On the Importance of a Safe School and Classroom Climate for Student Achievement in Reading Literacy

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ABSTRACT

The main aim of this study is to investigate the effect of safe school and classroom climate on students' reading achievement at both individual and class level. In previous research there is a consensus that a safe and secure school climate is of importance for children's ability to learn, but the empirical support for this belief is weak. The current analyses are based on Swedish grade 3 data from PIRLS 2001, using variables from both the teachers', the schools', the students' and the parents' reports of the social learning environment.

A series of theoretically based two-level structural equation models was fitted to the observed indicators of school and classroom climate, and acceptable fit were found for a model with two latent constructs of Safety at each level. Significant and positive relationships with reading achievement were found at both the individual level and the classroom/school level. These results indicate that security plays an important role in explaining differences in reading achievement both within and between classes.

In the final analysis the possibility to make causal inferences of the found relationships were investigated by including other known explanatory factors into the model. The result indicates that the effects of the climate factors on reading achievement were influenced by both student SES and teacher competence. At the within-level the effect was reduced, whilst at the between level the effect almost completely disappeared. Thus, positive school and classroom climate appears to a large degree to be a reflection social selection and teacher competence.

Keywords: School climate, Classroom climate, Reading achievement, PIRLS, Two-level structural equation modeling.

Introduction

A good study climate, safety and enjoyment are assumed to be necessary conditions for a good learning environment (Rosén et al., 2005). In several studies, it has also been found that the climate in a school co-varies with achievement (Hattie, 2009; Johnson & Stevens, 2006; Papanastasiou, 2008; Uline & Tschannen-Moran, 2008). Winter and Sweeney (1994) argues that "school climate is a little like the weather. It is difficult to get a handle on, but it is felt everywhere". Perhaps this might explain vague and elusive indicators in the in the school climate research. However, factors that have been found to correlate with student achievement are 'a calm classroom climate', teachers' management of disruptive behavior, and students' feelings of safety in school (Ma & Willms, 2004). Safe relationships, a safe teaching climate and a feeling of not being threatened in the activities that take place outside of the classroom has also been found to be important for children's learning (Garbarino et al., 1992).

A school culture that is characterised by a strong emphasis on the school's learning goals and high expectations of pupils' work are highlighted in the school and classroom climate research (Hattie, 2009). High expectations, combined with an understanding of how setted goals can be reached has been shown to achieve the students more focused on schoolwork but also a tendencies to antisocial behavior have been reduced (Griffith, 2000). Further, an extensive research during the last fore decades argues that a school atmosphere of high expectations of pupils' work and a strong emphasis on the school's learning goals correlates with high student achievement (Brookover et al., 1979; Goddard et al., 2000; Griffith, 2000; Hattie, 2009; Hallinger & Murphy, 1987; Snow et al., 1998).

There are studies in Sweden that show significant correlations between feeling insecure at school and being subjected to violations (SOU, 2001). Bullying is one form of offence that has been found in the mapping of Swedish schools. Depending on how bullying is measured and defined, it has been estimated that between 9 and 15 per cent of all pupils are subjected to bullying (Olweus, 2003; Östberg, 2001). From an international perspective, however, the existence of bullying in Swedish schools is extremely limited. In a study of about 40 countries, Sweden and Malta hold the lowest levels of bullying (WHO, 2008).

Studies indicate that student home background as well as the teacher may play a critical role for students' learning and achievement, but to some degree also for the prevailing climate in schools and classes. Therefore it is of importance to take such factors into account when the effects of a positive school and classroom climate shall be studied.

Family home-background

In large-scale surveys, pupils' home background have been found to be correlated with reading achievement both in primary grades (Ellie, 1992; Hansen et al., 2004; Mullis, Martin & Kennedy, 2003) and in secondary grades (OECD, 2002: 2004: 2006). It is possible to explain these issues by means of Bourdieu's (1997) hypothesised forms of capital, which also are related to social class. Capital can adopt three fundamental, convertible and interrelated guises, namely, cultural capital (i.e. family cultural and educational resources), economic capital (i.e. family economic status) and social capital (i.e. family social connections) of which, according to Bourdieu, the middle class generally has more and the working class less. Cultural capital has repeatedly been shown to be the most influential factor in student achievement (e.g. Yang, 2003; Yang & Gustafsson, 2004) over and above cognitive ability.

The link between student home background and school climate has also been studied. For example Ma and Willms (2004) concluded that "In schools where advantaged students are concentrated, there will be fewer discipline problems and higher achievement levels, whereas schools serving disadvantaged students will have even worse discipline problems and lower levels of academic achievement" (ibid, p 185). According to pupils in Swedish schools, an unsettled classroom climate is a major environmental problem (The Swedish National Agency for Education, 2004), and pupils with a working class background are over represented in this opinion (Östberg, 2001).

However, some meta-analyses show that the relation between achievement and family home background gradually becomes weaker from primary to middle school (Sirin, 2005; White, 1982). One possible explanation of this result is that school and education may provide equalizing experiences, thus reducing the impact of home background, and here the teacher may play a critical role.

Teacher competence

Twenty years ago Hanushek (1989), after a review of two decades of research, declared that differences in teacher quality exist but differences in teacher skills are neither related to educational backgrounds nor to teaching experience. Even if a majority of the 187 studies included in the review pointed to a positive correlation between teacher experience and student achievement, it appeared, according to Hanushek, that selection effects may have caused effects to "run from achievement to experience and not the other way around" (p. 47). However, later analysis of the same set of studies, but using other techniques, produced more consistent and convincing findings regarding the relationship between teacher background and student achievement, which turned out to be quite strong (Hedges et al., 1994).

Darling-Hammond et al. (2005) found that certified teachers consistently produced stronger student achievement gains for fourth and fifth-grade students than did uncertified teachers. In another study, Croninger et al. (2003) examined the effects of first-grade teachers' qualifications on children's first grade achievement. After controlling for students' prior learning, the findings indicated that only two teacher qualifications were associated with significant positive effects on reading achievement, namely "emphasis of the coursework taken in preparation" for the profession and the "specific type of degree earned".

The findings regarding the benefits of experience are mixed, and there seems to be little evidence that the improvement in competence continues after the first three to five years (Darling-Hammond, 1999; Nye et al., 2004; Rikvin et al., 2005). However, teachers' self-efficacy (e.g. belief in her or his capability) tends to rise with more years of teaching experience (Goddard & Skrla, 2006; Tschannen-Moran et al., 1998). Teachers' confidence in their own ability to teach has also been shown to correlate with the ability to create a positive classroom climate (Hoy & Woolfolk, 1993). Attributes of teachers in well-managed classrooms are the ability to focus attention on whether any of the pupils are disruptive and quickly act on potential behaviour problems are (Ma & Willms, 2004; Marzano, 2000). Some schools might for example be better than others in reducing the occurrence of bullying and a key factor are teachers that look seriously at the problem (Kallestad & Olweus, 2003).

Overall study purpose

In the context of the earlier body of research about school and classroom climate, the present study is designed to determine the influence of a positive learning environment (eg. a safe school climate) on reading achievement of 3rd grade students in Swedish schools when student home background and teacher competence are taken into account.

Figure 1 displays the proposed model including these scholastic enablers and their relationship with reading achievement. For clarifying the hypothesised relationships the unidirectional arrows give the direction of structural influences, and a two-way arrow gives covariance.
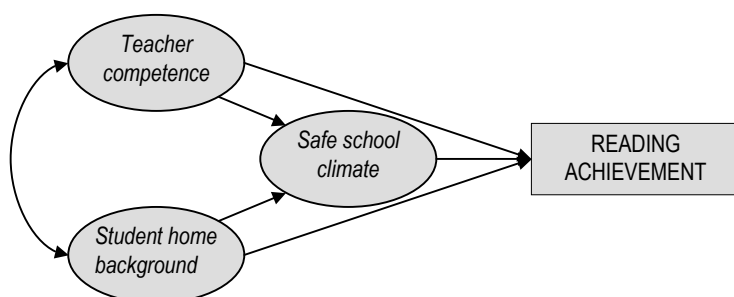

Figure 1. Schematic representation of the hypothesised explanatory model

The path model is based on the assumption that the climate factor has a direct effect on reading achievement. However, previous research also suggests that this factor may be influenced by home background and teacher competence. Both these exogenous factors also have direct effects on reading achievement, and previous research also suggests that these two factors are correlated.

Methodology

In this section the study design is outlined, and the sample, variables and methods of analysis are described.

Data source – the IEA PIRLS 2000 study, design and samples

This study was based on the data from the Swedish participation in the PIRLS 2001 study conducted by the International Association for the Evaluation of Educational Achievement (IEA), and the sampling procedure is described by Mullis et al., 2003 and Rosén et al. (2003). In this study Sweden participated with three nationally representative but separate samples of students. One of the samples was in grade 4, and two of the samples were in grade 3, one for the repeat of the Reading Literacy study in 1991 (Ellie, 1992), and one for PIRLS (Campbell et al., 2001; Mullis et al. 2003). The analysis in this study is based on the latter selection. The design and the instruments are briefly outlined in Table 1.

Table 1. Instruments used in the PIRLS 2001 study, grade 3

INSTRUMENT (Responding informant)	CONTENT
READING ACHIEVEMENT TEST (Students)	Eight text passages distributed across 10 booklets, each holding two passages in a matrix sample design. Each student took one of the booklets during 2 x 40 minutes.
STUDENT QUESTIONNAIRE (Students)	School and teaching experiences, reading homework, self concept of reading abilities, attitudes towards reading, reading habits on leisure time, reading resources at home, and social background characteristics.
HOME QUESTIONNAIRE (Parents)	Reading activities with child, reading resources at home, and parent's attitudes towards reading and own reading habits, co-operation with school, and social background.
TEACHER QUESTIONNAIRE (Teachers)	Questions about class characteristics, teaching reading and reading material, reading assessment and collaborations with parents. Own education, teaching experience, and teacher collaboration.
SCHOOL QUESTIONNAIRE (Principals/Head masters)	School characteristics, demographics, availability of cultural and educational resources, school resources, school policy's regarding teaching reading, socio-economic mixture, school-home collaboration, school climate, and school management.

Table 2 presents the valid number of schools, classes, and students in PIRLS grade 3 samples in Sweden.

Table 2. Numbers of schools, classes and grade 3 students

	Total
Schools	144
Classes	351
Students	5 271
Of which girls	2 631
Of which boys	2 640

Valid N is based on the number of students with reading achievement scores. Missing data for each of the questionnaires was less than 10 percent.

Variables

Two-level structural equation modelling (SEM) was used to examine the extent to which safe and secure learning environments affect students reading achievement, including factors that mediate this influence. Latent variable models were fitted to the data and the manifest variables used as indicators were selected from the questionnaires. A standardised total reading achievement score (TOTACH), based on the total reading achievement scores reported in the PIRLS 2001international database, was used as the outcome variable in the structural models.

Key constructs in the current study are "Study-safety (StudSf), "Social-safety" (SocSf), "Teacher competence" (T-Comp) and "Student home background" (SES). The indicators selected to represent these constructs' is presented in Table 3 along with their mean, standard deviation, and intra-class correlation (ICC).

Table 3   Mean, standard deviation and intra-class coefficients for the indicators of school and classroom climate, student background, teacher background, reading achievement as well as the hypothesised factors

			Indicator				Construct
Source	Variable name	Variable lable	Information/Question/Statement	Mean	St. D	ICC	
Parent	Derived variable	CAREHLP	Derived variable: Parents thoughts about school; school cares about child's progress - school helps child become better at reading	3.59	.55	.127	StudSfW/SocSfW ClsSfB
	asbhbook	BOOKS	Number of books at home	4.00	1.10	.110	SES
	asbhincm	HINCM	Annual household income	3.92	1.58	.180	SES
	Derived variable	HIGED	Maximal education mother/father MAX (asbheduf, asbhedum)	5.5	2.03	.137	SES
Teacher	atbgtaug	EXALL	Teachers years taught all together	17.51	12.59		T-Comp
	atbg4tau	EXGR3	Teachers years taught in grade 3	6.47	5.67		T-Comp
	atbgcert	CERT	Teaching certificate	1.93	.25		T-Comp
	atbgare3	PED	In teacher training; study pedagogy/teaching reading	2.6	.58		T-Comp
	atbgare5	RREAD	In teacher training; study remedial reading	1.88	.69		T-Comp
	atgnedu	TEDUC	Type of teacher education	4.35	1.65		T-Comp
Principal	acbgcha1	TSATISF	Teachers' job satisfaction	4.05	.61		SclSfB
	acbgcha4	SCARP	Students' regard for school property	3.86	.74		SclSfB
	acbgcha2	NoABS	Student absenteeism no problem	3.56	.66		SclSfB
	acbgpb3	NoDISTRB	Classroom disturbance no problem	3.11	.68		SclSfB
	acbgpb5	NoPROF	Profanity in school no problem	2.66	.68		SclSfB
	acbgcha8	NoINTIMD	Intimidation or verbal abuse no problem	2.97	.79		SclSfB
	acbgcha9	NoPSYCC	Physical conflicts among students no problem	3.24	.618		SclSfB
	acbgcha12	NoRAC	Racism no problem	3.52	.65		SclSfB
	acbgcha13	NoSEX	Sexual harassment no problem	3.68	.54		SclSfB
Student	sbgcst1	SAFE	Student feels safe in school	3.60	.68	.073	StudSfW/SocSfW ClsSfB
	sbgcst4	S_CAR	Student think teachers in school care about her/him	3.63	.64	.078	StudSfW/SocSfW ClsSfB
	Derived variable	NoBULLY	Derived variable: Student was bullied by another student – classmate was bullied by another student	1.83	.31	.159	SocSf
	Derived variable	NoHURT	Derived variable: Student was hit/hurt by another student – Classmate was hit/hurt by another student	1.66	.41	.167	SocSf
	Derived variable	NoTHEFS	Derived variable: Something was stolen from student – Something was stolen from classmate	1.79	.33	.196	SocSf
	asbgps10	COMP	Home possession; more than one computer	1.44	.47	.06	SES
	Derived variable	TOTACH	Students total reading achievement score on the reading achievement test	523.57	72.61	.18	TOTACH

Note. p <.05

Note. The letter W at the end of the latent variable label refers to the Within-level, and the letter B to the Between-level. SES and T-comp can be found on both levels.

Altogether 26 variables were involved in the measurement of constructs. It should be noted that the variable HIGED is a derived variable representing the highest educational level of child's parents. Another thing to notice is that beside this created variabl there are fore other derived variables. The merger of these variables was implemented because in pairs they appeared to measure the same underlying phenomenon.

In the Swedish version of the teacher questionnaire there were more detailed questions about the teacher education. This information was used to create an ordinal scale for various types of teacher educations. Those teacher educations that held most preparation for the teaching of reading to primary students received the highest code. As shown in Table the size of intra-class correlation coefficients (ICC) for all variables indicate that a substantial part of the variance may be due to between class differences. The complex sampling option was thus not enough to account for the hierarchy in the data; instead, two-level modelling was needed (Hox, 2002).

Methods of analysis

In order to analysis the influence of a safe learning environment on reading achievement, including factors that may mediate this influence the statistical method principally used was confirmatory factor analysis (Lohelin, 2004) and more specifically two-level structural equation modeling (SEM). Within a theoretical framework this analytic technique allows testing hypothesised direct and indirect relationships among latent variables whereby parameters representing relations, covariance and variances are identified and computed. With this analytical method it is also possible to decompose the variation at the student level as well as the class level simultaneously. This provides information about the extent to which the total variation of different variables can be assigned to differences between classes and to differences between individuals.

The problem of missing data was dealt with using the missing data modelling option available in Mplus. In this modelling approach imputation is made in such way that cases with valid scores on the same subset of variables are grouped together and a separate covariance matrix is computed for each subset. The analysis then weights the separate matrices into a total matrix, which represent the population matrix (Alison, 2003).

As each indicator to a large degree is affected by multidimensionality and measurement errors, a multivariate latent modeling approach is needed to produce more reliable measures of the desired constructs. The indicators will thus be included in a measurement model process where the desired constructs are defined along with plausible sub-factors in order to obtain good model fit.

All preliminary data file preparation such as computing, recoding of variables, aggregating and merging of files was done using Statistical Package for the Social Sciences (SPSS Inc, 2005). The decomposition process was carried out with Mplus (Muthén & Muthén, 1998-2007) under the STREAMS 3.0 modelling environment (Gustafsson & Stahl, 2005).

The research question was addressed in a stepwise procedure as described below.

- First a two-level measurement model was fit for the construct of a Safe learning environment and its relation to reading achievement was investigated.
- The second step was to fit a two-level measurement model for the SES construct of Student home-background, and this model too was related to achievement.
- The third step was to fit a measurement model to the indicators of Teacher competence, and then relate it to student achievement at the class level.
- Student SES and Teacher competence were then one at the time included in the Safety learning environment model, and the importance of these variables for safety was investigated.
- In a final step all models were added into the two-level structural model previously described and depictured in Figure 1.

It should be noted that modelling is a phased process, and in this paper only the final models are presented.

Findings and Discussion

The measurement model of school and classrom climate

In the Swedish curriculum, it is emphasised that the school should strive to be a living social community that promotes safety and the will and desire to learn (Ministry of Education, 2006). This could be interpreted as meaning that safety and children who are happy in their school environment constitute the mainstays of a good learning climate; this has also been claimed in earlier research (Rosén et al., 2005). The final two-level measurement model for School and classroom climate was based on 15 indicators (see Table 3). The model is shown in Figure 2. In figure the within-level model is sketched below the observed variables, while the between-level model is drawn above the observed variables in the model. The proposed model provided a good fit to the data according to all fit statistics (Chi^2 = 239, df =95; p<.000, RMSEA = .017, CFI = .933).
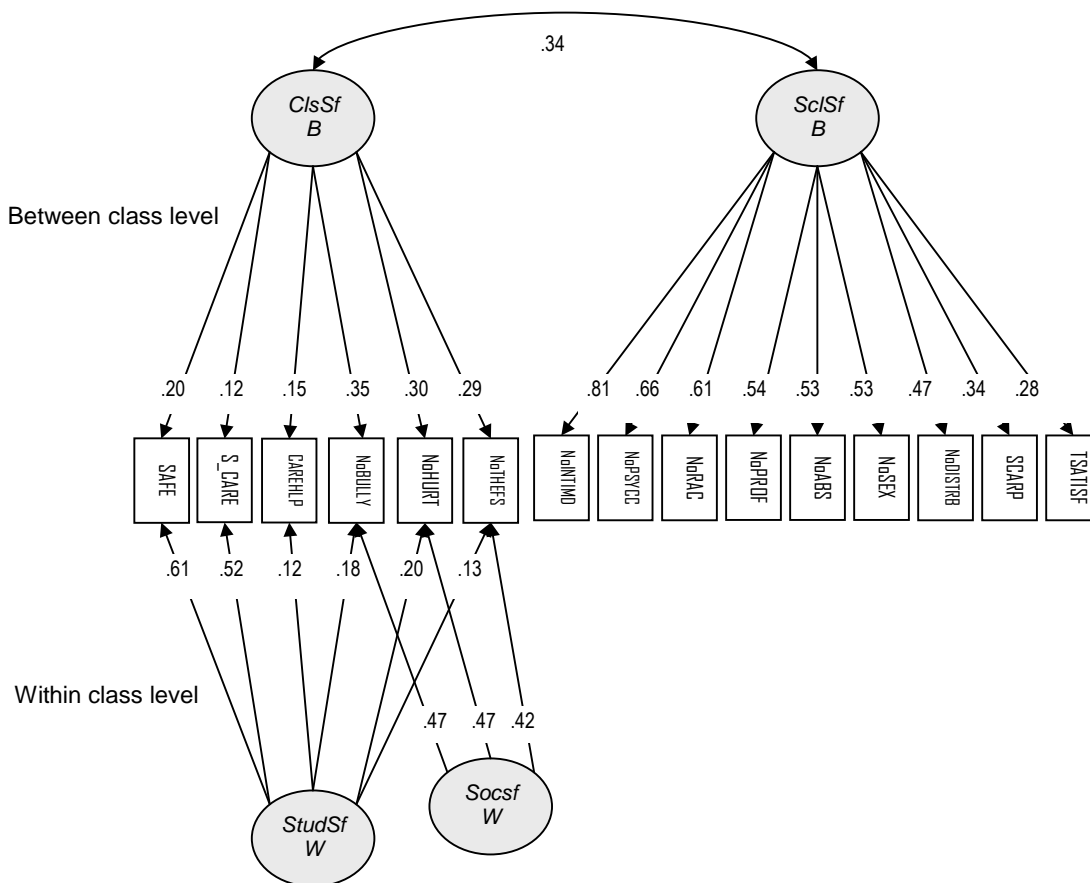
Note. All loadings are significant p<. 05.

Figure 2. Two-level measurement model of a Safe school and classroom climate and its relation to reading achievement

A general factor, which reflects study safety (StudSfW) and is related to all six pupil and parent variables, was identified at a within-class level. In addition, a residual factor (SocSfW), which was assumed to reflect a study climate characterised by safe social relations between schoolmates, was found.

Two factors were identified at the between-class level. One of these factors, Classroom safety (ClsSfB), contains all six pupil and parent variables selected (see Table 3) and could, generally speaking be regarded

as reflecting safety in the class. The second school climate factor, School safety (SclSfB), was indicated by the principal's information on phenomena that could undermine the feeling of being safe at school.

All the loadings were positive. The largest loading in StudSfW was students' view about feeling safe in school and that the teachers care about her or him. In the nested factor SocSfW the loadings were similarly high to all three indicators. On the between level the indicators that may signal similar phenomena had the largest loading in the SclSfB-factor.

The correlation between ClsSfB and SclSfb was .34, which might seem to be unexpectedly low. It should be noted, however, that the information on School safety is based solely on information provided by the principals who took the whole school into consideration when answering the questions.

In order to investigate the relationships between the different dimensions of the concept of safety and reading achievement was in the next step the variable TOTACH introduced in the two-level model as shown in Figure 3. In figure the within-level is sketched to the left of the observed variable TOTACH, while the between-level is drawn to the right.

Within class level   Between class level
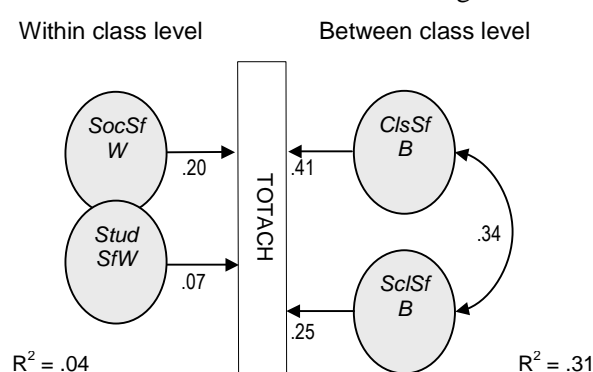
Note. All loadings are significant p < .05.

Figure 3. Two-level structural model of parental participation and its relation to reading achievement

Figure 3 displays the standardised regression coefficients of the outcome variable reading achievement on the latent variables. The standardised estimates of the relations refer to the variance in TOTACH at each level respectively. This structural model had good fit statistics (Chi^2 = 326, df =127, p<.000, RMSEA = .017, CFI = .962).

On both levels the safety-factors were significantly and positively related to achievement. At the between-class level, a large part of the variation (R^2=.31) between classes' reading achievement is explained by the safety factors while the variance between pupils' reading skill within classes is more modest. However, previous research indicates that student home-background and teacher competence are of importance both for learning environment and for student achievement. The question thus arises what amount of influence safety have when these two factors are taken into consideration. This will be examined in the next steps of analysis. But first, these two constructs must be modelled.

The structural model of student home-background

The theory of capital (Bourdieu, 1997) was guiding the composition of the student home-background factor and four variables were selected as indicators for the final measurement model (see Table 3). Since a home background variable in this study only is needed for control reasons, a more parsimonious model was desired. The indicators were therefore selected from a more complex model, with the knowledge that it is mainly cultural capital that is related to reading achievement. A simplified model was also preferable for technical reasons in order to avoid failure of the model to converge (Gustafsson, 2000).

Thus, the starting point was to set up a two-level one-factor structural model for student home background and relate it to reading achievement. The selection of these indicators has also been tested and proven to be stable for data of different countries (Gustafsson, 1998; Yang & Gustafsson, 2004). The one-factor model is pictured in Figure 4. In figure the within-level is sketched to the left, while the between-level is drawn to the right.
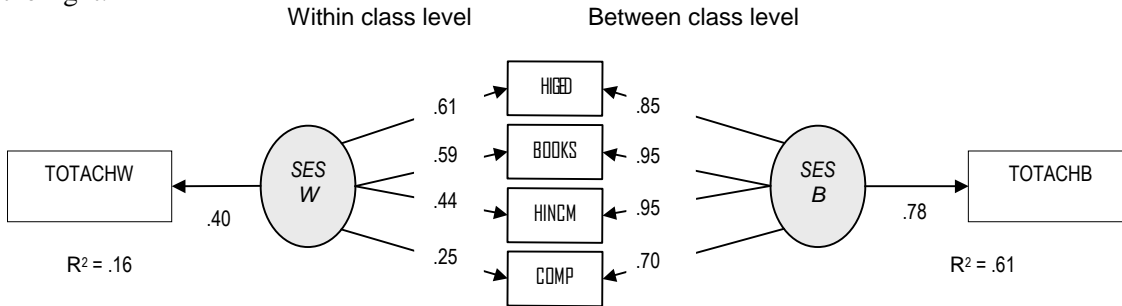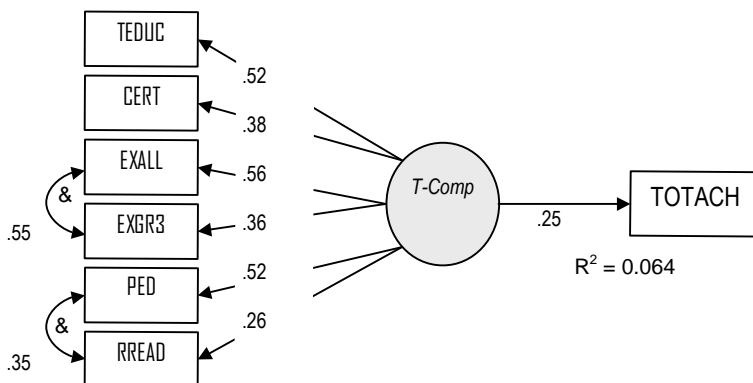

Note. All loadings are significant p<.05
Chi^2 = 54, df =10, p<.000, RMSEA = .029, CFI = .973

Figure 4. A structural model of student home-background and its relation to reading

The model had good fit statistics. As shown in Figure 4, the selected indicators of General Capital were parents' highest education (HIGHED), number of books at home (BOOKS), annual household income (HINCM) and the possession of more than one computer (COMP). Worth mentioning is that these variables also received the highest loadings at both the within and between levels in the full measurement model of capital. The model accounted for 16 percent of the variance in reading achievement at the within-level and 61 percent at the between-level. These findings are consistent with previous research (Sirin, 2005; White, 1989).

The structural model of teacher competence

In line with previous research, information about teacher experience, certification and subjects of importance in teacher training courses were selected as indicators for the model. Since all the selected variables were teacher variables observed at the class level, only a one-level model was needed to sufficiently capture the latent construct. From a large three-factor measurement model including one general teacher competence factor and two nested factors (Subject and Experience), a proxy factor of teacher competence (T-Comp) was constructed based on the variables with the strongest standardised factor loadings. A graphic representation of this one-factor model with six indicators and its parameter loadings, all significant, is sketched in Figure 5. The relation between the general teacher competence-factor and reading achievement is also included in the Figure.

Note. All loadings are significant p<.05
Chi^2 = 16, df =12; p<.171 RMSEA = .032, CFI = .990

Figure 5. A structural model of teacher competence and its relation to reading achievement

The p-value in the present model indicated a very good fit, as did the other goodness-of-fit statistics. The largest loadings on the teacher competence factor were, as shown in Figure 5, teacher experience, an adequate teacher education and studies in pedagogy teaching reading. About six percent of the variance between classes in reading performance was explained by the teacher-competence factor, which is consistent with previous research (Hanushek et al., 1998).

Controlling for student home-background and teacher competence

In this step, the student home-background factor and the teacher competence factor, separately, was inserted in the original structural climate model in order to investigate their influence on the relationship between school and classroom safety and reading achievement. In Table 4 the estimated relation between safety and reading achievement is presented in three different models.

Table 4.   Relation to reading achievement, comparisons with the baseline model

| Model number | Relation to TOTACH | | | |
| | Within level | | Between level | |
	StudSfW	SocSfW	ClsSfB	SclSfB
1 Baseline model	.07*	.20*	.41*	.25*
2 Controlling for Student home background	.05*	.16*	.24*	.04
3 Controlling for Teacher competence	.06*	.20*	.37*	.25*
4 Controlling for both Student home background and Teacher competence	.04*	.16*	.10	.03

Note. *p < .05.

As shown in table 4, the original estimates changed when the control variables were entered into the original model. The estimates for the base model (Model 1) show the relationships between the climate factors and reading achievement without additional factors having been added to the model. When the home background factor SES was introduced (Model 2) at the within-class level, the previously estimated correlation between both StudSfW and SocSfW and reading achievement was somewhat reduced, which indicates that home background to some extent co-varies with pupils' experience of safety in the class. However, the largest change took place at the between-class level where the significant correlations found in the base model between reading achievement and the safety factors were substantially reduced. The relationship between ClsSfB and reading achievement is still significant while the correlation between reading achievement and SclSfB disappeared. This indicates that the correlations at the between-class level can largely be explained by the pupils' home background.

When the teacher competence variable T-Comp was introduced (Model 3), no correlations at the within-class level were affected. At the between-class level, a small reduction is found between ClsSfB and reading skill while the relationship between SclSfB and reading achievement remained. Despite this modest reduction, a reasonable interpretation is that teacher competence co-varies with the feeling of safety existing overall in the class.

Initially, a hypothesis was formulated where it was assumed that a safe school and classroom climate, pupil's home background and teacher competence have a direct effect on reading achievement. Further, it was assumed that home background and teacher competence also affect the school and classroom climate but that in addition, these two factors are also related to each other as shown in earlier research. In the final step of the analyses all factors and relationships were investigated in a common model.

The final structural model – direct and indirect effects of a safe learning environment, student home-background and teacher competence on reading achievement

Finally the aim was to establish to the role of school and classroom climate on students' reading skills when student home background and teacher competence were considered simultaneously. This set of hypothesised relations was thus tested in the final two-level structural model, which is presented in Figure 6. In figure the within-level is sketched to the left of the observed variable TOTACH, while the between-level is drawn to the right.
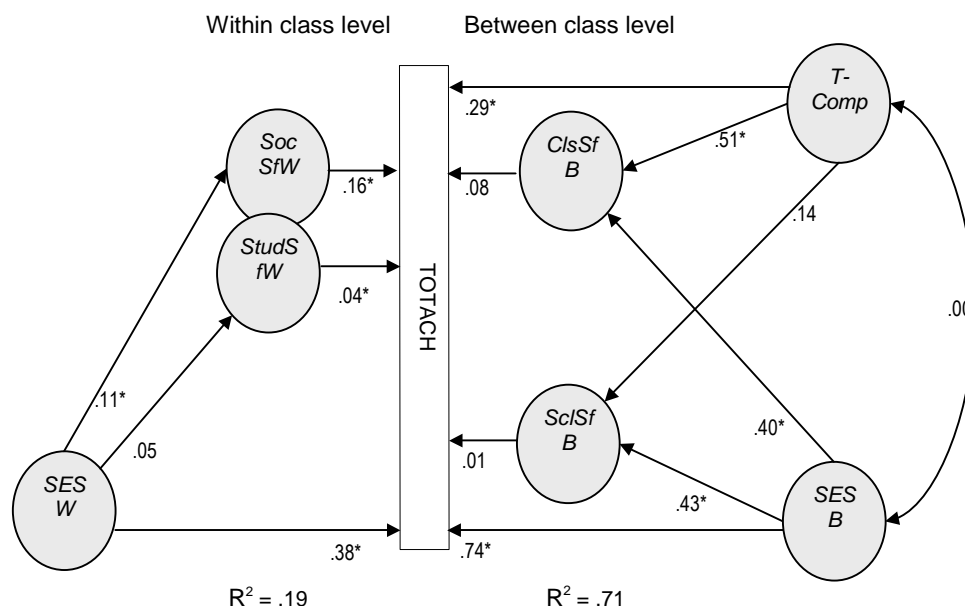
Figure 6. A two- level structural model of school and classroom climate, pupil home background and teacher competence and its relation to reading achievement

At the within-class level in this model, the pupils' home background, SESW, is the only independent variable. This factor exerts a relatively strong influence on reading achievement (.38) but it also has an indirect influence on reading achievement via the mediating factors StudSfW and SocSfW. These factors also have a direct and significant influence on reading achievement, which indicates that factors other than home background are behind pupils' feeling of safety.

In a comparison with the base model's estimate, the direct effects of the safety factors on reading achievement were markedly reduced and became statistically insignificant. The analyses thus show that it is in fact the pupils' home background but also teacher competence that explain the effect that a safe education climate appears to have on reading achievement.

The home background factor SESB has a very strong and positive effect on reader achievement (.74) and the safety factors ClsSfB (.40) and SclSfB (.43). However, the effects of both these safety factors on reading achievement disappeared when T-Comp was included in the analysis, which indicates that the effect of these factors in earlier models is more a reflection of the social composition in the class and of teacher competence. In the case of teacher competence, T-Comp, a positive effect on reading achievement (.29) is found. The teacher competence factor has an even stronger influence on class safety than does pupils' home background (.51). Significant correlations between teacher competence and the overall school safety factor SclSfB cannot be found. Notable but also unexpected was the absence of correlation between student home-background and teacher competence, a finding that speaks against the conclusion that qualified teachers select working with children with better opportunities for success in scholastic achievement (Hanushek, 1989).

Conclusion and Implications

The results indicate that safety play an important role in explaining differences in reading achievement between classes. Between students in classes safety also seems to explain differences in reading skills. However, it turned out that the initial relationships between climate factors and achievement were more or less spurious. Behind the positive climate-related factors a social selection of pupils, and a higher teaching competence are hiding. In the final analysis, it namely appeared that safety in the classroom (at the class level) is associated with teacher competence, so that a part of teacher competence as well as strudent home backgrund are mediated by safety. This may indicate that more competent teachers are better able to make a safe learning environment in the class for the benefit of the children's progress. Teacher's education and subject matter competence really seems to make a difference, but perhaps one key factor in this context may be experience related to teacher self-efficacy as pointed out to by Tschannen-Moran et al., (1998) and Goddard and Skrla (2006). One assumption would thus be that more experienced teacher are more able to make the classroom a safe place to be in perhaps beaucause they haves the confidence and the courage to curb a noisy environment and to promote a positive atmosphere free from harassment. Perhaps they also can do so without taking time and enery from teaching.

On the basis of the analyses in this study, the hypothesis that the school and classroom climate do play a role in explaining reading achievement was not confirmed. However, to disregard these factors as unimportant when it comes to understanding and explaining differences in student performance risks being too hasty. Rather, further research on this question is needed before any more definitive conclusions can be drawn.

It is, however, clear that there are differences between classes not only with respect to pupils' home background and reading achievement. There are also differences in the form of climates that vary in safety. It is also clear that there are differences as regards the teaching teacher's competence. There are many indications that this competence includes not only promoting good reading skills but also creating a safe climate. It is important to continue to conduct research on the importance of teacher competence in terms of not only scholastic achievement but also other factors in the school. One advantage is if this can be done based on a longitudinal design in order too not only be able to determine causality but also to determine short and long-term effects.

Finally, there are some limitations in this study that need to be made explicit, which is about construct validity, causality, validity, and internal validity. The study's aim and questions include the assumption that it is possible to show causality. Thus, the main limitation is that the result cannot, just like in many others cross-sectional studies, fully address the causality issue. Although safety was treated as a predictor in the analysis, the reading achievement could also have been used as a predictor of safety, meaning that children which are good performers more likely are safe in school but also have trust in the school and the teacher. To deal with this issue further research is needed using a longitudinal design.

The analyses indicated homogeneity between the indicators of the concepts, which is a minimum requirement. Generally speaking, more observed indicators would have been desirable in order to strengthen construct validity.

Identification of a theoretical underpinning according a safe learning climate calls for further research. Furthermore, teachers and school leaders can apply these ideas in order to make their school a better and safer place for students to learn. It is also desirable that this issue is recognised in teacher preparation programs so that teachers of tomorrow's school will be preparde to deal with these issues.

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