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The role of attachment to school and open classroom climate for discussion on adolescents' school-related burnout

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Abstract

The present study aimed to verify how attachment to school and open classroom climate for discussion is related to adolescents' school-related burnout. Participants were adolescents from Lithuania (N = 1741, 727 boys and 1014 girls, age 15-19 years). Questionnaires consisted of Attachment to School scale, Open for Discussion Classroom Climate Scale, and School Burnout Inventory. Cluster analyses procedure revealed five different groups of adolescents according to their perceived attachment to school and open classroom climate for discussion. MANOVA results revealed that different groups differ in exhaustion at school, cynicism toward the meaning of school and in sense of inadequacy at school.

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1. Introduction

School provides an important developmental context for adolescents (Eccles, 2004). School provides not only academic knowledge, but it is also the place where different and not always positive emotions and feelings appear and develop. One of the recent such feelings examined and described as a useful construct in the school context is school-related burnout (Kiuru, Aunola, Nurmi, Leskinen, & Salmela-Aro, 2008; Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009). According to those authors, school-related exhaustion can be defined as school-related feelings of strain, particularly, chronic fatigue resulting from overtaxing schoolwork. School burnout consists of exhaustion due to school demands, cynical and detached attitude toward one's school, and feelings of inadequacy as a student (Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009).

Increasingly, developmental researchers are recognizing the importance of the school's climate to adolescent adjustment. Prior research shows that middle school students' perceptions of school climate contribute to their behavioral and emotional adjustment (Kuperminc, Leadbeater, & Blatt, 2001; Roeser & Eccles, 2000). Results of Salmela-Aro, Kiuru, Pietikäinen, and Jokela (2008) longitudinal study revealed that negative school climate positively predicted, while support from school shared among school members negatively predicted school-related burnout among students' at comprehensive school. Recent studies show that good-quality school climate not only cultivates a connection to the school, and in this way protect youth from negative outcomes, but also is related to

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prosocial engagement (Campbell, 2008; Raiziene, Valickiene, & Malinauskiene, 2009). However, the role of the interaction between the attachment to school and open classroom climate for discussion in school burnout is not addressed in the studies.

As holistic paradigm persists (Magnusson & Cairns, 1996), human person is as a whole which cannot be described by single aspects, but by their interrelations. Bergman (2001) indicates that it is very important to establish how different aspects of person life affect not separately but simultaneously. So, trying to understand how school atmosphere is related with adolescents' school burnout, the different aspects of school atmosphere must be examined together (attachment to school and open classroom climate for discussion in this research).

The main purpose of this research is to establish if adolescents differ according to attachment to school and open classroom climate for discussion, and if there are different groups according to same aspects, so do those groups differ in various emotional school burnout aspects, i.e. exhaustion at school, cynicism toward the meaning of school, and sense of inadequacy at school.

2. Method

2.1. Participants

The data used is from an ongoing longitudinal Positive Youth Development study that examines the mechanisms and processes through which young people develop their competences. Student participants were drawn from 8 high schools in the administrative region of Klaipėda, Lithuania. Families that reside in the neighborhoods in which these schools are located have a broad range of income levels and are relatively homogeneous in terms of their ethnic and cultural backgrounds. For this particular study, we used data from the second assessment (N = 1741, 727 boys and 1014 girls, age 15-19 years (M=17.32, SD=0.96) which took place in Spring, 2009. All respondents were born in Lithuania and spoke Lithuanian at home.

2.2. Procedure

Each school was visited before the assessment took place in order to inform school administration and prospective participants about the date and time of the assessment. During the introductory meeting adolescents were informed that participation is voluntary. Parents were informed about the study by the letter. Parents were asked to contact the school or investigators if they did not want their children to participate. Questionnaires were administered by the researchers and several trained research assistants at the schools, after obtaining the consent of school authorities and parents. Questionnaires were completed in class during regular class hours. The questionnaire was administered in one class sessions and it took from 35 to 45 minutes to complete. During the assessment teachers were not present in the classroom. Students who were absent on the day of data collection were contacted next week by research assistants. Adolescents were not paid for participation, but all students who completed the questionnaires were eligible for drawings provided by the project.

2.3. Measures

2.3.1. School atmosphere

To measure school atmosphere we used the (1) *Attachment to school* scale from School Atmosphere questionnaire (Ruchkin, Schwab-Stone, & Vermeiren, 2004). This questionnaire is a part of The Social and Health Assessment questionnaire, which is designed for evaluation of adolescents' psychosocial adaptation and related risk and protective factors. The Lithuanian version is prepared by R. Barkauskiene and V. Voisniene in 2005. The Attachment to school scale consists of five items, which are rated on four points Likert-type scale ranging from 1 (definitely not true) to 4 (definitely true). Cronbach's α was .76. (2) *Open classroom climate for discussion* scale (Torney-Purta, Lehmann, Oswald, & Schulz, 2001). The Lithuanian modification of this scale was prepared for this longitudinal study by this study authors. This scale is designated to evaluate if students perceive that their class climate is beneficent to impart their opinion and that is considerate of adolescents' point of view by teachers. The Open classroom climate for discussion scale consist of five items, which are rated on four points Likert-type scale ranging from 1 (absolutely no) to 4 (absolutely yes). Cronbach's α was .86.

2.3.2. School burnout

We used the *School burnout inventory* (Salmelo-Aro, Kiuru, Leskinen, & Nurmi, 2009) to measure the School burnout. The SBI was originally developed on the basis of the Bergen Burnout Indicator 15 (BBI-15) for working life (Salmelo-Aro, Kiuru, Leskinen, & Nurmi, 2009). The Lithuanian version of this scale was prepared by the authors of this study. The inventory consists of 10 items measuring three factors of school burnout: (a) exhaustion at school (four items), (b) cynicism toward the meaning of school (three items), and (c) sense of inadequacy at school (three items). All the items were rated on a six points Likert-type scale ranging from 1 (completely disagree) to 6 (strongly agree) where the higher points indicate higher school burnout. Cronbach's α for exhaustion at school scale was 0.68, cynicism toward the meaning of school 0.76, and sense of inadequacy at school - 0.54.

2.3.3. Data analyses

School Atmosphere according to cluster analysis. Data for assigning students into different School Atmosphere groups by two variables, i.e. attachment to school (AS) and open class climate for discussion (OD) was prepared. To ensure that all included variables were allotted the same weight in the cluster analysis, the AS and OD variables were standardized. These standardized variables (AS and OD) were used as the input variables in a cluster analysis with the aim of empirically identifying groups with different profiles of school atmosphere. The cluster analysis was accomplished using a modified LICUR procedure from the statistical package SLEIPNER (Bergman, 1998; Bergman, Magnusson, & El Khouri, 2003). First of all, a residue of possible multivariate outliers is removed and then the remaining participants are cluster analyzed using Ward's agglomerative hierarchical method based on the squared Euclidian distances between data points as the dissimilarity measure and which aims at minimizing the error sum of squares (ESS) within clusters and maximize the ESS between clusters. The size of EESS for the cluster solution that is chosen should, preferably, reach about 67% to ensure reasonably homogeneous clusters, where $EES = 100 \times (\text{total ESS} - \text{ESS of cluster solution}) / \text{total ESS}$. In a satisfactory cluster solution, homogeneity coefficient (hc) should be considerably smaller than 2 in each cluster; often an hc below 1 is considered as acceptable and more than 15 participants must be in each cluster (Bergman, Magnusson, & El Khouri 2003).

Multivariate analysis of variance. A multivariate analysis of variance (MANOVA) was performed in order to establish differences in school-relates burnout components among school atmosphere clusters.

3. Results

3.1. Longitudinal Cluster Analysis of School Atmosphere

The LICUR procedure (Bergman, 1998) enabled all students to be placed in a cluster regarding two school atmosphere aspects – attachment to school and open class climate for discussion (i.e., no students needed to be removed as outliers). The main criteria in finding an appropriate number of clusters to extract indicated that a five-cluster solution was acceptable. For that solution, the cluster analysis explained 70.4 % of the total error sum of squares, which is enough to ensure fairly homogeneous clusters.

Below the clusters are described by number of participants and homogeneity coefficient. The standardized cluster mean profiles (centroids) are presented in Figure 1.

Cluster 1: Average cluster (n=622, hc=0.37). The cluster centroids indicate average school atmosphere (average AS and average OD).

Cluster 2: Negative cluster (n=277, hc=1.2). The cluster centroids indicate low school atmosphere (low AS and low OD)

Cluster 3: Positive discussing cluster (n=310, hc=0.70). The cluster centroids indicate school atmosphere with open discussions (average AS and high OD)

Cluster 4: Positive attachment cluster (n=306, hc=0.46). The cluster centroids indicate high school atmosphere (high AS and average OD).

Cluster 5: Non-discussing cluster (n= 226, hc=0.49). The cluster centroids indicate school atmosphere with no open discussions (average AS and low OD).

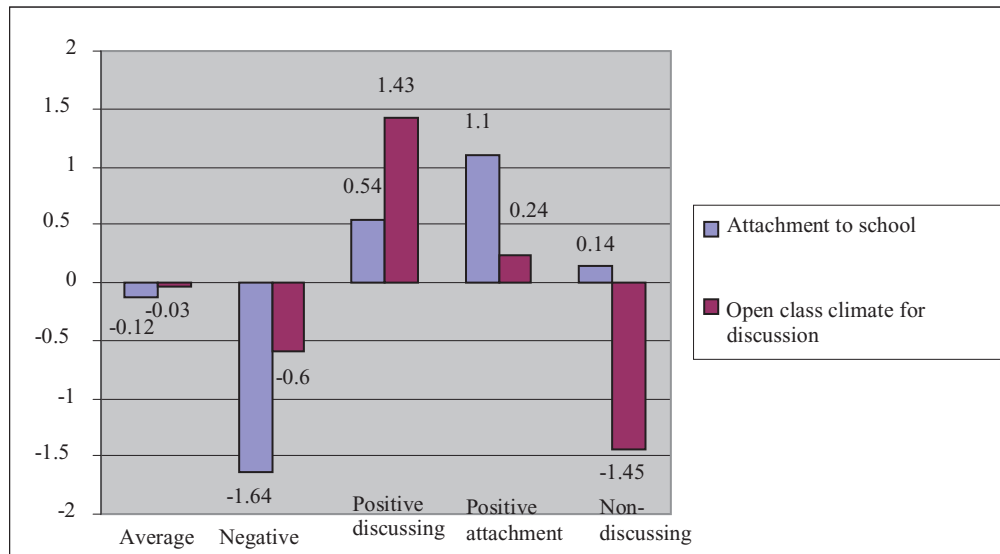


Figure 1. The cluster means of the five-cluster solution

3.2. Comparison of school burnout among five school atmosphere clusters

Differences among five clusters in school burnout were examined with a multivariate analysis of variance (MANOVA). Three dependant variables were used: perceived exhaustion at school, cynicism toward the meaning of school, and sense of inadequacy at school. The independent variables were cluster assignment and gender. There was a statistically significant difference among the five clusters ($F(12,5193)=19,442$, $p<.001$; Pillai's Trace=.129; partial eta squared =.04) and between boys and girls ($F(3,1729)=41,768$, $p<.001$; Pillai's Trace=.068; partial eta squared=.07) on the combined dependent variables. The interaction between cluster assignment and gender was also significant ($F(12,5193)=1,814$, $p<.05$; Pillai's Trace=.013; partial eta squared =.004). When the results for the dependent variables were considered separately there were several differences to reach statistical significance.

3.2.1. Differences of exhaustion at school

The MANOVA results for the dependant variable "Exhaustion at school" revealed significant multivariate effects due to cluster assignment ($F(4,1731)=6,176$, $p<.001$; partial eta squared=.02), and to gender ($F(1,1731) =70,270$, $p<.001$; partial eta squared=.04). The interaction between cluster assignment and gender was non significant ($F(4,1731)=2,445$, $p>.05$; partial eta squared=.01). Post hoc comparisons indicated that adolescents from "Positive attachment" cluster are less exhausted ($M=-0.16$, $SD=0.97$) than adolescents from "Negative" cluster ($M=0.11$, $SD=1.11$), ($p<.01$). An inspection of the mean scores indicated that girls reported higher levels of perceived exhaustion at school ($M=0.16$, $SD=0.95$) than boys ($M=-0.22$, $SD=1.03$).

3.2.2. Differences of cynicism toward the meaning of school

The MANOVA results for the dependant variable "Cynicism toward the meaning of school" revealed significant multivariate effect due to cluster assignment ($F(4,1731)= 58,732$, $p<.001$; partial eta squared=.1) and to gender ($F(1,1731) =7,527$, $p<.01$; partial eta squared=.004). The interaction between cluster assignment and gender was non significant ($F(4,1731)=1,741$, $p>.05$; partial eta squared=.005). Post hoc comparisons indicated that adolescents from "Positive attachment" ($M=-0.47$, $SD=0.95$) and "Positive discussing" ($M=-0.35$, $SD=0.99$) clusters are less cynic than adolescents from "Average" ($M=0.08$, $SD=0.81$), "Negative" ($M=0.69$, $SD=1.02$), and "Non-discussing" ($M=0.05$, $SD=0.98$) clusters ($p<.001$), and that adolescents from "Average" and "Non-discussing" clusters are less cynic than adolescents from "Negative" cluster ($p<.001$). An inspection of the mean scores indicated that boys reported higher levels of perceived cynicism toward the meaning of school ($M=0.17$, $SD=1.03$) than girls ($M=-0.12$, $SD=0.96$).

3.2.3. Differences of sense of inadequacy at school

The MANOVA results for the dependant variable “Sense of inadequacy at school” revealed significant multivariate effect due to cluster assignment ($F(4,1731)=19,237$, $p<.001$; partial eta squared=.04) but not to gender ($F(1,1731)=0,267$, $p>.05$; partial eta squared=.00). However, the interaction between cluster assignment and gender was significant ($F(4,1731)=2,818$, $p<.05$; partial eta squared=.006); an inspection of the mean scores and profile plots indicated that boys reported higher levels of perceived sense of inadequacy at school ($M=0.08$, $SD=1.01$) than girls ($M=-0.28$, $SD=0.99$) in “Positive discussing” cluster but there were no difference in sense of inadequacy in other four clusters. Post hoc comparisons indicated that adolescents from “Positive attachment” ($M=-0.36$, $SD=1.07$) and “Positive discussing” ($M=-0.16$, $SD=1.01$) clusters feel less inadequacy than adolescents from “Average” ($M=0.07$, $SD=0.84$), “Negative” ($M=0.36$, $SD=1.05$), and “Non-discussing” ($M=0.09$, $SD=1.03$) clusters ($p<.005$), and that adolescents from “Average” and “Non-discussing” clusters feel less inadequacy than adolescents from “Negative” cluster ($p<.05$).

4. Discussion and conclusions

Results of analyses revealed that there were five different school atmosphere groups (clusters) of adolescents according to their attachment to school and open classroom climate for discussion. As it were expected, these groups differ in all aspects of school-related burnout. Previous research shows that open classroom climate for discussion and positive feelings toward school are related to positive youth development. This study revealed that school burnout is also related not only to open classroom climate for discussion, but to emotional state of adolescents at school too. It is noticed that gender is a significant factor for two of three school-related burnout aspects, i.e. exhaustion at school and cynicism toward the meaning of school also. The analyses of the third aspect, i.e. sense of inadequacy at school, revealed that there are differences in different clusters affected by gender.

Thus, the development of positive attachment and opportunity for democratic discussions, and gender must be taken into account when the school-related burnout prevention programs are prepared and implemented.

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