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School social climate and teachers' perceptions of classroom behavior problems: a 10 year longitudinal and multilevel study

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Abstract Using longitudinal and cross-sectional data, the present research sought to identify school social climate predictors of teachers' perceptions of classroom behavior problems. The social climate and classroom behavior in 107 public and private French speaking Canadian high schools was evaluated by 1399 teachers. The present analysis is unique in its ability to control for school differences in the enrollment of students with a history of problem behavior. As hypothesized, between-school variation in the proportion of students with histories of disruptive problems predicted high school classroom behavior problems. Moreover, when controlling for these between-school differences, concurrently measured school-level variables (type of school, location of school, and academic emphasis) are found to be significant predictors of classroom behavior problems. The theoretical and practical implications of the present findings are examined and recommendations are made for future research.

Keywords School Social climate · Teachers' perceptions of classroom behavior problems · Developmental trajectories of disruptive behaviors · High School

1 Introduction

Classroom behavior problems are a longstanding major stressor for teachers (Houghton et al. 1988; Veenman 1984; Van der Doef and Maes 2002). Despite the prevalence of this stressor, teachers' perceptions of classroom behavior problems vary significantly, both within the same

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school and between schools (Maughan 2001). Variation in the level of behavior problems between high schools is often explained by the social climate in the schools, which is defined by the school's norms and values, and teachers' working conditions (Anderson 1982: Bryk et al. 1990; Maughan 2001; Welsh 2000). Using a model of high school organization as a framework (Lee et al. 1993), the present study sought a better understanding of the particular dimensions of school social climate that are predictive of student behavioral problems, as a means of supporting teachers in their practice. Such knowledge might also contribute to reducing negative consequences such as teacher attrition and coercive use of discipline, as well as increasing students' achievement and social skills.

1.1 Model of high school organization

The model of secondary school organization (Lee et al. 1993) suggests that each school is embedded in a larger environment that shapes its internal organization which in turn directly affects teachers and students. More precisely, external characteristics such as type of students, number of students, and parental involvement influence the work environment, authority, and social organization of the school. These school climate variables affect the satisfaction, efficacy, and commitment of teachers and thus the academic engagement and achievement of students. This model suggests the need for a multilevel and longitudinal study of school climate that controls for teacher- and school-level socio-demographic variables as well as the proportion of students in each school with a history of behavior problems (i.e., risk factors *before* entering in high school).

1.2 Teacher and school level socio-demographic variables

Some studies have also shown that teacher reports of classroom behavior problems vary according to the individual characteristics of the teacher. That is, male teachers, less-experienced teachers, and less-educated teachers (Rowan et al. 1991a) tend to report higher levels of classroom behavior problems. In terms of school characteristics, frequency of behavior problems was shown to be greater in public schools, large schools (Rowan et al. 1991a; Winbinger et al. 2000), and schools located in urban areas (Kennedy et al. 1976; Pallas 1988; Stewart 2003), compared to private, smaller, and rural schools. Wilcox and Clayton's (2001) multilevel study showed that school SES explained between-school variability in weapon carrying, and this association was mediated by school capital (protective factors) and school deficit (risk factors). However, a national longitudinal survey demonstrated divergent results, such that higher SES private schools displayed greater use or threat of use of weapons among male students (Watt 2003). Without adequately controlling for the behavioral characteristics of the students in a school, it is difficult to relate school structure variables to behavior problems. Of course, student's prior behavior problems also influence the level of disorder experienced in the school (Gottfredson et al. 2005).

1.3 Proportion of high school students with behavior problems

It is well known that most adolescents with behavior problems exhibited similar behavior during the elementary school years, and typically have a long history of negative experiences with peers and school personnel (e.g. Loeber 1982; Nagin and Tremblay 2001; Patterson et al. 1998; Robins and Ratcliff 1979; Tremblay et al. 1992; Tremblay et al. 1994; White et al. 1990). Moreover, recent longitudinal studies show that children with trajectories of frequent aggression, opposition, and hyperactivity during the elementary school years are at greater

risk for conduct problems and delinquency during their adolescence (Broidy et al. 2003; Côté et al. 2002; Nagin and Tremblay 1999). Indeed, it is likely that when schools admit a high proportion of students with a history of behavior problems, teachers have a harder time maintaining order in their classrooms. It only takes a small percentage of disruptive students to influence teacher reports of school disorder (Gottfredson et al. 1993). For example, Maughan et al. (1991) have shown that a concentration of problem students in high school can lower teachers' involvement in classroom management.

A number of studies have reported more classroom behavior problems in schools where teachers negatively evaluate social climate, controlling for teacher and school socio-demographic variables and the composition of the student population (Kasen et al. 1990; Rowan et al. 1991b; Rutter et al. 1979; Welsh et al. 1999). Not yet considered, however, are compositional differences due to the fact that some high schools serve a larger number of students with a history of disruptive behavior problems. For example, the prevalence of behavior problems is higher in underprivileged areas (Bolger et al. 1955; McLoyd 1990; Pagani et al. 1999), and teachers have a greater tendency to negatively perceive the social climate in schools located in these areas (e.g. Bryk et al. 1990). Brantlinger (1991) has shown that students from underprivileged backgrounds are often evaluated more negatively and disciplined more frequently by teachers. This phenomenon of contamination is well known but is not necessarily taken into account in studies of school climate and classroom behavior problems. Moreover, exposure to violence in a larger school environment may reduce the quality of teaching, disrupt classroom discipline, and limit teachers' availability to students before and after the school day (Lorion 2003). For example, Leitman and Binns (1993) showed that teachers in a violent school environment report being hesitant to discipline students.

When classroom behavior problems are assessed, it is difficult to determine if they were created by the school climate, or if the climate is created by the type of students who enter the school. Thus, multilevel and longitudinal data are required to better understand the relative roles of students' past behavior problems (i.e., in elementary school) and current high school social climate in determining behavior problems in high school classrooms. Understanding which factors determine school social climate could help to organize and manage classrooms in ways that improve the social and academic development of students (Lorion 2003).

1.4 School social climate

Most studies of adolescent problem behaviors emphasize individual- and family-level risk, while ignoring the school's social context (Welsh 2000). However, a number of studies have shown that social climate dimensions such as academic emphasis, professional autonomy, and teacher job satisfaction are associated with the rate of behavior problems reported by teachers. For example, Rutter et al. (1979) showed that when teachers are academically involved, classroom behavior problems decline. Gottfredson and Gottfredson (1985) reported that victimization in schools is intensified by large school size, limited resources, low cooperation between administration and faculty, and the presence of ambiguous rules. Research by Kasen et al. (1990) showed that a school's emphasis on academic commitment predicted decreases in hyperactivity, opposition, and conduct problems. Gaziel (1997) showed that academic emphasis was the best cultural predictor of effectiveness in schools with disadvantaged students. Other recent research has observed less bullying in schools with higher levels of academic emphasis (Ma 2002).

In terms of teachers' working conditions, professional autonomy and job satisfaction also seem to influence the level of classroom behavior problems that teachers report. For example,

Ingersoll (1996) has shown that professional autonomy is associated with a reduction in conflicts between teachers and students. In addition, teachers' job satisfaction regarding school policies may motivate them to respond better to the needs of students at risk (e.g. Sanders 2000). The study by Ostroff (1996) indicated that teachers' job satisfaction and commitment negatively predict student drop-out, truancy, and disciplinary problems. A recent study by Gottfredson and colleagues (2005) showed that teachers' reports of fairness and rule clarity were negatively associated with student delinquency and student victimization.

Moreover, experimental research on school-based prevention of conduct problems has demonstrated that environmentally-focused interventions appear to be particularly effective for reducing delinquency (e.g. Wilson et al. 2001). Evidence suggests that school social climate plays a role in explaining between-school variance in behavior problems, but past studies suffer methodological limitations; they do not isolate the unique roles of environmental, individual, and compositional factors.

Ideally, the most effective way to disentangle school climate and school composition would be to randomly assign students and teachers to schools. This is clearly not possible. The alternative approach employed here is to assess separately and simultaneously: (1) student behavioral characteristics before entering high school, (2) teachers' characteristics within high schools, and (3) demographic and social climate characteristics of the high schools themselves. The present investigation aims to identify predictors of classroom behavior problems by using both a longitudinal design and a multilevel approach.

It is hypothesized that students' histories of behavior problems during elementary school (i.e., aggressiveness, opposition, and hyperactivity) will explain a significant portion of between-high school variance in classroom behavior. It is also hypothesized that school social climate (i.e., academic emphasis, professional autonomy, and teacher job satisfaction) and sociodemographic characteristics will predict classroom behavior problems, after controlling for students' history of behavior problems in elementary school.

2 Method

2.1 Participants

In the framework of a larger-scale longitudinal study of 3,159 children followed since entry into kindergarten (Côté et al. 2002), the current study assessed the social climate in high schools that: (1) agreed to participate, and; (2) were attended by at least 5 students from the longitudinal study. A total of 107 secondary schools comprised of 1,834 students (49% girls) met these criteria (including a minimum of 5 and a maximum of 134 students from each school). The social climate in the 107 high schools was evaluated by 1,399 teachers (minimum = 10; maximum = 25). We assessed the extent to which participants in the current sample were similar to students from the initial cohort ($N = 3,159$). Results indicated that fathers' educational status and age at birth of the child, as well as mothers' occupational status and family adversity were not significantly different between the two groups. However, mothers' educational status and fathers' occupational status were both higher in the current sample than in the initial sample. Also, the mothers' age at birth of the child was slightly lower in the present sample. Finally, problems with aggression, opposition, and hyperactivity were more pervasive in the present sample than in the initial large-scale sample.

Of the teachers in the study, 55% were male; 32% had less than 10 years teaching experience; 30% had between 11 years and 20 years experience; and 38% had more than 20 years

experience. Six percent of the teachers had a teaching diploma; 84% had a bachelor's degree; and 10% had a master's degree. Eleven percent of the teachers did not have permanent job status.

Descriptive statistics for the 107 schools indicate that the majority (84%) were part of the public sector, whereas 16% were private schools; and 78% of the schools were located in urban areas (versus 22% rural). In terms of school size, 14% of the schools had fewer than 500 students; 20% had between 500 and 1,000 students; and the remaining majority had more than 1,000 students. The socio-demographic data for each school was obtained from the Quebec Ministry of Education. The school location was represented by a dummy variable, where 0 = rural and 1 = urban. The sector was also represented by a dummy variable, where 0 = private school and 1 = public school.

2.2 Student developmental trajectories

In the initial longitudinal study, students' behavior problems (i.e., aggression, opposition, and hyperactivity) were rated by teachers. These ratings spanned from the end of kindergarten to the end of elementary school, and were based on the Social Behavior Questionnaire (Tremblay et al. 1991). The rating scale for each item varied between 1 and 3, where 1 = does not apply, 2 = sometimes applies, and 3 = often applies. Physical aggression was evaluated using 3 items (1) fights with other children; (2) uses physical force, and; (3) threatens or bullies others in order to obtain what he/she wants. The internal consistency (Cronbach alpha) for physical aggressiveness measured between 6 years and 12 years of age varied between 0.70 and 0.79 for girls and between 0.80 and 0.84 for boys. Opposition was evaluated using 5 items: (1) irritable, easily angered; (2) disobedient; (3) doesn't share materials used for a task; (4) blames others, and; (5) lacks consideration for others. Internal consistency (Cronbach alpha) for opposition varied between 0.74 and 0.79 for girls and between 0.78 and 0.84 for boys. Hyperactivity was evaluated using two items: (1) very agitated, constantly running and jumping; unable to remain in one place, and; (2) constantly fidgeting, squirming, can't sit still. Internal consistency (Cronbach alpha) for hyperactivity varied between 0.74 and 0.89 for girls and between 0.86 and 0.89 for boys.

Longitudinal analysis followed the strategy of Broidy et al. (2003), who identified the following four types of developmental trajectories within the domains of physical aggression, opposition, and hyperactivity: (1) those manifesting very few problems (or none); (2) those with consistently minor problems; (3) youth with serious problems at a young age, but who desisted over time, and; (4) those with serious problems in both childhood and early adolescence.

2.3 The school social climate questionnaire

The quality of a school's social climate was measured using a questionnaire developed by Willms for a national longitudinal study of a random sample of Canadian children (National Longitudinal Survey of Children and Youth 1996). This questionnaire was adapted and translated to measure the social climate in French- language high schools.

2.3.1 School climate indicators

The dimension *academic emphasis* comprised 18 items measuring the evaluation process in the classroom and school, assignment of homework, checking of homework, academic requirements, and time allotted for corrections, routine tasks, and teaching activities. The

dimension *professional autonomy* comprised 10 items that measured the extent to which teachers feel they have a say in school regulations, program content, administrative and financial decisions, and the level of academic requirements.

The dimension *job satisfaction* comprised 13 items that measured teacher commitment, satisfaction, effectiveness, and morale. The psychometric properties of these aggregated social climate measures were evaluated in order to verify whether the instrument's three dimensions could be adequately measured based on individual teacher perceptions.

This analysis revealed that internal consistency rates are high enough to ensure the reliability of the instruments—alphas were 0.78 for academic emphasis, 0.81 for professional autonomy, and 0.67 for job satisfaction. However, internal consistency was not as high when teachers' answers were analyzed per school rather than for the entire sample. Internal consistency for this analysis ranged from 0.50 (for job satisfaction) to 0.69 (for professional autonomy). These results may be explained by the low levels of consensus (intersubjective agreement) between teachers within the same school for each dimension of social climate, as well as the relatively small number of teachers per school. For instance, the lowest rate was 0.08 for job satisfaction and the highest rate was 0.17 for professional autonomy. Consequently, differences in perception between teachers within the same school confirm that individual teacher characteristics must be taken into consideration when analyzing socio-demographic differences between schools. In the Rowan et al. (1991b) study, the psychometric properties of aggregate climate measures, teacher control, and teacher morale were approximately the same.

2.3.2 Classroom behavior problems

Items measuring behavior problems were based on teacher reports of the number and nature of incidents occurring in the previous month. This included: excessive tardiness; truancy; physical conflicts among students; verbal conflicts among students; robbery or theft; cheating on tests, verbal abuse of a staff member; physical assault of a staff member; class disruption; bullying or intimidating other students, and; use of profanity. An analysis of internal consistency of the behavior problems scale yielded an alpha of 0.71.

2.3.3 School and teacher socio-demographic characteristics

The questionnaire also included questions pertaining to individual teacher characteristics. Teacher *sex*, was represented by a dummy variable, where Male = 0 and Female = 1. *Years of experience* was a continuous variable measuring the total number of years of teaching experience, ranging from 1 month to 43 years. *Level of education* was an ordinal variable measuring teachers' scholarship, where 1 = teaching diploma, 2 = bachelor's degree, and 3 = master's degree or more. Job status was a dummy variable measuring the permanent or non permanent nature of the teacher's status (0 = non permanent; 1 = permanent).

2.4 Modeling behavioral trajectories

A standard procedure in non-parametric and semi-parametric statistics of approximating a continuous distribution by a discrete mixture was used to identify the four distinct developmental trajectories for each type of behavior problem (i.e., physical aggression, opposition, and hyperactivity). Teachers completed annual ratings of students from the ages of 6–12 years. The first step entailed determining the shape of each trajectory (e.g., linear, or quadratic). The second step involved estimating the proportion of the population belonging to each trajectory

Table 1 Percentage of variance in behavior problems accounted for by teacher and school level differences

	Classroom behavior problems		
	Effect (SE)[a]	t-Ratio*	Percentage of variance[b]
Teacher level	0.192(0.007)	25.49*	91%
School level	0.019(0.004)	4.16*	9%

Note: [a] Standard error between parentheses. *The t-ratio was determined by dividing the coefficient by the standard error. The result is significant when $p < 0.05$. [b] The proportion of total variance attributed to the school: coefficient school/(coefficient school + coefficient teachers)

type, for each type of behavior problem. The final and most important step was to determine a posteriori the probability of group (i.e., trajectory) membership for each individual in the estimation sample. In other words, individual participants are assigned to the trajectory that best conforms to their observed behavior (please refer to Nagin and Tremblay 1999, for a description of this statistical procedure).

2.5 Hierarchical linear modeling

Hierarchical linear models (HLM) were used to account for the clustered nature of the sample, with teachers nested within schools (Bryk and Raudenbush 1992). They also allowed us to partition the total variation in teachers' perceptions of disciplinary problems into two components: (1) variation between teachers within the same school, and (2) variation between schools. Teacher- and school-level models were estimated simultaneously. At level one (i.e., the teacher-level) :

$$\text{Discprobs}_{ij} = \beta_{0j} + \beta_{1j}\text{Sex}_{ij} + \cdots + \beta_{kj}X_{kij} + r_{ij} \tag{1}$$

School social climate and classroom behavior within-school variation in perception of disciplinary problems (Discprobs_{ij}) was modeled as a function of a level-one intercept (β_{0j}), teacher-level independent variables (X_k) such as sex, experience, education, etc., and an error term (r_{ij}) capturing the unique disturbance for teacher i working in school j. Variation in disciplinary problems between schools was captured at level two:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\text{Public}_j + \gamma_{02}W_{2j} + \cdots + \gamma_{0S}W_{Sj} + u_{0j} \tag{2}$$

with mean perceptions of disciplinary problems in school j (β_{0j}) a function of a level-two intercept (γ_{00}), school-level independent variables (W_S) such as sector (Public_j), presence of youth exhibiting aggressive developmental trajectories, etc., and an error term unique to the school (μ_j).

3 Results

Table 1 presents the results of the multilevel analysis identifying the sources of variance in teachers' reports of classroom behavior problems. This analysis revealed that the types of behavior problems reported by teachers differed significantly among schools and among teachers. However, most of the total variance in teachers' reports of behavior problems was attributed to differences among teachers within the same school (91%). Differences between schools accounted for the remaining 9%.

Table 2 Teacher- students- and school-level models predicting teachers' perception of classroom behavior problems

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	Effect(SE) *t*-ratio	Effect(SE) *t*-ratio	Effect(SE) *t*-ratio	Effect(SE) *t*-ratio	Effect(SE) *t*-ratio
Teacher level					
Sex	−.012(.024) − 0.50	−.015(.024) − .60	−.014(.025) − .57	−.017(.024) − .72	−.017(.024) − .70
Experience	.001(.001)0.94	.001(.001).97	.001(.001).85	.000(.001).61	.000(.001).65
Education	.005(.030)0.18	.005(.030).19	.006(.030).20	.011(.030).39	.013(.030).45
Job status	.039(.040)0.97	.044(.040)1.09	.038(.040).94	.026(.040).66	.022(.040).56
School level					
Aggressiveness trajectory 2	.205(.170)1.20				−.341(.192) − 1.78
Aggressiveness trajectory 3	.341(.178)1.92				−.037(.285) − .13
Aggressiveness trajectory 4	.864(.283)3.05*				−.085(.438) − .19
Opposition trajectory 2		.377(.155)2.43*			.462(.158)2.91*
Opposition trajectory 3		.154(.163).95			.071(.219)0.33
Opposition trajectory 4		.718(.230)3.12*			.542(.381)1.42
Hyperactivity trajectory 2			.286(.165)1.74		.141(.139)1.01
Hyperactivity trajectory 3			.473(.206)2.29*		−.094(.219) − .43
Hyperactivity trajectory 4			.517(.225)2.29*		−.103(.233) − .44
Urban area				.078(.036)2.13*	.086(.037)2.30*
Public sector				.226(.050)4.53*	.206(.053)3.86*
Academic emphasis				−.343(.138) − 2.48*	−.033(.140) − 2.35*
Professional autonomy				−.059(.059) − 1.00	−.080(.062) − 1.30
Job satisfaction				.213(.125)1.71	.238(.125)1.89

Note: [a] Standard error between parentheses. *The *t*-ratio was determined by dividing the coefficient by the standard error. The result is significant when $p < .05$.

Table 2 presents results of five models predicting classroom behavior problems. The first three test our hypothesis that students' disruptive problems in elementary school are associated with teachers' reports of classroom disciplinary problems in high school. The remaining models include dimensions of school social climate, with and without measures of students' past behavior problems in elementary school. In each of the models, teacher characteristics are also included.

The first model confirms that teacher' reports of classroom behavior problems can be predicted from students' history of physical aggression during elementary school. Thus, when high schools admit a higher proportion of students with histories of serious and persistent physical aggression (trajectory 4), high school teachers are more likely to report classroom behavior problems.

When controlling for students' history of aggression, individual teacher characteristics (i.e., sex, level of education, teaching experience, and job status) are not predictive of classroom behavior problems. Indeed, this finding was observed in each of the five models presented in Table 2.

Models 2 and 3 tested the predictive ability of the two other elementary school behavior problems: opposition and hyperactivity, respectively. It was observed that the more a high school admits students with a history of opposition or hyperactivity in elementary school, the more behavior problems are reported by high school teachers.

Model 4 tested the impact of concurrent high school characteristics on teachers' reports of classroom behavior problems, controlling for teachers' individual characteristics, but not controlling for students' history of behavior problems. Results showed that three of the five concurrent school-level characteristics are associated with classroom behavior problems. As expected, reports of classroom behavior problems were lower in private schools. Also consistent with expectations, the less teachers perceived the school as having an academic emphasis, the more behavior problems they reported. Of course, it must be noted here that the same teachers are reporting on academic emphasis and behavior problems. Finally, results also revealed that the geographical location of the high school (urban versus rural) predicted teachers' reports of classroom behavior problems. That is, teachers in rural high schools tended to report less classroom behavior problems than did teachers in urban high schools.

Model 5 included all the variables from models 1–4. Five school-level variables were found to be statistically significant predictors. Teachers were more likely to report classroom behavior problems in public schools, urban schools, schools where teachers report less academic emphasis, and schools that enlist more students with oppositional problems.

To test whether our inclusion of behavior problem trajectories improved upon the more conventional variables in explaining high school behavior problems, we compared the explained variance in models 4 and 5. Model 4, which assessed the individual characteristics of the teachers and the socio-demographic characteristics of the school, explained 79% of between school variance in teachers' perceptions of classroom behavior problems. Model 5, which added students' elementary school conduct trajectories to the equation in Model 4, explained 84% of the variance. Neither model accounted for any (0%) variance in classroom behavior problems within schools.

4 Discussion

The aim of this study was to identify dimensions of school social climate that explain between-school variation in classroom behavior problems, while controlling for teacher- and school-level socio-demographic variables and the proportion of students with a history

of behavior problems. We were especially interested in determining, with longitudinal data, the extent to which students' histories of behavior problems before entering high school contributed to the prediction of behavior problems in high school. As was expected, we first observed that the main source of variance in high school teachers' reports of classroom behavior problems was at the teacher level. Differences among high schools accounted for only 9% of the variance. Other multilevel studies have reported similar proportions (Felson et al. 1994: Gottfredson et al. 2005; Welsh 2003). It is important to note that although most of the variance in teachers' reports was observed at the teacher level, none of this variation was explained by the teacher characteristics we measured. Future research is clearly needed to better understand the variation in teachers' reports within schools.

The hypothesis that students' histories of behavioral problems in elementary school would predict behavior problems in high school was supported. When high schools admitted more students with a history of physical aggression, hyperactivity, and opposition, they were more likely to yield teacher reports of classroom behavior problems. This result appears to be relatively robust, given that we controlled for individual teacher characteristics and that the number of students per high school for which we had longitudinal data was relatively small (minimum = 5, maximum = 134). A number of longitudinal studies have shown that elementary school children with behavior problems will continue to display problems during their high school years (e.g. Farrington 1994; Fergusson et al. 1997; Moffitt et al. 1996; Nagin and Tremblay 1999). However, to our knowledge, this is the first study to analyze the relationship between school social climate and reports of classroom behavior problems, by controlling for school proportions of students with histories of problem behavior.

As expected, concurrent characteristics of high schools demonstrated the strongest relationships with teachers' reports of classroom behavior problems. We found, in accordance with past studies (Rowan et al. 1991b; Winbinger et al. 2000), that teachers from private and rural high schools perceived less classroom behavior problems compared to public and urban high schools. Bryk and Driscoll (1988) have previously interpreted this type of result in terms of the communitarian way that rural schools are managed, relative to the more bureaucratic nature of urban schools. In other words, disciplinary and academic values and norms are more easily integrated in schools with a communitarian perspective. It should be pointed out that such rural and communitarian schools are often smaller as well. Most research demonstrating encouraging results for private schools (e.g., Bryk et al. 1993) attribute their findings to the tendency of private school teachers to emphasize academic productivity. Given that academic emphasis seems to play a role in teachers' reports of classroom behavior problems, it is possible that this indicator, associated in particular with private schools, widens the gap between public and private sectors.

In line with other studies (Kasen et al. 1990; Shouse 1996; Rutter et al. 1979), we observed a strong association between teachers' reports of the school's academic emphasis and teachers' reports of classroom behavior problems. This result affirms the importance of academic emphasis in explaining variation in the levels of classroom behavior problems reported by teachers from different high schools. Similarly, the work of Jenkins (1997), points out that students with behavior problems may lack commitment to educational goals. The negative correlation between academic emphasis and classroom behavior problems may be due to the fact that when teachers demonstrate less academic commitment they organize fewer structured activities. On the one hand, it is also possible that behavior problems in the classroom interfere with academic focus. In other words, the relationship between academic emphasis and classroom behavior problems could be reciprocal.

Because the same questionnaire was used to measure classroom behavior problems and school social climate, we did not include discipline in the dimensions of school social climate.

In other studies, clarity and fairness of rules was related to misconduct in school (Gottfredson et al. 2005; Welsh 2000), but academic emphasis was ignored. Thus, future studies may want to evaluate both academic emphasis and academic discipline simultaneously.

Our study did not corroborate the relationship between teachers' reports of working conditions and classroom behavior problems. However, Ostroff (1996) has previously demonstrated a significant relationship between teacher satisfaction and student behavior, identifying key variables such as academic achievement, student satisfaction, teacher turnover, and quality of school administration. The theoretical model of high school organization (Lee et al. 1993) suggests that working conditions are consequences of school social climate, but also have direct impact on students. Evidently, more work is needed to disentangle this reciprocal relationship.

Certain methodological limitations of the study must be taken into account when discussing its practical implications. Due to its correlational approach, one cannot infer a cause and effect relationship and assume that less academic emphasis causes classroom behavior problems. There is a need for experimental research examining the extent to which an increase in commitment to academics provides a means to change the developmental trajectories of children with behavior problems. Future research must be oriented towards the experimentation of interventions in elementary school and the assessment of their impact on high school climate.

On a practical level, the current investigation provides evidence in favor of increasing academic emphasis, particularly in public high schools in urban areas where classroom behavior problems are more prevalent. Given that the academic context of the school and the behavioral histories of its students are environmental elements with the potential to influence classroom disciplinary practices, it is important to support pedagogical innovations for students manifesting relatively high levels of disruptive behaviors.

Furthermore, the relationship between students' history of behavior problems in elementary school and classroom behavior problems in high school illustrates the importance of prevention prior to entry into high school. Prevention programs targeting children with behavior problems during preschool and elementary school is likely to reduce the number of children entering high school with behavior problems and thus have a positive impact on high school social climate.

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