The role of school social climate on satisfaction of adolescent students’ basic psychological needs at school

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Abstract
Present study aimed to examine the role of school social climate on the adolescent students’ basic psychological needs at school. Participants were 303 high school students from İstanbul. School Social Climate scale, Adolescent Students’ Basic Psychological Needs at School Scale and a Personal Information Form were used to collect data. Three separate regression analysis were conducted to analyse the data. Results of the first regression analysis revealed that independent variables together accounted for the 20% of the variance in autonomy among adolescents. Age, school and peers found to be significant predictors of autonomy. Results of the second regression analysis revealed that independent variables together accounted for the 24% of the variance in relatedness among adolescents. Teachers and peers found to be significant predictors of relatedness. Final regression analysis revealed that independent variables together accounted for the 19% of the variance in competence among adolescents. Only variable that had significant contribution within the model was peers.

1. Introduction
Self-determination theory asserts that individuals seek experiences that fulfill the fundamental need for competence, autonomy, and relatedness within diverse contexts (Deci & Ryan, 2000). Accordingly, students’ positive perceptions of the school context in terms of the fulfillment of their psychological needs, leads to positive psychological and academic outcomes (Deci & Ryan, 2000; Reeve, 2002). Three psychological needs at school are: autonomy, relatedness and competence. Autonomy is defined as the need to control the course of one’s life, relatedness is defined as the need to have close, affectionate relations with others and competence is defined as the need to have mastery over tasks that are important for oneself (Deci, et al., 1991). Within the school environment, the need for autonomy refers to initiating and sustaining students’ own actions and taking responsibility for these actions in the school. Competence refers to the degree of success in students’ school life, the level of effectiveness in reaching the desired outcomes, intrinsic motivation in school and expressing personal abilities.
Relatedness refers to students’ level of attachment to their school and their relationships with their teachers and peers (Deci & Ryan, 2000; Skinner, et al., 2008; Tian et al., 2014).

School is an important social context where students have the opportunity to express themselves, acquire new skills and interact with the social environment (Tian et al., 2014). Many studies revealed that the mismatch between adolescents’ psychological needs and the opportunities provided by their school environment have several negative effects on adolescents’ psychological adjustment (Eccles, 2007; Roeser & Eccles, 1998). Satisfaction of adolescents’ basic psychological needs at school depends both on individual characteristics and on qualities of the school settings they attend (Alvidrez & Weinstein, 1993). School social climate is a multidimensional construct that includes organizational, instructional, and interpersonal dimensions (Loukas & Robinson, 2004: 210), which is broadly defined as the students’ perceptions of their school, teachers and other students. Perceptions of school refer to the students’ beliefs about the safety of the school, their feelings of belonging to the school and participatory and democratic atmosphere within the school context. Perceptions of teachers refer to students’ beliefs about the supportive, caring attitudes of their teachers and their close and trusting ties with their teachers. Perceptions of peers refer to students’ positive relations with their peers, collaborative and friendly ties between students and attitudes of students toward education (Bayar, 2010; Bayar & Uçanok, 2012).

School social environment may support adolescents’ psychological needs in several ways. Supporting adolescents’ need for autonomy is found to be associated with students’ freedom to make independent decisions regarding class or school related subjects, a safe school and an open classroom climate and participation in decision making in school governance (Patall et al., 2010; Reeve, 2002; Roeser et al., 1998; Torney-Purta, 2002). Supporting adolescents’ need for competence is found to be associated with giving optimally challenging assignments, providing opportunities for individual problem solving, supporting instinct motivation and creating a respectful atmosphere, where students feel accepted and valued (Gnabs & Hanfstingl, 2016; Stipek, 2002). Finally supporting adolescents’ need for relatedness is associated with good communication and positive interactions between teachers and students, supportive, responsive, and caring teacher behaviors (Burchinal et al., 2003; Pianta, 1999; Pianta, & Howes, 2002; Solomon et al., 2000) and supportive, sharing and friendly relations between students (Benner et al., 2015; Lam et al., 2014).

There are many studies providing evidence that the school social environment have important psychological and academic outcomes for adolescents (Anderman, 2002; MacNeil et al., 2009; Patrick et al., 2007; Roeser et al., 2000; Wang & Holcombe, 2010; White et al., 2014). In Turkey, while there is a significant number of research on the role of school environment on academic variables, such as academic achievement, learning environment, and academic resiliency (Altun & Memişoğlu, 2011; Bektaş & Naçlı, 2013; Bozdoğan & Sağnak, 2011; Buluç, 2014; Gizir, 2004), there is a limited number of research on the role of school social environment on adolescents’ psychological development. Besides, studies focusing on the psychological outcomes of the school environment generally address the
negative outcomes, such as bullying and aggression (Bayar & Uçanok, 2012; Çalık et al., 2011; Yıldız & Sümer, 2016). Only a few studies address school environment in terms of well-being or resiliency. In one of those studies, Bugay et al. (2015) reported strong positive correlations between school climate and life satisfaction among adolescents. In another study Arastaman and Balcı (2013) found that caring relationships at school is associated with resiliency among students. Furthermore, as Bugay et al. (2015) stated, most of the existing research on this subject is conducted with elementary students. Yet, in contrast to elementary schools, greater emphasis on teacher control and discipline and fewer opportunities for student decision-making typically characterize public high schools (Kuperminc, et al., 2001:142). Consequently, high schools become ineffective in meeting the basic psychological needs of adolescents at this developmental stage. Following this, the aim of the present study is to test the role of school social environment on adolescent students’ basic psychological needs at school.

2. Method

2.1. Participants

Participants of the study were 303 students (female=56%) attending various Science and Anatolian high schools in Istanbul. Students’ ages ranged between 15 and 18. The 31% of the participants were 9th graders, 35% 10th graders and 34% of the participants were 11th graders.

2.2. Instruments

Information Form. The form consisted of questions regarding students’ age, gender and grade level.

School Social Climate Scale (Hanif & Smith, 2010). A self-report questionnaire, SSCS has three dimensions namely, school, teachers and students and the original form consists of 33 items rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Turkish adaptation of SSCS was conducted by Bayar (2010) and Cronbach’s alpha coefficients were reported as .91 for school, .94 for teachers and .88 for peers dimensions.

The Adolescent Students’ Basic Psychological Needs at School Scale (ASBPNSS) (Tian et al., 2014). A self-report questionnaire, ABPNSS has three dimensions namely, autonomy, relatedness and competence and consists of 15 items rated on a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Higher scores on each dimension represent high levels of autonomy, relatedness and competence. In the original study, Cronbach’s alpha coefficients for autonomy was .85, for relatedness .80 and for competence .77. In original study CFA results were reported as χ2= 166.12 (df= 87), p<.01; CFI= .98; NNFI=.97; RMSEA=.054, 90% CI[.042, .067]; SRMR=.048. Turkish adaptation of the scale was conducted by Özen & Demir (2018), as a result of the Explanatory Factor Analysis one item was extracted from the original form and the 14 item form has proven to be a valid and reliable tool to use among Turkish adolescents. [RMSEA=.077; χ2=205.04; df=74; AGFI=.87; GFI=.91; SRMR=.047; CFI=.97; NNFI=.96; NFI=.96]. Cronbach Alpha Coefficients were calculated as .79 for autonomy scale, .79 for relatedness scale and .73 for competence scale.
2.3. Procedure
Data were collected via paper-and-pencil forms during the spring semester of 2015 within the class hours. The consenting participants responded the data set in approximately 20 minutes.

2.4. Analysis
Three separate regression analyses were conducted in order to understand the role of school social climate on three basic psychological needs at school, namely autonomy, relatedness and competence. Before conducting the regression analysis, the values of skewness and kurtosis as well as Tolerance and VIF scores were calculated. Variables were assumed to be normally distributed with values of skewness and kurtosis (-.02, 1.2) range within the generally accepted values. Results also show that VIF scores were between 1 and 1.1 and Tolerance values were between .88 and .99, indicating no signals of multi-collinearity between independent variables.

3. Results
The first regression model was constructed to test the role of age, gender, perceptions of school, teachers and peers on the need of autonomy. Results of the regression analysis showed that the entire model explained 20% of the variance in autonomy scores $F (5, 297)= 15.001, p< .00$. Within the model, age, school and peers found to be significant predictors of autonomy (Table 1).

Table 1. Autonomy in terms of Age, Gender and School Social Climate Dimensions

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
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<tbody>
<tr>
<td>Age</td>
<td>-.914</td>
<td>.258</td>
<td>-.186*</td>
</tr>
<tr>
<td>Gender</td>
<td>.376</td>
<td>.488</td>
<td>.040</td>
</tr>
<tr>
<td>Teachers</td>
<td>.006</td>
<td>.041</td>
<td>.011</td>
</tr>
<tr>
<td>School</td>
<td>.116</td>
<td>.052</td>
<td>.203**</td>
</tr>
<tr>
<td>Peers</td>
<td>.139</td>
<td>.060</td>
<td>.202**</td>
</tr>
</tbody>
</table>

$R^2$ .20

$F$ 15.001*

*p<.00, **p<.000

The second regression model was constructed to test the role of age, gender, perceptions of school, teachers and peers on the need of relatedness. Results of the regression analysis showed that the entire model explained 24% of the variance in relatedness scores $F (5, 297)= 19.130, p< .00$. Within the model, teachers and peers found to be significant predictors of relatedness (Table 2).
Table 2. Relatedness in terms of Age, Gender and School Social Climate Dimensions

<table>
<thead>
<tr>
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<th>B</th>
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<tbody>
<tr>
<td>Age</td>
<td>.153</td>
<td>.268</td>
<td>.029</td>
</tr>
<tr>
<td>Gender</td>
<td>.064</td>
<td>.507</td>
<td>.006</td>
</tr>
<tr>
<td>Teachers</td>
<td>.110</td>
<td>.043</td>
<td>.199**</td>
</tr>
<tr>
<td>School</td>
<td>-.012</td>
<td>.054</td>
<td>-.019</td>
</tr>
<tr>
<td>Peers</td>
<td>.259</td>
<td>.062</td>
<td>.353*</td>
</tr>
<tr>
<td>$R^2$</td>
<td></td>
<td></td>
<td>.24</td>
</tr>
<tr>
<td>$F$</td>
<td></td>
<td></td>
<td>19.130*</td>
</tr>
</tbody>
</table>

*p<.00, **p<.000

The third regression model was constructed to test the role of age, gender, perceptions of school, teachers and peers on the need of competence. Results of the regression analysis showed that the entire model explained 19% of the variance in competence scores $F$ (5, 297)= 14.266, $p< .00$. Within the model, only peers found to be significant predictor of competence (Table 3).

Table 3. Competence in terms of Age, Gender and School Social Climate Dimensions

<table>
<thead>
<tr>
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<th>B</th>
<th>SE B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.259</td>
<td>.221</td>
<td>-.062</td>
</tr>
<tr>
<td>Gender</td>
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<td>.417</td>
<td>.042</td>
</tr>
<tr>
<td>Teachers</td>
<td>.041</td>
<td>.035</td>
<td>.094</td>
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<tr>
<td>School</td>
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<tr>
<td>Peers</td>
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<td>.051</td>
<td>.391*</td>
</tr>
<tr>
<td>$R^2$</td>
<td></td>
<td></td>
<td>.19</td>
</tr>
<tr>
<td>$F$</td>
<td></td>
<td></td>
<td>14.266*</td>
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*p<.00

4. Discussion

Results of the present study show that satisfaction of basic psychological needs at school has strong associations with several aspects of school climate. Specifically, autonomy is related to positive perceptions about peers and the school as well as age; relatedness is related to positive perceptions about peers and teachers and competence is only related to positive perceptions about peers.

The satisfaction of the need for autonomy is associated with a democratic, participatory and a safe school environment. When students feel that their perspectives are taken into account and their voices are heard by the school authorities, their trust in themselves as autonomous individuals increase and encouraging autonomous behavior leads to the satisfaction of autonomy needs for the adolescents. Several studies show similar results regarding the role of participatory school environment in promoting autonomy development during adolescence (Reeve, 2002; Roeser et al., 2000). Likewise, trusting, collaborative and friendly relations between the students -without the fear of rejection, peer pressure or bullying- may facilitate more autonomous behavior among students, leading to the satisfaction of autonomy needs for the adolescents. Wigfield et al., (2005) stress the gradually increasing importance of peer relationships as sources of support in adolescence. A positive relationship with peers is associated with higher self-esteem, which is a crucial asset for the development of autonomy (
Roseth et al., 2008). Similarly, in Osterman’s (2000) study peer acceptance was found to be a stronger predictor of autonomous behaviour than perceptions about teachers. In the current study, there is a negative association between age and autonomy. This finding is in line with Gnams and Hanfstingl’s (2016:6) assertion that schools fail to support the need of autonomy as adolescents mature, because the controlled and rule-oriented environment of the school is in contrast with the adolescents’ increasing need to assert their individuality.

The satisfaction of the need for relatedness is associated with positive perceptions of both peers and teachers in the present study. Studies suggest that caring and supportive teachers, who have warm relations with their students, encourage the development of positive social skills (Eccles, 2007). Such social skills may enable the satisfaction of relatedness needs within the school. Likewise, collaborative and friendly relations with other students may facilitate the satisfaction of relatedness needs for the students. In the present study the need for competence is only found to be associated with perceptions about peers. There are many studies suggesting that positive peer characteristics such as, high academic motivation, positive attitudes towards school, encouragement of efforts and helpfulness promote competence among adolescents. (Gnams & Hanfstingl, 2016; Juvonen, 2006; Simons et al., 2009; Zimmer-Gembeck et al., 2006). In our study, perceptions about peers is characterized by caring, friendly and collaborative relations and high educational aspirations and motivation, therefore as expected these characteristics are found to be associated with competence.

In the present study, need for competence had no significant associations with perceptions about the school and the teachers. That is surprising because research shows that the need for mastery, knowledge and achievement is related to both school and teachers’ characteristics (Linnenbrink & Pintrich, 2002; Roesser et al., 2000; Wang & Holcombe, 2010). There might be several explanations for this finding. First, studies emphasizing the role of school and teachers on student competence focus on characteristics such as goal structures, teaching strategies and evaluation methods, however in our study school and teacher characteristics included participation in decisions, safety, respectfulness, warmth and supportiveness. Thus, other studies measuring specific educational characteristics may give more information about the role of schools and teachers on promoting competence among students. Second, several researchers assert that a competitive, grade and mastery oriented school and classroom environment, in which students are compared with their peers, hinder the development of competence because adolescents need more supportive, effort oriented and collaborative environment to develop their competencies (Linnenbrink, 2005; Roesser & Eccles, 1998; Wang & Holcombe, 2010). Similarly, because of the success oriented and highly competitive nature of the university entrance exams in Turkey (Kumandaş & Kutlu, 2014), students may not perceive their school and teachers as supportive as their peers in terms of developing competencies.

This finding may also have a cultural explanation; studies show that positive interpersonal relations are more important than institutional variables in the motivation and achievement perceptions of employees in collectivistic cultures (Triandis, 2001). Following this explanation, we may assume that relations with
peers may provide more support for Turkish adolescents for setting goals, motivation for mastery and achievement than their school and teachers. Some of the studies on school climate in Turkey also support this explanation. For example Bugay et al. (2015) reported that interpersonal relations within the school have strong associations with students’ well-being. Furthermore, in Arastaman and Balci’s (2013) study, teacher attitudes and school climate was found to be insignificant in predicting resiliency, while family and peer support were the significant variables. These results suggest that interpersonal variables, such as family and peers may have important contributions for competence and further research involving peers, family and parental variables would give valuable insight on adolescent students’ basic psychological needs at school.

**Kaynakça**


Stipek, D. J. (2002), Motivation To Learn: Integrating Theory and Practice, Allyn and Bacon, Boston.


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