Academic Hatred: Focusing on the Influence of a Supportive Classroom Climate

Minyoung Lee¹, Mi Kyoung Lee¹, Huk Yaung¹, Taerim Lee¹, and Sang Min Lee¹

Abstract
This study aimed to examine the effects of interpersonal factors (i.e., teacher and peers) on academic hatred using the hierarchical linear model analysis. The data were collected from 1,015 senior high school students from 43 classrooms (57.3% female) in South Korea. The results showed significant effects of teachers’ academic pressure, autonomy support, and peer support on academic hatred at both the individual and classroom levels. Interestingly, teachers’ academic pressure showed different effects on academic hatred at the individual and classroom levels: a negative effect at the individual level and a positive one at the classroom level. At the classroom level, peer support did not significantly influence academic hatred, while at the individual level, peer support negatively affected academic hatred by interacting with teachers’ autonomy support. This paper discusses the practical implications for preventing academic hatred in the classroom.

Keywords
academic emotion, academic hatred, teacher support, peer support, hierarchical linear model, class climate

Students who spend most of their daily lives studying experience a variety of feelings in academic settings; according to Bernardo et al. (2009) and Chiang and Liu (2014), this includes emotions related to the learning process or of being evaluated using standardized criteria. Taken together, these emotions are called “academic emotion,” and they can serve as both the antecedents and consequences of emotional experiences in achievement and academic contexts (Pekrun, 2006). For instance, according to Pekrun (2000, 2006), students who experience positive feedback, abundant social support, and meaningful performance or achievement feel positive emotions. Feelings of positive, high-arousal emotions (e.g., enjoyment, hope, and gratitude), serve as the driving force that keep them focused on their studies. In addition, if students feel positive, low-arousal emotions (e.g., relaxation, relief, and contentment), their learning slows down temporarily, but such feelings give them the power to continue their academic work. On the contrary, negative feedback, comparisons with others, and less social support cause students to feel negative emotions toward their studies. Negative, low-arousal emotions (e.g., hopelessness, disappointment, and boredom) have negative effects on academic work by making students perceive that their academic achievement is out of their control. Furthermore, students who feel negative, high-arousal emotions (e.g., anxiety, anger, frustration, and hatred) may try to overcome their difficulties in the learning process but will also make undesirable efforts to avoid academic failure.

The first study to introduce the concept of “academic hatred,” by M. Lee et al. (2019), used the term to mean hatred of academic work. According to M. Lee et al. (2019), academic hatred is an academic emotion that is negative and highly arousing in arduous and competitive academic contexts. Students who experience negativity, injustice, humiliating or demeaning evaluations of their academic performance, and excessive competition may experience primary feelings such as fear, shame, and guilt. If these primary feelings are not taken care of or there is no proper intervention, then students will come to hate the whole academic setting, including school. This psychological process will be more noticeable when a student feels less control of his or her academic work or when conflicts with others related to study are severe.

¹Korea University, Seoul, South Korea

Corresponding Author:
Sang Min Lee, Department of Education, Korea University, Anamdong, Sungbukgu, Seoul 02841, South Korea.
Email leesang@korea.ac.kr

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Originally, the concept of academic hatred was introduced as an additional sub-dimension of Korean Academic Burnout Inventory (KABI) and was called as antipathy (Y. B. Lee et al., 2009). However, in the KABI, most questions about the antipathy are measured through the predicate ‘hate’ (M. Lee, 2020). Generally, hate is considered to develop when others ill-treat or humiliate or, whose deliberate action interferes with someone’s goal (Aumer-Ryan & Hatfield, 2007). One of the key points to understand the development of hate emotion is appraisal patterns of danger and feelings of powerlessness (Fischer et al., 2018). It includes the characteristics which are low levels of control, high levels of obstacles, and intense unpleasantness (Fitness & Fletcher, 1993). Thus, in this study, we considered academic hatred as an emotion resulting from cognitive-affective maladaptation where one is threatened by the violation of goal, self-values, and identity in an academic context, going beyond the previous definition by M. Lee et al. (2019) of “disliking academic work or avoiding it.” Consequently, it can be supposed that academic hatred would make students have a detached attitude toward their academic work and show destructive psychological or behavioral tendencies.

The school context, which features inherent power and relational complexities among teachers and students, can be described as saturated with emotions. In other words, students’ emotional experiences are influenced by contextual factors. In particular, the classroom is a significant space where students stay with teachers and friends, who share the same environment, for a long time. In the classroom, students share norms, values, goals, and relational patterns, developing a distinct classroom climate that affects all members within its influence (Ashkanasy, 2003), including various interpersonal relationships and different levels of teacher control (Thornberg et al., 2018). Although a lot of studies emphasized the importance of classroom climate, there is no universal consensus on how to operationalize the classroom climate construct (T. Wang et al., 2020) because classroom climate is multidimensional construct based on various theoretical frames. Nevertheless, they commonly presented three basic classroom components which can describe the concept of classroom climate: instructional support, socioemotional support, and classroom organization and management (T. Wang et al., 2020). These components are associated with teacher-student interactions. However, this study additionally focuses on peers as well as teacher because the relationships among peers are another significant interactive dynamics in the classroom. Zedan (2010) maintained that classroom climate is the sum of all the group processes that take place during teacher-student and student-student interactions. In other words, it can be consider that the classroom climate is a shared environmental factor which is permeated everyone in the classroom. However, even under the effects of the same environment, the physical or psychological results of individuals would be different because there are differences among individual characteristics. These differences would interact with the shared environment and may lead to different outcomes. For example, suppose there is a student who has a bad relationship with his friends. If this student is placed in a class involving intimate atmosphere formed by classmates, he may feel more lonely and sad than if he is placed in a class that is not.

A classroom climate that meets students’ interpersonal needs can lay the groundwork for a positive learning experience as well as social and emotional adjustment to school (Deci & Ryan, 2008). Therefore, this study focuses on interpersonal support (i.e., teacher and peer support) as an essential component of the classroom climate, and examines the association between the perception of interpersonal support from teachers and peers and academic hatred. Given that teachers can play a direct, significant role in students’ learning activities and outcomes, the teacher-student relationship is important in predicting academic emotion. According to the control-value theory of academic emotions (Pekrun, 2006), students experience positive emotions when they perceive their academic work as a valuable and controllable thing. Similarly, R. M. Ryan and Deci’s (2000) self-determination theory emphasizes that sense of control over one’s learning allows autonomy, one of the psychological needs of students alongside competence and relatedness. Extensive research (Mega et al., 2014; Pekrun et al., 2002) has demonstrated the relationship between self-controlled or self-regulated learning and positive academic indicators such as academic interest, motivation, and goal achievement.

Accordingly, in teaching and learning situations, teacher autonomy support functions as a facilitator of positive academic emotion, whereas controlling behaviors by teachers like academic pressure would do the opposite. Teachers’ support of students’ autonomy includes actions such as offering choices, avoiding controlling behavior, allowing students’ opinions and feelings to be expressed, and helping students to connect their academic work with their personal goals and values (Assor et al., 2002). It is important to provide opportunities for self-direction and self-relevance, a fundamental principle of various instructional strategies to boost students’ academic interest (Reeve et al., 2015). Academic interest is closely related to positive academic emotion and active engagement. For example, Jia et al. (2009) reported that higher perceptions of teacher support and the chance to have autonomy in the classroom are significantly and positively correlated with both the students’ self-esteem and academic achievement, and significantly negatively associated with depressive symptoms. This implies that a teacher’s respectful attitude toward students’ opinions enhances not only their self-esteem but also their learning performance. This may be related to positive emotional experiences including enjoyment of learning, satisfaction with themselves, and gratitude toward people who offer help. Conversely, controlling teacher behaviors are more likely to develop negative emotions among students by violating students’ self-chosen value or autonomy. For
instance, an empirical study by Assor et al. (2005) showed that teachers who acted in a controlling manner made students feel anxious and angry, which mediated the harmful effects of direct controlling teacher behavior (e.g., ignoring students’ own learning pace and listening only to students’ opinions that matched their own) on the motivational state and engagement of students. That is, students who feel anger and anxiety because of teacher pressure regarding their learning activities are less likely to participate in learning. More recently, introducing the concept of academic hatred for the first time, M. Lee et al. (2019) proved several significant antecedents of academic hatred. Among them, teacher autonomy support turned out to be the critical factor in relation to hatred toward academic work at the class level. Teacher autonomy support is related to a lower initial degree of academic hatred and plays a role in decreasing students’ emotional state over time.

Meanwhile, it has been confirmed that peer relationships, as a critical component of the classroom climate, are another important factor that enhance students’ academic adjustment (W. Wang et al., 2014). Adolescent students spend much of their day with their classmates in the same place, so they tend to share many things that occur in the class. Because of this, students develop peer groups with those who share the same experiences as them regarding norms, values, and behaviors (A. M. Ryan, 2000). If a peer group has supportive mutual experiences, it means that, within the group, they will help one another address difficulties, share responsibilities, and attempt an agreement over the choice of benefits for academic achievement (Mead et al., 2001). Based on mutual respect and acceptance, these peer support behaviors not only make adolescents feel a sense of relatedness to others (or belonging) but can also contribute to the growth of competence and coping skills needed to handle life stress (Cotterell, 1992). That is, when a student experiences severe academic stress, if they are aware of their peer group members as a source of support, they will probably ask them for help and thus be able to reduce their stress. Conversely, poor relationships with peers are linked to not only reduced self-esteem but also negative psychological symptoms and dissatisfaction with school (Jia et al., 2009; Woolley et al., 2009).

Perceived relationships with teachers and peers are considered as the most important social contextual factors in classrooms that promote students’ motivation and engagement (A. M. Ryan & Patrick, 2001). In a classroom, the teacher tends to play a leading role, and organizes the social interaction patterns. In other words, teacher-student relationships can influence the level of peer interaction and acceptance by providing modeling support and rewards/punishments for student behaviors (Hughes et al., 2014; A. M. Ryan & Patrick, 2001). The more a teacher makes an effort toward establishing a cooperative learning environment and toward paying profound attention to students’ social and academic needs, the more likely students are to try

and seek help regarding their difficulties and to have a cooperative attitude toward their classmates. In this regard, we expect effects between the interaction of teacher and peer interpersonal variables.

As noted earlier, academic hatred, a high-arousal negative emotion, suggests academic maladjustment in students. However, despite its significance, academic hatred has rarely been studied. Although a recent study M. Lee et al. (2019) examined the relationship between teacher and parental support and academic hatred, it excluded the influence of peers. Extensive research has reported the association between positive teachers’ support provision to students and reduced negative academic emotions, and vice versa (Lei et al., 2018). From the earlier studies, we assumed that teacher-related factors (teachers’ academic pressure and teachers’ autonomy support) have more direct impact on academic hatred. Meanwhile, studies of peer influence on academic emotions have relatively drawn less attention in educational research (Goetz et al., 2006). Previous studies, however, showed that peer support was closely related with students’ academic motivation, classroom engagement, and school belonging (Kiefer et al., 2015; Wentzel et al., 2010). In this regard, we expect that peer support making social environment at a classroom may act as a buffer to put up with or overcome one’s negative feelings like academic hatred from stressful academic events. Therefore, this study aims to investigate the interactive effects of teacher support and peer support on academic hatred. Since perceptions of the classroom climate differ according to individuals and the classroom as a whole, the current study differentiated between individual and classroom influences, and identified cross-level interaction by adopting the hierarchical linear modeling (HLM), which analyzes hierarchically structured data (Woltman et al., 2012). Since social interactions are contextual and environmental in nature, we assumed that there would be an interactive effect (moderation effect) of the teachers’ interpersonal factors (e.g., academic pressure and autonomy support) and peer factors (e.g., peer support) on academic hatred at the individual and classroom level. Specifically, we examined the following hypotheses in the present study:

H1: Classes differ in the amount of teacher academic pressure, teacher autonomy support, peer support, and academic hatred.

H2: Components of the classroom climate will significantly influence academic hatred at both the individual and classroom level.

H2-1: Teacher autonomy support and peer support will be negatively associated with academic hatred.

H2-2: Teacher academic pressure will be positively associated with academic hatred.

H3: Teacher academic pressure, teacher autonomy support, and peer support will interact with one another and significantly influence academic hatred.
Method

Participants

The data for this study were collected from 1,015 senior high school students (42.7% male [n=433], 57.3% female [n=582]) in 43 classrooms from eight schools in a diverse high school district in South Korea. Korean high school education generally offers four different curriculum tracks. In this study, 610 students were on the general track, 236 on the science track, 79 on the art/physical education track, and 6 on the vocational track. Regardless of the track, all participants in this study were preparing for the university entrance exam. In South Korean education system, students should attend high school curriculum for 3 years. And most high school seniors were preparing for college entrance exams. Concerning ethical issues, approval from the Institutional Review Board of a Korean university in South Korea was obtained (1040548-KU-IRB-15-170-A-1). Paper questionnaires with an informed consent form were distributed by homeroom teachers, and the students completed the survey under the teacher’s instruction.

Measures

Academic hatred. Participants’ academic hatred was measured using the antipathy scale included in the Korean Academic Burnout Inventory (KABI) by Y. B. Lee et al. (2009). The KABI was modified from the Maslach Burnout Scale-Student Survey by Schaufeli et al. (2002) for use on Korean high school students. According to Y. B. Lee et al. (2009), antipathy and anxiety are necessary to explain the academic burnout as well as exhaustion, cynicism, and efficacy of Korean students. The KABI includes 25 items and 5 subscales: Exhaustion, Inefficacy, Antipathy, Cynicism, and Anxiety. Table 1 provides information on the five items of Antipathy. These items correspond to and were used to assess academic hatred as no direct measures have been developed, despite its importance (M. Lee et al., 2019). It is rated on a 5-point Likert scale (1 = I strongly disagree and 7 = I strongly agree). High scores indicate a high level of academic hatred. In the study by Y. B. Lee et al. (2009), the Cronbach’s α of Antipathy was .90 and in the current study it was .93.

Teachers’ academic pressure. To assess the teachers’ academic pressure, the Teacher Achievement Pressure Scale of the Korean Educational Longitudinal Study (Ryu, 2005) was used. This scale measures students’ perceptions of how teachers focus on their students’ academic work and performance. Table 1 provides information on the six items of teacher’s academic pressure. It is rated on a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). High scores indicate a high level of teacher academic pressure. The Cronbach’s alpha in the study by Jeong (2015) was .71, and in this study, it was .83.
Table 2. Models and Equations.

| Models | Equations |
|--------|-----------|
| Unconstrained Model (no independent variables) | Level 1: \( AH_i = \beta_{0j} + \gamma_j \) |
| Model 1. (Level 1 independent variables) | Level 1: \( AH_i = \beta_{0j} + \beta_{ij}(\text{TAP}) + \beta_{2j}(\text{TAS}) + \beta_{3j}(\text{PS}) + \gamma_j \) |
| Model 2. (Levels 1 and 2 independent variables) | Level 1: \( AH_i = \beta_{0j} + \beta_{ij}(\text{TAP}) + \beta_{2j}(\text{TAS}) + \beta_{3j}(\text{PS}) + \gamma_j \) |
| Model 3. (Levels 1 and 2 independent variables with cross-level interaction) | Level 1: \( AH_i = \beta_{0j} + \beta_{ij}(\text{TAP}) + \beta_{2j}(\text{TAS}) + \beta_{3j}(\text{PS}) + \gamma_j \) |

Note. \( U_{ij} \sim N(0, \tau_{00}), U_{ij} \sim N(0, \tau_{10}), U_{ij} \sim N(0, \tau_{20}), U_{ij} \sim N(0, \tau_{30}) \). \( AH = \) Academic hatred; TAP = Teachers’ academic pressure; TAS = teachers’ autonomy support; PS = peer support; \( \bar{C} = \) mean of class.

**Teachers’ autonomy support.** The teachers’ autonomy support was measured using the scale included in the Korean version of the Autonomy Support Scale (KAS; Moon, 2006). The Autonomy Support Scale was developed by Hardre and Reeve (2003) and Moon (2006) modified it for use in Korea. The KAS includes 14 items and 2 subscales, namely, Teachers’ Autonomy Support and Parents’ Autonomy Support. Table 1 provides information on the six items of teacher’s autonomy support. It is rated on a 5-point Likert scale (1 = I strongly disagree and 5 = I strongly agree). High scores indicate high levels of teachers’ autonomy support. In Moon’s (2006) study, the Cronbach’s \( \alpha \) of Teachers’ Autonomy Support was .88, and in the current study it was .93.

**Peer support.** To assess the peer support that students perceived, the current study used the peer support subscale included in the Social Support Inventory (SSI; M. S. Kim, 1994). M. S. Kim (1994) developed the SSI based on Harter’s (1985) perceived social support. The SSI includes three subscales: Teacher, Family, and Peer Support. Table 1 provides information on the six items of peer support. It is rated on a 5-point Likert scale (1 = I strongly disagree and 5 = I strongly agree). High scores indicate high levels of peer support. In M. S. Kim’s (1994) study, the Cronbach’s \( \alpha \) of Teachers’ Autonomy Support was .71, and in this study, it was .91.

**Data Analysis**

Analyses were performed using SPSS 21.0 and HLM 7.0. First, descriptive statistics and correlations for all variables were generated using SPSS 21.0. Descriptive statistics and correlations were calculated by considering student and class levels. Second, Hypothesis 1 was tested using a one-way analysis of variance (ANOVA) model with random effects implemented in SPSS 21.0, and \( \eta^2 \) was computed to identify the study variables’ differences in within-group variance (individual level) and between-group variance (classroom level). Additionally, HLM 7.0 was used for ensuring adequate variance between the variables. Especially for a more reliable interpretation, mean centering was used. The Level 1 predictor variables were centered at the group mean as group-mean centering is an appropriate option for identifying individual student perceptions within a classroom. According to Raudenbush and Bryk (2002), group-mean centering of Level 1 predictor variables eliminates all between-individual variance from Level 1 predictor variables; therefore, it could estimate the pooled within-cluster regression coefficient. For centering the Level 2 predictor variables, grand-mean centering was used. The Level 2 predictor variables were calculated as each classroom average of the Level 1 predictor variables, in order to consider between-classroom differences. Third, Hypotheses 2 and 3 were examined to identify the effects of the teacher and peer variables, which are significant components of a supportive classroom climate on academic hatred. Because of the nested design of this study, Hypotheses 2 and 3 were tested using HLM (Bryk & Raudenbush, 1992), performed through HLM 7.0. Individual students (Level 1) were nested within classrooms (Level 2). Therefore, the current study contains four models and each equation, which are shown in Table 2.

**Results**

Table 3 shows the means, standard deviations, and correlations among all study variables. The results of the descriptive statistics (mean and standard deviation) revealed that there were not many differences between the student level and classroom level,
Table 3. Descriptive Statistics and Correlations.

|                          | 1    | 2    | 3    | 4    |
|--------------------------|------|------|------|------|
| 1. Academic hatred       |      |      |      |      |
| 2. Teachers’ academic pressure | -0.01 | -0.48** | -0.38* | -0.27 |
| 3. Teachers’ autonomy support | 0.16*** | -0.02 | -0.32 | -0.31** |
| 4. Peer support          | -0.26** | -0.07 | 0.39** | 0.44** |

Student level (N=1,015)
- M = mean; SD = standard deviation; N = number.
- Note. Student level is under and class level is above the diagonal line.
- *p < .05, **p < .01.

except in the correlation coefficients. Although the results regarding the correlation patterns were roughly similar, the correlations at the classroom level were much stronger than that at the student level. To examine Hypothesis 1, a one-way ANOVA was conducted using the classroom as the independent variable, and study variables (i.e., academic hatred, teachers’ academic pressure, teachers’ autonomy support, and peer support) as the dependent variables. All dependent variables had significant group differences among classrooms: F(1, 42)Academic hatred = 2.92, p < .001, η² = .11; F(1, 42)Teachers’ academic pressure = 8.40, p < .001, η² = .27; F(1, 42)Teachers’ autonomy support = 4.29, p < .001, η² = .16; F(1, 42)Peer support = 2.57, p < .001, η² = .10. This result shows that all variables were significantly related to the effects of the classroom level and student level.

Confirming Hypothesis 1, all variables included both classroom-level and student-level factors. Therefore, all variables were entered into each level at once, in order to compare the influence of each level. Table 4 shows the results of the analysis. In the unconstrained model, the Level 1 variance of academic hatred was 1.228 and the Level 2 variance was .106. The interclass correlation coefficient (ICC) was calculated as the ratio of the between-subject variance divided by the sum of the between-subject and within-subject variances based on Van Dongen et al. (2004). Therefore, the ICC was 8%, which is the variance of academic hatred due to variations between classrooms, rather than between individual students. Therefore, Hypothesis 1 was supported because there was a significant difference in the shared variance depending on the classroom climate.

To examine Hypothesis 2, the independent variables were entered into the models in a stepwise process. In Model 1, which used the independent variables as Level 1 predictors, the Level 1 variance decreased to 1.153. It could be interpreted that entering the predictor variables accounted for 6.1% of the Level 1 variance in the unconstrained model. The estimated regression coefficients of the predictor variables on academic hatred were as follows: Teachers’ academic pressure was γ₁₀ = -0.15 (p < .01), Teachers’ autonomy support was γ₂₀ = -0.29 (p < .001), and Peer support was γ₃₀ = -0.12 (p < .01). The Level 2 variance of intercept in Model 1 was .109, an increase over the unconstrained model. The Level 2 variance was statistically significant (p < .001). Taking this into account, Model 2 included classroom-level predictors calculated using the classroom averages of the Level 1 predictors.

In Model 2, the Level 2 variance of intercept decreased to .041. It could be interpreted that the Level 2 predictor variables of Model 2 accounted for 62.4% of the Level 2 variance of intercept in Model 1. Additionally, both Models 1 and 2 were significantly more fit than the unconstrained model. Taking this into account, Model 2 included classroom-level predictors calculated using the classroom averages of the Level 1 predictors.

However, there were considerable differences in regression coefficients among the Level 2 predictors, which were calculated as the classroom averages of the Level 1 predictors. The classroom average of teachers’ academic pressure was γ₀₁ = -0.49 (p < .001), while that of teachers’ autonomy support was γ₀₂ = -0.60 (p < .001), and that of peer support was γ₀₃ = 0.20 (p = .25). It could be interpreted that the student-level predictors had similar influence patterns on academic hatred in Models 1 and 2, but the influences of the classroom-level predictors were different from the student-level ones. The Level 2 predictors were stronger than the Level 1 predictors, although peer support at the classroom level was not statistically significant. In addition, the effects of teachers’ academic pressure on academic hatred were quite noteworthy. Teachers’ academic pressure at the student level was positively related to academic hatred, but at the classroom level it was negatively related. These contradictory patterns were the same in Model 3.
In order to check the cross-level (classroom-student-level) interaction mentioned in Hypothesis 3, Model 3 was examined. There was only one statistically significant interaction effect between teachers’ autonomy support and peer support ($\gamma_{23} = 0.52$, $p < 0.05$) on academic hatred. This indicates that, at the classroom level, the negative effects of peer support on academic hatred were stronger when teachers’ autonomy support was existent (see Figure 1).

**Discussion**

“Academic hatred” refers to the emotions experienced in academic settings that affect students’ academic engagement and achievement (Pekrun, 2006). Academic hatred influences students’ academic engagement and achievement. Therefore, it is important to examine what affects academic hatred. Yet, as M. Lee et al. (2019) found, there are only a few empirical findings or studies adopting a multilevel approach to academic hatred because it is a relatively new concept. School is a typical example of a nested structure as each student belongs to one classroom and has peers under the same homeroom teacher. To deal with the hierarchical data, the HLM analysis was adopted in this study. The results showed that the achievement pressure and autonomy support from teachers had an impact on academic hatred at both individual and classroom levels, and peer support had a significant effect on hatred interacting with teachers’ autonomy support.

First, there were significant variances among classrooms in terms of academic achievement pressure, autonomy support from teachers, and peer support. The results of the ICC and one-way ANOVA proved the differences in the variances among the variables for each level. This means that those contextual factors at the classroom level could affect students’ academic hatred. As classroom contexts could affect students’ psychological needs either by promoting or discouraging them (Guay & Vallerand, 1996), the academic climate influences students’ emotions toward their academic activities. A teacher’s achievement pressure could alter the climate of the classroom in such a way that it is conceived as a norm by the students and, as a result, affects the consensus on academic activities and social values in the classroom (Bryk et al., 1999; V. E. Lee & Smith, 1999). Similarly, autonomy support changes the academic climate by influencing students’ perceptions regarding classroom tasks and degree of control over learning activities (Stefanou et al.,

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**Table 4. Results From the Hierarchical Linear Model.**

|                              | Unconstrained model | Model 1 | Model 2 | Model 3 |
|------------------------------|---------------------|---------|---------|---------|
|                              | B       | SE     | B       | SE     | B       | SE     |
| Academic hatred ($\gamma_{00}$) | $-2.87^{***}$ | 0.06   | $-2.87^{***}$ | 0.06   | $-2.86^{***}$ | 0.05   | $-2.86^{***}$ | 0.05   |
| Level 1 predictor variables  |         |        |         |        |         |        |         |        |
| TAP ($\gamma_{10}$)          | $-0.15^{**}$ | 0.05   | $-0.15^{**}$ | 0.05   | $-0.15^{*}$ | 0.06   | $-0.15^{*}$ | 0.06   |
| TAS ($\gamma_{20}$)          | $-0.29^{***}$ | 0.05   | $-0.29^{***}$ | 0.05   | $-0.28^{***}$ | 0.06   | $-0.28^{***}$ | 0.06   |
| PS ($\gamma_{30}$)           | $-0.12^{*}$  | 0.05   | $-0.12^{*}$  | 0.05   | $-0.12^{*}$  | 0.06   | $-0.12^{*}$  | 0.06   |
| Level 2 predictor variables  |         |        |         |        |         |        |         |        |
| TAP ($\gamma_{01}$)          |         |        |         |        | $-0.49^{***}$ | 0.13   | $-0.49^{***}$ | 0.13   |
| TAS ($\gamma_{02}$)          |         |        |         |        | $-0.60^{***}$ | 0.17   | $-0.60^{***}$ | 0.17   |
| PS ($\gamma_{03}$)           |         |        |         |        | $-0.20$     | 0.25   | $-0.20$     | 0.25   |
| Cross-level interaction      |         |        |         |        |         |        |         |        |
| TAP×TAP ($\gamma_{11}$)      |         |        |         |        | $-0.08$     | 0.16   | $-0.08$     | 0.16   |
| TAP×TAS ($\gamma_{12}$)      |         |        |         |        | $-0.17$     | 0.20   | $-0.17$     | 0.20   |
| TAP×PS ($\gamma_{13}$)       |         |        |         |        | $-0.01$     | 0.26   | $-0.01$     | 0.26   |
| TAS×TAP ($\gamma_{21}$)      |         |        |         |        | $-0.11$     | 0.15   | $-0.11$     | 0.15   |
| TAS×TAS ($\gamma_{22}$)      |         |        |         |        | $-0.08$     | 0.18   | $-0.08$     | 0.18   |
| TAS×PS ($\gamma_{23}$)       |         |        |         |        | $-0.20$     | 0.25   | $-0.20$     | 0.25   |
| PS×TAP ($\gamma_{31}$)       |         |        |         |        | $-0.05$     | 0.16   | $-0.05$     | 0.16   |
| PS×TAS ($\gamma_{32}$)       |         |        |         |        | $-0.06$     | 0.21   | $-0.06$     | 0.21   |
| PS×PS ($\gamma_{33}$)        |         |        |         |        | $-0.23$     | 0.29   | $-0.23$     | 0.29   |

| Variance                     |         |        |         |        |         |        |         |        |
| Level 1 ($\sigma^2$)         | 1.228   | 1.153  | 1.155   | 1.157  |
| Level 2: Intercept ($\tau_{00}$) | 0.106*** | 0.109*** | 0.041*** | 0.041*** |
| Whole (ICC)                  | 1.33 (8.0) | 1.26 (8.7) | 1.20 (3.4) | 1.20 (3.4) |

*Note. U_j ~ N(0, $\tau_{00}$), U_i ~ N(0, $\tau_{11}$), U_ij ~ N(0, $\tau_{12}$), U_ij ~ N(0, $\tau_{21}$). B = unstandardized regression coefficient; SE = standard error; AH = academic hatred; TAP = teachers’ academic pressure; TAS = teachers’ autonomy support; PS = peer support; C = mean of class; ICC = interclass correlation coefficient.

* $p < .05$, ** $p < .01$, *** $p < .001$. 

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Peer support as one of the critical components of the classroom climate could differ by classroom, constructing either a cooperative or competitive setting among classmates (Shin & Yu, 2014). In the current study, perceptions of peer support, teachers’ academic pressure, and teachers’ autonomy support were aggregated from the whole class report. This means that those three independent variables were evaluated by several students in each class, increasing the objectivity of those variables and ensuring the representativeness of the classroom climate (Raudenbush & Bryk, 2002). Second, teachers’ academic pressure and autonomy support were significant at both Level 1 (individual level) and level 2 (class level). However, the effect of the two variables differed by levels. In Level 2, the effect size of teacher achievement pressure was stronger compared to that of Level 1 and the direction of the effect changed from positive to negative. This was different from what was expected. Teacher’s academic achievement pressure was expected to have a positive relationship with the academic hatred. This means that perceived achievement pressure by individual students is positively related to academic hatred at the individual level; however, how the class perceived achievement pressure was negatively related to academic hatred. Academic hatred had more impact from the overall quality of the teacher’s autonomy support (Class level) than from the students’ specific perception of teachers’ autonomy support (Individual level). Different effects of the same variables at different levels should be interpreted carefully. The finding that teacher pressure had a positive impact on academic hatred at the student level (Level 1) could be inferred from the control-value theory of academic emotion (Pekrun, 2006). According to Pekrun (2006), academic emotion can be determined by students’ perceived control and value of academic activities or settings. Academic achievement pressure from teachers makes students feel that they have no control over their studying. This could lead to negative emotion such as academic hatred (Shaver et al., 1987). On the other hand, at the classroom level (Level 2), the relationship between achievement pressure and academic hatred took in a negative direction. This means that perceived achievement pressure in the classroom is negatively related to academic hatred. Considering that achievement pressure influences the norms and values related to academic activities in the classroom (Bryk et al., 1999; V. E. Lee & Smith, 1999), a class featuring achievement pressure could put more value on academic activities and make the class more academic achievement-oriented.

Participants are senior high school students who were preparing for a national university entrance exam, which is considered as the most important exam to get into universities in Korea. Thus, the students feel they have to be extra focused on academic achievement, which results in putting a lot of academic pressure on themselves (M. Lee & Larson, 2000). Perceived teachers’ achievement pressure at the student level would trigger hatred toward academic activities. However, when they are in the classroom with an academic-oriented climate, it would satisfy the needs of students to focus on studying. In the classroom with the teacher’s academic achievement pressure, students would follow the class norm and goal devoting themselves to academic achievements. Considering that participants are adolescents, they are easily affected by classroom structure as they want to follow what classmates do and value (Brown & Larson, 2009). These make students to engage in studying and appraise the academic activities as helpful and meaningful to achieve their goal (i.e., entering a prestigious university) which results in a decrease in hatred level. This aligns with previous findings that students’ personal goal orientations usually correspond to their perceptions of the classroom goal structure (Anderman & Midgley, 1997; Urdan, 2004). Moreover, this is related to the finding that achievement pressure from teachers is one of the characteristics of achievement-oriented private schools (Phillips, 1997; Rutter, 1979). However, this unique result should be carefully considered since, excessive achievement pressure could lead to academic stress and to an undesirable classroom goal structure (e.g., performance-avoidance; Bong et al., 2008). In fact, students perceiving excessive achievement pressure reported much higher scores for academic hatred.

Contrary to achievement pressure, teacher’s autonomy support had a negative relationship with academic hatred at the student and classroom levels. Autonomy support increases the perceived control that students have over their studies, and it motivates them to have their values related to academic activities. This climate could lead students to feel joy (Pekrun, 2006). Considering that joy is the opposite emotion of anger in the two-dimensional matrix by Shaver et al. (1987), we could infer that teacher autonomy support has a negative relationship with hatred. This result corresponds to previous research that by M. Lee et al. (2019), which found that teacher’s autonomy support was related to a lower initial degree of academic hatred and was associated with a decreasing level of hatred over time. Moreover, perceived autonomy
support by the class had a more powerful effect on hatred. This shows that the classroom climate could affect students’ academic hatred. This aligns with the finding that students were more engaged when their teacher displayed more autonomy support behaviors during their instruction (Reeve et al., 2004). Reeve et al. (2004) found significant differences in students’ engagement between a classroom with teacher autonomy support and one without it.

Third, peer support had a significant effect on academic hatred with teachers’ autonomy support at Level 2 (classroom level). Peer support had a significant negative effect on hatred at Level 1 (student level). This result is similar to other findings that social support is a protective factor of academic stress and that students with high peer support and connectedness adapt well to school (Gutman et al., 2002; Shin & Yu, 2014). At Level 2, however, peer support was significant only through its interaction with teachers’ autonomy support as perceived by each student. This means that perceived peer support in a classroom acts as a contextual moderator of the relationship between teachers’ autonomy support and academic hatred. In Figure 1, the level of academic hatred is lower at the high level of peer support compared to the low level of peer support when teacher’s autonomy support is at the same level. It represents that peer support strengthened the effect of teacher’s autonomy support on academic hatred. As mentioned earlier, teacher autonomy support had a negative association with hatred by giving students control over their academic activities and showing respect for their choices. It leads to positive emotion toward their studying and makes them engage in studying (M. Lee et al., 2019; Pekrun, 2006). Considering that participants are adolescents who construct their identities and values through the social relationship among peers (Buchanan & Bowen, 2008), the classroom climate had a strong impact on them. According to Yu and Gamble (2010), when having strong bonds with peers, students are more likely to participate in what is considered valuable in the classroom rather than participating in delinquent behavior. Moreover, it was found out that relational and behavioral peer culture has a positive effect on students’ academic engagement and academic achievement (Lynch et al., 2013). Based on these results, it could be speculated that the positive effect by teacher’s autonomy support on academic emotion would be amplified by a supportive atmosphere among peers. However, this potential explanation should be further investigated in future studies on how teacher’s autonomy support interacts with peer support at the classroom level.

In conclusion, the variables used in current studies were proven to affect academic hatred by creating classroom atmospheres. Teacher’s academic achievement pressure was positively associated with academic hatred at students’ level. However, the direction of the effect changed from positive to negative at classroom level. Teacher’s autonomy support had a negative relationship with academic hatred at both students and the classroom level. Moreover, peer support had a moderation effect on the relationship between teacher’s autonomy support and academic hatred. Since the participants in this study are high school seniors who are about to take the entrance exam, the results of the study should be interpreted in consideration of the characteristics of these students in such special circumstance. Since the participants are adolescents, they are sensitive to peers and to the classroom atmosphere (Buchanan et al., 2008; Lynch et al., 2013). These features explained that the positive classroom atmosphere constructed by teachers’ autonomy support, and peer support has a negative effect on academic hatred.

These results have important practical implications for school counselors and teachers who should deal with the academic emotion of students. Our study suggests that peer support programs need to be utilized to affect academic emotions in school-based intervention programs. It would be beneficial to make more activities in class which increase positive peer interaction such as team projects. In order to decrease the level of academic hatred, the atmosphere of classroom should be supportive rather than competitive. Along with the supportive atmosphere, the classroom with an academic-oriented setting is helpful to students. Teachers should pay attention to giving the students the right amount of academic pressure because feeling pressure at the right level satisfies their desire to concentrate on their studies. In addition, it is better to create an academic-oriented classroom atmosphere to give students academic pressure rather than to put academic pressure directly on each student. Not only teachers, but also school counselors could help students to decrease their academic hatred levels. In South Korea, peer counseling has been implemented as a peer support program in schools since the 1990s (Jung et al., 2019). According to B. J. Kim (2018), peer counseling programs showed positive results in terms of self-esteem, school adjustment, and peer relationships. Adding to those positive effects, this research sheds light on its benefits to academic emotions. These suggested interventions are more important to students who feel a high level of academic stress because along with stress and negative emotion toward academic activities, they would lose their interest and not engage in studying (Linnenbrink-Garcia & Pekrun, 2011). The current study could contribute to the literature on academic emotion with its finding that academic hatred is affected by cognitive appraisals. This result aligns with the control-value theory on academic emotion by Pekrun (2006), that students perceived control on academic activities and values in the classroom affects their academic hatred. This means that academic hatred is not only an emotion that is triggered automatically by a stimulus (e.g., humiliation and demeaning behavior) but also an attitude toward academic settings. Attitudes represent a person’s overall appraisal of
people, objects, and issues, and are based on emotions, beliefs, past experiences, and behaviors (Petty & Brinol, 2010). As academic hatred is affected by cognitive evaluations of teachers’ autonomy support, achievement pressure, and peer support. It is assumed that academic hatred could be considered as an attitude toward academic settings.

Several limitations should be acknowledged when applying the results of this study. The results of this study might be hard to generalize because the measurement period was so distinct, as it was 1 month before Soo-Neung, the university entrance exam in South Korea (E. H. Lee, 2009). The participants’ stress and other psychological variables could have been affected by this event. To increase external validity, assessment must be made during a general period as well as a specific one. Another limitation relates to the measurement of academic hatred. This study used a sub-dimension of the KABI by Y. B. Lee et al. (2009), not the measurement to assess academic hatred independently. This was because there is no solitary scale for academic hatred; therefore, it is necessary to develop a sophisticated scale to measure academic hatred exclusively in future studies. Moreover, considered that Soo-Neung has been counted as a very crucial exam in Korea, it is needed to investigate the effect of crucial exams in academic hatred in further research. Through longitudinal research, the variation in hatred level across Soo-Neung could be investigated and it would be helpful to carry out qualitative research to explore deeper details on how students’ feeling toward academic activities can be changed across the exam.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Ministry of Education of the Republic of Korea, the National Research Foundation of Korea (NRF-2020S1A5A2A01043871) and the Korea University Grant.

ORCID iD
Sang Min Lee https://orcid.org/0000-0001-6148-772X

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