According to Demanet and Van Houtte (2012), students' high sense of belonging ensures lower negative behaviours. In addition, it is seen as an indicator of students' belonging to the school, peer relations, and respect among students (Faircloth & Hamm, 2005; Osterman, 2000). Thus, the high level of school belonging of the students in the study may indicate that the students have a high level of trust in teachers and that students establish positive relationships with each other.

In the study, it was revealed that participants' perceptions of school burnout were moderate. The findings of the study regarding school burnout are similar to the findings of Acar and Çakır (2015), Bikar, Marziyeh, and Pourghaz (2018), while they differ from the findings of Demirel (2018) and Polat (2018). In the studies conducted by Demirel (2018) and Polat (2018), students' perceptions of school burnout were found below. These studies, like the present study, were carried out on samples of secondary school students. In this context, it is useful to look at different variables from the school type to determine the reason for the difference between the research findings. The results of studies on school burnout show that the level of student burnout is also associated with exam anxiety (Demir, 2015; Dündar, 2018), stress (Akpınar, 2016; Çam, Deniz, & Kurnaz, 2014), perfectionism (Aboalshamat et al., 2017; Çam et al., 2014), subjective well-being (Akpınar, 2016; Aypay & Eryılmaz, 2011b), self-esteem (Gündüz, 2016; Kapkıran, Yaşar, & Kapkıran, 2016), humour styles (Şener, 2018), psychological resilience (Güneş, 2016), psychological disorder (Seçer, 2015b), self-regulation (Kapkıran et al., 2016), and problem-solving skills (Güneş, 2016). Besides, student burnout is also associated with parental attitude (Dündar, 2018; Gündüz, 2016) and social support perception (Çam et al., 2014; Okkassov, 2018). In this context, the difference in the findings may be due to the student's personal characteristics, parental attitude, or social support perception. The difference in the findings may also be due to the different characteristics of the participants. The results of studies on school burnout reveal that students' perceptions differ according to gender, school type, and grade level (Çapulcuoğlu & Gündüz, 2013a; Seçer & Gençdoğan, 2012; Sunay, 2018). Considering that students have different individual characteristics and study at different school types or grade levels, this difference in research results can be considered natural. Considering that each student has different individual characteristics, socio-economic structure, family income, etc., this difference in research results can be accepted as natural. High school burnout affects students' achievements and academic goals (Madigan & Curran 2020; Salmela-Aro, Savolainen, & Holopainen, 2009). Students' effectiveness and social participation in academic activities at school help reduce school burnout and increase school engagement (Salmela-Aro & Upadyaya, 2020). Çam et al. (2014), the appreciation of students' achievements, giving feedback, and being supported by their teachers prevent them from experiencing burnout. Therefore, in this study, it can be stated that students' commitment to school and academic achievement, their efforts to reach academic goals, being appreciated and supported by their teachers are not sufficient.

Secondly, the study examined the relationships between school climate, school belonging, and school burnout according to secondary school students' opinions. The research findings show that there is a positive, moderate and significant relationship between school climate and school belonging. And there is a negative, moderate, and significant relationship between school belonging and school burnout; and a negative, moderate, and significant relationship between school climate and school burnout. The finding regarding the significant relationship between school climate and school burnout is similar to the results of studies of Cırcır and Sargın (2018) and Durmuş et al. (2017). "The quality of students' relationships with teachers and peers is a fundamental sub-strate for the development of academic engagement and achievement" (Furrer, Skinner, & Pitzer, 2014, p.101). In a study by Williams (1987), it was found that students who dropped out of school lacked a peer support network; on the other hand, it was revealed that graduating students had both peer affiliation and were supported by the social acceptance system. Accordingly, it can be said that the social support provided to the student and the positive relationships between individuals bring academic achievement together. It is known that academic achievement is negatively related to school burnout (Atik, Özer, & Karadağ, 2018; Balkıs, Duru, Buluş & Duru, 2011; May, Bauer & Fincham, 2015). According to Salmela-Aro, Kiuru, Pietikäinen, and Jokela (2008), supportive behaviours towards students at school lead to a decrease in negative school climate and school burnout. Therefore, it can be stated that the support provided by the school and the teachers will reduce the burnout syndrome of the students. Burnout syndrome may not be experienced in a positive learning environment where students focus on academic success, are supported by their teachers, and interact with their peers based on mutual respect.

The findings regarding a significant relationship between school climate and belonging show similarities with the results of studies of Adomnik (2012), Bakır-Ayğar and Kaya (2017), and Huang et al. (2013). School belonging also includes respect for school, the safety of students, teacher support, and positive peer relationships that are the qualities that a positive school climate should have. Negative attitudes towards these elements, a negative school climate harms the student's sense of school belonging. School climate and school belonging can mutually affect each other (Huang et al., 2013). As students' sense of belonging to the school increases, their positive interaction with peers and their trust in school also increases (Özdemir, Sezgin, Şirin, Karip, & Erkan, 2010). According to Cemalcilar (2010), students with a high sense of belonging to the school have intrinsic motivation rather than extrinsic motivation, exhibit more successful, more autonomous, and social behaviours in the classroom, and feel less lonely and anxiety. The fact that students develop positive feelings towards the school climate as a result of their relationships with their teachers and the school's administrative staff plays an important role in their belonging to the school (Kılıçoğlu, 2014). According to Ma (2003), a school climate that makes students feel properly cared for, safe, and treated fairly helps develop a positive sense of belonging. Therefore, in a positive school climate where students feel safe, valued by teachers and administrators, and interact positively with their peers, students are more likely to be connected to the school.

The findings regarding the significant relationship between school belonging and school burnout show similarities with the results of Aksoy (2017) and Xie and Xiao (2018). On the other hand, in the study conducted by Doğan (2016), a positive and significant relationship was found between theology students' belonging and burnout levels. The difference between the research results may be due to the characteristics of the sample. The limited number of studies examining the relationship between school belonging and school burnout in the literature (Aksoy, 2017; Doğan, 2016; Xie & Xiao, 2018) makes it difficult to determine the reason for this difference. It is seen that lack of school belonging is associated with other negative outcomes besides burnout. Students' lack of sense of belonging to school causes some negative consequences such as low academic achievement (Arslan, 2016; Ma, 2003), depression (Booker, 2006), feeling of loneliness (Osterman, 2000), dropping out of school (Kılıçoğlu, 2014), and low self-esteem (Ma, 2003). In addition, students' low perception of school belonging can lead to negative social events such as school violence (Ma, 2003). According to Virtanen, Lerkkanen, Poikkeus, and Kuorelahti (2016), as students' engagement in school increases, their level of burnout decreases. It is necessary to provide an environment that attracts their attention to increase students' attachment to the school; thus, burnout can be reduced (Altuntaş & Sezer, 2017). Therefore, students' social and emotional support at school and their commitment to the school, having a good academic performance, and motivation for achievement can make them more resistant to difficulties and cause a decrease in the sense of burnout.

Thirdly, the study examined whether the independent variables affected the dependent variables, in other words, whether the independent variables were a significant predictor of the dependent variables. Research findings reveal that independent variables are significant predictors of dependent variables. In other words, the school climate is a significant predictor of both school belonging and school burnout; school belonging is also a significant predictor of school burnout. The finding that school climate is a predictor of school burnout is similar to the results of studies of Cırcır and Sargın (2018) and Durmuş et al. (2017). The finding that school climate is a predictor of school belonging is similar to the results of studies of Bakır-Ayğar and Kaya (2017), Günalan (2018),

and Huang et al. (2013). According to Günalan (2018), the dimensions of the school climate, which are expressed as supportive teacher behaviours and safe learning environments, significantly predict the sense of school belonging. According to Bakır-Ayğar and Kaya (2017), the sense of school belonging predicts dimensions of school climate expressed as supportive teacher behaviours, achievement-orientation, safe learning environment and positive peer interaction. In the studies revealing the relationship between school belonging and school burnout (Aksoy, 2017; Doğan, 2016; Xie & Xiao, 2018), the findings could not be compared because there was no or limited finding related to the predictive relationship. On the other hand, confirming the hypotheses of the predictive relationships between dependent and independent variables is consistent with the findings in the literature.

Finally, the study examined whether school belonging had a mediating effect on the relationship between school climate and school burnout. The study's findings show that school belonging partially mediates the relationship between school climate and school burnout. In other words, students' perceptions of school climate have an indirect and direct effect on school burnout levels, and school climate exerts its indirect effect through partial mediation of school belonging. In this context, it can be stated that in an achievement-oriented school environment where teachers behave in a supportive manner, where there are safe learning and positive peer interaction, students will feel like they belong to the school. As a result, their burnout will decrease. In the study conducted by Bakır-Ayğar and Kaya (2017), it was determined that the school climate has a mediating role in the relationship between the sense of school belonging and school-based loneliness. Considering that the lack of a study in the literature revealing the mediation effect between these variables is one of the reasons for conducting the study, this study's findings could not be compared with the previous study findings.

This study has some limitations in some respects. In the study, gender and grade level were considered as strata. However, the lack of information about gender distribution by grade level in the research population did not make it possible to provide this distribution in the sampling. The lack of results or limited findings on predictive relationships in studies that revealed the relationship between school belonging and school burnout caused the research results not to be compared. Similarly, the absence of a study demonstrating the mediation effect between variables caused the research results not to be compared. During the epidemic period, the collection of research data may have affected students' perceptions of school climate, school belonging, and school burnout. 5th-grade students who received more online education during the epidemic may have limited their perception of school climate and school belonging. Conducting online education with a different structure and functioning than normal education may have impacted the burnout experienced by students. Not knowing the effect of these factors on research results can be considered a limitation. Despite these limitations, the results of the research make important contributions to the literature. This study determined that the relationship between school climate and school burnout is directly and indirectly through school belonging. This result gives important clues about which variables can be used to prevent and reduce school burnout. According to the results of the study, students mostly experience burnout due to the family. Students' perceptions of school climate are at the lowest supportive teacher behaviour dimension. In this direction, positive relationships should be established between families, students, and teachers to prevent school burnout. For this, the school administration and guidance service can increase the school belonging of the students, realising positive peer interaction with their peers, and improving the quality of social support in the teacher-student relationship.

Considering that the level of school burnout of the students participating in the study is at a moderate level, it can be said that the increase in the sense of burnout in the students towards the school will lead to some mental problems such as depression and loneliness and a decrease in academic achievement. Families should act in a supportive way and cooperate with the school to make the student's school life enjoyable and easier in the face of such problems. School administrators need to do some planning to develop a learning-oriented school culture and a positive school climate. In particular, students with low academic achievement and a sense of burnout should be encouraged to participate in activities such as music and art outside of their curriculum. In this way, students increase positive feelings towards the school, and social interaction between students is provided. Teachers' should act with an understanding of classroom management that improves intrinsic motivation to prevent the feeling of burnout in students. They should behave in supporting and improving their social and emotional skills. Especially by ensuring early detection of students at risk of burnout at school, programs can be prepared by the guidance services for these students.

Since this study was conducted quantitatively, limited information was obtained on the relationships between variables. However, future studies in qualitative design may provide more detailed information on the relationships between variables. Conducting new studies that will reveal the predictive relationship between school belonging, the mediator variable, and school burnout are important in comparing the research results. Considering that environmental and individual factors affect school burnout, different individual (psychological

personality traits: self-efficacy, self-esteem, self-regulation, etc.) and environmental factors (school-related variables: school size, structure, region, etc.) can be investigated. Structural equation models can be used to test the relationships between variables based on the relationships between academic achievement, school climate, school belonging, and school burnout.

References

Aboalshamat, K., Alzahrani, M., Rabie, N. Alharbi, R., Joudah, R., Khulaysi, S., & Alansari, W. (2017). The relationship between burnout and perfectionism in medical and dental students in Saudi Arabia. *J Dent Specialities*, *5*(2), 122-127.

Acar, H. & Çakır, M. A. (2015). Lise öğrencilerinin tükenmişlik düzeylerinin incelenmesi: Yeşilova ilçesi örneği. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, *34*, 152-168.

Adomnik, J. G. (2012). *The effects of self-determination, identification with school, and school climate on middle school students' aspirations for future education* (Unpublished doctoral dissertation). The University of Alabama, Tuscaloosa, Alabama

Adhiambo, W. M., Odwar, A. J., & Mildred, A. A. (2016). The relationship between school burnout, gender and academic achievement amongst secondary school students in Kisumu East Subcounty Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS),* 7(5), 326-331.

Akgül, T. (2013). *Ortaöğretim öğrencilerinin okul iklimine ilişkin algıları ile insani değerleri benimseme düzeyleri arasındaki ilişki* (Unpublished master dissertation). Fırat Üniversitesi, Elâzığ.

Akkanat, Ç. (2019). *Bilim ve sanat merkezlerine devam eden öğrencilerin fen yeteneklerini okul iklimi ve akademik katılımın yordaması üzerine bir model çalışması* (Unpublished doctoral dissertation). Amasya Üniversitesi, Amasya.

Akpınar, M. (2015). *Okul tükenmişliği ile akademik stres ve öznel iyi oluş arasındaki ilişkinin incelenmesi* (Unpublished master dissertation). Atatürk Üniversitesi, Erzurum.

Aksoy, M. (2017). *Ortaöğretim öğrencilerinin okul tükenmişliği ile okul aidiyetleri arasındaki ilişkinin çeşitli değişkenler açısından araştırılması* (Unpublished master disseratation). İstanbul Kültür Üniversitesi İstanbul.

Aldridge, J. M., McChesney, K., & Afari, E. (2018). Relationships between school climate, bullying and delinquent behaviours. *Learning Environments Research, 21*(2), 153-172.

Alkan, N. (2016). Psychological sense of university membership: An adaptation study of the PSSM Scale for Turkish university students, *The Journal of Psychology, 150*(4), 431-449, doi: 10.1080/00223980.2015.1087373.

Almašiová, A., Kohútová, K. & Budniak, A. (2019). School burnout syndrome in the students of helping professions and its possible predictors. *The New Educational Review,* doi: 10.15804/tner.2019.57.3.03.

Altınsoy, F. & Karakaya-Özyer, K. (2018). Liseli ergenlerde okula aidiyet duygusu: Umutsuzluk ve yalnızlık ile ilişkileri. *Elementary Education Online, 17*(3), 1751-1764.

Altuntaş, S. (2017). Investigating school attachment of secondary school students. *Inonu University Journal of the Faculty of Education, 18(*1), 83-97. doi: 10.17679/inuefd.295722.

Altuntaş, S. & Sezer, Ö. (2017). Ortaokul öğrencilerinin okula bağlanmalarının incelenmesi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 18(1), 83-97.

Alvarez, M. J. (2003). *Hispanic pre-adolescents' academic resilience: Examining gender, hispanicism, and school belonging, as predictors of academic achievement, and relating level of linguistic validation in the school context to school belonging* (Unpublished doctoral dissertation). Unıversity of California, Santa Barbara.

Andriyani, A. Himma, A. D., Alizar, S. A. Amin, Z. N., & Mulawarman, M. (2017). The Relationship of anxiety, school burnout and well-being in high school students. *Advances in Social Science, Education and Humanities Research (ASSEHR), 158*, 130-135.

Arastaman, G. & Özdemir, M. (2019). Lise Öğrencilerinin görüşlerine göre akademik isteklilik, akademik benlik yeterliği ve kültürel sermaye arasındaki ilişki. *Eğitim ve Bilim, 44*(197), 105-119.

Arıkan, G. (2019). Spor lisesi öğrencilerinde okula aidiyet duygusu. *Social Mentality and Researcher Thinkers Journal, 5*(15), 40-44.

Arslan, G. & Duru, E. (2017). Initial development and validation of the school belongingness scale. *Child Ind Res, 10,* 1043-1058.

Aşkar, P. & Azman, S. G. (2013). Çevrimiçi bilgi arama stratejileri envanteri'nin Türkçeye uyarlama çalışması. *Eğitim ve Bilim, 38*(16), 167-182.

Atik, S., Özer, N., & Karadağ, N. (2018). Öğrencilerin öğretmenlerine güven düzeyleri, okul tükenmişlikleri ile akademik başarılarının yapısal eşitlik modellemesiyle incelenmesi. *Adıyaman University Journal of Educational Sciences*, *8*(2), 259-283.

Aypay, A. (2011). İlköğretim II. kademe öğrencileri için okul tükenmişliği ölçeği: Geçerlik ve güvenirlik çalışması. *Kuram ve Uygulamada Eğitim Bilimleri*, *11*(2), 511-527.

Aypay, A. (2012). Ortaöğretim öğrencileri için okul tükenmişliği ölçeği (OOTÖ). *Kuram ve Uygulamada Eğitim Bilimleri, 12*(2), 773-787.

Aypay, A. ve Eryılmaz, A. (2011a). Lise öğrencilerinin derse katılmaya motive olmaları ile okul tükenmişliği arasındaki ilişkinin incelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, 21,* 26-44

Aypay, A. & Eryılmaz, A. (2011b). Relationships of high school students' subjective well-being and school burnout. *International Online Journal of Educational Sciences, 3*(1), 181-199.

Bahçetepe, Ü. (2013). *İlköğretim sekizinci sınıf öğrencilerinin akademik başarıları ile algıladıkları okul iklimi arasındaki ilişki* (Unpublished master dissertation). İstanbul Üniversitesi, İstanbul.

Bakır-Ayğar, B. &. Kaya, A. (2017). Ortaokul öğrencilerinin okul aidiyet duygusu ile okul temelli yalnızlık arasındaki ilişkide okul ikliminin aracılık rolü. *E-Uluslararası Eğitim Araştırmaları Dergisi, 8*(1), 14-27.

Balkıs, M. (2013). Akademik erteleme eğilimi ve öğrencilerin tükenmişlik duygusu arasındaki ilişki. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 28*(1), 68-78.

Balkıs, M., Duru, E., Buluş, M., & Duru, S. (2011). Tükenmişliğin öğretmen adayları arasındaki yaygınlığı, demografik değişkenler ve akademik başarı ile ilişkisi. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, *29*(29), 151-165.

Bates, J. T. (1993). Portrait of a successful rural alternative school. *Rural Educator, 14*(3), 20-24.

Baykal, İ. (2007). *İlköğretim okullarının örgüt ikliminin bazı değişkenler açısından incelenmesi* (Unpublished master dissertation). Ege Üniversitesi, İzmir.

Bibi, S., Wang, Z. Ghaffari, A. S., Khalid, A. & Iqbal, Z. (2019). Factors associated with school burnout in high school students of South Punjab, Pakistan. *European Online Journal of Natural and Social Sciences*, *8*(4), 594-609.

Bikar, S., Marziyeh, A. & Pourghaz, A. (2018). Affective structures among students and its relationship with academic burnout with emphasis on gender. *International Journal of Instruction, 11*(1), 183-194. doi: 10.12973/iji.2018.11113a

Bilgin, O. & Taş, I. (2018). Ergenlerde okula bağlılığın yordayıcıları olarak okul iklimi ve sosyal medya bağımlılığı. *Akdeniz Eğitim Araştırmaları Dergisi, 12*(26), 15-33.

Birch, S. G., & Ladd, G. W. (1997). The teacher-child relationship and children''s early school adjustment. *Journal of School Psychology, 35*, 61-79. doi: 10.1016/S0022-4405(96)00029-5

Booren, L. M., Handy, D. J. & Power, T. G. (2011). Examining perceptions of school safety strategies, school climate, and violence. *Youth Violence and Juvenile Justice, 9*(2) 171-187.

Booker, K. C. (2006). School belonging and the African American adolescent: What do we know and where should we should we go? *The High School Journal, 89*(4), 1-7.

Bresó, E., Salanova, M., & Schaufeli, W. B. (2007). In search of the "third dimension" of burnout: Efficacy or inefficacy?. *Applied psychology*, *56*(3), 460-478.

Byrnes, J.P. (2003). Factors predictive of mathematics achievement in white, black, and Hispanic 12th graders. *Journal of Educational Psychology, 95,* 316–326.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2010). *Bilimsel araştırma yöntemleri* (5th ed.), Ankara: Pegem Yayıncılık.

Can, A. (2013). *SPSS ile bilimsel araştırma sürecinde nicel veri analizi.* Ankara: Pegem Yayıncılık.

Cemalcilar, Z. (2010). Schools as socialisation contexts: Understanding the impact of school climate factors on students' sense of school belonging. *Applied Psychology: An International Review, 59*(2), 243-272. doi: 10.1111/j.1464-0597.2009.00389.x

Charkhabi, M, Abarghuei, M. A. & Hayati, D. (2013). The association of academic burnout with self-efficacy and quality of learning experience among Iranian students. *SpringerPlus,* 2(677), 1-5.

Cırcır, O. & Sargın, N. (2018). Ergenlerde okul tükenmişlik düzeylerinin okul iklimi ve aleksitimi açısından yordanması. *Ines Journal, 5*(15), 46-58.

Cohen, J., McCabe, E. M., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record, 111*(1), 180-213.

Cotton, K. (1996). *School size, school climate, and student performance.* School improvement Research Series Portland, OR: Northwest Regional Educational Laboratory. Retrieved from http://www.apexsql.com/_brian/School%20Size%20Matters.pdf

Çalık, T. & Kurt, T. (2010). Okul iklimi ölçeği'nin (oiö) geliştirilmesi. *Eğitim ve Bilim, 35*(157), 167-180.

Çam, Z., Deniz, K. Z., & Kurnaz, A. (2014). Okul tükenmişliği: Algılanan sosyal destek, mükemmeliyetçilik ve stres değişkenlerine dayalı bir yapısal eşitlik modeli sınaması. *Eğitim ve Bilim, 39*(173), 312-327.

Çapulcuoğlu, U. & Gündüz, B. (2013a). Lise öğrencilerinde tükenmişliğin cinsiyet, sınıf düzeyi, okul türü ve algılanan akademik başarı değişkenlerine göre incelenmesi. *Trakya Üniversitesi Eğitim Fakültesi Dergisi, 3*(1), 12-24.

Çapulcuoğlu, U. & Gündüz, B. (2013b). Öğrenci tükenmişliğini yordamada stresle başa çıkma, sınav kaygısı, akademik yetkinlik ve anne-baba tutumları. *Eğitim Bilimleri Araştırmaları Dergisi*, *3*(1), 201-218.

Çokluk, Ö. Şekericioğlu, G., & Büyüköztürk, Ş. (2012). *Sosyal bilimler için çok değişkenli istatsitik spss ve lisrel uygulamaları*. Ankara: Pegem Yayıncılık.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2000). A model of burnout and life satisfaction amongst nurseses. *J Adv Nurs,* 32(2), 454-64. doi: 10.1046/j.1365-2648.2000.01496.x.

Demanet, J. & Van Houtte, M. (2012). School belonging and school misconduct: The differing role of teacher and peer attachment. *Journal of Youth and Adolescence, 41*(4), 499-514.

Demir, M. (2015). *Okul tükenmişliğinin yordanmasında sınav kaygısı ve akademik başarının etkisi* (Unpublished master dissertation). Atatürk Üniversitesi, Erzurum.

Demirel, Z. (2018). *Özel yetenekli ortaokul öğrencilerinin okul tükenmişliğinin çeşitli değişkenler açısından incelenmesi* (Unpublished master dissertation). İstanbul Sabahattin Zaim Üniversitesi, İstanbul.

Doğan, A. (2016). İlahiyat fakültesi öğrencilerinin aidiyetleri ile tükenmişlikleri arasındaki ilişki. *Toplum bilimleri, 10*(19), 43-68.

Dönmez, Ş. (2016). *Ortaokul öğrencilerinde okul iklimi, okula bağlılık ve okul yaşam kalitesi algısının çeşitli değişkenler açısından incelenmesi* (Unpublished master dissertation). Muğla Sıtkı Koçman Üniversitesi, Muğla.

Durmuş, B., Yurtkoru, E. S., & Çinko, M. (2011). *Sosyal bilimlerde spss'le veri analizi.* İstanbul: Beta.

Durmuş, E. Aypay, A. & Ayberk, E. C. (2017). Okul tükenmişliğini önlemede ebeveyn izlemesi ve olumlu okul iklimi. *Kuram ve Uygulamada Eğitim Yönetimi*, *23*(3), 355-386.

Dündar, B. B. (2018). *Lise öğrencilerinde sınav kaygısı, aile tutumu ve gelecek beklentisinin okul tükenmişliği ile ilişkisi* (Unpublished master dissertation). Üsküdar Üniversitesi, İstanbul.

Faircloth, B., & Hamm, J. (2005). Sense of belonging among high school students representing four ethnic groups. *Journal of Youth and Adolescence, 34*, 293-309. doi: 10.1007/s10964-005-5752-7

Farrell, M. A. (2008). *The relationship between extracurricular activities and sense of school belonging among Hispanic students* (Unpublished doctoral dissertation). University of Arkansas.

Fearon, D., Barnard-Brak, L. Robinson, E., & Harris, F. (2011). Sense of belonging and burnout among first-year student-athletes, *Journal for the Study of Sports and Athletes in Education*, *5*(2), 139-156.

Fowler, W. J. J. & Walberg, H. J. (1991). School size, characteristics, and outcomes. *Educational Evaluation and Policy Analysis, 13*(2), 189-202.

Furrer, C. J., Skinner, E. A., & Pitzer, J. R. (2014). The influence of teacher and peer relationships on students' classroom engagement and everyday motivational resilience. *National Society for the Study of Education*, *113*(1), 101-123.

Garcia, S. L. (2020). *Attending anyway: A qualitative case study of the intersections of family stress, school climate, and school attendance choices within a Northeast Urban High School.* (Unpublished doctoral dissertation). Concordia University, USA.

Gencer, N. (2019). İmam hatip lisesi öğrencilerinde okul aidiyet duygusu (Çorum örneği). *Sakarya Üniversitesi İlahiyat Fakültesi Dergisi, 21*(39), 149-172.

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*, 79-90.

Goodenow, C. & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education, 62*(1), 60-71.

Gray, J. & Hackling, M. (2009). Well-being and retention: A senior secondary student perspective. The *Australian Educational Researcher, 36:* 119-145. doi:10.1007/bf03216902.

Gregory, T. B., & Smith, G. R. (1983). *Differences between alternative and conventional schools in meeting students' needs*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Quebec, Canada, April 1983 (ED 232 257).

Gunuc, S., & Kuzu, A. (2015). Student engagement scale: Development, reliability and validity. *Assessment & Evaluation in Higher Education*, *40*(4), 587-610.

Günalan, N. (2018). *What affects the quality of school life, the sense of school belonging and school climate of secondary school students?* (Unpublished master's thesis). Aydın Adnan Menderes University, Aydın.

Gündoğan, A. & Koçak, A. (2017). Öğretmen adaylarının okul iklimi algıları ile akademik öz-yeterlik inançları arasındaki ilişkinin incelenmesi. *Sakarya University Journal of Education, 7*(3), 639-657.

Güneş, A. (2016). *Okul tükenmişliğinin yordanmasında psikolojik dayanıklılık ve problem çözme becerileri* (Unpublished master dissertation). İstanbul Sabahattin Zaim Üniversitesi, İstanbul.

Gündüz, Z. (2016). *Ortaöğretim öğrencilerinin okul tükenmişliği ile kendine saygı ve anne baba tutumları arasındaki ilişkinin incelenmesi* (Unpublished master dissertation). Karabük Üniversitesi, Karabük.

Huang, H. M, Xiao, L. & Huang, D. H. (2013). Students' ratings of school climate and school belonging for understanding their effects and relationship of junior high schools in Taiwan. *Global Journal of Human Social Science Linguistics & Education*, *13*(3), 24-35.

Jacobs, S. R. & Dodd, D. (2003). Student burnout as a function of personality, social support, and workload. *Journal of College Student Development, 44*(3), 291-303.

Jethwani-Keyser, M. M. (2008). *When teachers treat me well, i think i belong": School belongıng and the psychological and academic well-being of adolescent girls in urban India* (Unpublished doctoral dissertation). New York University, New York.

Kapıkıran, Ş., Yaşar, M., & Acun-Kapıkıran, N. (2016). Benlik saygısı ve okul tükenmişliği arasındaki ilişkide öz düzenlemenin doğrudan ve dolaylı rolü. *Türk Psikolojik Danışma ve Rehberlik Dergisi, 6*(45), 51-64.

Kaplanoğlu, E. (2014). Mesleki stresin temel nedenleri ve muhtemel sonuçları: Manisa ilindeki smmm'ler üzerine bir araştırma. *Muhasebe ve Finansman Dergisi, Ekim,* 131-150.

Kılınç, A. C. (2013). The relationship between individual teacher academic optimism and school climate. *International Online Journal of Educational Sciences, 5*(3), 621- 634.

Kılıçoğlu, G. (2014). *İngiltere'deki öğretmenlerin çokkültürlü öğretim yeterlikleri ile Türk öğrencilerin kültürleşme tercihlerinin okula aidiyet duygusu ve akademik başarıyla ilişkisi* (Unpublished doctoral dissertation). Eskişehir Osmangazi Üniversitesi, Eskişehir.

Kiefer, S. M., Alley, K. M., & Ellerbrock, C. R. (2015). Teacher and peer support for young adolescents' motivation, engagement, and school belonging. *RMLE Online, 38*(8), 1-18.

Kim, B., Jee, S., Lee, J., An, S., & Lee, S. M. (2017). Relationships between social support and student burnout: A meta-analytic approach. *Stress and Health*. 1-8.

Kiuru, N., Aunola, K., Nurmi, J. E., Leskinen, E. & Salmela-Aro, K. (2008). Peer group influence and selection in adolescents' school burnout: A longitudinal study. *Merrill Palmer Quarterly, 54*, 23–55.

Koçak, L. & Seçer, İ. (2018). Investigation of the relationship between school burnout, depression and anxiety among high school students. *Çukurova Üniversitesi Eğitim Fakültesi Dergisi*, 47(2), 601-622.

Konold, T., Cornell, D., Jia, Y., & Malone, M. (2018). School climate, student engagement, and academic achievement: A latent variable, multilevel multi-informant examination. *AERA Open, 4*(4), 1-17. doi: 10.1177/233285841881566

Korpershoek, H., Canrinus, E. T., Fokkens-Bruinsma, M., & de Boer, H. (2019). The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: A meta-analytic review. *Research Papers in Education*, doi: 10.1080/02671522.2019.1615116.

Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2008). A multilevel study of predictors of student perceptions of school climate: The effect of classroom-level factors. *Journal of Educational Psychology, 100*(1), 96–104.

Kwak, E. J., Ji, Y. A., Baek, S. H. & Baek, Y. S. (2020). High levels of burnout and depression in a population of senior dental students in a school of dentistry in Korea. *Journal of Dental Sciences,* doi: 10.1016/j.jds.2020.07.009.

Lee, S. M. M. (2011). *Correlations among school belonging and self-reported factors associated with students' school success* (Unpublished doctoral dissertation). The University of Southern Mississippi, Hatissburg.

Ma, X. (2003). Sense of belonging to school: Can schools make a difference? *The Journal of Educational Research, 96*(6), 340-349. doi: 10.1080/00220670309596617

Madigan, D. J., & Curran, T. (2020). Does burnout affect academic achievement? A meta-analysis of over 100,000 students. *Educational Psychology Review*. doi.org/10.1007/s10648-020-09533-1.

Maslach, C. & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior, 2,* 99-113.

Maslach, C., Jackson, S. E. & Leiter, M., P. (1996). *The Maslach burnout inventory manual (3rd ed.).* Palo Alto CA, US Consulting Psychologists Press.

Maslach, C. & Leiter, M. P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry, 15*(2), 103-111.

Maxwell, S., Reynolds, K. J., Lee, E., Subasic, E., & Bromhead, D. (2017) The impact of school climate and school identification on academic achievement: Multilevel modeling with student and teacher data. *Front. Psychol. 8*(2069), doi: 10.3389/fpsyg.2017.02069

May, R. W., Bauer, K. & Fincham, F. D. (2015). School burnout: Diminished academic and cognitive performance. *Learning and Individual Differences*, *42*, 126-131.

Meylan, N., Meylan, J., Rodriguez, M., Bonvin, P., & Tardif, E. (2020). What types of educational practices impact school burnout levels in adolescents? *Environmental Research and Public Health, 17*(4), 1152. doi:10.3390/ijerph17041152

Meydan, C. H. & Şeşen, H. (2011). *Yapısal eşitlik modellemesi amos uygulamaları.* Ankara: Detay Yayıncılık.

Moallem, I. (2013). *A meta-analysis of school belonging and academic success and persistence* (Unpublished doctoral dissertation). Loyola University, Chicago.

Niemiec, C. P. & Ryan, R. M. (2009). Autonomy, competence and relatedness in the classroom: Applying self-determination theory to classroom practice. *Theory and Research in Education, 7*, 133-144.

O'Connor, M. J. (2017). *School belonging and its effect on academic achievement and dropout gaps: Could a sense of school belonging influence racial gaps in high school students?* (Unpublished master dissertation). State University of New York.

O'Farrell, S. L. (2004). *Exploring school belonging trajectories in upper elementary students using latent variable growth curve modeling* (Unpublished doctoral dissertation). University of California, Santa Barbara.

Ogbueghu, S. N., Aroh, P. N., Igwe, R. A., Dauda, J. E., Yahaya, J., Nwefuru, B. C., Eneogu, N. D. & Okeke, F. C. (2019). Gender differences in academic burnout among economics education students. *Global Journal of Health Science, 11*(14), 52-57.

Okkassov, G. (2018). *Okul tükenmişliği ile algılanan sosyal destek ve yaşam doyumu arasındaki ilişkinin incelenmesi* (Unpublished master dissertation). Atatürk Üniversitesi, Erzurum.

Onuoha, U. C. (2015). Evidence of academic self-efficacy, perceived teacher support, age and gender as predictors of school burnout. *Global Journal of Human-Social Science: An Arts and Humanities -Psychology, 15*(2), 1-17.

Orpinas, P. & Raczynski, K. (2016). School climate associated with school dropout among tenth graders. *Pensamiento Psicológico, 14*(1), 9–20.

Osher, D., Spier, E., Kendziora, K., & Cai, C. (2009). *Improving academic achievement through improving school climate and student connectedness*. Paper presented at American Educational Research Association Annual Meeting, Diego, CA.

Osterman K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research, 70*, 323-367. doi: 10.3102/00346543070003323

Özdemir, S., Sezgin, F., Şirin, H., Karip, E., & Erkan, S. (2010). İlköğretim okulu öğrencilerinin okul iklimine ilişkin algılarını yordayan değişkenlerin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 38*, 213- 224.

Özgenel, M., Çalışkan Yılmaz, F., & Baydar, F. (2018). School climate as a predictor of secondary school students' school attachment. *Eurasian Journal of Educational Research, 78*, 87-116.

Özkan, F. (2015). *Öğrencilerin okullarının imajına ilişkin algıları ve aidiyet düzeyleri (İstanbul Eyüp ilçesi örneği)* (Unpublished master dissertation). İstanbul aydın üniversitesi, İstanbul.

Pallant, J. (2020). *Spss kullanma klavuzu: Spss ile adım adım veri analizi* (Çev ed. S. Balcı ve B. Ahi).. Ankara: Anı Yayıncılık

Parker, P. D. & Salmena-Aro, K. (2011). Developmental processes in school burnout: A comparison of major developmental models. *Learning and Individual Differences*, *21*(2), 244-248.

Parr, E. J., Shochet, L. M., Cockshaw, W. D., & Kelly, R. L. (2020). General belonging is a key predictor of adolescent depressive symptoms and partially mediates school belonging. *School Mental Health, 12,* 626–637.

Payne, A. A. (2008). A multilevel analysis of the relationships among communal school organization, student bonding, and delinquency. *Journal of Research in Crime and Delinquency*, *45*(4), 429-455.

Polat, Ş. (2018). Ortaokul öğrencilerinde okula yabancılaşma ve okul tükenmişliği ilişkisinin incelenmesi. *Uludağ Eğitim Fakültesi Dergisi, 31*(1), 257-277

Pittman, L. D. & Richmond, A. (2007). Academic and psychological functioning in late adolescence: The importance of school belonging. *The Journal of Experimental Education,75*, 270-290.

Rahmati, Z. (2015). The study of academic burnout in students with high and low level of self-efficacy. *Procedia - Social and Behavioral Sciences*, *171,* 49 -55.

Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2018). *Partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.0: An updated and practical guide to statistical analysis* (2nd ed.). Kuala Lumpur, Malaysia: Pearson.

Rajpurohit, L. L., Ankola, A. V., Hebbal, M. & Mehta, N. (2015). A questionnaire study to evaluate the burnout syndrome and stress among dental students from two universities. *Journal of Dental Research and Scientific Development*, *2*(1), 8-12.

Roeser, R.W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the psychological environment and early adolescents" psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*, 408-422. doi: 10.1037/0022-0663.88.3.408

Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. E. (2009). School-Burnout Inventory (SBI) reliability and validity. *European Journal of Psychological Assessment*, *25*, 48–57.

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.

Salmela-Aro, K., Savolainen, H., & Holopainen, L. (2009). Depressive symptoms and school burnout during adolescence: evidence from two cross-lagged longitudinal studies. *Journal of Youth and Adolescence, 38*, 1316–1327.

Salmela-Aro, K. & Upadyaya, K. (2014). School burnout and engagement in the context of demands–resources model. *British Journal of Educational Psychology*, *84*, 137-15.

Salmela-Aro, K., Upadyaya, K. (2020). School engagement and school burnout profiles during high school - The role of socio-emotional skills. *European Journal of Developmental Psychology, 17*(4), 943-964. doi.org/10.1080/17405629.2020.1785860

Sarcheshmeh, S. G., Asgari, F., Chehrzad, M. M., & Leili, E. K. (2019). Investigating the relationship between academic burnout and educational factors among students of Guilan University of medical sciences. A*IMS Medical Science, 6*(3), 230-238.

Sarı, M. (2015). Adaptation of the psychological sense of school membership scale to Turkish. *Global Journal of Human Social Science: G Linguistics & Education, 15*(7), 59-64.

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

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online, 8*(2), 23-74.

Schumacker, R. E. & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (2nd Ed.). Mahwah, NJ: Lawrence Erlbaum.

Seçer, İ. (2015a). Okul tükenmişliği ile akademik güdülenme arasındaki ilişkinin yapısal eşitlik modeli ile incelenmesi. *Eğitim ve Öğretim Araştırmaları Dergisi, 4*(1), 424-433.

Seçer, İ. (2015b). Üniversite öğrencilerinde okul tükenmişliği ile psikolojik uyumsuzluk arasındaki ilişkinin incelenmesi. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 19*(1), 81-99.

Seçer, İ. & Gençdoğan, B. (2012). Ortaöğretim öğrencilerinde okul tükenmişliğinin çeşitli değişkenler açısından incelenmesi. *Turkish Journal of Education, 1*(2), 1-13.

Sufia, S. & Latif, W. (2016). Burnout among undergraduate dental students at a public academic institution in Lahore, Pakistan, *JPDA, 25*(4), 131-136.

Sular, M. (2017). *Lise öğrencilerinin okula yabancılaşmasında okul iklimi ve okulda iletişimin rolü* (Unpublished master dissertation). Muğla Sıtkı Koçman Üniversitesi, Muğla.

Sunay, C. (2018). *Lise öğrencilerinde okul tükenmişliği ile Türk dili ve edebiyatı dersine yönelik tutum arasındaki ilişkinin incelenmesi* (Unpublished master dissertation). Atatürk Üniversitesi, Erzurum.

Şahan, B. & Duy, B. (2017). Okul tükenmişliği: Öz-yeterlik, okula bağlanma ve sosyal desteğin yordayıcı rolü. *Mersin Üniversitesi Eğitim Fakültesi Dergisi, 13*(3), 1249-1270.

Şeker, H. & Gençdoğan, B. (2020). *Psikolojide ve eğitimde ölçme aracı geliştirme.* Ankara: Nobel Yayıncılık.

Şekercioğlu, G. (2009). *Çocuklar için benlik algısı profilinin uyarlanması ve faktör yapısının farklı değişkenlere göre eşitliğinin test edilmesi* (Unpublished doctoral dissertation). Ankara Üniversitesi, Ankara.

Şenel, T. & Buluç, B. (2016). İlkokullarda okul iklimi ile okul etkililiği arasındaki ilişki. *TÜBAV Bilim, 9*(4), 1-12.

Şener, C. (2018). *Lise öğrencilerinde okul tükenmişliğinin yordayıcısı olarak mizah tarzlarının ve beş faktör kişilik özelliklerinin incelenmesi* (Unpublished master dissertation). Mersin Üniversitesi, Mersin.

Terzi, A. R. & Uyangör, N. (2017). Eğitim fakültesi öğretmen adaylarının akademik motivasyonları ve algıladıkları okul iklimi ilişkisi. *Journal of Current Researches on Social Sciences*, 7(4), 185-196.

The National School Climate Council (2007). The school climate challenge: Narrowing the gap between school climate research and school climate policy, practice guidelines and teacher education policy. Retrieved from http://www.schoolclimate.org/climate/documents/policy/school-climatechallenge-web.pdf.

Tomaszek, K. & Muchacka-Cymerma, A. (2019). Polish adaptation of the essbs school-burnout scale: Pilot study results. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 34*(2), 418-433, doi: 10.16986/HUJE.2018043462.

Uline, C., & Tschannen-Moran, M. (2008). The walls speak: The interplay of quality facilities, school climate, and student achievement. *Journal of Educational Administration, 46*(1), 55–73.

Uzun, T. (2018, Ekim). *Okul iklimi ile okula yabancılaşma arasındaki ilişki* [Abstract]. Paper presented at International Learning Teaching and Education Research Congress, Amasya, Türkiye.

Virtanen, T. E., Kiuru, N., Lerkkanen, M. K., Poikkeus, A. M., & Kuorelahti, M. (2016). Assessment of student engagement among junior high school students and associations with self-esteem, burnout, and academic achievement. *Journal for educational research online*, 8(2), 136-157.

Voelkl, K. E. (1996). Measuring students' identification with school. *Educational and Psychological Measurement, 56*, 760-770. doi:10.1177/0013164496056005003.

Wagle, R., Dowdy, E., Yang, C., Palikara, O., Castro, S., Nylund-Gibson, K., & Furlong, M. J. (2018). Preliminary investigation of the Psychological Sense of School Membership Scale with primary school students in a cross-cultural context. *School Psychology International*, 39(6), 568-586.

Walker, C. O. & Greene, B. A. (2009). The relations between student motivational beliefs and cognitive engagement in high school. *The Journal of Educational Research 102*(6), 463-472.

Way, N., Reddy, R., & Rhodes, J. (2007). Students' perceptions of school climate during the middle school years: Associations with trajectories of psychological and behavioral adjustment. *Am J Community Psychol, 40,* 194–213.

Willms, J. D. (2003). *Student engagement at school: A sense of belonging and participation. Paris*: Organisation for Economic Cooperation and Development.

Williams, S. B. (1987) A comparative study of black dropouts and high school graduates in an urban public school system, *Education and Urban Society*, *19*, 311-319.

Xie, H. Y. & Xiao, H. (2018). Analysis on the relationship between school belonging and learning burnout of university students advances in social science, *Education and Humanities Research, 176*, 456-458.

Yavrutürk, A. R. (2019). *Lise öğrencilerinde okul bağlılığının yordayıcıları olarak sosyal destek ve okul iklimi* (Unpublished master dissertation). Tokat Gaziosmanpaşa Üniversitesi, Tokat.

Yang, H. J. (2004). Factors affecting student burnout and academic achievement in multiple enrolment programs in Taiwan's technical-vocational colleges. *International Journal of Educational Development*, *24*, 283-301.

Yıldırım, S. (2017). *Liselerde öğrenci ve öğretmenlerin güvenli okul iklimi algıları ile öğrencilerin akademik başarıları arasındaki ilişki* (Unpublished doctoral dissertation). Hacettepe Üniversitesi, Ankara.

Yıldız, E. (2019). *Okul yaşam kalitesi algısı, okula aidiyet duygusu ve direnç davranışları: Ortaokul öğrencileri üzerinde bir inceleme* (Unpublished master dissertation). Çukurova Üniversitesi, Adana.