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Future orientation climate in the school class: Relations to adolescent delinquency, heavy alcohol use, and internalizing problems

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ABSTRACT

It is well known, based on previous research, that adolescents' thoughts and feelings about their future are related to the risk of delinquency, alcohol use as well as health. However, other well-known facts are that adolescents' actions are substantially shaped in interaction with peers and that, during adolescence, individuals spend a considerable amount of the day at school, in interaction with classmates. Despite this, there is an almost complete lack of studies exploring to what extent the school climate, as measured by thoughts and feelings about the future, can influence individual adolescents. The aim of the current study is to investigate whether the future orientation (FO) climate, measured at the school class level, is related to delinquency, alcohol use and internalizing problems at the individual level, among a sample of Swedish students 14–15 years of age. The data used come from the Swedish part of the Youth in Europe (YES!) study, which is part of the larger project Children of Immigrants - Longitudinal Survey in Four European Countries (CILS4EU). In the present paper, we use data from the first wave, collected among 8th grade students in 2010/11 (n = 4119–4364). The method used was multilevel modeling (linear probability models (LPM) and linear regression analysis). The results showed that, in school classes where a high proportion of students had a positive future orientation, the risk of heavy alcohol use at the individual level was lower, also after adjusting for individual FO and for individual- and class-level socioeconomic conditions. A similar, but not statistically significant, tendency was found for delinquency. In addition, having a high proportion of students with a positive FO in a school class was associated with fewer internalizing problems, also after controlling for individual FO and socioeconomic conditions at the individual and school class level. We conclude that the surrounding school class, in terms of its general future orientation climate, may play a role for individual outcomes in the form of problem behaviors and mental health.

1. Introduction

It is well known, based on previous research, that adolescents' thoughts and feelings about their future are related to the risk of delinquency (Clinkinbeard, 2014), heavy alcohol and drug use (McKay, Percy, & Cole, 2011) and subjective ill-being (Zhang, Howell, & Stolarski, 2013). And although the majority of existing studies are cross-sectional, which means that the direction of causality can be questioned, in recent years findings from a few longitudinal studies have also pointed in the expected direction (Brezina, Tekin, & Topalli, 2009; Stoddard, Zimmerman, & Bauermeister, 2011; Chen & Vazsonyi, 2013; Piquero, 2014; Chua, Milfont, & Jose, 2015). However, as we know, adolescents' actions are substantially shaped in their interaction with peers (Lansford et al., 2009), and during adolescence individuals spend a considerable amount of the day at school, in interaction with classmates (Smith, Boutte, Zigler, & Finn-Stevenson, 2004). Despite this, there is an almost complete lack of studies exploring to what extent the school climate, as measured by classmates' thoughts and feelings about the future, can influence individual adolescents. In fact, we only know of one such previous study, conducted on American data (Chen & Vazsonyi, 2013).

The aim of the current study is to investigate whether future orientation climate, measured on the school class level, is related to delinquency, heavy alcohol use and internalizing problems among Swedish adolescents 14–15 years of age. Although committing criminal offenses during adolescence is not uncommon, it is a significant risk factor for criminality as an adult (Bäckman, Estrada, Nilsson, & Shannon, 2014). Based on previous research, we also know that regular alcohol use in the teenage years predicts alcohol abuse among adults (De Wit, Adlaf, Offord, & Ogborn, 2000; Bonomo, Bowes, Coffey, Carlin, & Patton, 2004). Internalizing problems such as stomachache, headache, worry and anxiety are common among adolescents, particularly among girls (Torsheim et al., 2006; MacLean et al., 2013). Earlier studies have shown that self-reported somatic complaints in adolescence or in

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young adulthood predict mental ill health later in life (Bohman et al., 2012; Shanahan et al., 2015). Thus, these outcomes are important both to adolescents here and now and from a life-course perspective. Below, the concept of future orientation will be introduced.

2. Future orientation – previous studies and theoretical underpinnings

There are many ways to approach individuals' thoughts and feelings about the future, and the same approaches are sometimes conceptualized differently in different studies. However, a useful umbrella term is future orientation, FO, originally introduced by Trommsdorff (1983) and Nurmi (1991). FO can be defined as "…an individual's thoughts, plans, motivations, hopes and feelings about his or her future" (Stoddard et al., 2011, p. 239). Therefore, FO can be said to include a *cognitive*, as well as a *motivational* and an *affective* component. The cognitive component concerns, e.g., judgment of internal vs. external causes of future events, i.e. questions may ask to what extent one believes oneself to be the primary agent in one's future, or whether one expect powers external to oneself, such as God, fate or luck, to be in control. The cognitive component can also include questions about the extension of one's time perspective into the future. The motivational component includes, e.g., perceived values in future domains, i.e. questions about how important one believes higher education, a well-paid job and/or having children to be for a good personal future. The affective component finally, is perhaps the most intuitive and probably the most common in studies on FO, and primarily concerns one's feelings in terms of optimism/pessimism regarding the future (Chen & Vazsonyi, 2013).

Although people orient themselves toward the future during their entire life span, it is only natural that the future dimension is particularly crucial during adolescence and young adulthood, when decisions about education, occupation and other key life aspects are typically made (Nurmi, 1991; Adams & Marshall, 1996; Chua et al., 2015). Several studies have shown associations between different aspects of FO and outcomes such as delinquency, heavy alcohol and drug use, and subjective well-being (e.g., Clinkinbeard, 2014; McKay et al., 2011; Zhang et al., 2013), and a few of these studies are based on longitudinal data (Brezina et al., 2009; Stoddard et al., 2011; Chen & Vazsonyi, 2013; Piquero, 2014; Chua et al., 2015). Within criminology, a commonly adopted theoretical framework for understanding the relationship between low FO and problem behavior is Gottfredson and Hirschi's (1990) General Theory of Crime (GTC), which is sometimes applied in combination with elements from rational choice theory (e.g. Piquero, 2014). According to GTC, criminal behavior is a result of low self-control (Clinkinbeard, 2014). The idea underlying rational choice theory is that a pessimistic view of the future makes it only rational to affirm impulsiveness and a here-and-now orientation in one's actions. The rational choice approach is also closely linked to the perspective suggested by Sykes and Matza (1957), according to which low expectations of the future could serve to neutralize the effect of delinquent behavior in the eyes of the actor him-/herself. Alternatively, the relationship between low FO and delinquency has been analyzed within the framework of classic strain theory (Farnworth & Leiber, 1989; Alm & Estrada, 2016), where low FO is treated as an indicator of a self-defined lack of means, which in combination with a desire to achieve culturally defined goals is recognized as strain.

Many problem behaviors, e.g., heavy alcohol use and drug use, can also be considered health-endangering behaviors (e.g. Jessor, 2014; Olsson & Fritzell, 2015), and studies have shown that FO also predicts health care behavior (Jones, DeMore, Cohen, O'Connell, & Jones, 2008) as well as health/well-being/ill-being (Lindström Johnson, Blum, & Cheng, 2014; Patton et al., 2001). Concerning mental health, Patton et al. (2001) found a protective effect of optimism about the future on depressive symptoms, and Chua et al. (2015) found positive, directional associations between optimism about the future and outcomes in terms of vitality, sleep and happiness with weight. As regards mechanisms that account for the relationships, Chua et al. (2015) found that the relationships were mediated by coping strategies such as resilience, social support and problem solving. When it comes to health care behaviors, as pointed out by Lindström Johnson et al. (2014) (whose line of reasoning is similar to the above discussion on FO in relation to criminal offending), it is only natural that a pessimistic view of the future promotes a here-and-now orientation and a focus on instant reward rather than investment in actions in the present to avoid negative future consequences. Exercise and safe (as opposed to unprotected) sex are examples of investments that may be less likely to be practiced by adolescents with a more pessimistic FO (Lindström Johnson et al., 2014).

The variation in FO (and its different components) with respect to individual-level factors such as gender and the socioeconomic status (SES) of the family of origin has been of some interest in previous studies. Starting with gender, as touched upon by Nurmi (1991), it is reasonable to expect that the higher the degree of gender equality in society, the more similar the life chances of women and men will be, and the smaller the gender differences in FO can be expected to be. In a study on Swedish data, Alm (2014) found that girls looked somewhat more brightly on their future than boys did. The tendency for girls to do better in school was put forward as one possible explanation.

Concerning social class, previous studies have typically found individuals from more privileged socioeconomic backgrounds to view the future more optimistically than those from less privileged socioeconomic backgrounds (Lamm, Schmidt, & Trommsdorff, 1976; Alm, 2014). As suggested by Alm (2011), differences in locus of control (Rotter, 1954) could be part of the explanation for this: More privileged class positions are linked to better possibilities for control, directly in relation to work, but also indirectly in relation to, e.g., higher income. Individuals from more privileged socioeconomic positions may therefore see what happens in their lives as a result of their own decisions and actions, rather than as being the result of luck or faith or the actions of other people. Generally, however, we may expect the same rule to apply to SES as applies to gender, i.e. that the greater the socioeconomic differences in a given society, the greater the differences in FO in relation to social class.

3. Criminal behavior, heavy drinking and internalizing problems among adolescents

Considered from a life course perspective, it is well know that criminal behavior peaks during the mid-adolescent years. Already from around 16–17 years of age, the risk of being registered for crime decreases, and hence, for a majority of young offenders, committing crime is a transitory phenomenon (Laub & Sampson, 2003; Estrada, 2013). The pattern differs somewhat by type of offense, however, the general rule being that the more serious the type of offense, the larger the proportion of adult offenders (Estrada, 2013). The most common offenses among adolescents are petty theft and vandalism. However, it is also well known that there are substantial gender differences with respect to crime, both concerning the amount and type of crime committed (Estrada, 2013). Whereas boys are more involved in, e.g., vandalism and unlawful driving, girls more often commit petty theft and fraud (Estrada, 2013). The trend in Sweden during recent years toward somewhat smaller gender differences in criminality among adolescents is mainly an effect of men committing less crime (Estrada, 2013). Concerning SES, young individuals from less privileged backgrounds commit more crimes than do those from more privileged homes (Estrada, 2013). Even though the majority of those who commit crime during adolescence stop offending during the transition to adulthood, there are also those who do not, and criminal behavior as a teenager is a known risk factor for adult criminality (e.g., Bäckman et al., 2014.)

In a similar vein, concerning alcohol use, although experimental drinking is not uncommon among adolescents, several studies have found that regular alcohol use in the teenage years predicts alcohol

abuse among adults (De Wit et al., 2000; Bonomo et al., 2004). Concerning gender differences in drinking, boys still tend to drink somewhat more alcohol than girls do (Preventionscentrum Stockholm, 2010). However, a study looking at data on 15-year-old girls and boys in the Stockholm area indicates that, in recent years, girls' binge drinking has surpassed that of boys' (Preventionscentrum Stockholm, 2010). With respect to SES there is no evident pattern, and a recent study by Olsson and Fritzell (2015) found no significant association between level of alcohol consumption and parental education.

Finally, internalizing problems such as worry, anxiety, headache and stomachache are common among adolescents, especially among girls (Torsheim et al., 2006). Among 15-year-olds in Sweden in 2013/14, 57% of girls and 31% of boys reported at least two psychological or somatic health complaints weekly (The Public Health Agency of Sweden, 2014, p. 27). The reported rates of such complaints have increased during recent decades, in particular among girls (The Public Health Agency of Sweden, 2014; Hagquist, 2009). During the past decades, the increase in problems such as feeling low, sleeping difficulties and headaches has also been greater in Sweden than in several other countries (Bremberg, 2015). Analyses of Swedish nationally representative data have shown that household social class is not clearly associated with psychosomatic health problems among adolescents (Östberg, Alfven, & Hjern, 2006) – a finding that is in line with the hypothesis of "equalization in youth", which suggests that individuals are exposed to other influences than the family of origin during this period of life in particular (West, 1997; West & Sweeting, 2004).

4. The role of the school environment for adolescent outcomes

Individuals of all ages are part of different groupings and contexts that affect their lives, and for adolescents, the peer group and the school class, along with the family, tend to be the most important contexts (e.g., Olsson & Fritzell, 2015). There are a number of factors at the aggregate school or school class level that could be investigated (some of which that have been) in relation to various individual outcomes. Among the more important questions is whether the SES of pupils' parents matters for individual outcomes. A recent study on Swedish data reported a negative relationship between advantaged school setting and delinquency (Eklund & Fritzell, 2014). However, another recent study on Swedish data found a positive relationship between the same measure of socioeconomic setting and outcomes in terms of heavy use of alcohol and drugs (Olsson & Fritzell, 2015).

School climate has been defined as a school's collective beliefs, values, and attitudes, all of which are created and shaped in the social interplay among students, teachers and other school staff (Koth, Bradshaw, & Leaf, 2008). Measures of school climate may include aspects such as students' perceptions of relationships with students and teachers, fairness, order and discipline, parent involvement, sharing of resources, and achievement motivation (Kuperminc, Leadbeater, Emmons, & Blatt, 1997; Kuperminc, Leadbeater, & Blatt, 2001).

As pointed out by Chen and Vazsonyi (2013), the focus on school climate can partially be traced back to Coleman's (1961) seminal work on the importance of school culture for individual educational aspiration and achievement, and previous research on the influence of school climate factors on individual outcomes has shown that the aggregated school climate of connectedness seems to protect individual adolescents from delinquency and substance use (Mayberry, Espelage, & Koenig, 2009). The school climate also seems to be of importance for students' psychological health. For instance, school contextual aspects such as school sense of coherence, high academic motivation and high levels of teacher support have been shown to be linked to better student health (Modin, Östberg, Toivanen, & Sundell, 2011; Låftman & Modin, 2012).

However, regarding school future orientation climate, i.e. students' FO measured at the school or class level, although its potential influence was explicitly highlighted by researchers several decades ago (see Brookover, Beady, Flood, Schweitzer, & Wiesenbaker, 1977; Anderson, 1982), Chen and Vazsonyi (2013) seem to be the only researchers to have studied it thus far. They explored the relationship between school future orientation climate and a composite measure of some 15 indicators of problem behavior in their longitudinal sample of about 9000 youth between the ages of 14 and 20 years.

Chen and Vazsonyi (2013) found no general effect of school climate on problem behavior, but an interactive one, in the sense that the association between individual FO and problem behavior was stronger, and significant, in schools with a more positive future orientation climate. Among other things, this meant that, somewhat contrary to expectations, school future orientation climate turned out to have a significant and positive association with problem behaviors for adolescents with a low level of FO. The authors suggest that this result might be explained by the so-called *comparative effect of school contexts* (e.g., Shavit & Williams, 1985; Khattab, 2005), according to which "…students with a low or pessimistic future orientation may feel even more hopeless in schools with a more positive climate of future orientation due to […] comparing their own future orientation to the one of their peers" (Chen & Vazsonyi, 2013, p. 77).

Against the backdrop of the somewhat surprising results from Chen and Vazsonyi's study, and bearing in mind the influence of FO on the individual level for several outcomes, as well as the general importance of peers and the school class for adolescents' lives and general well-being, we find strong reasons to continue and extend the study of school climate FO and its influence on individual adolescents' problem behavior and ill-being. The present study resembles that of Chen and Vazsonyi (2013) in a number of ways, but there are also some important differences. First, instead of a summary index of a number of quite different types of problematic behavior, we use three different outcome measures focusing on delinquency, heavy alcohol use and internalizing problems, respectively. Second, concerning FO, available data allows for a focus on the affective component of the concept only, and rather than an index made up of a number of items, the measure of the affective component of FO is constructed from a single question with five response categories. Although it would undoubtedly have been interesting to study also the cognitive and motivational aspects of FO, we would argue the affective component to be the single most central of the three components, as well as the most encompassing. In addition, the affective component is also the one most commonly studied, and was in focus already in the early seventies in Alvin Toffler's seminal work on FO among the young (Toffler, 1974).

As for using a single question rather than a composite index, although of course there are many advantages with the latter, the use of a single question does mean that we avoid the problem of somewhat low scale reliability faced in some of the previous studies referred to (e.g. Chen and Vazsonyi (2013), and Clinkinbeard (2014) both report α-values around 0.6, whereas Stoddard et al. (2011) report no result from reliability test of their composite measure.)

Our study also differs from that of Chen and Vazsonyi (2013) in the sense that it, like the great majority of previous studies on FO in relation to different outcomes, is based on cross-sectional, rather than longitudinal, data. This nature of the data means that we are unable to make claims about the causal directions of the associations found. Hence, it cannot be out ruled that levels of delinquency, heavy alcohol use and internalizing problems among the individual adolescents in the school class not only is affected by, but also affect the FO at school class level. In fact, in line with Lindström Johnson, Pas, and Bradshaw (2016) in their recent study of the association between school climate and FO, we would suggest that it is quite likely that the relationship between aspects of school climate and individual outcomes of different kinds, to some extent take the form of a self-perpetuating cycle, rather than just working in one direction. Against this background, recognizing that a longitudinal study design is more appropriate when deciding the main direction of causality, we would claim that also cross-sectional

studies of the associations between aspects of school climate and individual outcomes, are highly able to contribute to our knowledge.

5. Aim of the study

The aim of the present study is to assess whether a positive school FO climate, measured as the proportion of students in a school class reporting a positive future orientation, is related to delinquency, heavy alcohol use and internalizing problems at the individual level, among a large-scale sample of Swedish adolescents in grade 8 (ages 14–15 years).

6. Data

6.1. Data

The data come from the Youth in Europe Study (YES!), which is part of the larger project Children of Immigrants – Longitudinal Survey in Four European Countries (CILS4EU). The sample was stratified with an overrepresentation of schools with a high proportion of students with immigrant background. The sample was derived through a two-step cluster design: first, the schools were sampled and thereafter two classes in each school. Information about the study design and details about the data are reported in the Technical Report (CILS4EU, 2016) and at www.cils4.eu. In the present study, we use the first wave of the Swedish data, which were collected by Statistics Sweden among 8th grade students (approximately 14–15 years of age) in late 2010 and spring 2011. An interviewer from Statistics Sweden distributed questionnaires in classrooms. The questionnaires were completed by the students during two school lessons and were subsequently recollected by the interviewer. Separate questionnaires were also provided to parents and to teachers. The Swedish wave 1 data contain information on 5025 students distributed over 251 classes and 129 schools. Because the present study focuses on a class contextual measure, in the first stage we omitted school classes with fewer than 10 participating students (n = 71). Valid information on all the included independent variables was available for n = 4533 (92%, i.e. 4533/(5025-71)). There was also internal non-response on the questions that are used to measure the dependent variables. Full valid information on both independent and dependent variables was available for n = 4142 for delinquency, n = 4143 for heavy alcohol use, and n = 4364 for internalizing symptoms. A check showed that for the analyses of delinquency and of heavy alcohol use, these analytic subsamples contained some school classes where only a few students had valid information on all variables. Accordingly, we omitted school classes with valid information for fewer than 8 students. This resulted in three sets of final analytical subsamples of n = 4119 for delinquency, n = 4120 for heavy alcohol use, and n = 4364 for internalizing problems.

6.2. Variables

6.2.1. Dependent variables

Delinquency was measured using the question: "Have you done the following things during the past 3 months?" with a list of items; the response alternatives were "Yes" and "No". Those who responded "Yes" to either "Deliberately damaged things that were not yours?" and/or "Stolen something from a shop/from someone else?" were coded as having committed a delinquent act.

Heavy alcohol use was created using information from two questions. First, we used the question "Have you done the following things during the past 3 months?" and the item "Been very drunk?" with response alternatives "Yes" and "No". Second, we used the question "How often do you drink alcohol?" with response alternatives "Every day", "Once or several times a week", "Once or several times a month", "Less often" and "Never". Students who replied "Yes" both to the first question and to one of the first three response categories for the second question (i.e. drinking alcohol once a month or more often) were classified as engaging in heavy alcohol use.

Internalizing problems were measured by an index constructed from six items on the frequencies of feeling worried, depressed, anxious, and having a headache, stomachache, or difficulties falling asleep. The first three items were assessed through the question "How often are each of these statements true about you?" and the statements "I feel very worried", "I feel anxious", and "I feel depressed." The response alternatives were "Often true", "Sometimes true", "Rarely true" and "Never true" and were coded 3-0. The last three items were captured using the question "During the past 6 months, how often have you had…" and the sub-questions "a headache" "a stomach-ache" and "difficulties falling asleep". The response alternatives were "Every day", "Once or several times a week", "Once or several times a month", "Less often" and "Never" and were coded 3-0 (the two last response categories were merged). In a factor analysis, the six items fall into one dimension (Cronbach's alpha = 0.78). The values of the six items were added, thus constructing an index ranging from 0 to 18, with higher values indicating more frequent symptoms. The index was z-standardized (mean value = 0; standard deviation = 1).

6.2.2. Independent variables

6.2.2.1. Individual level. Future orientation was measured using the statement "I think things will go well for me in the future". The response categories were "Strongly agree", "Agree", "Neither agree nor disagree", "Disagree" and "Strongly disagree"; those who replied "Strongly agree" or "Agree" were classified as having a positive future orientation.

6.2.2.2. Class level. Class-level future orientation, which is our main independent variable of interest, was calculated from the above individual-level variable and measured as the proportion of students with a positive future orientation in each school class. The variable was subsequently divided into tertiles to distinguish school classes with a low, intermediate, and high proportion of students with a positive future orientation.

6.2.3. Control variables

6.2.3.1. Individual level. Sex was based on information from the student questionnaire with the categories boy or girl.

Age was measured as the year of the interview (i.e. 2010 or 2011) minus the student's year of birth.

Family type was created from information in the student questionnaire, reporting whether the adolescent lives with two custodial parents in the same household or not.

Foreign background was derived from information in the student questionnaire on the parents' country of birth. Adolescents with at least one parent born in Sweden were coded as not having a foreign background, whereas those with two parents born abroad were classified as having a foreign background. For individuals with information on one parent only, the variable was defined based on this parent.

Parents' occupational status was based on information on parents' occupations and coded according to the international classification system ISEI (Ganzeboom, de Graaf, & Treiman, 1992; Ganzeboom, 2010), an interval-scale with the range 11–89. The measure was constructed from the "best available" information using two sources. First, when available, information was taken from a question in the parental questionnaire where the respondent was asked to provide the title and a short description of both his/her own and his/her partner's jobs. Second, information was derived from a similar question in the students' questionnaire where the student was asked to provide the title and a short description of both parents' jobs. Parents' occupational status was defined as the highest ISEI score in the family.

6.2.3.2. Class level. Parents' occupational status was calculated as the mean ISEI score for each school class.

6.3. Ethical issues

The data collection was approved by the Regional Ethical Review Board of Stockholm (2010/1557-31/5). Students as well as their parents were informed that participation was voluntary and that all collected information is treated confidentially.

7. Method

Given the hierarchical nature of the data, with students being nested within classes within schools, multilevel regression analyses were performed.

Since it is problematic to compare odds ratios from logistic regression analyses across models with different independent variables (Mood, 2010), for our dichotomous outcomes we estimated two-level probability regression models, and the analyses of internalizing problems were run as two-level linear regression models (in both cases we used Stata's *xtmixed* command). All analyses were run as random intercept models. In all analyses, we used an official survey weight to adjust for the stratified sampling.

Descriptive statistics of the data (unweighted) are presented in Appendix, Table A1.

8. Results

The proportions of students reporting a positive FO are shown in Table 1, along with coefficients from a two-level linear probability model which demonstrate differences between groups. The distribution of future orientation is skewed with a large majority of students, 88.7%, reporting a positive FO. There are, however, some significant differences between groups. Girls less often than boys have a positive FO. It is also more common for those living with two custodial parents in the same household compared with those in other family types to report a positive FO, while there is no difference by foreign or native background. A positive FO is positively associated with parents' occupational status in terms of ISEI in that higher parental ISEI is linked with a greater inclination to report a positive FO. The class-level variance also shows that there is statistically significant variation in FO between school classes.

Table 1
Individual future orientation and associations with individual-level sociodemographic background factors. Weighted percent and coefficients from a two-level linear probability model of reporting a positive future orientation. Adjusted for age. n = 4533 students distributed over 242 school classes.

	Positive future orientation		
	%	Coef.	s.e.
All	88.7		
Sex			
Boys (ref.)	90.6	0.00	–
Girls	86.8	−0.04**	0.01
Family type			
Two custodial parents (ref.)	90.8	0.00	–
Other	84.4	−0.05***	0.01
Foreign background			
No (ref.)	88.3	0.00	–
Yes	90.5	0.02	0.02
Parents' ISEI	–	0.001***	0.000
Random effects			
Class-level variance		0.0065***	0.0007

*** p < 0.001.
** p < 0.01.

In Table 2, the associations between individual- and class-level future orientation and our outcome variables are presented. The bivariate associations show that a positive FO at the individual level is associated with a lower risk of delinquency and heavy alcohol use, as well as with fewer internalizing problems. The positively skewed FO among students is also reflected at the school-class level. In the lowest tertile of class-level positive future orientation, on average 81% of the students reported a positive FO, ranging between 63% and 87%. In the intermediate tertile, the average proportion is 90% (range 88–94%) and in the highest tertile the average share is 97% (range 94–100%). Not only for the individual FO but also for class-level FO, there are clear gradients for each of the outcomes. The highest prevalence of delinquency and heavy alcohol use are found in school classes with a relatively small share of students reporting a positive FO (i.e., the lowest tertile), and the lowest prevalence in classes with a relatively large proportion of students reporting a positive FO (i.e., the highest tertile). For internalizing problems, the highest mean score of symptoms is reported in classes with a relatively low share of students reporting a positive FO (lowest tertile), and the lowest score is found in classes with a high proportion of students reporting a positive FO (upper tertile).

Next, we conduct multilevel models to assess whether the associations between individual- and class-level FO are found also when mutually adjusted and when controlling for other relevant variables. Table 3 presents results from linear probability models of delinquency. Model 1, including only individual-level variables, shows that a positive FO is associated with a lower risk of committing a delinquent act. Furthermore, girls are less likely than boys to have committed a delinquent act. No difference is seen with regard to family type or foreign background while parents' occupational status is negatively associated with delinquency. Model 2 adds class-level FO and class mean of parents' occupational status. A high positive class-level FO is related to a lower risk of delinquency although the association does not reach statistical significance ($b = -0.03$, $p = 0.068$). We also tested for cross-level interactions between gender and class-level FO but they were not statistically significant (data not shown).

Table 4 presents analyses of heavy alcohol use. At the individual level, a positive FO is linked with a lower probability of heavy alcohol use (Model 1). There are no differences by sex or foreign/native background, but not living with two custodial parents is linked with a higher probability of heavy alcohol use. Parents' occupational status is negatively associated with heavy alcohol use. In Model 2, class-level FO (and class-level parental ISEI) is added, and being a student in the highest FO tertile is associated with a lower risk of heavy alcohol use, also after controlling for individual characteristics as well as for the school class mean score for parents' ISEI ($b = -0.04$, $p = 0.000$). In addition, parental ISEI at the school class level is positively associated with heavy alcohol use. Cross-level interactions between class-level FO and gender were tested for, but did not turn out to be statistically significant (data not shown).

Analyses of internalizing problems are presented in Table 5. In Model 1, including all individual-level variables, it is demonstrated that a positive individual FO is linked with fewer internalizing problems. Girls report more symptoms than boys, and students who do not live with two custodial parents report more symptoms than those who do. There are no statistically significant associations between foreign background or parents' ISEI and internalizing symptoms, although the negative estimate of foreign background is borderline significant (and becomes stronger and statistically significant at the 5%-level if omitting individual FO from the model). In Model 2, class-level FO and class-level parental ISEI are added. Students in classes with a high proportion of peers who reported a positive FO (i.e., the highest tertile) report fewer internalizing problems also after adjusting for individual FO and other characteristics and for class-level parental ISEI ($b = -0.09$, $p = 0.028$). We also tested for the cross-level interaction between gender and class-level FO, but it was not statistically significant (data not shown).

Table 2
Delinquency, alcohol use and internalizing problems by individual-level and tertiles of class-level future orientation. Weighted percent and mean values. n = 4142–4533.

	Future orientation		Delinquency (%)	Heavy alcohol use (%)	Internalizing problems (z-score mean)
Individual level	%				
Not positive (ref.)	11.3		24.5	15.3	0.84
Positive	88.7		13.2***	6.3***	−0.09***
Class level (% positive)	Mean	Range			
Lowest tertile (ref.)	0.81	0.63–0.87	17.5	9.9	0.12
Intermediate tertile	0.90	0.88–0.94	13.7*	7.3	0.02
Highest tertile	0.97	0.94–1.00	10.8***	3.0***	−0.16***

*** p < 0.001.
* p < 0.05.

9. Discussion and conclusions

The present study showed that the future orientation climate measured at the school class level was associated with outcomes measured at the individual level. A positive future orientation among classmates was linked with a lower risk of heavy alcohol use as well as with fewer internalizing problems among students. A similar but non-significant tendency was found for delinquency. The findings were confined to the highest tertile of a positive school FO climate, showing that the pattern was not graded, but that it was particularly a high concentration of students reporting a positive FO that was associated with more beneficial outcomes.

So, how can the associations between school FO climate and individual outcomes be understood – what are the possible underlying mechanisms? Just as a positive FO at the individual level is linked to a sense of optimism, command over resources, problem solving skills and possibility to affect one's own future (e.g., Nurmi, 1991; Alm, 2014; Chua et al., 2015), it can be assumed that a positive FO in the school class contributes to a climate characterized by feelings of mastery and control over one's own situation. This may be associated with both a lower inclination to engage in problem behaviors and fewer internalizing problems. In contrast, a less positive school FO climate may foster feelings of pessimism and resignation, promoting an orientation toward instant rewards (expressed through a greater inclination to engage in problem behaviors such as delinquency and heavy alcohol use), rather than toward investments in actions that may be beneficial for the future (e.g., Brezina et al., 2009; Piquero, 2014). The finding that the school FO climate has independent associations with individual-level outcomes is in line with earlier studies investigating other aspects of school climate in relation to student outcomes (Mayberry et al., 2009; Modin et al., 2011; Låftman & Modin, 2012). This can be interpreted as the spreading of emotions within a social network. Indeed, earlier research has demonstrated that feelings such as happiness are 'contagious', in that individuals who socialize with happy people tend to become happy, too (Fowler & Christakis, 2008). Thus, it seems possible that also the FO among peers may affect individual students.

The present study was based on cross-sectional data. Hence, we do not make any claims about causality, i.e. we cannot argue that a positive school FO climate leads to less heavy alcohol use or fewer internalizing problems. While it seems reasonable that this may well be the case, it is also possible that the occurrence of heavy alcohol use and internalizing problems among students in a school class contribute to a negative FO climate through a reciprocal process. As touched on by Lindström Johnson et al. (2016), it is also possible that a self-perpetuating positive (or negative) cycle between FO on school class level, individual FO and the studied outcomes is created. And although we believe that the issue of negative affectivity and of reverse causality would be more problematic if the focus had been on the individual level only, future research on

Table 3
Coefficients from two-level linear probability models of delinquency. Adjusted for age. n = 4119 students distributed over 237 school classes.

	Model 1		Model 2	
	Coef.	s.e.	Coef.	s.e.
Individual level				
Future orientation				
Not positive (ref.)	0.00	–	0.00	–
Positive	−0.10***	0.03	−0.10***	0.03
Sex				
Boys (ref.)	0.00	–	0.00	–
Girls	−0.07***	0.02	−0.07***	0.02
Family type				
Two custodial parents (ref.)	0.00	–	0.00	–
Other	0.03	0.02	0.03	0.02
Foreign background				
No (ref.)	0.00	–	0.00	–
Yes	0.02	0.02	0.02	0.02
Parents' ISEI	−0.001*	0.0005	−0.001*	0.0005
Class level				
Future orientation (% positive)				
Lowest tertile (ref.)			0.00	–
Intermediate tertile			−0.01	0.02
Highest tertile			−0.03	0.02
Parents' ISEI (class mean)			0.001	0.001
Random effects				
Class-level variance	0.010***	0.001	0.010***	0.001

*** p < 0.001.
* p < 0.05.

Table 4
Coefficients from two-level linear probability models of heavy alcohol use. Adjusted for age. n = 4120 students distributed over 237 school classes.

	Model 1		Model 2	
	Coef.	s.e.	Coef.	s.e.
Individual level				
Future orientation				
Not positive (ref.)	0.00	–	0.00	–
Positive	−0.07**	0.02	−0.07**	0.03
Sex				
Boys (ref.)	0.00	–	0.00	–
Girls	0.02	0.01	0.02	0.01
Family type				
Two custodial parents (ref.)	0.00	–	0.00	–
Other	0.06***	0.01	0.06***	0.01
Foreign background				
No (ref.)	0.00	–	0.00	–
Yes	−0.01	0.01	−0.01	0.01
Parents' ISEI	−0.001*	0.0004	−0.001*	0.0004
Class level				
Future orientation (% positive)				
Lowest tertile (ref.)			0.00	–
Intermediate tertile			0.00	0.01
Highest tertile			−0.04***	0.01
Parents' ISEI (class mean)			0.002*	0.001
Random effects				
Class-level variance	0.005***	0.001	0.005***	0.001

*** p < 0.001.
** p < 0.01.
* p < 0.05.

Table 5
Coefficients from two-level linear regression models of internalizing problems. Adjusted for age. n = 4364 students distributed over 242 school classes.

	Model 1		Model 2	
	Coef.	s.e.	Coef.	s.e.
Individual level				
Future orientation				
Not positive (ref.)	0.00	–	0.00	–
Positive	−0.83***	0.06	−0.83***	0.06
Sex				
Boys (ref.)	0.00	–	0.00	–
Girls	0.51***	0.04	0.51***	0.04
Family type				
Two custodial parents (ref.)	0.00	–	0.00	–
Other	0.17***	0.04	0.17***	0.04
Foreign background				
No (ref.)	0.00	–	0.00	–
Yes	−0.08	0.04	−0.08	0.04
Parents' ISEI	−0.001	0.001	−0.001	0.001
Class level				
Future orientation (% positive)				
Lowest tertile (ref.)			0.00	–
Intermediate tertile			−0.01	0.04
Highest tertile			−0.09*	0.04
Parents' ISEI (class mean)			0.005	0.003
Random effects				
Class-level variance	0.074***	0.011	0.070***	0.009

*** p < 0.001.
* p < 0.05.

the relationship between aspects of school climate and individual outcomes of different kind, would undoubtedly benefit from a longitudinal design.

Another possibility is that there may be a third variable that affects both the school FO climate and the studied outcomes. We have tried to reduce this risk by adjusting for sociodemographic characteristics at the contextual level (i.e., mean parental ISEI in the school class).

Although the data benefit from an extremely high response rate at the school class level (98.8%) and a high response rate at the student level (86.1%) (CILS4EU, 2016, Table 11), one limitation is that the attrition is likely to be systematic, in that students who tend to commit delinquent acts, drink a great deal of alcohol and suffer from many internalizing problems probably participated in the survey to a lesser extent. There is also internal non-response, especially on the items measuring delinquency and heavy alcohol use. However, we do not see any reasons why this would affect the associations found. If anything, we believe that the associations between school FO climate and the outcomes would have been stronger if internal and external non-response had been lower, as it is likely that the non-response rate is higher among individuals who are more prone to problem behavior.

In conclusion, the main contribution of the present study was its focus on school FO climate at the aggregate level. While a range of previous studies have shown associations between individual-level FO and problem behavior and well-being, research on the school FO climate is much more limited (Chen & Vazsonyi, 2013). The present study demonstrated that students in school classes with a positive FO were less likely to engage in in heavy alcohol use, and reported fewer internalizing problems, also when controlling for individual FO. In addition, a similar pattern was demonstrated for delinquency, although this result was not statistically significant. In this study, FO was operationalized using only the affective component of the concept. For future research, we recommend also covering the cognitive and motivational dimensions of FO, as well as empirically exploring possible underlying mechanisms. The current development in Sweden as well as other countries, with increasing socioeconomic inequalities in society as well as increased school segregation, calls for extended investigation of school and school class level effects on individual outcomes and life chances.

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Appendix

Table A1
Descriptives of the data (unweighted). n = 4,533.

Dependent variables	N	%
Delinquency[a]		
No	3521	85.0
Yes	621	15.0
Alcohol use[b]		
No	3880	93.6
Yes	263	6.4
	Mean	s.d.
Internalizing problems[c]	4.8	3.5
Internalizing problems (standardized)[c]	0.00	1.00
Independent variables	N	%
Individual level		
Future orientation		
Not positive	465	10.3
Positive	4068	89.7
Class level		
Future orientation (% positive)		
Lowest tertile	1575	34.7
Intermediate tertile	1494	33.0
Highest tertile	1464	32.3
Control variables	N	%
Individual level		
Sex		
Boys	2189	48.3
Girls	2344	51.7
Family type		
Two custodial parents	3026	66.7
Other	1507	33.3
Foreign background		
No	3163	69.8
Yes	1370	30.2
	Mean	s.d.
Age	14.8	0.5
Parents' ISEI	49.7	16.7
Class level		
Parents' ISEI	49.7	7.2

[a] n = 4142.
[b] n = 4143.
[c] n = 4364.

References

Adams, G. R., & Marshall, S. K. (1996). A developmental social psychology of identity: Understanding the person-in-context. *Journal of Adolescence*, *19*(5), 429–442.
Alm, S. (2011). The worried, the competitive and the indifferent. Approaches to the future in youth, their structural roots and outcomes in adult life. *Futures*, *43*(5), 552–562.
Alm, S. (2014). Ungas framtidstro [Young people's future orientation]. In J. Olofsson (Ed.), *Den långa vägen till arbetsmarknaden [The long way to the labour market]*. Studentlitteratur: Lund.
Alm, S., & Estrada, F. (2016). *Future prospects, frustration and criminology. A longitudinal birth cohort study.* (Submitted).
Anderson, C. S. (1982). The search for school climate: A review of the research. *Review of Educational Research*, *52*(3), 368–420.

Bäckman, O., Estrada, F., Nilsson, A., & Shannon, D. (2014). The life course of young male and female offenders. Stability or change between cohorts? *British Journal of Criminology*, *54*(3), 393–410.

Bohman, H., Jonsson, U., Päären, A., von Knorring, L., Olsson, G., & von Knorring, A. L. (2012). Prognostic significance of functional somatic symptoms in adolescence: A 15-year community-based follow-up study of adolescents with depression compared with healthy peers. *BMC Psychiatry*, *12*, 90. http://dx.doi.org/10.1186/1471-244X-12-90.

Bonomo, Y. A., Bowes, G., Coffey, C., Carlin, J. B., & Patton, C. (2004). Teenage drinking and the onset of alcohol dependence: A cohort study over seven years. *Addiction*, *99*, 1520–1528.

Bremberg, S. (2015). Mental health problems are rising more in Swedish adolescents than in other Nordic countries and the Netherlands. *Acta Paediatrica*, *104*(10), 997–1004.

Brezina, T., Tekin, E., & Topalli, V. (2009). Might not be a tomorrow. A multimethods approach to anticipated early death and youth crime. *Criminology*, *47*(4), 1091–1129.

Brookover, W. B., Beady, C., Flood, P., Schweitzer, J., & Wiesenbaker, J. (1977). *Schools can make a difference. A study of elementary school social systems and school outcomes.* East Lansing: Michigan State University, Center for Urban Affairs.

Chen, P., & Vazsonyi, A. T. (2013). Future orientation, school contexts, and problem behaviors: A multilevel study. *Journal of Youth and Adolescence*, *42*, 67–81.

Chua, L. W., Milfont, T. L., & Jose, P. E. (2015). Coping skills help explain how future-oriented adolescents accrue greater well-being over time. *Journal of Youth and Adolescence*, *44*, 2028–2041.

CILS4EU (2016). *Children of immigrants longitudinal survey in four European countries. Technical report. Wave 1–2010/2011, v1.2.0.* Mannheim: Mannheim University (Retrieved from http://www.cils4.eu/images/wave1_material/technical/za5353_technicalreport_wave1.pdf, 20 September 2016).

Clinkinbeard, S. (2014). What lies ahead? An exploration of future orientation, self-control and delinquency. *Criminal Justice Review*, *39*(1), 19–36.

Coleman, J. S. (1961). *The adolescent society.* New York: The Free Press of Glencoe.

De Wit, D. J., Adlaf, E. M., Offord, D. R., & Ogborn, A. C. (2000). Age at first alcohol use: A risk factor for the development of alcohol disorders. *American Journal of Psychiatry*, *157*, 745–750.

Eklund, J. M., & Fritzell, J. (2014). Keeping delinquency at bay: The role of the school context for impulsive and sensations-seeking adolescents. *European Journal of Criminology*, *11*(6), 682–701.

Estrada, F. (2013). Ungdomsbrottslighetens utveckling, omfattning och struktur [The development, extent and structure of youth delinquency]. In F. Estrada, & J. Flyghed (Eds.), *Den svenska ungdomsbrottsligheten [Swedish youth delinquency].* Studentlitteratur: Lund.

Farnworth, M., & Leiber, M. J. (1989). Strain theory revisited: Economic goals, educational means, and delinquency. *American Sociological Review*, *54*(2), 263–274.

Fowler, J. H., & Christakis, N. A. (2008). Dynamic spread of happiness in a large social network: Longitudinal analysis over 20 years in the Framingham Heart Study. *British Medical Journal*, *337*(2338), 1–9.

Ganzeboom, H. B. G. (2010). *International standard classification of occupations ISCO-08 with ISEI-08 scores, version July 27 2010.* (http://www.harryganzeboom.nl/isco08/isco08_with_isei.pdf).

Ganzeboom, H. B. G., de Graaf, P., & Treiman, D. J. (1992). A standard international socio-economic index of occupational status. *Social Science Research*, *21*, 1–56.

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime.* Stanford, California: Stanford University Press.

Hagquist, C. (2009). Psychosomatic health problems among adolescents in Sweden—Are the time trends gender related? *European Journal of Public Health*, *19*, 331–336.

Jessor, R. (2014). Problem behavior theory. In R. M. Lerner, A. C. Petersen, R. K. Silbereisen, & J. Brooks-Gunn (Eds.), *The developmental science of adolescence.* New York: Psychology Press.

Jones, T., DeMore, M., Cohen, L. L., O'Connell, C., & Jones, D. (2008). Childhood healthcare experience, healthcare attitudes, and optimism as predictors of adolescents' healthcare behavior. *Journal of Clinical Psychology in Medical Settings*, *15*, 234–240.

Khattab, N. (2005). The effects of high school context and interpersonal factors on students' educational expectations: A multilevel model. *Social Psychology of Education*, *8*, 19–40.

Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2008). A multilevel study of predictors of student perceptions of school climate: The effect of classroom-level factors. *Journal of Educational Psychology*, *100*(1), 96–104.

Kuperminc, G. P., Leadbeater, B. J., Emmons, C., & Blatt, S. J. (1997). Perceived school climate and difficulties in the social adjustment of middle school students. *Applied Developmental Science*, *1*(2), 76–88.

Kuperminc, G. P., Leadbeater, B. J., & Blatt, S. J. (2001). School social climate and individual differences in vulnerability and psychopathology among middle school students. *Journal of School Psychology*, *39*(2), 141–159.

Låftman, S. B., & Modin, B. (2012). School-performance indicators and subjective health complaints: Are there gender differences? *Sociology of Health & Illness*, *34*(4), 608–625.

Lamm, H., Schmidt, R. W., & Trommsdorff, G. (1976). Sex and social class as determinants of future orientation (time perspective) in adolescents. *Journal of Personality and Social Psychology*, *34*, 317–326.

Lansford, J. E., Miller, S., Malone, P. S., Costanzo, P. R., Grimes, C., & Putallaz, M. (2009). Social network centrality and leadership status: Links with problem behaviors and tests of gender differences. *Merrill-Palmer Quarterly*, *55*, 1–25.

Laub, J. L., & Sampson, R. J. (2003). *Shared beginnings, divergent lives: Delinquent boys to age 70.* Cambridge, Mass.: Harvard University Press.

Lindström Johnson, S. R., Blum, R. W., & Cheng, T. L. (2014). Future orientation: A construct with implications for adolescent health and well-being. *International Journal of Adolescent Medicine and Health*, *26*(4).

Lindström Johnson, S. R., Pas, E., & Bradshaw, C. P. (2016). Understanding the association between school climate and future orientation. *Journal of Youth and Adolescence*, *45*, 1575–1586.

MacLean, A., Sweeting, H., Egan, M., Der, G., Adamson, J., & Hunt, K. (2013). How robust is the evidence of an emerging or increasing female excess in physical morbidity between childhood and adolescence? Results of a systematic literature review and meta-analyses. *Social Science & Medicine*, *78*, 96–112.

Mayberry, M. L., Espelage, D. L., & Koenig, B. (2009). Multilevel modeling of direct effects and interactions of peers, parents, schools and community influences on adolescent substance use. *Journal of Youth and Adolescence*, *38*, 1038–1049.

McKay, M. T., Percy, A., & Cole, J. C. (2011). Present orientation, future orientation and alcohol use in Northern Irish adolescents. *Addiction Research and Theory*, *21*(1), 43–51.

Modin, B., Östberg, V., Toivanen, S., & Sundell, K. (2011). Psychosocial working conditions, school sense of coherence and subjective health complaints. A multilevel analysis of ninth grade pupils in the Stockholm area. *Journal of Adolescence*, *34*, 129–139.

Mood, C. (2010). Logistic regression: Why we cannot do what we think we can do, and what we can do about it. *European Sociological Review*, *26*(1), 67–82.

Nurmi, J. -E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review*, *11*, 1–59.

Olsson, G., & Fritzell, J. (2015). A multilevel study on ethnic and socioeconomic school stratification and health-related behaviors among students in Stockholm. *Journal of School Health*, *85*(12), 871–879.

Östberg, V., Alfven, G., & Hjern, A. (2006). Living conditions and psychosomatic complaints in Swedish schoolchildren. *Acta Paediatrica*, *95*(8), 929–934.

Patton, G. C., Tollit, M. M., Romaniuk, H., Spence, S. H., Sheffield, J., & Sawyer, M. G. (2001). A prospective study of the effects of optimism on adolescent health risk. *Pediatrics*, *127*(2).

Piquero, A. R. (2014). Take my license n'all that jive, I can't see… 35. Little hope for the future encourages offending over time. *Justice Quarterly*, *33*(1), 73–99.

Preventionscentrum Stockholm (2010). *Tjejer och alkohol. Riskfaktorer bland unga storkonsumerande tjejer i Stockholms stad.*

Rotter, J. B. (1954). *Social learning and clinical psychology.* New York: Prentice-Hall.

Shanahan, L., Zucker, N., Copeland, W. E., Bondy, C. L., Egger, H. L., & Costello, E. J. (2015). Childhood somatic complaints predict generalized anxiety and depressive disorders during young adulthood in a community sample. *Psychological Medicine*, *45*, 1721–1730.

Shavit, Y., & Williams, R. A. (1985). Ability grouping and contextual determinants of educational expectations in Israel. *American Sociological Review*, *50*, 62–73.

Smith, E. P., Boutte, G. S., Zigler, E., & Finn-Stevenson, M. (2004). Opportunities for schools to promote resilience in children and youth. In K. Maton (Ed.), *Investing in children, youth, families and communities*. Washington, DC: American Psychological Association.

Stoddard, S. A., Zimmerman, M. A., & Bauermeister, J. A. (2011). Thinking about the future as a way to succeed in the present. A longitudinal study of future orientation and violent behaviors among African American youth. *American Journal of Community Psychology*, *48*(3–4), 238–246.

Sykes, G. M., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, *22*(6), 664–670.

The Public Health Agency of Sweden (2014). *Skolbarns hälsovanor i Sverige 2013/14. Grundrapport.* Stockholm/Östersund: The Public Health Agency of Sweden.

Toffler, A. (Ed.). (1974). *Learning for tomorrow. The role of the future in education.* New York: Vintage Books.

Torsheim, T., Ravens-Sieberer, U., Hetland, J., Välimaa, R., Danielson, M., & Overpeck, M. (2006). Cross-national variation of gender differences in adolescent subjective health in Europe and North America. *Social Science & Medicine*, *62*, 815–827.

Trommsdorff, G. (1983). Future orientation and socialization. *International Journal of Psychology*, *18*, 381–406.

West, P. (1997). Health inequalities in the early years: Is there equalization in youth? *Social Science and Medicine*, *44*(6), 833–858.

West, P., & Sweeting, H. (2004). Evidence on equalization in health in youth from the West of Scotland. *Social Science and Medicine*, *70*(8), 1246–1253.

Zhang, J. W., Howell, R. T., & Stolarski, M. (2013). Comparing three methods to measure a balanced time perspective and subjective well-being. *Journal of Happiness Studies*, *14*(1), 169–184.