

Effect of Family, Friends and School Climate on School Adjustment of Middle School Students

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Abstract

In this study, aiming to understand the individual and environmental dynamics underlying school adjustment of students in the middle school period, the target was to reveal the direct effects of family support, peer relationships and gender and their indirect effects mediated by school climate and academic success on the school adjustment of students. The study additionally adapted the school adjustment scale developed by the Fast Track project team for middle school students to Turkish and performed validity and reliability studies. The study was completed with data from two groups. The data obtained from the first study group were used for the adaptation study, while the data obtained from the second study group were used to answer the research question. In the research, the data collection tools of the ‘school adjustment scale’, ‘perceived social support scale’, ‘peer relationships scale’, ‘school climate scale’ and ‘personal information form’ were used. With the aim of finding the answer to the basic problem in the research, path analysis was performed for data obtained from 474 middle school students. The results of the study revealed that school climate, academic grade, gender, family support and peer relationships have significant direct effects in explaining the school adjustment of middle school students. Additionally, the gender and family relationships variables mediated by school climate, and the peer relationships variable mediated by academic grade, had significant effects on school adjustment.

Keywords: Middle School Students, School Adjustment, School Climate, Family Support, Peer Relationships, Path Analysis

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INTRODUCTION

School adjustment is a general concept involving many areas related to school. This concept is mostly defined as incompatible and negative student behavior like lack of attendance, aggression, inattention and destructive behavior, rather than positive behavior like cooperation, agreeableness and self-care. Perhaps the most appropriate way to define the concept of school adjustment is to begin by defining the adjustment concept. In an ecologic and social competence-based approach, generally adjustment is represented by positive social behavior forms resulting in social interaction and positive developmental outcomes for the person. This type of behavior ensures the individual gains social acceptance and approval. Additionally, indicators of adjustment are self-efficacy, achievement, sense of self-regulation, social and emotional well-being based on the individual's self-assessment (Bronfenbrenner, 1989; Ford, 1992; cited, Reynold et al., 2003). Based on the general features of the adjustment concept, school adjustment is a concept representing high outputs that reflect the level of meeting expectations in the classroom environment, as well as the achievement of the student's own goals. In this context, school adjustment involves a range of both individual and environmental features.

Craighead and Nemeroff (2004) defined school adjustment as social and behavioral adjustment to the school system and information related to class. The school adjustment of a child is equivalent to what is expected of them in the education environment and their skills in fulfilling these tasks. Additionally, it should not be forgotten that school adjustment of a child may display differences from class to class or year to year or even within the same year in varying fields. School adjustment may be strengthened by both past and present experiences. For example, for a child beginning preschool education, the most important factors determining school adjustment may be considered to be separation anxiety from the parent, acceptance of the teacher's authority and interaction with peer groups (Bulut, 2019; Gülay & Erten, 2011; Kahraman et al., 2018). Factors like the level of interest from mother-father and quality of cooperation between the school and family may affect the school adjustment of the child (Bager et al., 2019; Mo & Sing, 2008). Indicators of school adjustment of the child may include success level, attendance status, attitudes to school and whether problematic behavior is displayed or not. In addition to these, important indicators of school adjustment are proposed to be attitude to school, loneliness levels, level of social support and academic motivation (Birch & Ladd, 1996). In this context, school adjustment of students cannot be explained by a single indicator, adjustment has many indicators and these include positive and expected behavior as well as negative behavior. For this reason, school adjustment of students is thought to be related to a range of internal and external factors.

In conclusion, it appears there are four groups of factors affecting a student's motivation and adjustment to school and these are teachers and general school environment, psychological traits of the student, family environment and relationships with other peers in school (Kindermann et al., 1996). When the topic is school adjustment, it is notable that the roles of mother-father, teacher and peers are especially emphasized (Önder & Gülay, 2010). Moving from this point, this effect may be directly or indirectly, and significantly, affected by the student's relationships with others and the quality of their relationships with families, teachers and friends, the social support they perceive, and their adaptation to school in the context of these relationships. In the Turkish literature about school adjustment, there are significant numbers of studies about the preschool (Altınkaynak & Akman, 2019; Arabacıoğlu, 2019; Kahraman, 2021; Atalan et al., 2019; Başaran et al., 2014; Erten, 2012; Göktaş & Gülay Ogelman, 2019; Gülay Ogelman et al., 2021; Gülay, 2011; Kahraman, 2018; Kaya & Akgün, 2016; Gülay Ogelman & Erten, 2013) and primary school (Arabacıoğlu, 2019; Canbulat, 2007; Demirtaş-Zorbaz & Ergene, 2019; Gülay Ogelman et al., 2019; Gündüz & Özarslan, 2017, Tangüner, 2017; Işıkoğlu Erdoğan & Şimşek, 2014; Yoleri & Tanış, 2014) periods, while there are more limited numbers of studies about school adjustment in the middle school period (Yılmaz et al., 2017; Usta et al., 2021). Additionally, investigation of adjustment in the middle school period, involving the transition from basic education to secondary education and the developmental transition from childhood to adolescence, and determination of the variables affecting this process will contribute to

the accumulation of knowledge in the literature and appears important in the context of guiding implementations to be performed in order to experience this transition period in a healthier way.

Based on this, the aim in this study was to determine the personal and environmental factors affecting school adjustment of middle school students. In the study, peer relationships, family support, school climate, gender and average grade variables were considered in the context of these variables. In addition to this multidimensional explanation, school adjustment is traditionally explained by the academic development and success of the student. Here, students who adjusted to school were stated to display better academic developments and be successful.

When peer relationships and school adjustment are mentioned, especially in the process at the start of the adolescent period, like middle school, peer relationships are an important factor in school adjustment of students (Ryan & Ladd, 2012). According to Newman et al. (2000), peer relationships support children within the school surroundings and assist with their adjustment. Students making good peer relationships in school have reduced levels of loneliness, do not feel alone when faced with problems in class or in the school and have increased academic motivation with friends; this situation is stated to ensure students have better adjustment to school.

Close friends have strong effects on student attitudes toward school, behavior in class and academic success. Friend support is stated to increase social and academic adjustment of students. Students are affected by friends at every class level and this effect is not always negative. For example, students with close friends who have high grades may elevate their own grades. Additionally, the quality of friendship relationships affects students. For example, when students are closer to each other, the quality of friendship relationships increase (Bernt & Keefe, 1996). A study of Japanese students by Honma and Uchiyama (2014) revealed that friendship relationships of students in 5th-6th class significantly predicted enjoyment of school and hence school adjustment. Additionally, friendship does not always have a positive effect on the school adjustment of students. Stated differently, the presence or absence of friendship is not a determinant factor in school adjustment of students, but the quality of friendship relationships is important (Ladd et al., 1996). The results of a study by Buhs and Ladd (2001) revealed that students rejected by friends participated less in activities in class, stated they experienced more loneliness, had less success in academic topics and additionally were unenthusiastic about school. When children accepted by peers and with friends are compared with children experiencing difficulty in making friends, children without friends were stated to have negative attitudes to school and further the association between peer relationships and school adjustment appears to be important from the preschool period to high school (Asher et al., 2008; Gülay & Erten, 2011). Similarly, Gülay (2011) stated that different dimensions of school adjustment and peer relationships were associated with positive social behavior, antisocial behavior, aggressiveness, being fearful-anxious, exclusion, etc.

Family features are stated to significantly affect the school adjustment of students. Though families are not included directly in the school system, they are one of the most important factors in a child's adjustment to school life. Among family members, mother and father, especially, are known to have an important role in terms of development of the child's school success and responsibilities related to school. For this reason, mothers and fathers who fulfill their duties related to school fully will assist their children in gaining better adjustment to school and maintaining this adjustment. It was proposed that both school-based and home-based parental participation is very important for academic success, one of the significant predictors of school adjustment (McGill et al., 2012). Family may increase school adjustment of the child by a range of organizations in the home and not just in school. Yıldırım (2006) stated that students receiving social support from family, in other words receiving the interest and love needed from family and solving problems with support of family, attended school more regularly and achieved good adjustment. Parental support predicts school adjustment in the long and short term (Jimerson et al., 1997; Lasarte et al., 2020; Tomas et al., 2020). Similarly, in the literature many studies revealed the relationship between family support and school adjustment of students (Cotterell, 1992; Davidson, Taylor & Machida, 1994; Demaray, Malecki, 2002; Clark & Ladd,

2000; Malecki & Demaray, 2003; Murray, 2009). Based on the results of these studies, family support in different age groups may be said to be an important predictor of school adjustment.

In addition to peer relationships and family support, school climate is stated to be another important factor increasing school adjustment of students (Koch, 2008). There is no universal definition related to school climate, with school climate generally involving the features and quality of social interactions within the school shaped by rules, values, regulations, organizational structures and relationship patterns between each unit (Anderson, 1982; Cohen et al., 2009; Cited, Kline et al., 2012). Hoy (2003) defined school climate as a property with continuity affecting the whole school created by the common perceptions of all individuals in the school. School climate, indicating the quality and intensity of interpersonal interactions in the school, affects the cognitive, social and psychological development of students. The interpersonal interactions stated here include interactions between school employees, between students and school employees, between the students themselves and between school and family. A good school climate ensures increased academic success of students and is observed to positively affect development. For this reason, these complicated and multidimensional relationships stated in the context of school climate occur in school and significantly affect the adjustment and performance of the student (Haynes, Emmons, Ben-Avei, 1997). Additionally, studies stated that perceptions of students related to school climate affect their social, psychological and academic adjustment (Jia et al., 2009). The results of a study by Cynthia (1999) revealed that generally school climate and teacher-student communication forms significantly predicted adjustment of students to school. Similar to the results of this study, Way, Reddy and Rhodes (2007) determined a correlation between teacher support, friend support, in-class autonomy of students and school climate, described as openness and consistency of school rules, with student psychological and behavioral adjustment. Student perceptions of school climate are an important predictor in terms of their adjustment to school (Mateos, et al., 2021).

As with many different psychological and social traits, there may be differences in terms of school adjustment between female and male students. In this context, it is possible to find studies revealing no significant correlation between gender and school adjustment frequently among studies dealing with the relationship between gender and school adjustment. For example, a study of students newly starting primary school stated there was no significant correlation between school adjustment with gender (Yoleri & Tanış, 2014). Similarly, other studies performed with different class levels determined there was no significant relationship between the gender variable and school adjustment (Çıkrıkçı, 1999; Ensar & Keskin 2014; Yener, 2005; Yoleri, 2014). Additionally, female and male students are stated to have developmental differences and face different difficulties in the middle school period; for this reason, these changes may affect their school adjustment in different ways (Bernstein, 2002). The pressure from parents on boys related to gender roles in childhood was stated to affect the school adjustment of male students in the middle school period. Additionally, a study by Uz Baş (2003) revealed that the school adjustment of 4th and 5th class students varied linked to gender and that female students had higher school adjustment compared to boys. In light of this information, it is difficult to state whether school adjustment changes or not linked to gender. Here, other traits based on gender may affect school adjustment. In this context, a study by Uneo and McWilliams (2010) is notable. This study investigated the correlation between gender-typed behavior with school adjustment in a large sample of middle school and high school students. The results of the study found that girls and boys displaying excessive gender-typed behavior had low school adjustment and that boys, but not girls, who did not behave in accordance with their gender again had low levels of school adjustment. As a result, the interaction of different features of the gender variable are significant for school adjustment. For this reason, in this study, the direct and indirect effects of the gender variable on school adjustment were tested. The perception of school climate may vary based on gender (Sökmez, Çok, Avcı, 2020; Way, Reddy, Rhodes, 2007), with female students stated to have more positive perception of school climate than male students (Koç, 2021; Salle et al., 2016). In this context, gender predicts school climate and for this reason, it is expected that it will have an indirect effect on school adjustment mediated by school climate.

Additionally, another variable investigated for mediating effect in this study is average grade. Academic success is a significant predictor of adjustment to the school environment of students. Bush and Ladd (2001) stated that one of the basic markers of school adjustment is success. When the results of studies are investigated, students with low academic success have difficulty ensuring school adjustment, and in this context, they tend toward school dropout (Jiang & Cillessen, 2005; Gülay, 2010). Additionally, peer relationships (Bush, 2005; Güler, 2019; Kiran-Esen, 2003; Wentzel & Caldwell, 1997; Ryan, 2000), family support (Baskin et al., 2014; Bektaş & Zabun, 2019; Ergene & Yıldırım, 2003; Kapıkıran, 2009; Kızıldağ, 2009; Sanders, 1998; Yıldırım, 2006), and gender (Kağıkıran & Özgüngör, 2009; Miller et al., 2006; Negru & Baban, 2009; Oramah, 2014; Musa, 2013; Çetinöz, 2006; Yıldırım, 2006) were stated to be associated with the academic success of students. In this context, both the direct effects and mediating effects of average grade on school adjustment were investigated.

In conclusion, this study searched for the answer to the following questions; what are the direct effects of family support and peer relationships; and what are the indirect effects of gender mediated by school climate and average grade; of peer relationships mediated by average grade and school climate; and finally of family support mediated by average grade and school climate on the school adjustment of middle school students?

METHOD

In this research, the correlational method was used (Fraenkel, et al. (2012). In this study, aiming to explain the school adjustment of middle school students, the “School Adjustment Scale” was adapted to Turkish. In this context, the method section includes information about the study group for scale adaptation under the heading ‘study group 1’ and presents the validity and reliability studies completed during scale adaptation with the description of the scale in detail. Data related to this study were obtained during the 2017-2018 educational year; for this reason, ethics committee permission for this study cannot be provided. The researcher followed ethical principles throughout the research process.

Participants

Study Group 1: Data obtained from this study group were used in studies for Turkish adaptation of the “School Adjustment Scale”. The 240 students included in the first study group were chosen with the convenient sampling method from three middle schools located in Kırşehir provincial center. Of the students in this study group, 124 were girls (51.7%) and 116 were boys (48.3%). When the distribution of students is investigated according to class level, 75 were in sixth class (31.3%), 76 were in seventh class (31.7%) and 89 were in eighth class (37.1%).

Study Group 2: Data obtained from this study group were used to test the theoretical model to determine the school adjustment of middle school students. The second group in the research comprised 474 middle school students chosen with the convenient sampling method attending three different middle schools located in Kırşehir provincial center. Taking note of the region and student profile in a general sense, the three different schools can be said to represent upper, middle, and lower socioeconomic levels. When the distribution of students in this group is investigated in terms of gender, there were 264 girls and 210 boys. Additionally, when the student distribution is investigated according to class, there were 156 students attending sixth class (33%), 173 students attending seventh class (37%) and 145 students attending eighth class (30%).

Data Collection Tools

Turkish adaptation of School Adjustment Scale: Validity and Reliability Study: Within the scope of measuring the dependent variable in the research of school adjustment, the “school adjustment scale” for middle school students was used after adaptation to Turkish and with validity-reliability studies performed. The school adjustment scale was developed by the FastTrack Project

team with the aim of assessing the school adjustment levels of students and is a 20-item Likert-type scale. Necessary permission to adapt the scale to Turkish was provided by the project coordinator Dr. Kate Biermann. Each item on the scale gives a situation related to the school life of students (e.g., I avoid experiencing problems with school administrators and teachers) and the student is requested to mark the choice which best reflects their own situation. Scale items include situations about academic performance, discipline problems and interactions with other students and employees based on experiences in school. Answer choices are never (1), rarely true (2), sometimes true (3), generally true (4) and true all the time (5). For the school adjustment scale, there are three subdimensions identified of relationships with other students (items 3, 4, 8, 9, 13 and 14), academic and discipline problems (items 1, 2, 5, 7, 10, 12, 15, 19) and general views related to school and teachers (items 6, 11, 17, 18, 29) (Maumary-Gremaud, 2000). The 16th item on the scale was not included in any subdimension in the original study and was removed from analyses.

Necessary translation work for adaptation of the scale to Turkish and initial studies were performed by Gençtanırım and Ergene (2009); however, this study adapted the scale for high school students. In this study, validity and reliability studies of the scale for middle school students were performed. With this aim, confirmatory factor analysis was used to determine the degree to which data obtained from the Turkish form of the School Adjustment Scale for middle school students was explained by the three-dimensional conceptual structure. Taking the power of the test as .95, RMSEA (H_0 and H_1) .05 and .08, and alpha level .01 and sd 149, a sample size of 192 students was found to be adequate. Based on this, adaptation studies for the scale were completed with data obtained from a student group of 240 people.

The structure comprising three factors of the original scale was tested with confirmatory factor analysis for suitability to Turkish middle school students. Firstly, the conceptual model was tested and modifications were investigated. As a result, the error covariance for items 8 and 13 included in the first dimension was added and the model was re-tested. According to results obtained at this stage, two items with item factor load .02 included in the second dimension were removed from the model. The model was tested again and similarly one item with low factor load and included in the second dimension was removed. After these items were removed, the parsimony-adjusted values for the model were observed to improve. Initially the values were PNFI=.56 and PCFI=.62, while after removing these items, these values rose to PNFI=.70 and PCFI=.77. In adaptation studies by Hair, Anderson, Tatman & Black (1995), they stated up to two items could be removed from subdimensions. Based on this view, two items in the second dimension did not fit the Turkish form and the decision was made to remove them from the scale. Then the model was tested again and investigations concluded that item 9 included in the first dimension on the original scale was more suitable for the second dimension both statistically and conceptually. This item was placed in the second dimension and the model was tested again. When this model was investigated, the first dimension of relationships with others had item factor loads (λ) .41 – .72; the second dimension of academic difficulties and discipline problems had item factor loads (λ) .24 – .77; and the third dimension of general view of school and teachers had item factor loads (λ) .47 – .65. Kline (2010) stated that standardized weight of about .30 reflected moderate effect size, while weights of .50 and above reflected large effect size. In this context, the majority of item factor loads obtained as a result of confirmatory factor analysis had large effect sizes. Again, when the fit coefficients related to the model are investigated, the values appear to provide proof about the fit of the model. For this reason, the final form comprising 16 items was obtained. Additionally, the internal consistency coefficients of the subscales were investigated. The first dimension had value .73, the second dimension had value .71 and the third dimension had value .72. For this reason, results showed the 17-item Turkish form had the necessary validity and reliability for use with middle school students and the school adjustment points were obtained with this scale in the research.

Perceived Social Support Scale-Revision (PSSS-R): The PSSS-R was developed by Yıldırım (2004). Comprising the subdimensions of family, friend and teacher support, the PSSS-R includes a total of 50 items. The PSSS-R comprises three subscales (FAD-family support, FRD-friend support and TED-teacher support). With 3-point Likert type rating, the increase in points obtained from the

PSSS-R indicates high perceived social support. Exploratory factor analysis investigated the construct validity of the FAD, FRD and TED and determined the factor structure for each subscale. Additionally, significant correlations were determined between the PSSS-R with the Beck Depression Inventory (BDI) and the Daily Hassles Scale (DHS). Reliability studies for the PSSS-R used the internal consistency (Cronbach α) coefficient and test-repeat test reliability (r). These coefficients were .91 and .93 for the whole scale, .83 and .81 for FAD, .77 and .81 for FRD and .83 and .86 for TED, respectively (Yıldırım, 2004). In this study, the scale subdimension of family support was used. The internal consistency (Cronbach α) coefficient for the family support subscale was .70 in this study.

Peer Relationships Scale (PRS): This study was developed by Kaner (2002) with the aim of determining the peer relationships between 13-18-year-old adolescents. It contains a total of 18 items and comprises four subscales of commitment, trust and identification, self-disclosure, and loyalty. The scale has a 5-point Likert rating. The internal consistency (Cronbach α) reliability coefficient of the scale was .58-.86, Spearman Brown half-test reliability coefficient was .60-.84 and test-repeat test reliability (r) coefficient was .77-.93. In this research, the total points for the scale were used. High points obtained from the scale indicate positive relationships with peers. In this scale, the internal consistency (Cronbach α) reliability coefficient obtained for the total points on the scale was .87.

School Climate Scale (SCS): This scale was developed by Kurt and Çalık (2010) with the aim of determining the perceptions of middle school students about school climate. The scale comprises 22 items and includes three subdimensions of “supportive teacher behavior”, “success oriented” and “safe learning environment and positive peer interaction”. The five-point Likert type scale had exploratory and confirmatory factor analyses performed within the scope of validity studies. The internal consistency (Cronbach α) reliability coefficient for the subscales was .77-.85 and the internal consistency (Cronbach α) reliability coefficient was .87 for the whole scale. In this study, the total points from the scale were used and the internal consistency (Cronbach α) reliability coefficient obtained with the study group was calculated as .78.

Personal Information Form: Information about other independent variables in the research like average grade and gender were obtained with a personal information form prepared by the researcher.

Procedure and Data Analysis:

Psychological counseling and guidance services and administrators in the schools where the study would be performed were notified and after necessary permission was granted, students were given information about the aims of the study and students who volunteered participated in the study. In the first stage of the study, adaptation of the school adjustment scale was performed. Within this scope, the translation work for the previous high school form of the scale was reviewed, and necessary revisions were made. Then confirmatory factor analysis was performed for validity of the Turkish form of the scale and the Cronbach alpha coefficient and internal consistency reliability coefficient were calculated. In the second stage of the study, path analysis was performed to reveal the degree to which independent variables considered in the research predicted the school adjustment of middle school students. Analysis of data was completed with the AMOS program. Before analyses, the Pearson correlation coefficients were calculated between variables. The gender variable included in the model was expressed as male=1 and female=0 and defined as a dummy variable. Additionally, the Sobel test was investigated to see whether mediating effects included in the model were statistically significant or not.

FINDINGS

The Pearson correlation coefficients between variables included in the model, mean and standard deviation values for variables and internal consistency coefficients (Cronbach alpha) are presented in Table 1.

Table 1: Mean and standard deviation values for variables included in the measurement model and Pearson correlation coefficients between variables (n=474)

Variables	\bar{x}	Ss	Pearson correlation coefficients				
			1	2	3	4	5
1. Family support	48.77	4.28		.06	.33**	.36**	.06
2. Peer relationships	62.61	15.16		.77	.12**	-.01	.15**
3. School climate	77.97	15.20			.78	.33**	.04
4. School adjustment	59.54	12.67				.77	.22**
5. Average grade	80.92	14.89					

** P < .01 Cronbach alpha: Diagonal elements of the correlation matrix are given in italics.

When Table 1 is investigated, there were significant correlations in statistical terms found between family support with school climate ($r=.33$) and school adjustment ($r=.36$); between peer relationships with school climate ($r=.12$) and average grade ($r=.22$); between school climate with school adjustment ($r=.33$); and finally, between school adjustment and average grade ($r=.22$). With the aim of investigating how and to what degree the independent variables in the research can explain school adjustment, the hypothesis model given in Figure 1 was created.

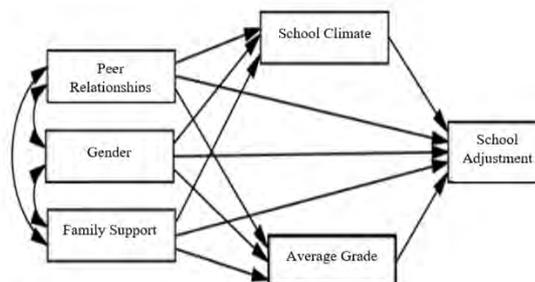


Figure 1. Hypothesis model

On Figure 1, peer relationships, gender and family support both directly affect school adjustment and indirectly affect it mediated by school climate and average grade. The general fit coefficients related to the hypothesis model are given in Table 2. As this research is also a model development study, the variation indexes obtained as a result of analysis affect the relevant path in the model and removing the path from the model may be required. Accordingly, firstly the path between family support and academic grade was equilibrated to zero (alternative model 1). In addition to this change, in the second stage, the direct effect between peer relationships and school adjustment (alternative model 2) and in the third stage the correlation between gender with average grade (alternative model 3) were equilibrated to zero. The general fit coefficients for each of the tested models are presented in Table 2.

Table 2. General fit and incompatibility coefficients related to alternative models

Models	χ^2	sd	χ^2/sd	p	CFI	RMSEA	$\Delta\chi^2$
Hypothesis model	.000	0	0	1.00	1.00	.00	
Alternative Model 1 (Family support → average grade= 0)	1.20	1	1.20	.27	.99	.02	1.20
Alternative Model 2 (Peer relationships → school adjustment = 0)	2.72	2	1.36	.26	.99	.03	1.52
Alternative Model 3 (Gender → average grade = 0)	4.97	3	1.66	.17	.99	.04	2.25

As seen in Table 2, the correlations between family support and gender and academic success, peer relationships and school adjustment were equilibrated to zero in alternative model 3. The general fit/incompatibility coefficients for the model were above acceptable levels. For this reason, alternative

model 3 was considered to be the most economic model to explain the correlations and the parameter estimations related to this model are given in Figure 3.

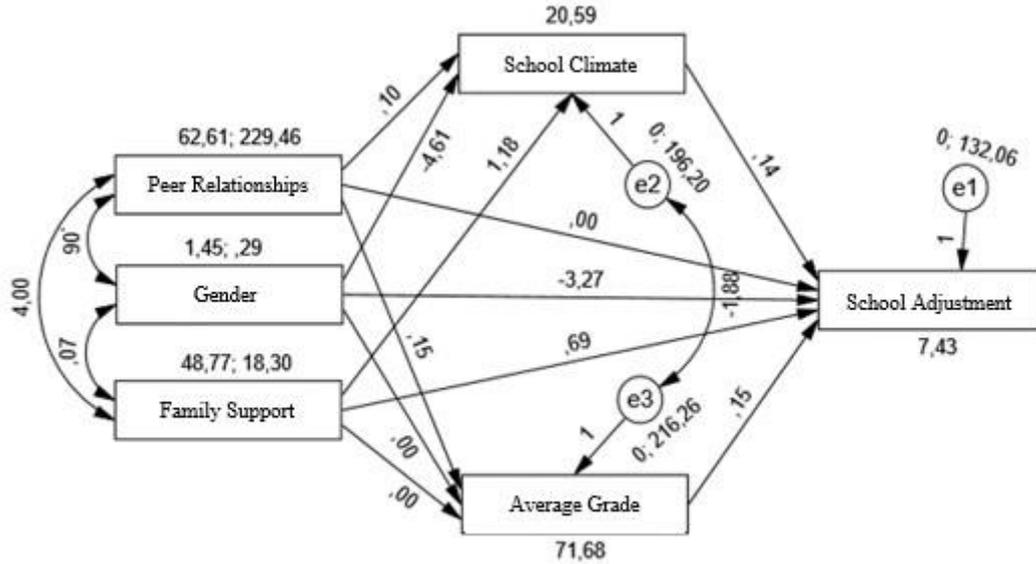


Figure 3. Alternative model 3: unstandardized regression weights

Direct Effects

As seen in Figure 3, a one-point increase in the school climate variable caused a .14 ($\beta = .17$) increase in school adjustment points. Standardized regression weights are shown within the text (β). This variation was significant in statistical terms ($Z = 3.695$; $p < .001$). Additionally, a one-point increase in average grade caused a .15 ($\beta = .17$) point increase in school adjustment points. This variation was also significant in statistical terms ($Z = 3.854$; $p < .001$). Additionally, a one-point increase in family support points of students caused a .69 ($\beta = .24$) increase and this variation was significant in statistical terms ($Z = 5.263$; $p < .001$). Being male caused a -3.27 ($\beta = -.14$) point reduction in school adjustment points. This effect appeared to be statistically significant ($Z = -3.331$; $p < .001$). A one unit increase in peer relationships points caused a .10 ($\beta = .10$) point increase in school climate points and a .15 ($\beta = .15$) increase in academic grades and it was concluded that these effects were statistically significant ($Z = 2.427$; $Z = 2.427$ $p < .05$). A one unit increase in family support points caused a 1.18 ($\beta = .33$) increase in school climate points and this effect was statistically significant ($Z = 7.816$; $p < .001$). Finally, being male reduced school climate points by -4.56 ($\beta = -.16$) and this again was found to be statistically significant ($Z = -3.848$; $p < .001$). When the standardized regression coefficients are investigated, family support had the largest effect on school adjustment and this was followed by school climate, academic grade and gender. Peer relationships did not affect school adjustment. The effect of family support on school climate was nearly two times that of gender and three times that of peer relationships. For academic grade, while there was no effect of gender and family support observed, peer relationships had low-moderate levels of effect.

Indirect effects

Two indirect effects and two linked mediating variables were defined in the model. The first was the indirect effect of gender, peer relationships and family support on school adjustment points. In this indirect relationship, the mediating variable was defined as school climate. Accordingly, being male caused a 4.56 reduction in school climate points, and .14 transferred from school climate to school adjustment. In other words, being male had an indirect effect on school adjustment of -0.67 ($-4.61 * .14$). This effect was statistically significant ($Z = 2.70$; $p < .05$). Family relationships caused a 1.18 increase in school climate and school climate transferred .14 effect to school adjustment. The

indirect effect was .17. Accordingly, students who feel they receive support from their families have increased school climate perceptions and this increases their school adjustment. This effect was significant in statistical terms ($Z= 3.54$; $p< .05$).

The other mediating variable in the model was academic grade and it only mediated the association between peer relationships and school climate. Accordingly, the indirect effect of peer relationships on school adjustment was .01 on school climate and .03 on academic grade for a total indirect effect of 0.4. This effect was significant in statistical terms ($Z= 3.27$; $p< .05$). When standardized indirect effects are investigated, it was .06 for family support, .04 for peer relationships and .03 for male gender on school adjustment.

Total Effects

Total effects comprise the sum of direct and indirect effects. Accordingly, the effects on school adjustment were -3.94 for gender, .87 for family support, .04 for peer relationships, .15 for academic grade and .14 for school climate. The standardized regression coefficients for these predictors were -.17, .29, .04, .17 and .17, respectively. In conclusion, family support was more effective on school adjustment than the other predictors. Male gender had the effect of reducing school adjustment, while academic grade and school climate were at the same levels. Peer relationships had marginal effect on school adjustment.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

As a result of analyses performed in this study, school climate, academic grade and family support variables positively affected the school adjustment of middle school students. When the effect of gender is examined, being male appeared to cause a reduction in school adjustment points. School climate is a construct representing the physical and social elements of school. **Özdemir et al. (2010)** stated that a positive school climate involved attaching importance to academic developments and learning, positive relationships between teachers and students, respect between all members of the school society, a just and consistent discipline policy and good relationships between school and family. In this context, positive school climate is important in terms of meeting the academic, social and psychological needs of students; for this reason, students with positive perceptions related to school climate have higher school adjustment. School meets the needs of these students, and these students, as expected, are adjusted and provide feedback. This finding obtained from the study is parallel to other studies in the literature (Cynthia, 1999; Jia et al., 2009; Way et al., 2007). In conclusion, positive perception of school climate is a factor positively affecting school adjustment of middle school students, as in other educational levels. Based on this, it appears important that school should become an attractive place for students in physical and social terms. Additionally, one dimension of school climate is relationships in school life; within this framework, the presence of healthy communication especially between teachers and students, administrators and students, and between the teachers themselves appears necessary for a school to offer a good atmosphere for students psychologically.

As stated previously, an important indicator of school adjustment is academic success (Bush & Ladd, 2001). Studies stating that students with low academic success have difficulty adjusting to school (Jiang & Cillessen, 2005; Gülay, 2010) support the result in this study that as average grade increased, school adjustment of students increased. Lessons, academic activities and average grade representing their results is an important marker in terms of predicting the school adjustment of students. Along with academic failure, maladjustment may increase, which is thought to cause negative outcomes in other areas of school adjustment like relationships in school, discipline problems and perspective on school, not just in activities related to lessons. In this context, schools are important as places which support the success of students in academic fields. Another variable affecting school adjustment of middle school students which significantly contributed to the model was family support. Accordingly, students who receive positive interest, love and support from families and are supported by family when faced with problems have better adjustment to school, as expected. This finding in the

study is parallel to the results of some studies in the literature about family support and school adjustment (Clark & Ladd, 2000; Cotterell, 1992; Davidson et al., 1994; Demaray, Malecki, 2002; Malecki & Demaray, 2003; Murray, 2009). Family support is generally a protective factor in life for children and adolescents (Jessor, 1987). In this context, just as family support may be an obstacle to students displaying a range of negative behaviors, it may assist in them displaying positive traits. It is considered that family support is important in the name of ensuring adjustment to school life, especially. Moving from here, effective continuation of family guidance studies is thought to be important not just for the student in school life but also to become an active structure guiding families.

Additionally, when school adjustment of middle school students is investigated in terms of gender, differences were present and male students had lower school adjustment. Similarly, Uz Baş (2003) revealed that in 4th and 5th classes, female students had higher school adjustment compared to males. For this reason, in the middle school period, being male lowered school adjustment. As stated by Bernstein (2002), the reason for this difference in adjustment between the two genders may be due to female and male students experiencing different difficulties in a developmental context. In conclusion, considering the lower adjustment in school, guidance services may be especially required to ensure more effective use of environmental variables like peer relationships and family support to increase the school adjustment of male students. Based on this finding of the study, factors affecting school adjustment of male middle school students may be determined with a different model.

In the study, the indirect effect of peer relationships and family support on school adjustment points was investigated and effects firstly revealed that gender significantly predicted school adaptation through school climate. Being male caused a fall in school climate points and then school adjustment mediated by this. In this context, male students in the middle school period had more difficulty adjusting to school mediated by school climate and it may be considered that gender carries a risk in terms of school adjustment. For this reason, male students having positive perceptions related to school climate is important in terms of school adjustment at this teaching level. In this context, it appears important to pay attention to regulating school climate to meet the developmental and personal needs of students and in terms of gender dynamics. In addition to the gender factor, family relationships predicted school adjustment mediated by school climate. Stated differently, students with high perceived family support had increased perceptions of school climate and this increased their adjustment to school. This situation reveals that family support has a positive effect on school climate and this effect is reflected in school adjustment. In conclusion, when it comes to school adjustment, family support is both a direct and indirect protective factor. Family support is known to be protective in terms of many risk situations, not just school adjustment, in the life of adolescents (Gençtanırım Kurt & Ergene, 2017; Kodoman; 2019; Yıldırım, 2006). This result reveals the importance one more time of work to increase family education, family guidance and school-family cooperation in order to increase family support. For this reason, it appears important to continue available programs, to investigate and resolve deficiencies if present and to develop new programs.

The other mediating variable in the model is academic grade and it only mediated the correlation between peer relationships and school climate. Accordingly, the indirect effect of peer relationships on school adjustment was significant. It is an expected result that peer relationships among middle school students will positively affect school climate and hence positively affect school adjustment. When it is considered that middle school students are at the beginning of the adolescent period, the peer effect (Adams, 1995) may be associated with many of their behaviors. Based on this finding, students may need good friend relationships for a positive school climate; when a positive school climate forms this will increase their adjustment to school. For this reason, considering school climate is associated with the interactions of all individuals in the school (Hoy, 2003), there is a need for studies about developing peer relationships among middle school students with the aim of ensuring formation of a positive school climate and increasing school adjustment. It is considered that psychoeducational programs about developing peer relationships for school-based students will be effective. Finally, performing similar studies in the name of understanding school adjustment in middle school is expected to contribute to the literature and practice, and in this context, researchers are recommended to perform similar studies.

Finally, it is necessary to state that though this research provides important findings and outcomes revealing the variables explaining school adjustment of middle school students, it has some limitations. The data for the study were collected from a single county and this is one of the limitations. Assessment of data obtained from only students for a multidimensional construct like school adjustment is another limitation of the study. Future studies may assess data provided by students, teachers and families for school adjustment using scale tools revealing teacher and family opinions while measuring school adjustment of students.

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