The Role of School Climate in Explaining Changes in Social Trust Over Time

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The Role of School Climate in Explaining Changes in Social Trust Over Time

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ABSTRACT

School is often ranked highly among social agents that are central to the development of various citizenship values and norms in younger members of society. In this paper, we examined the impact of two dimensions of school climate on changes in social trust among adolescents over time, namely relationships and safety. Using a series of latent change models on 3-wave panel data concerning roughly 850 Swedish adolescents aged 13 to 28 years, we found that experiences of victimization in school mattered most in predicting changes in social trust across 3 time points, when relevant demographic factors and other aspects of the school climate were controlled. In particular, social trust declined most among adolescents who experienced more victimization at school.

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Social trust; school climate; adolescents; teachers; victimization

One civic competency that has garnered much attention in the social sciences in recent decades as an invaluable resource and asset for individuals and society at large is social trust, defined as confidence in the belief that strangers – that is, fellow citizens about whom we have no specific information – will not take advantage of us. Research has shown, for example, that in societies with high levels of trust, people have better health and show a greater tolerance of differences (Putnam, 2000; Uslaner, 2002). Social trust is moreover associated with various positive social behaviors, including participation in public affairs, volunteering, and caregiving.

In turn, the importance of social trust has motivated scholars to identify its sources. With respect to adolescents, schools have been underscored as an important means of boosting young people’s trust in others, owing to their role in promoting democratic dispositions and feelings of membership in a collective body (Ammå, 2012; Ehman, 1980; Englund, 2009; Tschannen-Moran & Hoy, 2000; Van Maele, Forsyth, & Van Houtte, 2014). Empirical studies have also pointed out the importance of various factors related to the school climate in the development of social trust. Among them, Flanagan and Stout (2010) found that students’ perceptions of solidarity at school influence their development of social trust across time. That same year, Flanagan, Stoppa, Syvertsen, and Stout (2010) argued that trusting relationships with teachers are related to social trust and, later, other scholars stressed the importance of school climate to social trust as well (Gunnarson & Loxbo, 2012).

At the same time, others question the role of school by arguing that schools do not have much influence in the socialization process. For example, using a multivariate multilevel regression model, Isac, Maslowski, Creemers, and van der Werf (2014) concluded that schools only have a limited impact on civic-related competences of students, especially on their attitudes toward citizenship.
and intended political and social participation. According to their findings, students’ civic competences were instead strongly influenced by individual characteristics, such as motivations, and to some extent by influences outside the school, for example from family and peers.

Despite previous research, however, the extent to which school plays a role in generating social trust among adolescents remains limited. Although previous studies have contributed greatly to current understandings of that dynamic, most studies – a notable exception is Flanagan and Stout (2010) – have been cross-sectional and therefore cannot provide opportunities to examine what explains changes in trust over extended periods (see also Marien, 2017). Consequently, the call for studies on the dynamics in linkages between trust and schools – for example, between teachers and students and between students – is highly relevant (Tschanne-Moran & Hoy, 2000, p. 585).

In this paper, we contribute to the current discussion on factors essential to the formation of social trust in three ways. First, we contribute to research on the topic by examining the importance of two dimensions of a school’s climate: relationships (e.g. the role of fair and responsive teachers) and safety (e.g. students’ experience with victimization). Second, we examine the role of these school climate dimensions across time. By drawing on a set of longitudinal data, we contribute to knowledge of patterns in and explanations of changes in social trust among adolescents. Since most empirical research on social trust has been conducted on adults, few studies have analyzed how young people form social trust. That shortcoming is unfortunate, since adolescence is considered to be a formative, critical period for the emergence and formation of social trust (Hooghe & Wilkenfeld, 2008; Stolle & Hooghe, 2004).

Third, we add to the theoretical discussion regarding the extent to which social trust is a product of experiences that change constantly in response to changing circumstances or so-called “sticky” phenomenon learned in early childhood that stabilizes over time (Bauer, 2014; Dinesen, 2012). More specifically, we addressed the research question of what role young people’s own experiences with school climate play in explaining potential changes in social trust among adolescents over time. Given the acknowledged importance of social trust, empirical studies on the factors that influence it are vital. Furthermore, given the unique position of school among members of the younger generation, research on how to build trust or prevent its depletion is deemed highly significant among scholars and practitioners alike.

To answer the research question, we conducted a series of individual-level analyses using a three-wave longitudinal data representing adolescents over a three-year period. We collected data in Sweden, whose citizens are known to exhibit high levels of trust and endorse extensive welfare-state provisions (Kumlin & Rothstein, 2005). As such, Sweden provided us with a suitable point of departure for analyzing the role of school climate in the development of social trust.

The paper is structured as follows. After this introductory section, we present our theoretical points of departure, first by describing two divergent perspectives on the nature and character of social trust and, thereafter, by drawing on two dimensions of school climate outlined above. We next explain the research design by describing our methods and research strategy, after which we present our results, namely by describing the roles of three factors outlined in the theoretical section in the generation of social trust. In conclusion, we summarize the results and discuss their strengths, weaknesses, and implications for research.

1. Theoretical Framework: The Role of School Climate in Explaining Changes in Adolescents’ Development of Social Trust

1.1. Divergent Perspectives on Social Trust

The general theoretical question that we sought to answer seeks to identify the nature and character of social trust. Generally, two divergent perspectives in the literature have gained particular attention (Abdelzadeh & Lundberg, 2017; Bauer, 2014; Uslaner, 2008). The first is the cultural perspective, which implies that social trust is “part of an enduring culture” and thus a relatively “sticky” factor that becomes exceptionally stable over time (Dinesen, 2012; Uslaner, 2002). According to Eriksson
(1950), infants develop a sense of basic trust in, or mistrust of, the external world by way of a consistent, dependable relationship with parents. According to such thinking, social trust is formed in the early (i.e. oral) stages of an infant’s upbringing and tends to persist throughout life. Social trust is additionally argued to relate closely to personality traits and genetic factors and thereby presumed to constitute a relatively persistent trait that changes only slowly with experiences later in life (Dinesen, Nørgaard, & Klemmensen, 2014; Oskarsson, Dinesen, Dawes, Johannesson, & Magnusson, 2016).

By contrast, the experiential perspective states that social trust is not so much a social fact or personality trait as a product of our environment and experiences – one that we modify in response to changing circumstances (Laurence, 2015; Putnam, 2000). According to Hardin (1992), individuals continually modify and update their trustful and distrustful attitudes and feelings due to changes in society. That view has been dubbed the lifelong openness model, which stipulates that attitudes remain open to influence during life and that individuals frequently modify attitudes in response to new information and experiences (Sears & Brown, 2013).

1.2. School Climate

In relation to that fundamental debate on the nature and character of social trust, various factors have been deemed potential mechanisms of social trust. For adolescents, school represents an exceptionally central social institution outside the family that could influence trust. In this paper, we therefore examine two dimensions of school climate in the generation of social trust: relationships and safety. School climate has been referred to as “the quality and character of school life” and is based on patterns of people’s experiences at school and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures (Cohen, McCabe, Michelli, & Pickeral, 2009, p. 182).

Thus, school climate encompasses a wide range of dimensions and measurements (Kohl, Recchia, & Steffigen, 2013). In a comprehensive review, Thapa, Cohen, Guffey, and Higgins-D’Alessandro (2013) identify five dimensions of school climate, namely: safety, relationships, teaching and learning, institutional environment, and school improvement process. Similarly, Cohen et al. (2009) lists four dimensions: safety, teaching and learning, relationships, and school environmental. In this paper, we focus on relationships and safety. Each of these dimensions includes a variety of elements. Relationships concern elements related to how connected people feel to one another, the quality of the school collaboration, respect for diversity, parent participation, and peer norms. Likewise, safety includes physical elements, such as the existence of a crisis plan or feelings of safety, and social-emotional elements, such as students’ and adults’ attitudes, norms, and responses to bullying (Cohen, et al., 2009).

As pointed out above, we focus on the role of student-teacher relationships or, to be precise, the role of fair and responsive teachers. With regards to safety, we draw attention to students’ experience with victimization at school. At this point, it is important to note that dimensions may overlap, and elements stressed in one dimension may relate to elements included in another. In this study, it is possible to view students’ experiences of victimization as an aspect of positive student-student relationships. However, we follow the literature on school climate more inclined to treat bullying and victimization as a part of safety than part of relationships (Cohen, et al., 2009; Thapa et al., 2013).

1.3. The Role of Fair and Responsive Teachers

The first dimension of school climate that relates to the generation of social trust concerns the student-teacher relationship. Teachers represent one of the first encounters in the radius of people outside the family with whom adolescents have frequent, regular contact. Therefore, adolescents’ experiences of encounters with teachers could play a key role for their degree of trust in people who they do not know personally and have not met (Delhey, Newton, & Welzel, 2011; Flanagan, Cumsille, Gill, & Gallay, 2007, p. 423).
At least two mechanisms by which teachers might play a role in adolescents’ social trust have been highlighted in the literature. First, fair treatment, which has gained attention in literature on social trust, suggests that if representatives entrusted with responsibility for the common interest (e.g. teachers) are perceived to be honest and fair, then trust in society will develop (Freitag, 2003, p. 2018; Rothstein & Stolle, 2008). By contrast, such representatives perceived to be corrupt and unfair or who generate experiences of discrimination or injustice have a negative influence on the development of social trust.

A relatively large number of studies on classroom justice have highlighted the impact of teacher fairness on young people’s attitudes, beliefs, and behaviors. For example, studies have shown that teacher fairness is related to increased satisfaction with the instructor and compliance with class rules (e.g. Colquitt, 2001), smaller risk of aggressive workplace behavior (e.g. Skarlicki & Folger, 1997), lesser tendency to seek revenge (e.g. Bies & Tripp, 1996), and increased political interest (Claes & Hooghe, 2008). Thus, teacher fairness appears to be associated with a large number of positive outcomes.

However, empirical studies on the extent to which teachers’ fair treatment influences social trust are sparse, and findings on the topic point in various directions. Damico, Conway, and Bowman Damico (2000) found that students’ perceptions of teachers and school administrators as fair people positively affects their degree of trust. However, in a study on the role of experiences among immigrants from Turkey, Pakistan, and the former Yugoslavia living in Denmark, Dinesen (2010) found little support that being discriminated against by teachers in school influences students’ sense of social trust. Given that most previous studies have been cross-sectional, the extent to which fair treatment influences trust cannot be ruled out. Thus, it is possible that when teachers treat their students fairly, students will develop social trust.

More specifically, we assumed that a higher level of fair teacher treatment relates to an increase in social trust over time. However, what is perceived to be fair has been debated in the literature (e.g. Leventhal, 1976; Thibaut & Walker, 1975). In our paper, we focus on non-instrumental (i.e. value-expressive) aspects of fairness – that is, that institutions can be perceived to be fair regardless of what decisions they eventually make.

Second, there are reasons to believe that the extent to which teachers signal responsiveness and care for their students plays a role in the generation of social trust. According to Flanagan et al. (2007), the kinds of interactions that teachers have with students convey messages about core principles of democracy. By giving signals about respect, care, and the importance of different views, teachers express their expectations that students treat one another with respect. Thereby, teachers function as examples of how people should treat one another and “appreciate the reciprocal relationship between trust and trustworthiness” (Flanagan et al., 2010, p. 314). Those findings suggest that teachers perceived to be responsive to the views and wellbeing of fellow students have a positive influence on students’ generation of social trust.

1.4. The Role of Victimization

The second dimension of school climate that relates to the generation of social trust concerns safety. In research on school climate, there is a broad consensus about the fundamentals of school that allow them to be perceived as safe places both physically and social-emotionally (Cohen, et al., 2009; Thapa et al., 2013). In this paper, we look at a specific aspect of safety – namely, the extent to which individuals experience verbal and physical bullying and victimization (cf. Kutsyuruba, Klinger, & Hussain, 2015; Thapa et al., 2013).

We assumed that individuals generalize from experiences with specific others. Accordingly, adolescents’ experiences with victimization cause changes in the perception of unspecified people as threats instead of supporters, which has a negative influence on social trust (Bauer, 2014, p. 3; Macmillan, 2001, p. 22). However, it is possible that individuals’ experiences with victimization direct their mistrust toward individuals who share the characteristics of their offenders – that is, people who resemble their bullies and harassers (cf. Bauer, 2014, p. 2).
Although empirical research on the correlation between social trust and victimization is sparse, studies have found a significant correlation between violence and peer victimization and a lack of supportive norm structures and relationships in schools (Thapa et al., 2013). Furthermore, Brehm and Rahn (1997, p. 1009, 1016) reported that perceptions of safety in the home and neighborhood were a significant predictor of trust in strangers. Similarly, in one of the most comprehensive studies on social trust, Delhey and Newton (2003, p. 93) concluded that “social trust tends to be high among citizens who believe that there are few severe social conflicts and where the sense of public safety is high.” However, using change score analysis combined with matching, Bauer (2014) found no causal effect that is substantially strong and consistent across panel data waves. Thus, given the arguments and empirical evidence outlined above, it is possible that adolescents’ experiences with victimization in school negatively influence their generation of social trust.

2. Methods

2.1. Participants and Procedure

The current study makes use of three waves of questionnaires from a longitudinal project. This community-based and cohort-sequential project is being carried out in a medium-sized Swedish city with a total population of about 135,000. The motive for choosing this specific city is related to its representativeness with regard to national demographic characteristics. According to official statistics (Statistics Sweden, 2012), the city was similar, in 2010 when the first data collection was performed, to the national average in annual mean income (234,058 Swedish Crowns/person, compared with 237,186 Swedish Crowns/person for the whole country), rate of unemployment (8.6%, compared with 8.0% for the whole country), and percentage of foreign-born residents (14.8%, compared with 14.7% for the whole country).

Three of seven senior high schools in the city were strategically selected to represent both public and private schools and students’ diverse socioeconomic and ethnic backgrounds. All first graders in the senior high schools were targeted in the study. This made for total of 1,052 individuals on the first measurement occasion. In the analytic sample, we only included respondents for whom we had data on social trust on at least two measurement occasions. The final analytic sample comprised 846 participants (50.7% girls; M\_age = 16.60 at the first-time point), which means that 206 students were lost through attrition between the three measurement points. To establish whether these students differ from those who participated at least at two-time points, we applied logistic regression analysis to all our independent variables (that is, sex, age, subjective socioeconomic status, immigrant status, and so forth). The only significant predictor of adolescent attrition was age. Youths with missing data were more likely to be older (OR = 1.30, P < 0.05). However, the Nagelkerke $R^2$ for the whole block of variables was 0.03, indicating that attrition did not had a substantial impact on the results of the analyses.

The respondents filled out the questionnaires during regular school hours in their classrooms. To meet the possible objection that the presence of teachers might influence the responses of students, we ensured that no teachers were in the classrooms during data collection. Trained research assistants distributed the questionnaires and informed the students that participation in the study was voluntary; the students were also assured of the confidentiality of their responses. No student was paid for participating in the study, but each class received a contribution to its class fund. The data were collected annually from 2010 to 2012.

2.2. Measures

2.2.1. Social trust

Our dependent variable, social trust, was measured using two items: “Most people can be trusted” and “Most people are fair and do not take advantage of you (Flanagan et al., 2010; Flanagan & Stout, 2010). Participants responded to the statements on a five-point scale, ranging from 1
(do not agree at all) to 5 (completely agree). Pearson’s correlations between these two items were .67, .69, and .72, at time points 1, 2, and 3, respectively.

2.2.2. School climate measures

The study focused on two dimensions of school climate: relationships and safety. Relationship concerned student-teacher relationship and is measured by two items: perception of fairness of teacher treatment and responsive teachers. Adolescents’ perceptions of fairness of teacher treatment were measured on the basis of agreement/disagreement with the following single statement: “Most of my teachers treat me fairly.” Furthermore, adolescents’ perceptions of teachers perceived as responsive to the views and wellbeing of students was measured by agreement/disagreement with two statements: “Most of my teachers listen to what I have to say” and “Most teachers are eager for their students to feel good.” The Pearson’s correlation between these two items was .53. The second dimension of school climate dealt with adolescents’ experience of victimization and was measured by asking adolescents whether they agreed/disagreed with the following three statements: “I feel alone and like a stranger in my class,” “There are classmates who harass me,” and “There are students in my class who bully me.” Cronbach’s alpha reliability for this scale was .73 at the first-time point. The response scales for the three dimensions of the school setting ranged from 1 (do not agree at all) to 5 (completely agree).

2.2.3. Sociodemographic characteristics

To consider, the effects of some other potentially important factors, we included a number of conventionally used control variables: age, gender, immigrant status, and subjective socioeconomic status. Gender was coded as 1 (girl) and 0 (boy). Immigrant status was measured as a dichotomous variable: 1 = immigrant – the adolescent or at least one of the parents born outside Sweden/the other Nordic countries and; 0 = Swedish – the adolescent or at least one of the parents born in Sweden/the other Nordic countries). Subjective socioeconomic status was measured using the following five questions: “If you want things that cost a lot of money (e.g. a computer, skateboard, cell phone) can your parents afford to buy them if you want them?” “If you compare yourself with others in your class, do you have more or less money to buy things?” “Does your family have more or less money than other families where you are living?” “How often do you and your family go on vacation?” and “What are personal finances like in your family?” Cronbach’s alpha reliability for this scale was .81 at time point 1.

2.3. Analytic Strategy

To examine the roles voluntary associations and different dimensions of the school climate play in explaining the development of, or changes in, social trust among adolescents over time, we constructed a series of latent change models (McArdle & Nesselroade, 1994), using maximum likelihood estimation in Mplus 6 (Muthén & Muthén, 1998–2010). These models, also known as latent growth curve models or latent curve analysis models (McArdle & Nesselroade, 1994), generate optimal means for studying changes over time. With longitudinal data, they focus mainly on patterns of growth and decline. More specifically, in the current study, growth or decline in social trust was considered as a function of a latent intercept and a latent slope. The latent intercept reflects the average initial value of social trust at the start of the longitudinal change process. Put differently, the intercept shows the mean of social trust at the first time point. The latent slope indicates the average individual change rate (over the three measurement occasions). A positive mean value for the slope indicates that, on average, there is an increase in social trust over time, whereas a negative value indicates a decline. For this study, taken as a whole, latent growth curve analysis was a suitable statistical procedure for investigating whether predictors from the voluntary associations and the school setting are able to explain the rate of change in social trust over time.
With regard to the latent growth curve analyses, two statistical clarifications are required. First, in order statistically to evaluate the models, we used the following goodness-of-fit indices (cf. Kleinbaum & Klein, 2010): Chi-square, the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean squared residual (SRMR). Generally speaking, these fit indices are estimates of how well a theoretical model matches observed data. Thus, good model fit implies that the data are consistent with the assumptions of a hypothesized model. According to recommendations, a good fit to data is indicated by a non-significant chi-square, CFI equal to or higher than 0.95, RMSEA equal to or lower than .05, and SRMR equal to or lower than 0.08 (Hu & Bentler, 1999).

Second, to handle missing data, we tested all our models using full information maximum likelihood (FIML) estimation. By making use of all available data from every subject in a sample, FIML estimation provides more reliable standard errors than listwise deletion, pairwise deletion, or mean imputation (Little & Rubin, 2014). The proportion of missing data values is examined by the covariance “coverage” matrix in Mplus. The minimum acceptable covariance coverage value, for which Mplus provides a robust estimate, is as low as 10% (Muthén & Muthén, 1998–2010). In this study, coverage was much higher, ranging from 60 to 89%.

Finally, to make sure that there was no multicollinearity between independent, variance inflation factor (VIF) and accompanying tolerance levels were assessed using a series of multiple regression analyses. Variance inflation factor values of 10 or higher and tolerance values below 0.1 indicate serious multicollinearity problems (cf. Field, 2009). The results showed that the values for VIF ranged from 1.0 to 1.6, and the values of tolerance ranged from 0.60 to 1.0, which indicate that there was no multicollinearity between the independent variables.

3. Results

3.1. Correlations and Descriptive Data

As a first step toward answering our questions about the roles of school climate in the development of social trust among adolescents we examined the correlations between the study variables. As shown in Table 1, there were negative and significant associations of age and immigrant background with social trust at the first time point. These indicated that younger adolescents were more trustworthy than older, and that Swedes had higher levels of trust than adolescents with parents born outside Sweden/the Nordic countries. Moreover, there was a positive correlation between socioeconomic status and social trust, indicating that adolescents with higher socioeconomic status scored higher on social trust.

Moving to the school climate variables, we found positive and significant associations of fairness of teacher treatment and responsive and caring with social trust. Adolescents scoring high on perceptions of fairness and responsiveness scored high on social trust across the three waves. A negative and significant correlation was found between victimization and social trust, meaning that adolescents who reported experiences from victimization scored low on social trust.

As can be seen in Table 1, the means of social trust were stable, which was also reflected in high correlations between the trust scores across the three time points. Overall, these findings provide a first indication of the potential associations of the two dimensions of school climate – relationships and safety – with social trust.

3.2. Explaining Changes in Social Trust

In order to identify the determinants of individual differences in social trust across the three time points, we first estimated an unconditional growth model, in which our focus was solely on the factor loadings of the intercept and slope. Thus, in this model, all predictors were excluded. To specify this unconditional growth model, we constrained the factor loadings of the intercept to 1, and the factor...
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<td>−.11**</td>
<td>−.10**</td>
<td>−.17***</td>
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<td>.08*</td>
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<td>.19***</td>
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<td>.02</td>
<td>.50***</td>
<td>.59***</td>
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Mean: .51 16.60 .00 .20 3.23 3.07 1.29 2.99 2.98 2.90
SD: .50 .69 .75 .40 .64 .58 .47 .85 .86 .95

*p < .05.
**p < .01.
***p < .001.
loadings of the slope to 0, 1, and 2, which indicated the time lags between the measurement points. As shown in Table 2, this linear model of social trust fitted the data well ($X^2 \[1\] = 3.053, CFI = .996, SRMR = .015, RMSEA = .049). The mean of the intercept gives the level of social trust at the first time point. The mean of the slope factor is negative and significant ($\beta = −.05, p < .05$). This negative value indicates that, on average, there was a decline in social trust over time. The significant variances of the intercept and slope factors indicate that individuals differed in their latent social scores at the first time point, and also in their growth trajectories. Put differently, there was variability in social trust both initially (as shown by the intercept) and in change over time (as shown by the slope). All in all, these findings indicate decline in social trust over the three measurement points, and also reasonable variability around the average intercept and slope.

Given the significant intercept and slope variances, there was justification for adding variables to the unconditional model to explain the variation in individual trajectories. To this end, we estimated a series of conditional latent growth models, where each predictor was initially added separately to examine its predictive value, while not taking into account other influences. As shown in Table 3, the first four single predictor models include the sociodemographic variables. The results revealed that only age ($\beta = −.17, p < .001$) and immigrant background ($\beta = −.17, p < .01$) were significantly and negatively related to the intercept of social trust. However, immigrant background alone significantly and negatively predicted the slope ($\beta = −.23, p < .01$), which means that adolescents who themselves or at least one of their parents were born in Sweden/the Nordic countries decreased less in social trust than the adolescents with immigrant background.

Looking at school climate, we noted that all three predictors were significantly related to the intercept of social trust. Whereas, the perceptions that teachers were fair and cared about their students were related to higher levels of social trust at baseline, experiences from victimization was related to a lower level of social trust ($\beta = −.18, p < .001$). However, only victimization had a significant effect on the slope ($\beta = .29, p < .01$), indicating that experiences from victimization resulted in a higher decrease in social trust across the three waves. Put differently, the level of social trust decreased more over time among adolescents who experienced more victimization at school than those who experienced less victimization. The school climate variables accounted all together for about 11% of the variance in the intercept and about 10% of the variance in the slope of social trust across the three time points.

At a final step (estimating the full model), we included all the predictors in one model to investigate the unique variance of each predictor in relation to the development of social trust while controlling for the others. This model showed a good fit ($X^2[11] = 21.162, CFI = .986, SRMR = .011, RMSEA = .033$). Only two variables (immigrant background and perceived victimization) proved to have a continued, significant effect on the slope of social trust. The model in total explained

<table>
<thead>
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<th>Table 2. Unconditional latent growth curve model of social trust.</th>
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<tr>
<td>$\mu_1$ (Mean slope)</td>
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<td>$\Psi_{\alpha\alpha}$ (Variance intercept)</td>
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<td>$\Psi_{\beta\beta}$ (Variance slope)</td>
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<td>$r$ (intercept and slope)</td>
</tr>
<tr>
<td>$X^2$ (df)</td>
</tr>
<tr>
<td>CFI</td>
</tr>
<tr>
<td>SRMR</td>
</tr>
<tr>
<td>RMSEA</td>
</tr>
</tbody>
</table>

Note: Entries are unstandardized maximum likelihood estimates from the latent growth curve analysis.

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

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about 16% of the variance in the intercept and about 13% of the variance in the slope of social trust across the three time points. Victimization alone accounted for about 8% of the variance in the slope of the social trust over time. To summarize, when taking into account all the independent variables at once, victimization was the strongest predictor of the changes in social trust across the three waves.

4. Conclusion and Discussion

4.1. Conclusion

We examined the impact of two dimensions of school climate – relationships and safety – on changes in social trust over time among adolescents. Using a series of latent change models on three-wave panel data representing roughly 850 Swedish adolescents, we found that neither fairness of teacher treatment nor responsiveness among teachers can explain changes in social trust over time. Instead, adolescents’ experiences with victimization at school mattered most in predicting changes in social trust across three time points when relevant demographic aspects were controlled for. In other words, our results indicated that social trust declined more among adolescents who experienced more victimization in school.

4.2. Discussion

Our study contributes to previous research on the relationship between school and social trust in different ways. First, our results confirm previous research that school climate is relevant in explaining social trust (Englund, 2009; Flanagan et al., 2010). Second, in contrast to many other studies in the field, ours increases our knowledge about what explains changes in social trust over time. By focusing on two dimensions of school climate at the same time, we show that victimization is the strongest predictor of changes in social trust across the three waves. That result suggests that experiences with victimization in school reduce adolescents’ social trust, as consistent with a study by Flanagan and Stout (2010), who used longitudinal data to show that adolescents’ perception of school solidarity boosts social trust. Our finding might suggest that when such solidarity is compromised by experiences with victimization, social trust declines. To some degree, our finding is also in line with results from a Swedish study showing that experiences of being offended by individuals and governmental agencies negatively correlates with trust in other people (Grosse, 2012). Consequently, given the importance of social trust for individuals and society at large, our results provide important information for governmental institutions aiming to uphold or increase social trust among young people through various programs and interventions aiming at reducing victimization and foster without supportive norms, structures, and relationships among students.

Table 3. Conditional latent growth curve model of social trust.

<table>
<thead>
<tr>
<th>Time-invariant covariates</th>
<th>Single predictor</th>
<th></th>
<th></th>
<th>Full model</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td>Slope</td>
<td>Intercept</td>
<td>Slope</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>β</td>
<td>SE</td>
<td>β</td>
<td>SE</td>
<td>β</td>
<td>SE</td>
</tr>
<tr>
<td>Sociodemographic characteristics</td>
<td>Gender</td>
<td>−.06</td>
<td>.05</td>
<td>.08</td>
<td>.07</td>
<td>−.04</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>−.17***</td>
<td>.04</td>
<td>−.13</td>
<td>.07</td>
<td>−.13***</td>
</tr>
<tr>
<td></td>
<td>Socioeconomic status</td>
<td>.09*</td>
<td>.05</td>
<td>−.06</td>
<td>.07</td>
<td>.06</td>
</tr>
<tr>
<td>Immigrant background</td>
<td>−.17***</td>
<td>.05</td>
<td>−.23**</td>
<td>.08</td>
<td>−.16***</td>
<td>.04</td>
</tr>
<tr>
<td>School climate</td>
<td>Fairness of teacher treatment</td>
<td>.25***</td>
<td>.05</td>
<td>−.11</td>
<td>.08</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>Responsiveness and care</td>
<td>.27***</td>
<td>.04</td>
<td>−.13</td>
<td>.07</td>
<td>.18**</td>
</tr>
<tr>
<td></td>
<td>Victimization</td>
<td>−.18***</td>
<td>.05</td>
<td>.29**</td>
<td>.09</td>
<td>−.15**</td>
</tr>
</tbody>
</table>

Note: Entries for covariates are standardized maximum likelihood estimates and standard errors.

*p < .05.

**p < .01.

***p < .001.
Our study furthermore poses some important theoretical consequences for research on social trust. For one, our findings support the notion that social trust remains open to influences that we modify in response to experiences (Dinesen, 2012; Laurence, 2015). Such thinking contradicts findings showing no effects of negative experiences on social trust (Bauer, 2014; van Ingen & Bekkers, 2015). Notably, our results draw attention to adolescence, which represents a period of dramatic changes when political values and beliefs are shaped (Niemi & Hepburn, 1995; Sears & Brown, 2013, p. 75). Thus, somewhat mixed results on the nature and character of social trust in different studies might be explained by life cycle effects (Visser & Krosnick, 1998). Clearly, more research is needed to understand the nature and character of social trust, in general, and the dynamics in the links between trust and schools in particular, for example, additional research is needed that takes into account factors related to the school climate, including teacher-student and student-student relationships.

Our study has some limitations and strengths that warrant attention. One potential limitation concerns whether findings from our sample can be generalized to a wider population. As noted earlier, the data used in our study come from a community-based sample recruited from a Swedish city. Arguably, the findings therefore cannot be generalized from this context. In other words, it could be inherently difficult to know to what extent findings can be generalized to other institutional settings. At the same time, the research project from which the data in our study were obtained employed a community-based approach. Given the longitudinal design of the project, that kind of a community-based approach is more suitable and practically feasible.

The data used in our study also seem to be representative of the general population in terms of several relevant characteristics for the relevant age group and have adequate validity. In addition, there are few reasons to a priori assume that Swedish schools are atypical compared with other school contexts (Ainley, Schulz, & Friedman, 2013). Thus, there are good reasons to believe that patterns of results regarding the aspects tested here on changes in social trust might be similar in various educational and political settings.

Our study also has several strengths. First, by adopting a longitudinal design, we pointed out the added value of using longitudinal data to explain the development of social trust over time. A second strength concerns the focus on adolescents instead of adults. In so doing, we could study social trust during a time when it is probably most vulnerable to external influences, including experiences with victimization. Lastly, by focusing on different aspects of the school climate and controlling for other relevant factors, we gained a better understanding of which factor is most important in the development of social trust. Such knowledge is vital for teachers and other school personnel to boost social trust. Based on the insights of this study, future research should pay more attention to the role of peer victimization in school on the development of social trust.

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