GENDER DIFFERENCES IN SUBJECTIVE WELL-BEING AND FEELING OF SAFETY AT SCHOOL: EVIDENCE FROM CROSS-LAGGED RELATIONS IN A 1-YEAR LONGITUDINAL SAMPLE

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Abstract

School is a significant ecology of adolescents’ life and influences strongly their subjective well-being. With the prevalence of violence and bullying at school being high,

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many students feel unsafe and insecure, which have a detrimental effect for academic achievements, motivation and psychological adjustment. The main purpose of this study is to investigate the cross-lagged relations between subjective well-being and feeling safe at school over one year period among girls and boys. Data used for this research was taken from the on-going Positive Youth Development project. Data from 1,556 adolescents was collected. 628 (40.4%) boys and 928 (59.6%) girls, aged 14–18 (M=16.26; SD=0.94), participated in the research. The measures used in this research were the Feeling of Safety at School Scale (Weissberg, Voyce, & Kasprow, 1991) and Subjective Well-being Scale (Diener et al., 1985). Data from two measurement points was used in the study. The second measurement took place in a one year period after the first one. The results of the research showed that (1) girls had higher subjective well-being at T2 and feeling of safety at school on both measurement points while boys had higher subjective well-being only at T1; (2) measures of subjective well-being and feeling of safety at school across one year time showed moderate stability in boys’ and girls’ samples however, the stability in the girls’ sample is higher; (3) bidirectional relationship between subjective well-being and feeling of safety at school over a one-year period was established in the girls’ sample while in the boys’ sample only the feeling of safety at school at T1 predicted subjective well-being at T2.

**Keywords:** feeling of safety at school, subjective well-being, adolescence.

**Introduction**

School being an important social context of development provides vast opportunities for both cognitive and personality growth of youth. Spending most of their time at school with a powerful group and power dynamics may have a significant influence on adolescents’ feelings and being safe, which in turn is associated with well-being. Higher levels of subjective well-being are linked to various immediate and long term effects. Adolescents with a higher level of subjective well-being are more collaborative, have higher self-esteem, are more creative, tolerant and altruistic (Cohen, Pressman, 2006; Lyubomirskij et al., 2005). High subjective well-being individuals also seem to be high on resilience against various adverse life circumstances (Fredricson et al., 2003).

Suldo et al. (2006) suggest school environment is an important factor of adolescents’ well-being and plays an adaptive role in students’ life by motivating them to engage in school activities and to build resources that enhance coping with stressors (Diener, Diener, 1995). Factors associated to school related subjective well-being belong to various domains such as school conditions, social relationships, means for self-fulfilment (Konu et al., 2004). Feeling of safety at school is related to all of the domains and therefore is one of the substantial ones. With the prevalence of violence and bullying at school being high many students feel unsafe and insecure. The results of the research on the prevalence

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of violence in Lithuanian schools (Grigutytė et al., 2008) suggest up to 26.3 per cent of school children of grades 9–12 feel unsafe generally at school and up to 30 per cent in the corridors and yard of their school. These numbers assume some adolescents most certainly would not feel secure and safe at school and therefore, may be at a greater risk of low academic achievement (Schwartz, Gorman, 2003), developing internalizing and externalizing problems or even trauma symptoms (Flannery et al., 2004).

The feeling of being secure and safe stems from the early relationships with the mother (or primary caregiver) (Twemlow et al., 2002), however people do not feel safe when they encounter violence on a regular basis. While school tries to provide a stimulating environment for students, both academic and personal achievements may be affected by bullying and violence. Teenagers are still very susceptible to environmental conditions and therefore have high need for feeling safe and secure (Twemlow et al., 2002). Konu et al. (2002) suggests students who are not exposed to bullying and violence at school have higher subjective well-being scores. These findings link the feeling of safety at school and level of subjective well-being.

In general the existing research on adolescents confirms the same subjective well-being model as in adult samples (McCullough et al., 2000). However the ecology of adolescents’ functioning is different from that of the adults’. Therefore the research of adolescents and young adults will provide important insights into the phenomenon. The research also suggests the importance of exploring the subjective well-being in various domains such as school related subjective well-being (Long et al., 2012). Considering the amount of time adolescents spend at school it only seems reasonable to administer domain specific research, as scores of general well-being may mask the important relationships (Long at al., 2012).

The current study aims at exploring the relationships between subjective well-being and feeling safe at school over one year timeframe. One of the fundamental problems in research on subjective well-being is uncertainty whether subjective well-being is determined by many different factors or is a cause of them. It is impossible to distinguish between cause and effect when using cross sectional design. To our knowledge there is a shortage of information about the direction of the relationship between subjective well-being and feeling of safety at school among late adolescents. The main purpose of the study is to investigate the cross-lagged relationships between subjective well-being and feeling of safety at school during one year period.

The other goal of our research is to explore the differences of these relationships in girls’ and boys’ samples. It is documented that women are lower on subjective well-being than men: they report more negative emotions than men (Costa et al., 2001; Hanson et al., 2005). The results for positive affect and general life satisfaction are mixed with some research show no difference between male and female samples (Okun and George, 1984) and others found that women experience more positive affect than men (Haller and Hadler, 2006). Authors offer biological, social and personality explanations of those differences (Tesch-Römer et al., 2008). With the developmental processes still on-going the differences in socialization may well contribute to the differences in subjective well-being and feeling safe at school between boys and girls.
Method

Participants

The data used for the current study was taken from an on-going longitudinal Positive Youth Development study. Student participants were drawn from 8 high schools in one administrative region of Klaipeda, Lithuania. The same participants were surveyed annually. For analysis of cross-lagged relationships between subjective well-being and feeling of safety at school we used data from 1\textsuperscript{st} (in 2008) and 2\textsuperscript{nd} (in 2009) assessments. There were 1,556 students (M=16.26, SD=0.94), who participated in both (T1 and T2) time measurement. Of those participating respondents, 628 (40.4\%) were boys and 928 (59.6\%) were girls. Boys and girls were similar in age (t(1554)=-0.003, p>0.05).

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 was voluntary. Parents were informed about the study via a 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. Students who were absent on the day of data collection were contacted next week by research assistants.

Measures

To measure subjective well-being we used the five-item Satisfaction with Life Scale (Diener et al., 1985). Participants responded to the items (e.g. „If I could live my life over, I would change almost nothing“) on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). For the current study, Cronbach’s alpha coefficients were 0.78 and 0.82 for the two measurement occasions, respectively.

Feelings of safety at school were assessed by seven the Social and Health Assessment (SAHA, Weissberg, Voyce, Kasprow, 1991) items (e.g. “I feel safe on the school bus or while walking to school”; “I feel safe standing in front of my school building”). All items were rated on a four points Likert-type scale ranging from 1 (definitely not true) to 4 (definitely true) where the higher points indicated higher feeling of safety at school. Cronbach’s alpha coefficients were 0.83 for Time 1 and 0.78 for Time 2 measurement.

Data analyses

The data analyses were carried out in the following steps. First, descriptive statistics and correlations were performed with SPSS 18.0. Then, t test were conducted to determine if there were mean differences on variables at T1 and T2 between boys and girls. Next, the Mplus statistical package (Version 5.0, Muthen and Muthen 1998-2007) was employed to examine the cross-lagged relationships between subjective...
well-being and feeling of safety at school over one year period. To do this, three alternatives SEM models were estimated: autoregressive model (no lagged affects) (Model 1); cross-lagged associations were estimated as equal, resulting in equal path coefficients (Model 2); and cross-lagged relationships as unequal, resulting in unequal path coefficients (Model 3). The concurrent associations between latent variables were also included in the tested cross-lagged models. The parameters of the cross-lagged structural equation models were estimated using Maximum Likelihood (ML) estimator. As suggested by Gerbing and Anderson (1993), the goodness-of-overall-fit of the model was evaluated by four indices: $\chi^2$ test, comparative fit index (CFI), and root mean square error of approximation (RMSEA). A model is typically assumed to be acceptable if the RMSEA values are 0.05 or less, and the CFI values above 0.90. In step three, we tested for differences between gender in all paths in our model by constraining paths one at a time and comparing model fit with a freely estimated model.

Results

Table 1 reports the means ($M$), standard deviations ($SD$) and the correlations for study variables for the overall sample. The correlation coefficients ranged from 0.11 to 0.52. In all cases correlations were higher for the same measures across time lag compared to the different measures at the same or different measurement time point.

<table>
<thead>
<tr>
<th>Variables</th>
<th>1 Subjective well-being (T1)</th>
<th>2 Subjective well-being (T2)</th>
<th>3 Feeling of safety at school (T1)</th>
<th>4 Feeling of safety at school (T2)</th>
<th>$M$ ($SD$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Subjective well-being (T1)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>4.72 (1.10)</td>
</tr>
<tr>
<td>2. Subjective well-being (T2)</td>
<td>0.52***</td>
<td>1.00</td>
<td></td>
<td></td>
<td>4.58 (1.12)</td>
</tr>
<tr>
<td>3. Feeling of safety at school (T1)</td>
<td>0.22***</td>
<td>0.21***</td>
<td>1.00</td>
<td></td>
<td>2.96 (0.45)</td>
</tr>
<tr>
<td>4. Feeling of safety at school (T2)</td>
<td>0.11***</td>
<td>0.21***</td>
<td>0.40***</td>
<td>1.00</td>
<td>3.00 (0.47)</td>
</tr>
</tbody>
</table>

Note: ***$p < 0.001$. T1 = Measurement 1; T2 = Measurement 2.

The mean scores and standard deviations for study variables among boys and girls are presented in Table 2. $T$-test analysis revealed that girls scored higher on subjective well-being at T2 and feeling of safety at school at both measurement points, whereas boys scored higher only on subjective well-being at T1.
Table 2. Mean results and gender differences for all variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th>T test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male M (SD)</td>
<td>Female M (SD)</td>
<td></td>
</tr>
<tr>
<td>1. Subjective well-being (T1)</td>
<td>4.82 (1.03)</td>
<td>4.65 (1.10)</td>
<td>3.08**</td>
</tr>
<tr>
<td>2. Subjective well-being (T2)</td>
<td>4.50 (1.09)</td>
<td>4.63 (1.15)</td>
<td>–2.35*</td>
</tr>
<tr>
<td>3 Feeling of safety at school (T1)</td>
<td>2.92 (0.50)</td>
<td>2.99 (0.41)</td>
<td>–3.25**</td>
</tr>
<tr>
<td>4 Feeling of safety at school (T2)</td>
<td>2.97 (0.51)</td>
<td>3.03 (0.44)</td>
<td>–2.70**</td>
</tr>
</tbody>
</table>

Note: **p < 0.01, *p < 0.05. T1 = Measurement 1; T2 = Measurement 2.

The next phase of the analytical process was to test for prospective relationships between subjective well-being and feeling of safety at school (see Table 3). In the first step, we tested the autoregressive model (no lagged effects), which assumed that the only predictors of the variables at T2 were the same variables at T1. Thereafter, we tested the models where the cross-lagged paths were estimated as equal (i.e. subjective well-being at T1 was assumed to predict feeling of safety at school at T2 in the same degree as feeling of safety at school at T1 was assumed to predict subjective well-being at T2) and as unequal. As can be seen in Table 3, the first two models didn’t fit the data well (RMSEA>0.05) and the third model is just-identified model. Because there were statistical differences between boys and girls on subjective well-being and feeling of safety at school, the further statistical analyses was performed to reveal if estimated coefficients in cross-lagged models between subjective well-being and feeling of safety at school vary over gender groups.

Table 3. Goodness-of-fit statistics for the nested SEM models on the predictive relationships between subjective well-being and feeling of safety at school

<table>
<thead>
<tr>
<th>Tested models</th>
<th>χ² (df)</th>
<th>P</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1=Autoregressive model</td>
<td>20.347 (2)</td>
<td>.00</td>
<td>0.977</td>
<td>0.077</td>
</tr>
<tr>
<td>M2=Cross-lagged path as equal</td>
<td>16.741 (1)</td>
<td>.00</td>
<td>0.985</td>
<td>0.091</td>
</tr>
<tr>
<td>M3= Cross-lagged path as unequal</td>
<td>0.00 (0)</td>
<td>.00</td>
<td>1.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Table 4 shows the model fit indexes and chi-square difference tests for the seven (M1–M7) nested models. We found no statistically significant differences in coefficients between boys and girls for feeling of safety at school at T1 to subjective well-being at T2. Correlations between subjective well-being and feeling of safety at school at T1 and T2 were also similar between boys and girls. However, we found statistically significant differences in three cases. Subjective well-being and feeling of safety at school showed higher stability across the two measurements among girls compared to
boys. Finally, subjective well-being at T1 positively predicted feeling of safety at school at T2 among girls, but not among boys. The completed standardized solution of final model for boys and girls separately is shown in Fig. 1.

**Table 4. Test of model fit and chi-square different test by applying different equality constrains for the different genders**

<table>
<thead>
<tr>
<th>Tested models</th>
<th>χ² (df)</th>
<th>CFI</th>
<th>RM-SEA</th>
<th>Model comparison</th>
<th>∆χ² (Δdf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constraints</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M1= SWB T1 to FSS T2 constrained</td>
<td>7.517 (1)</td>
<td>0.993</td>
<td>0.092</td>
<td>M1 vs. M7</td>
<td>7.517 (1)*</td>
</tr>
<tr>
<td>M2= FSS T1 to SWB T2 constrained</td>
<td>0.006 (1)</td>
<td>1.00</td>
<td>0.000</td>
<td>M1 vs. M7</td>
<td>0.006 (1)</td>
</tr>
<tr>
<td>M3= SWB T1 to SWB T2 constrained</td>
<td>17.199 (1)</td>
<td>0.981</td>
<td>0.144</td>
<td>M3 vs. M7</td>
<td>17.199 (1)*</td>
</tr>
<tr>
<td>M4= FSS T1 to FSS T2 constrained</td>
<td>8.307 (1)</td>
<td>0.992</td>
<td>0.097</td>
<td>M4 vs. M7</td>
<td>8.307 (1)*</td>
</tr>
<tr>
<td>M5= SWB T1 with FSS T1 constrained</td>
<td>1.425 (1)</td>
<td>1.00</td>
<td>0.023</td>
<td>M5 vs. M7</td>
<td>1.425 (1)</td>
</tr>
<tr>
<td>M6= SWB T2 with FSS T2 constrained</td>
<td>0.905 (1)</td>
<td>1.00</td>
<td>0.000</td>
<td>M6 vs. M7</td>
<td>0.905 (1)</td>
</tr>
<tr>
<td>M7= Cross-lagged paths (all free)</td>
<td>0.000 (0)</td>
<td>1.00</td>
<td>0.000</td>
<td></td>
<td>0.000 (0)</td>
</tr>
</tbody>
</table>

**Note:** *The model is improved if ∆χ² (1) > 3.84, p < 0.05. T1 = Measurement 1; T2 = Measurement 2. SWB – subjective well-being; FSS – feeling of safety at school.

Fig. 1. A path model of the prospective relationships between subjective well-being and feeling of safety at school for boys and girls **p < 0.01; ***p < 0.001.
Discussion

The main purpose of this study was to evaluate cross-lagged relationships between subjective well-being and feeling of safety at school over one year period in late adolescents. Adolescents spend a significant proportion of their time in a school setting therefore school is a significant ecology of their life. Every school seeks to not merely convey academic knowledge but also to create the inspiring environment for students’ curiosity, initiative and thorough development. Feeling safe and secure at school is one of the essential factors in achieving this goal. With the prevalence of violence and bullying at school being high, many students feel unsafe and insecure which has a detrimental effect on both academic achievements, motivation and level of subjective well-being in general.

With our research we aimed to emphasize the important role of gender differences and importance of subjective well-being for feeling of safety at school. The findings are organized and discussed in the following order: (a) gender differences in subjective well-being and feeling of safety at school; (b) gender differences in the stability of subjective well-being and feeling of safety at school over one year period; (c) gender differences in cross-lagged relationships between subjective well-being and feeling of safety at school.

At both time point girls scored higher than boys on feeling safe at school. This may be due to the fact that boys are more likely to be involved in disruptive activities such as violence or bullying than girls therefore they may be more sensitive to the safety at school issues. Mahoney and Stattin (2000) indicate that risks caused by the participation in low structure and unsupervised activities are greater for boys than for girls. On the other hand the danger for boys to have more feelings of insecurity can be supported from the community psychology perspective. Henrich et al. (2004) found that exposure to community violence is related to feeling less safe at school but only for boys. Therefore, adolescent boys’ engagement in dangerous activities both at school and in their free time may put them at risk to feel less secure and safe at school. Girls being engaged in structured activities also receive more support from significant adults while boys are not getting enough positive support or even encounter negative attention if they get involved in adverse activities. The task of testing these assumptions could be the subject of future research.

Our results showed girls are lower than boys on subjective well-being at T1 however this relationship reversed at T2. These results are consistent with earlier studies’ mixed findings on gender differences in subjective well-being (Okun and George, 1984; Haller and Hadler, 2006). It is recommended that future research aiming to explore the various factors responsible for this change should be made.

The measures of subjective well-being across one year time showed moderate stability so as the measures of feeling of safety at school. Our results are consistent with the earlier studies according to which subjective well-being is moderately stable among adolescents (Suldo, Huebner, 2004). The results on the stability of well-being and feeling of safety at school also revealed gender differences with girls’ scores across one year time are more stable than the boys’. These differences may derive from the socially prescribed roles for males and females. More diversity in behavioural patterns and self-esteem is allowed to boys than to girls (Block, Robbins, 1993). It has been proposed that differences
in socialization practices broaden the experience of boys and restrict it for girls (Block, Robbins, 1993). Therefore greater stability of subjective well-being and feeling of safety at school for girls may be the result of fewer options in socialization context.

The cross-lagged findings concerning the relationship between subjective well-being and feeling of safety at school indicate that greater feeling of safety at school predicts higher subjective well-being over one year period. These results are consistent with earlier findings (Suldo et al., 2006; Konu et al., 2002) which state that quality of school environment is related to students’ subjective well-being.

However, only among girls do higher scores of subjective well-being appear related to greater feeling of safety at school in one year time. In other words better subjective well-being can serve as a buffer to cope with feeling of insecurity and lack of safety at school. Positive subjective well-being plays an adaptive role by motivating individuals to seek and explore resources that enhance coping strategies in adverse life circumstances (Park, 2004). Fredricson et al (2003) indicated that high subjective well-being individuals also seem to be high on resilience against various adverse life circumstances.

Even though subjective well-being of girls’ at T1 is lower than boys’ it still serves as a prognostic factor for feeling of safety at school over one year time which is not the case for boys. The exploration of possible reasons about why lower initial resources (e.g. lower subjective well-being) serves as buffer in girls’ sample and not in boys’ is a task of the further research.

At least three methodological limitations concerning our study have to be acknowledged. The first is related to limited amount of variables used in our research. As already mentioned above more socialization factors could be accountable for the relationship between subjective well-being and feeling of safety at school. Therefore in further research those factors should be taken into the consideration. Secondly, data from two measurement points were used in the statistical analysis. With more waves over a longer period, it would be able to test the relations in a more sophisticated way. Finally, participants were recruited only from one administrative region in Lithuania and therefore we should be cautious about making a generalization of the findings and future replications with more representative samples are recommended.

Conclusions

The following gender differences were established:

- The girls had higher subjective well-being at T2 and feeling of safety at school on both measurement points. Even though the levels of subjective well-being of girls were lower at T1 only in their sample the bidirectional relationship between subjective well-being and feeling of safety at school over one year period was established. In the boys’ sample only feeling of safety at school at T1 predicted subjective well-being at T2;

- The measures of subjective well-being and feeling of safety at school across one year time showed moderate stability in both boys’ and girls’ samples however the stability in girls sample was higher.
References


Suldo, S. M.; Huebner, E. S. (2004) Does life satisfaction moderate the effects of stress-


MERGINŲ IR VAIKINŲ SUBJEKTYVIOS GEROVĖS IR SAUGUMO JAUSMO MOKYKLOJE SKIRTUMAI: VIENERIŲ METŲ LONGITUDINIO TYRIMO DUOMENŲ ABIPUSIO RYŠIO ANALIZĖ

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Santrauka


Rakšminiai žodžiai: saugumo jausmas mokykloje, subjektyvi gerovė, paauglystė.