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# The Enduring Influence of School Size and School Climate on Parents' Engagement in the School Community

*Lauri Goldkind and G. Lawrence Farmer*

## Abstract

This study sought to examine the direct and indirect associations between school size and parents' perceptions of the invitations for involvement provided by their children's school in a school system that has actively attempted to reduce the negative effects of school size. Using data from the New York Public Schools' annual Learning Environment Survey, path analysis was used to examine the role that school climate plays in mediating the relationship between school size and parents' perceptions of invitations for involvement. Results from an analysis of middle and high school parents who participated in the annual school survey provided evidence that parents' perceptions of safety and of respect from the school mediated the relationship between school size and perceptions of the extent of the invitations for involvement provided by the school. The indirect effect of school size via perception of safety and respect was larger than the direct effect of school size on parents' perceptions of invitation for involvement.

Key Words: school size, climate, urban, middle, high, small schools, reform, mediation analysis, parents, engagement, family involvement, safety, respect

## Introduction

Parental involvement in schools continues to be a critical issue for the stakeholders of the nation's education system (i.e., teachers, parents, educational

administrators, policymakers, etc.; Epstein & Jansorn, 2004; Fan & Chen, 2001; Fege, 2000; Lloyd-Smith & Baron, 2010; Teicher, 2007). Parents' involvement as educators in the home, participants on school committees, and advocates for school reform both outside and within the system has been found to have positive impacts both individually, resulting in increased academic performance of the recipient daughter or son, and on the school community as a whole (Fan & Chen, 2001; Green, Walker, Hoover-Dempsey, & Sandler, 2007; Walsh, 2010). For those seeking to promote parental involvement, Hoover-Dempsey and Sandler (1995, 1997) provide a framework which identifies associated factors. In this model, the school environment (school climate), teachers, and children contribute to parents' motivation to be involved (Hoover-Dempsey et al., 2005). The extent to which both the school and their children invite parents and provide opportunities for involvement shapes the nature and extent of involvement (Hoover-Dempsey et al., 2005). The school improvement/reform literature has focused on the school's structure and management practices as important aspects of the school which shape parents' perceptions of the invitations for involvement. School reform models, for example, "Success for All" (Slavin, Karweit, & Madden, 1989) and the Social Development Model (Comer & Haynes, 1991), seek to promote parental involvement by making changes in school governance which will increase the opportunities for parental involvement (Magolda & Ebben, 2007). School reform efforts targeting school size also seek to promote greater student and parental involvement (Hartmann et al., 2009; Semel & Sadovnik, 2008). In the face of these reform efforts, there continues to be a need to better understand how structural aspects of school, for example school size, are related to parents' perception of the extent to which the school welcomes parental involvement.

## Literature Review

Hoover-Dempsey and Sandler (1995, 1997), using a psychological framework, view parental involvement as having its beginnings in a set of perceptions parents have about their role as a parent, their self-efficacy within the school domain, and opportunities and invitations for involvement they receive from their child and the school personnel. Perceived opportunities for involvement focus on parent perception of the extent to which the school and their child want them to be involved. While limited, the literature indicates that children's stage of social-cognitive development and approaches to learning are all factors that are associated with the types of invitation for involvement provided to parents (Hoover-Dempsey et al., 2005). The decline in parental involvement that is associated with the transition from middle to senior high school is often

attributed to parents' natural response to their child's increasing developmental need for autonomy (Hoover-Dempsey et al., 2005). Aspects of the school environment such as staff attitudes towards parents and numbers of communication attempts to parents have been found to be associated with parental involvement and the nature of the invitations for involvement provided by the school (Lavenda, 2011).

### **School Size and Academic Progress**

The structure and quality of the school environment is believed to play an important role in providing opportunities for student and parental involvement. Large, impersonal, bureaucratic comprehensive schools are believed to present many barriers to involvement (Meier, 1997). Case studies of effective alternative schools provide evidence of the importance of school size in promoting involvement (Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989). Attending small general education secondary schools has been associated with improved student achievement (Cotton, 1996; Darling-Hammond, Aness, & Ort, 2002; Haller, Monk, & Tien, 1993; Kahne, Sporte, de la Torre, & Easton, 2008). Research has also shown that small schools promote more equitable access to academically demanding courses (Bryk, Lee, & Holland, 1993), more equitable gains in achievement (Darling-Hammond et al., 2002; Lee & Smith, 1995), and lower dropout rates (Darling-Hammond et al., 2002; Kahne et al., 2008; Pittman & Haughwout, 1987).

Gardner, Ritblatt, and Beatty (2000) found that the dropout rate was significantly higher in the larger California public high schools than in small schools. Their finding is consistent with the previous investigations in examining dropout and schools size (Werblow & Duesbery, 2009). The general belief is that in small schools, adolescents develop a sense of belonging, and when young people are part of a small, connected environment, they are less likely to drop out of school (Gardner et al., 2000).

The bonds that young people make with their peers and adults are needed to facilitate the development of social capital which promotes successful school completion (Coleman, 1988). There is evidence that school climate improves when larger schools are converted into smaller ones (Hartmann et al., 2009; Huebner, Corbett, & Phillippo, 2007). In the late 1990s, we witnessed the reorganization of schools around the country focused on reducing the size of schools (Hartmann et al., 2009). By 2001, the Bill and Melinda Gates Foundation had made grant awards totaling approximately 1.7 billion dollars to school districts seeking to create smaller school settings for their students.

### **School Size and Parental Involvement**

Mechanisms by which school structural variables are associated with the behavior of parents and their children have not received a great deal of attention in the literature (Datar & Mason, 2008). Additionally, much of the work examining the association between school size and parental involvement has focused on class size during the primary grades K–3 (Datar & Mason, 2008). Studies of class size provide evidence that, during the primary school years, parental involvement is associated with class size in a complementary and substitutable manner (Bonesrønning, 2004; Walsh, 2010). For example, in the study of Norwegian primary school children, decreases in class size were found to result in increases in parental involvement. In a study of United States middle and senior high school students, increases in school size were associated with decreases in parents' volunteer activities (Walsh, 2010). While the work of Bonesrønning (2003, 2004, 2010) and Walsh (2010) provide insight into the role school size might play on parents' perceptions and their potential involvement in education, more attention to other potential mediators is needed.

### **School Size and Safety and Respect**

Hoover-Dempsey & Sandler's (1995, 1997) model of parental involvement, along with the existing school climate (Hoy & Miskel, 2005) and school violence (Espelage, Bosworth, & Simon, 2000) literature, highlight the role that perceptions of school climate play in shaping students', teachers', and parents' behavior. A comprehensive case study of 14 effective alternative high schools carried out in the latter part of the 1980s provided evidence of the importance of creating a school climate that is respectful of the student's and family's needs as a critical component in facilitating both student and parent involvement which led to improved academic achievement (Wehlage et al., 1989). Motivated in part by an understanding of the importance of creating a safe and respectful learning environment as a contributor to a school's effectiveness, several school reform initiatives that focused on reducing school size in order to create a school climate supportive of high achievement were developed in the early 1990s (Neiman, 2011). Several of the prominent reform efforts include the School District of Philadelphia's "Going Small" initiative (Benson & Borman, 2010) and similar initiatives in the New York City Public Schools and Chicago Public Schools, both funded out of a 1.7 billion dollar fund established by the Bill and Melinda Gates Foundation (Lachat, 2001). The New York City Public Schools have moved through three waves of small-schools-based reforms starting in the 1970s (DiMartino, 2009). A study of the 2006 graduates of 14 small schools established in 2002 provided evidence of the

potential for these schools to promote safety and respect within the school setting, along with positive academic engagement and performance (Huebner et al., 2007).

### **Aims of the Present Study**

Building on Hoover-Dempsey and Sandler's (1995, 1997) model of parental involvement, this study investigates the potential mediating role that a parent's perception of the extent to which their child's school provides a safe and respectful environment plays in the relationship between school size and perceptions of the invitations for involvement provided by the school. Green et al. (2007) describe invitations for parent participation as schools presenting explicit opportunities to participate via open school nights and parent-teacher conferences, as well as implicit environments that encourage participation, such as parent literature written in accessible language, welcoming greetings when parents are dropping students off at school, and otherwise creating a climate where parents can be comfortable helping students to assimilate into the school culture.

This study sought to determine if parents' perceptions of the school climate in the areas of safety and respect mediates the relationship between the enrollment size of a school and parents' perceptions of the degree to which the school provides opportunities for involvement (i.e., opportunities for communication and participation in school activities). An analysis of secondary data from the New York City Department of Education's Learning Environment Survey (LES), completed by parents in the Spring of 2008 was used to examine the study's mediation hypothesis. Figure 1 diagrams the hypothesized relationships among enrollment, school climate, and parental involvement that will be examined in this study. The following hypotheses will be tested:

- H1: Enrollment size is directly related to parents' perceptions of the extent to which schools provide opportunities for communication between the school and parents.
- H2: Enrollment size is directly related to parents' perceptions of the extent to which schools provide opportunities for parents to participate in school activities.
- H3: Safety and Respect are directly related to parents' perceptions of the extent to which schools provide opportunities for communication between the school and parents.
- H4: Safety and Respect are directly related to parents' perceptions of the extent to which schools provide opportunities for parents to participate in school activities.

H5: Safety and Respect mediate the relationship between enrollment size and parents' perceptions of the extent to which schools provide opportunities for communication between the school and parents.

H6: Safety and Respect mediate the relationship between enrollment size and parents' perceptions of the extent to which schools provide opportunities for parents to participate in school activities.

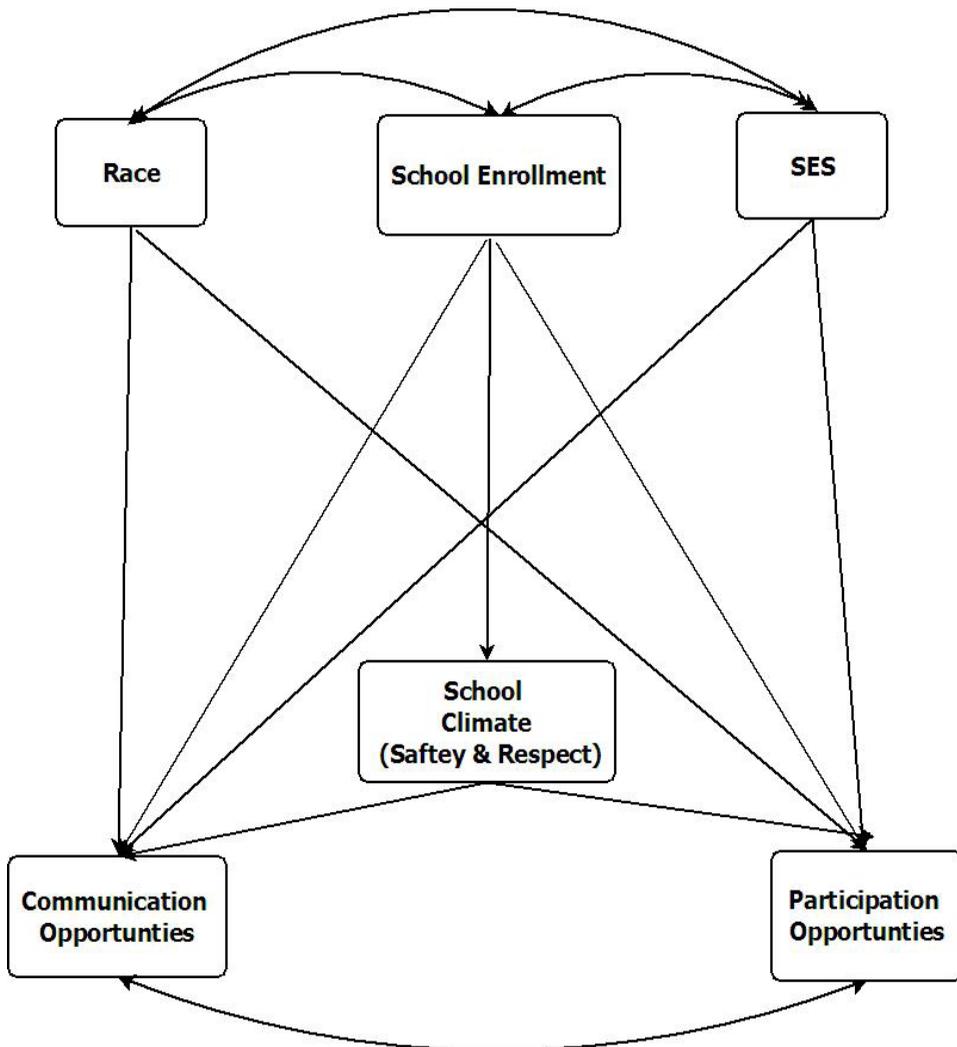


Figure 1. Conceptual Model

## Methods

### Sample and Design

This study is based on an analysis of secondary data from the 2008 parents' version of the annual New York City Department of Education's Learning Environment Survey (LES). First implemented in 2007, the LES is the largest survey of its kind in the U.S. and asks all 1.5 million public school parents, teachers, and 6th- through 12th-grade students about a variety of topics related to the quality of their school experience (Nathanson et al., 2013). The units of analysis in this study are schools, in particular, middle and senior high schools. Those schools providing services primarily to special education youth or other alternative educational programming, for example, schools designed to transition youth from the juvenile justice system back into the general education program, were excluded from this study. School of special emphases, for example, magnet and charter schools, were included in the analysis only if they serviced middle and senior high school students and were not primarily serving a special education population. For the purposes of this study, only general education middle and senior high schools with parent response rates of 30% or higher were included. This response rate cut off was set in order to insure that each school had an adequate representation of their parents in the sample. Approximately 70% of the middle and senior high schools surveyed had parental response rates of 30% or higher.

Certainly, the use of a cutoff score like 30% raises the question of whether the "included" schools, that is, the schools with parental participation rates greater than or equal to 30%, differ from schools which have lower participation rates (i.e., the "excluded" schools). For two variables, the proportion of students receiving a free or reduced fee lunch and the proportion of students who were Black or Latino, both of which were available for the study sample and the population of schools from which the sample was drawn, negligible differences were found between the distributions of the included and excluded schools (details available upon request from the first author).

We have reason to believe that a response rate of approximately 30% is typical for a survey of this type. For example, The Fort Worth Independent School District's 2011–2012 Parent Survey report indicates a response rate of 28.3%, an actual decrease of three percentage points from the prior year's survey (Morrisey & Yuan, 2012). The Los Angeles Unified School District's average parent response rate in 2012 was only 18% (LAUSD, 2012).

### Endogenous Variables

Two areas of invitations for involvement were assessed by the survey: Participation and Communication Opportunities.

*Participation Opportunities*

All composite scores for the various subscales used in this study were created by the school district. Individual parent responses were not made available to the researchers. All composite scores were based on an average of the parents' responses for each school. Eight items were used to assess parents' perceptions of the extent to which, over the recent academic year, the school encouraged caregiver participation either by inviting them to a school function or by designing school activities in a manner that would facilitate caregiver participation. Some of the items asked about attitudes; others asked about the frequency of specific behaviors. Example items included: "My child's school makes it easy for parents to attend meetings by holding them at different times of day, providing an interpreter, or in other ways." and "I feel welcome in my child's school." Parents responded to items like this one using a rating scale that ranged from 0 "Strongly Disagree" to 10 "Strongly Agree." Items asking about frequency of specific behaviors included the following example: "How often during this school year have you been invited to a workshop, program, performance, or other event at your child's school?" Parents responded to items like this one using a rating scale that ranged from 0 "Never" to 10 "More than once a month." The average rating for the eight items was used to create the composite score for the subscale. The secondary data set available for analysis only contained the school-wide composite score of the measures. Higher composite scores indicated that parents at the school perceived that the school provided more opportunities for participation in school activities. Thus, the unit of analysis was the school, not individual parents.

*Communication Opportunities*

As was the case with the Participation Opportunity measure, individual items were not made available, and the unit of analysis was the school. The Communication Opportunities subscale on the survey measured a parent's perception of the extent to which the school provided opportunities for the parent to communicate with school personnel about their child's academic progress and behavior. This subscale consists of 10 items. Example items included: "The school keeps me informed about my child's academic progress." and "The school contacts me when my child breaks school rules." High scores indicated parents' agreement with the idea that the school provided information about its educational goals and offered appropriate feedback on each student's learning outcomes. Parents responded to items using a rating scale that ranged from 0 "Strongly Disagree" to 10 "Strongly Agree." The data set available for secondary analysis only contained the composite measures. Higher composite scores indicated that parents at the school perceived that the school provided more

opportunities for communication with parents about their children's progress in school.

### **Exogenous Variables**

#### *Student Race/Ethnicity*

For the purpose of this paper, student race/ethnicity has been operationalized as the proportion of each school which is Black and/or Latino.

#### *Student Socioeconomic Status*

School socioeconomic status (SES) is operationalized as the proportion of the students in each school receiving a free lunch.

#### *Enrollment*

Enrollment size (or enrollment) refers to the total number of students on a school's official roster. This variable is reported annually.

### **Mediator Variable: Safety and Respect**

The subscale Safety and Respect assessed parents' perceptions of the extent to which the school worked to develop a school environment focused on keeping individuals free from physical or emotional harm. Ten items made up this subscale on the parents' survey. Parents responded to the items using a ten-point rating scale. Example items included: "My child is safe at school," and "Discipline is fairly enforced." Parents responded to items like these using a rating scale that ranged from 0 "Strongly Disagree" to 10 "Strongly Agree." The school district recoded negatively worded items when appropriate (e.g., "School staff are disrespectful to students."). High scores indicated perceptions of a positive school climate. The data set available for secondary analysis only contained the composite of the measures; the average rating for the ten items was used to create the composite score for the subscale.

### **Analysis Strategy**

Descriptive analysis will be reported below. Figure 1 provides the conceptual model that will be estimated to evaluate the study's hypotheses. The path analysis model will be estimated using full-information maximum likelihood in Mplus 7.0. The bootstrapped-*t* method (Dang et al., 2011) will be used to estimate the significance of the indirect effects. Estimation of the statistical significance of the indirect effect using the bootstrapped-*t* method has been shown to be more robust than other methods, for example, the Sobel test (Sasser & Bierman, 2011).

## Results

### School Characteristics

Table 1 contains the descriptive statistics for the schools that participated in the study. A total of 545 (73%) of the 727 possible schools were included in the sample. Of the schools included, 42.7% were middle schools (grades 6–8), 9.7% were middle–senior high schools (grades 6–12), and 47.6% were senior high schools (grades 9–12). Approximately 30% of the total population that met the selection criteria for this study was excluded from the analysis because their response rates dropped below 30%. The middle-only schools declined by 40%, the middle–senior high schools declined by approximately 29%, and the senior high schools-only schools by approximately 18%. The schools ranged in size from new charter schools with enrollments under 50 to large, traditional high schools with enrollments above 4,900. Lastly, all five boroughs of New York City were represented in the sample in a manner that was not markedly different from the representation in the population.

Table 1. 2008 Survey Data: Sample Characteristics

	Percentages	
	Sample ( <i>N</i> = 545)	Total Population ( <i>N</i> = 747)
School Type		
Middle	42.7	49.7
Middle/Senior High	9.7	9.6
Senior High	47.6	40.7
Enrollment Size (total student enrollment)		
42–200	14.6	13.4
201–400	30.0	29.0
401–600	29.3	27.0
601–800	6.5	7.2
801–1000	6.5	6.6
1001–1200	4.9	4.7
1201+	8.2	12.0
Borough		
Bronx	27.4	26.8
Brooklyn	29.5	31.6
Queens	14.8	15.3
Manhattan	24.4	23.4
Staten Island	3.9	2.9

Table 2 contains the product moment correlation matrix along with the means and standard deviations for the study variables. There were approximately 2.5% of missing data. Following a set of procedures outlined by Mertler and Vannatta (2010), distributions of the variables were examined visually with boxplots and bivariate graphs, and a Kolmogorov-Smirnov test was carried out. With the exception of enrollment, there was no evidence of any serious violation of the normality or linearity assumptions. Following the recommendations of Mertler and Vannatta (2010), extreme outliers, variables with z-score greater than +3 or less than -3, were recoded to the highest values. School enrollment ranged from 42 to 4,944 with a mean of approximately 590. The natural log of the enrollment was taken to reduce skew. There were significant associations among enrollment and the other study variables. In all cases, higher enrollment was negatively associated with parents' perceptions of safety and respect, invitations for engagement, and communication. Also, there were positive associations among safety and respect, invitations for engagement, and communication.

Table 2. Variables Intercorrelations, Means, and Standard Deviations

Variables	1	2	3	4	5	6
1. Communication	---					
2. Participation	.09	---				
3. School Climate	.80	.80	---			
4. Enrollment	-.27	-.19	-.27	--		
5. Student Race	.26	.16	.02	-.31	--	
6. Socioeconomic Status	.17	.08	.05	-.22	.67	--
Mean (Standard Deviation)	7.74 (.53)	7.65 (.48)	8.32 (.55)	67.53 (71.94)	78.91 (26.13)	76.28 (18.25)

Note: All correlations were significant at the  $p < .01$  level.

### Study Hypotheses Results

H1: Enrollment size is directly related to parents' perception of the extent to which schools provide opportunities for communication between the school and parents.

H2: Enrollment size is directly related to parents' perceptions of the extent to which schools provide opportunities for parents to participate in school activities.

Hypotheses 1 (H1) and 2 (H2) state that enrollment size will be directly related to both the parents' perceptions of participation and communication

opportunities. These hypotheses were tested in the context of a “direct (total) effects only” path model (Figure 2) which also included percent Black/Latino and percent receiving a free school lunch as confounders. The direct effect of school enrollment on communication ( $\beta_{\text{enrollment size} \rightarrow \text{Communication}} = -.20, p < .05$ ) and on participation ( $\beta_{\text{enrollment size} \rightarrow \text{Participation}} = -.15, p < .05$ ) are, as expected, inversely and significantly related to both outcomes. In substantive terms, parents in larger schools report fewer opportunities for both communication and participation with the adults responsible for educating their children. Given that both direct effects are statistically significant, we move on to consider the role of school climate as a potential mediator of these direct effects.

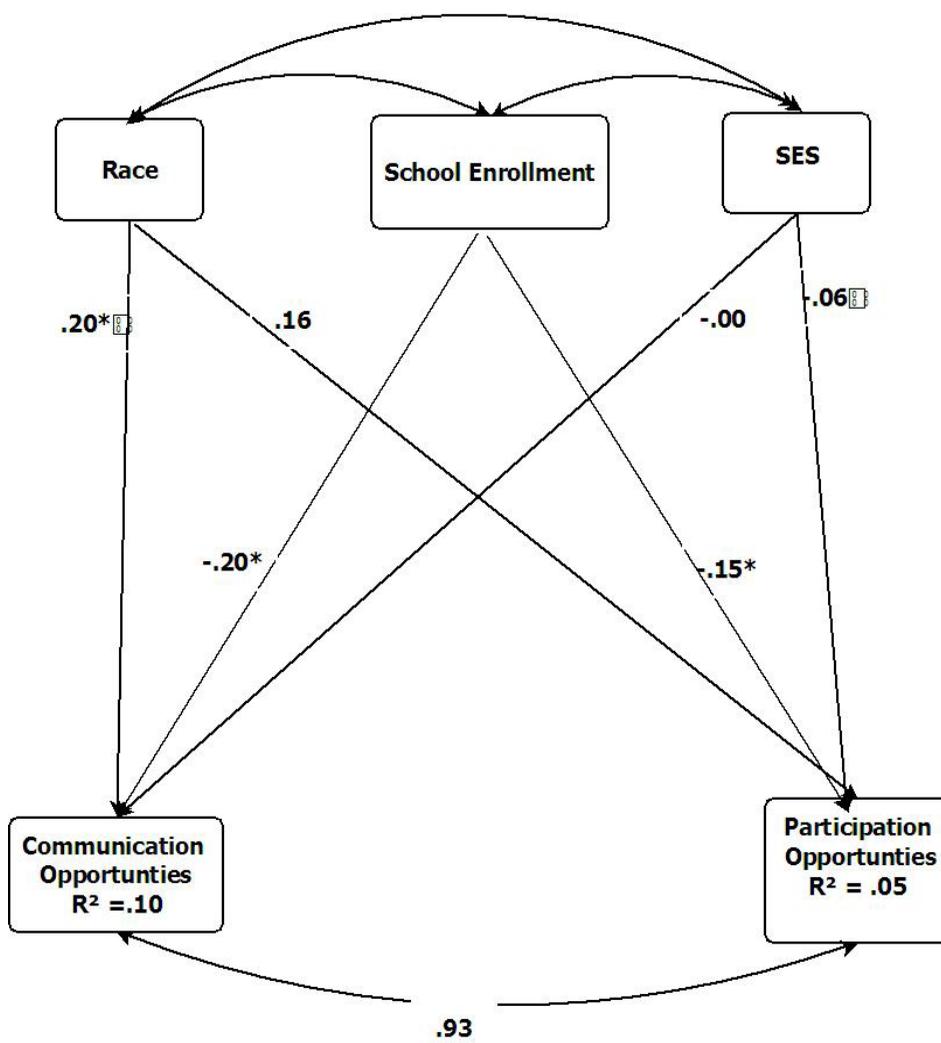


Figure 2. Direct Effects Model

H3: Safety and Respect is directly related to parents' perceptions of the extent to which schools provide opportunities for communication between the school and parents.

H4: Safety and Respect is directly related to parents' perceptions of the extent to which schools provide opportunities for parents to participate in school activities.

Parents' perceptions of the extent to which the school environment is both physically and emotionally safe for their children are, as hypothesized, positively associated with parents' perceptions of the opportunities the school provides for both communication and participation in the school ( $\beta_{\text{Safety \& Respect} \rightarrow \text{Communication}} = .80, p < .05$ ;  $\beta_{\text{Safety \& Respect} \rightarrow \text{Participation}} = .82, p < .05$ ).

H5: Safety and Respect mediates the relationship between enrollment size and parents' perceptions of the extent to which schools provide opportunities for communication between the school and parents.

H6: Safety and Respect mediates the relationship between enrollment size and parents' perceptions of the extent to which schools provide opportunities for parents to participate in school activities.

Hypotheses 5 and 6 are necessarily considered in the context of an augmented path model in which the presumptive mediator, Safety and Respect, is now included as an additional endogenous variable. As seen in Figure 3, and in marked contrast to their counterparts in Figure 2, the direct effect of school enrollment on communication ( $\beta_{\text{enrollment size} \rightarrow \text{Communication}} = .03, p > .05$ ) and the direct effect of school enrollment on participation ( $\beta_{\text{enrollment size} \rightarrow \text{Participation}} = .09, p < .05$ ) are noticeably smaller than the direct effects of school enrollment on communication and participation in the direct effects model and as shown in Figure 2 (i.e.,  $-.20, p < .05$  and  $-.15, p < .05$ ).

### Summary

There is evidence that the negative relationships between enrollment size, communication, and participation opportunities are mediated through a parent's perception of the extent to which the school environment is both physically and emotionally safe for the child. However, the extent to which this is the case varies by outcome. Specifically, the association between school enrollment (i.e., school size) on communication opportunities is completely mediated by safety and respect, whereas most, but not all, of the association of school size on participation opportunities is so mediated. That is to say, the association of school size on participation is partially mediated by school size. For both outcome variables, the mediated effect was larger than the direct effect, especially the indirect effect of school size on communication opportunities. (IE =  $-.21, .95$  CI

(-.30, -.13) is the product of the direct effect of school size on school climate ( $\beta = -.267, p < .05$ ) and the direct effect of school climate on communication opportunities ( $\beta = .80, p < .05$ ). With regard to participation opportunities, the indirect effect (IE = -.22, .95 CI (-.31, -.13) is the product of the direct effect of school size on school climate ( $\beta = -.267, p < .05$ ) and the direct effect of school climate on participation opportunities ( $\beta = .82, p < .05$ ).

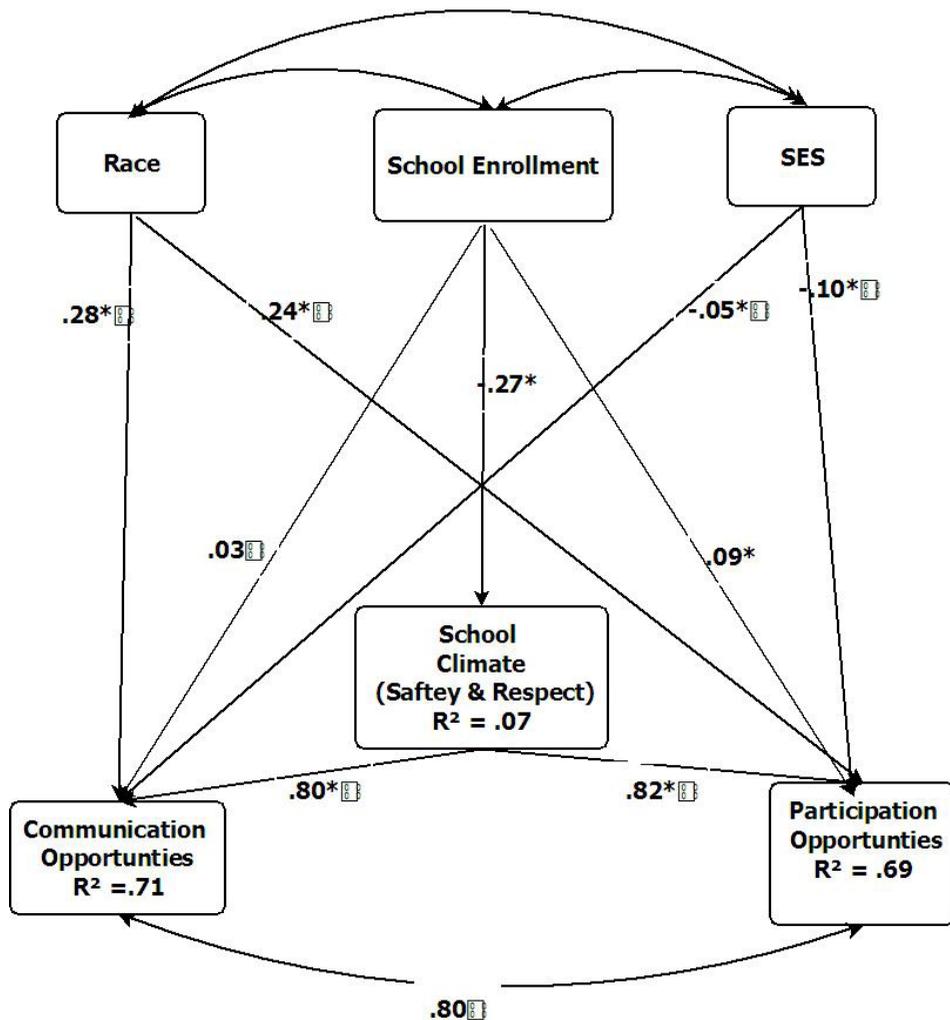


Figure 3. Path Model Direct and Indirect Effects

## Discussion

Maximizing parental participation in the school community is a critical objective of various school reform initiatives. This study represents an initial attempt to test the role of school climate as a mechanism which may facilitate parental perceptions of the opportunities provided by the school for parental participation. Smaller schools have been found to be more effective in providing opportunities for parental participation than larger schools (Walsh, 2010). For example, smaller schools, precisely because they are smaller, have been able to emphasize relationships among their stakeholders, for example, prioritizing school–parent relationships, which in turn promote parental participation and ultimately enhance academic achievement.

This investigation has identified the importance of two aspects of school climate, specifically, the safety which characterizes the school environment and the respect shown by the members of the school community to one another. We argue that school climate is an important “conduit” potentially influencing the effect of school size on both communication and participation opportunities for parents. We have tested this claim by developing a path analysis model which empirically evaluates whether and, if so, to what extent, data collected from the parents in the largest school system in the United States can be said to support this claim. Our findings indicate that schools of different sizes report corresponding differences in the safety and respect which can be said to characterize them. These safety and respect differences, in turn, seem to affect the levels of parental engagement in these schools. In more substantive terms, our findings indicate that larger schools are generally characterized by less safety and less respect, and this type of school climate suppresses the level of communication and opportunities for involvement as perceived by parents of students in these schools.

Needless to state, this is not a welcome state of affairs. It would be useful and important to identify factors in the school environment which might buffer or mitigate the negative impact of school size on school involvement transmitted via the climate of unease that often characterizes our larger schools. Identifying these potential moderators of this indirect effect of school size on parental involvement would seem to be the logical next step. In addition, there are almost certainly other mediators of the causal process by which school size affects school involvement.

Aside from the identification of additional factors which would enhance our ability to better explain parental involvement, we also recognize that we have estimated an aggregate model, that is, a model in which the unit of analysis is the school; therefore, our conclusions can only be said to characterize

schools per se. This type of model, while appropriate for this purpose (i.e., characterizing schools), eliminates the individual variability among the parents in these schools.

It would be a useful complement to this study to be able to test our model using the individual parents as the units of analysis. Finally, it should be understood that explaining parental involvement is really an intermediate step toward developing a more comprehensive understanding of how school size affects academic achievement, the ultimate purpose for which schools exist.

## **Limitations**

While the findings indicate evidence of school climate serving as a mediator of parents' communication and participation, several limitations exist within the study. These constraints include making use of secondary data sources, relying on a self-selected group of respondents, possible socially desirable responding, reliance on the subjective perceptions of the conditions in the schools rather than on objective measurements of them, and, perhaps most importantly, using correlational data to draw "causal" inferences. In addition, it should be understood that the units of analysis are schools, not the individual parents whose children attend these schools. That is to say, the analyses are analyses of the perceptions of these parents aggregated to the school level.

Mahoe (2004) describes some of the disadvantages of using secondary data. She cautions that one major disadvantage of using secondary data sets is a lack of access to the instruments used to originally collect data. Frequently, the researchers did not design these instruments, and their original intent may have been to achieve different goals (Cowton, 1998; Mahoe, 2004). In addition, Dunismuir and Williams (1990) suggested that the biases and potential inaccuracies are impossible to check. A question of note in the literature arises around whether or not data can be separated from the mechanisms of data collection and the context in which the data were collected (Cowton, 1998; Dunsmuir & Williams, 1990).

The survey data that the authors utilized comprises the responses of over 1.5 million parents and students. It is likely that several groups of parents are either underrepresented or not reflected at all in the results. For example, a parent experiencing disenfranchisement with the school system or conflicts with their child's school will likely not have completed a survey on behalf of the Department of Education. Similarly, parents who are new to the country or for whom English is not their primary language may not have participated in the survey due to perceived cultural biases or inhibitors. Even among those schools whose parents did elect to participate in the survey, 30% were excluded from the

study sample because their response rates were below 30%. However, it should be noted that the discrepancies between the study sample and the population of schools is fairly minimal, at least with regard to the variables available for inclusion in this comparison.

In addition, the possibility of socially desirable responding should be acknowledged to the extent that parents are “invested” in seeing their children’s schools as more than adequate for the purpose of educating them. In a related vein, the study relies upon the parents’ subjective perceptions of the availability of opportunities for communication and participation, whether or not they are affected by socially desirable responding. These should not be confused with or for objective measurements of these same opportunities. Still, it may well be the case that the parents’ subjective perceptions of opportunities for communication and participation are no less relevant or “real,” at least to them, than objective measurements of these same phenomena.

Finally, and perhaps most importantly, the correlational, cross-sectional design of the Department of Education’s Learning Environment Surveys limit the explanatory power of the findings reported herein. It should be clearly understood that observational studies do not and cannot provide a rigorous evaluation of causal claims. Only a true experimental design can provide the imprimatur for such claims.

### **Areas of Future Inquiry**

One of the claims of the small schools movement is that small school environments lead to increased academic achievement outcomes, a more positive school climate, and decreased incidents of suspension and expulsion. Further testing of the models described in this paper will include the addition of academic achievement indicators such as attendance rates, standardized test performance including middle grade state exams and high school level Regents exams, as well as suspension rates. If the small school proponents are to be believed, then we would expect to see the positive indirect effect of school climate on academic achievement indicators.

Also bearing investigation are the individual demographic factors that may impact how parents, guardians, and students experience school climate, engagement, and communication. Many scholars have documented the achievement gap that exists between children of color and White youth. Latino and African American children are far more likely to experience school failure than are White children. Analysis of desegregated data of the National Assessment of Educational Performance (Campbell, Reese, O’Sullivan, & Dossey, 1996; Ladson-Billings, 2006; Lubienski, 2002) illustrate the large gap between the

performance of White children and their Latino and African American counterparts (Campbell et al., 1996). There is a strong possibility that families with children of color may experience home–school communication, school climate, and opportunities for participation differently than White families.

## Conclusion

School reform movements in major urban areas nationwide have invested millions of dollars to try and implement new policies, create new schools, and reconfigure existing schools in the service of increasing the academic achievement of young people. One essential element that has been found to enhance academic performance is parent involvement. This study's models suggest that school climate and the dimensions of perceived safety and respect are important conditions for parents to actualize their invitations to participate in the school community and to maximize communication opportunities. With a national wave of policymaking focusing on the creation of and benefits imparted by smaller schools, it is more important than ever to understand the impacts of enrollment on a school's climate and culture and how those create more engaging environments for students and their families. While brick and mortar issues such as the sizes and shapes of existing structures may lend themselves to creative rearrangements, small schools, academies, and houses within larger schools and other configurations of learning environments have become a fixed part of the public education landscape. Policymakers and practitioners must partner with researchers to understand the impacts of these new learning environments on students' academic performance and on family engagement. This article is a beginning attempt to understand the role of school size, school climate, and parents perceptions of invitations to participate in their children's education.

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