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The Relationship between Pedagogical and Social Climate in Schools and Students' Unauthorized Absence - a multilevel study of 101 Swedish schools

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Everyone says it's important...

Attending school is important for children's academic, social and personal development (Dube & Orpinas, 2009; Kearney & Graczyk, 2014). The short- and long-term consequences of school absenteeism can be detrimental.

In the short term, children risk poor school performance (Gottfried, 2009; London, Sanchez, & Castrechini, 2016; Silverman, 2012) and poorer grade retention (Neild & Balfanz, 2006).

In the long term, absenteeism increases the risk for school dropout (Rumberger, 2011), substance abuse (Henry, 2007), mental health problems (Kearney & Albano, 2004) and unemployment (Rocque, Jennings, Piquero, Ozkan, & Farrington, (2017). Therefore, it is important to identify and address the determinants of school absenteeism.



Previous research on school climate and absenteeism

Previous research on school climate and student absenteeism (both authorized and unauthorized) has demonstrated an inverse relationship between these two constructs, i.e. more positive climate is associated to lower absenteeism (Berman et al., 2018; Brookmeyer, Fanti, & Henrich, 2006; Hendron & Kearney, 2016; van Eck et al., 2017; Virtanen et al., 2009).

These studies have focused particularly on school as a social environment, including peer relations and teacher-student relations, perceptions of safety and school as physical environment (Berman et al., 2018; Hendron & Kearney, 2016; Ramberg, Låftman, Fransson, & Modin, 2019; Virtanen et al., 2009).



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Research questions

1. Is positive school climate associated with less unauthorized absence among students aged 13–16 years?
2. Is a potential association between school climate and unauthorized absence modified by factors such as school management, parental education or parental origin?



Teachers and students

Studying students' and teachers' perceptions of school climate separately may bring a deeper understanding of factors behind absenteeism (Wang & Degol, 2016).

Teachers tend to rate school climate more positively than students (Dernowska, 2017; Mitchell, Bradshaw, & Leaf, 2010).

The discrepancies in the ratings may be explained by the different roles of teachers and students. While teachers may use a more comprehensive overview of classroom and school activities when rating the school climate, students are more focused on their individual experience and experience and perceptions.



Other factors

The association between school climate and unauthorized absence can be influenced by common determinants, of both school climate and absenteeism.

Parental educational level, employment, and income have been linked absenteeism, as students to parents with higher education, having an employment and income were less absent from school (Balkis, Arslan, & Duru, 2015; Ingul, Klöckner, Silverman, & Nordahl, 2012; Thornton et al., 2013).

Concerning ethnicity, being a member of minority population in combination with low attainment is a risk factor for absenteeism (Skedgell & Kearney, 2018).



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Methods

This study is a part of large longitudinal study (the Kupol cohort study) aiming at analyzing school climate and students' mental health, (Galanti et al., 2016).

The study sample included two subsequent birth cohorts of students in in middle school (7th grade) in central Sweden.

Students' and teachers' ratings of school climate, schools' records of students' absences, and questionnaire data were used.

More information about the study: <https://kupolstudien.se/for-forskare/>



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Participants

The sample included only students for whom absenteeism data were obtained ($n=2770$ the first year).

Out of the 2770 students participating the first year, 2615 still participated the second year, and 1861 the third year.

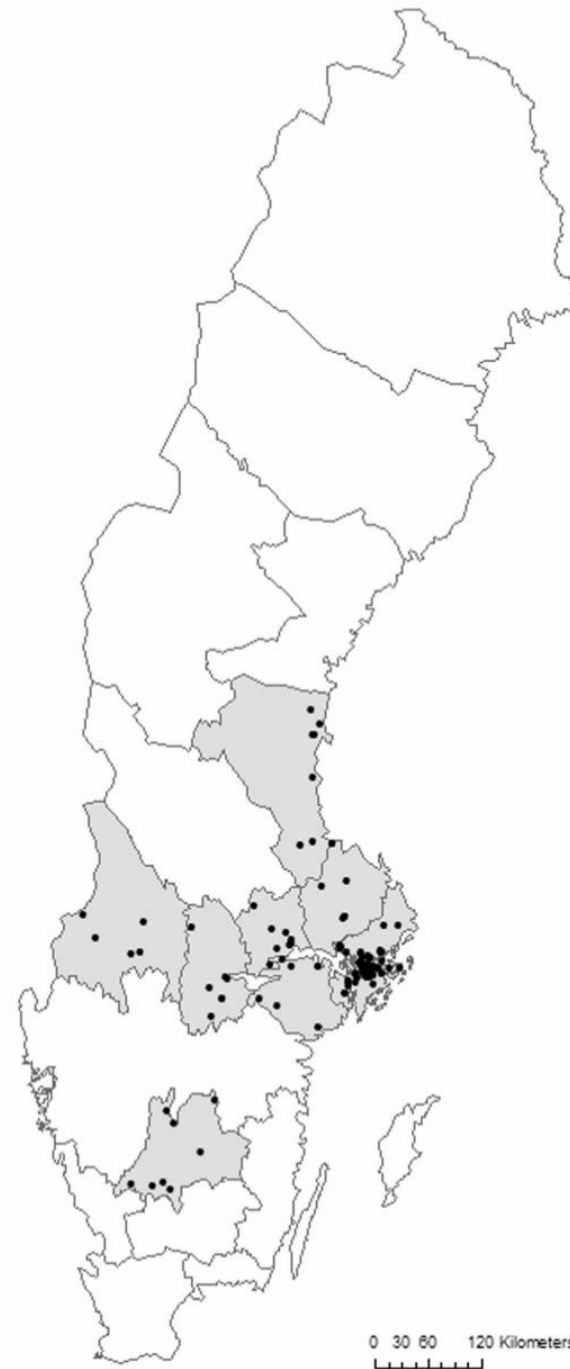


Fig. 1 Geographic location of the schools participating in the Kupol Study, Sweden 2013–2015



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Participants

Galanti M. R., Hultin, H., Dalman, C., Engström, K., Ferrer-Wreder, L., Forsell, Y., Karlberg, M., Lavebratt, C., Magnusson, C., Sundell, K., Zhou, J., Almroth, M. & Raffetti, E. (2016). School environment and mental health in early adolescence - A longitudinal study in Sweden (KUPOL). *BMC Psychiatry* 16(1), 243-252.

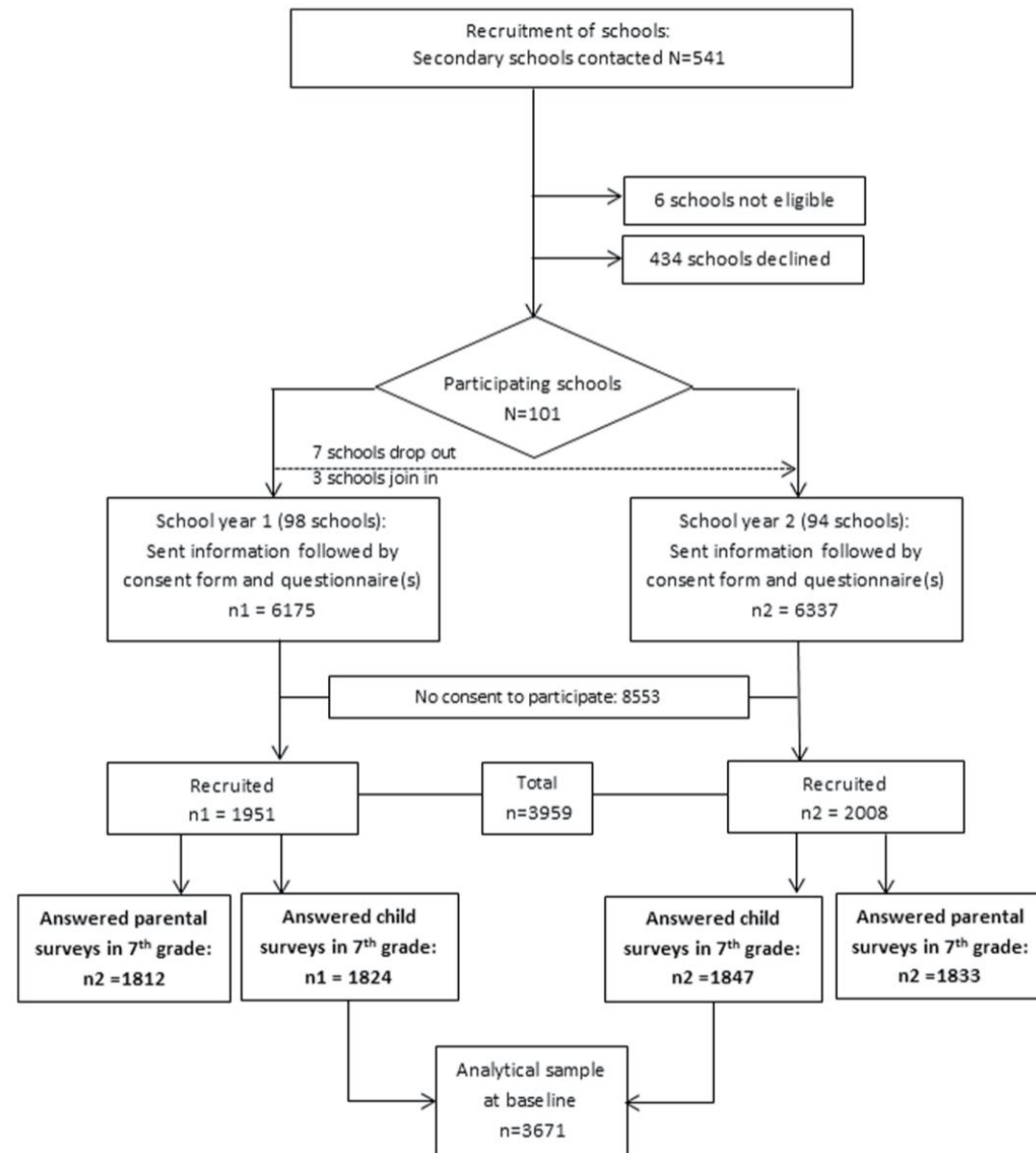


Fig. 2 Derivation of the cohort in the Kupol Study, Sweden 2013–2015



PESOC

The Pedagogical and Social Climate Questionnaire (PESOC; Grosin, 2004) aims to capture the social interaction between different groups as well as the interaction between structural and cultural factors, largely in accordance with the conceptualization of school ethos outlined by Rutter et al. (1979) and Rutter and Maughan (2002).

The PESOC encompasses separate versions for teachers and for students, with 13 and 8 subscales respectively, covering the dimensions of school climate concerning (a) order, safety and discipline, (b) teaching and learning, (c) social relationships, (d) shared parent- and teacher norms and (e) quality of school facilities.

We used the total score and three subscales for teachers and students.



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PESOC for teachers

We used **the total score** of T-PESOC and three subscales:

- Teacher Expectations (4 questions)
- Basic Assumptions (4 questions)
- Teaching Activities (6 questions)





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PESOC for students

We used **the total score** of S-PESOC and three subscales:

- Teacher Expectations (4 questions)
- Teacher Support (5 questions)
- Teaching Activities (15 questions)





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Absenteeism

We focus on students missing more than 2% of the school year (4 days) due to unauthorized absence, here referred to as absenteeism.

Absentees:

7:th grade	7.6%
8:th grade	10.5%
9:th grade	10.3%



Statistical analysis

T-PESOC and S-PESOC scores were derived every year, and for each school, as the mean of all individual answers for every scale (total scale and subscales) separately.

By measuring school climate as a school-level variable by aggregating individual ratings within a school, we assume that climate is a property of the school itself, therefore affecting all students equally (Fan, Williams, & Corkin, 2011; Van Horn, 2003, p. 1003; Lindell & Brandt, 2000).

These scales were analyzed in **quartiles** of the respective scores distributions as derived from PESOC measurement at the cohort inception. The scores quartiles were used as independent variables in the analysis.



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Statistical analysis

We used multilevel mixed model logistic regression to model the association between independent and dependent variables, with two level random effects to accommodate for clustering of data within subjects (repeated measurements over three years) and within schools.

Adjustments were made for parents' educational level, parents' country of origin and school management. These variables were all used as binary indicators in the models.



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Results

The proportion of absenteeism was inversely associated with parents' level of education, i.e. when at least one parent had a university degree, the proportion of absentees was smaller.

Students with at least one parent born outside Sweden were more likely to be absent.

Absenteeism was more frequent among students who attended a municipal school, albeit the difference was not large



Research questions

Q1: Is positive school climate and its relevant dimensions associated with less unauthorized absenteeism among students aged 13–16 years?

A: There was no clear and consistent pattern in the association between teacher ratings of school climate (T-PESOC Tot) and absenteeism

Using student ratings of school climate, yielded more stable and consistent associations in the predicted direction for the total score (S-PESOC Tot), which also remained when controlling for confounding factors.

A more detailed analysis, using subscales, revealed that it was students' perceptions of teachers' expectations that contributed most to the relationship between school climate and absenteeism.



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Results

Q2: Is a potential association between school climate and unauthorized absenteeism modified by factors such as school management, parental education or parental origin?

A: Using student ratings, the relationship between school climate and absenteeism did not importantly differ between subgroups although the associations appeared to be stronger for students with highly educated parents than for students whose parents did not attend university.

Using the teacher ratings, there was no clear association between school climate score and absenteeism in any of the subgroups.



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Summary

The results showed that a positive school climate was associated with less absenteeism among students aged 13-16 years, when the climate was rated by older students in the school.

It was students' perceptions of teachers' expectations that contributed most to the relationship between school climate and absenteeism.

These associations were not importantly modified by parental education, parental origin, or type of school management.