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Active Parental Consent in School-Based Research

How Much Is Enough and How Do We Get It?

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Active parental consent policies have been blamed for low participation rates and selection bias (i.e., loss of "high-risk" youths) in school-based studies. In this article, the authors describe active consent procedures that produced an overall active consent rate of 79% in a sample of more than 4,500 middle school students attending 29 schools in seven cities across the United States. Consent rates, however, varied considerably both within and between schools. To better understand factors associated with active parental consent rates, the authors examined district-level, school-level, and teacher-specific effects on consent rates.

Keywords: *active consent, parental consent, return rates, survey methods, school-based research*

Evaluators and researchers working in school-based settings, though benefiting from the "captive audience" of student subjects, nonetheless face the same reality confronted by all researchers; it is unlikely that all members of the targeted population will participate in the research project, thereby introducing some degree of bias. Nonparticipation in research is omnipresent, and one goal of the researcher is to reduce sample loss. Initial loss rates include those selected individuals who cannot be located as well as those who refuse to participate. With research involving minors, including school-based studies, researchers are typically confronted with the added layer of human subjects protection associated with acquiring active parental consent[1] for youths' participation, which can increase initial loss rates. In this article, we explore factors associated with varying levels of active consent obtained in a multisite study of a school-based prevention program.

Federal regulations require active parental consent for minors participating in research whenever the research involves greater than "minimal risk" (U.S. Department of Health and Human Services 1991). This standard of minimal risk includes collection of data about illegal activities or research that allows the linkage of respondents by name or code. Thus, active consent is required in evaluations involving assessments of prevention programs targeting such "risky behaviors" as drug use, violence, and/or gang membership. Furthermore, research designs that include assessing individual change over time (i.e., panel designs) also require parental consent for minors' participation. Our review of the relevant literature will assess (a) the impact of active consent on participation rates, (b) potential differential attrition associated with active parental consent, and (c) strategies that enhance participation rates.

Consequences of Active Parental Consent on Participation Rates

A number of studies have explored the effects of active parental consent requirements on participation rates. In situations when active consent is not required or in instances in which passive parental consent is possible, nonparticipation by youths is virtually nonexistent. An early study by Lueptow and colleagues (1977) contrasted response rates between a 1964 study and a subsequent 1975 replication. In 1964, the study was presented to students as a school requirement (not requiring parental approval) by the

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administration and resulted in participation by "virtually 100% of the students in these schools" (Lueptow et al. 1977, 183). The replication study, however, needed to abide by the human subjects protections established by the Department of Health, Education, and Welfare in 1974 and amended in 1975 (45 C.F.R. part 46) requiring "informed consent" from subjects. Of the 4,470 graduating seniors recruited for the 1975 study, only 42.4% of the minor students (those younger than 18 years of age) returned parental permission forms, whereas 69.7% of the "adult" students (i.e., older than the age of 18 and therefore not requiring parental approval) participated. These findings did not bode well for research requiring active consent.

Since that study, a number of other researchers have reported the deleterious effect of active parental consent procedures on response rates. Passive consent procedures generally produce participation rates greater than 80%, with nonparticipation caused largely by absenteeism rather than by parental or student refusal (e.g., Ellickson and Hawes 1989; Esbensen et al. 1996; Kearney et al. 1983; Lueptow et al. 1977; McBride et al. 1995; McMorris et al. 2004; Severson and Biglan 1989; Weeks et al. 1995). Using passive consent rates as a standard, the active consent literature of the 1980s and 1990s posited an overall pessimistic view in terms of its effect on participation rates, maintaining that this requirement of active parental consent negatively impacted study participation rates. Representative of this perspective is the summary statement by Esbensen and colleagues (1996, 740): "Written (active) parental consent has been found to reduce overall participation rates, generally to a range of 40% to 67%." In a relatively recent study, for example, Eaton and colleagues (2004) contrasted participation rates in schools approving passive parental consent with schools requiring active parental consent. Under passive consent conditions, 86% of the schools reported a participation rate of 85% or greater compared to only 34% of the active consent schools. Thus, although there is evidence that high participation rates can be achieved under active consent conditions, it appears to remain an elusive task.

In contrast to the gloomy picture of the 1990s, the recent past has produced a more promising picture of active consent results in school-based research (e.g., Eaton et al. 2004; Ji et al. 2004; McMorris et al. 2004; Pokorny et al. 2001; Unger et al. 2004). McMorris and colleagues (2004, 79), for instance, claimed "relatively high consent and participation rates can be achieved by using active consent procedures." In their study involving 46 schools, they attained a return rate of 75%, with a consent rate of 66%. Differences, however, were noted depending on the methodology employed to obtain consent (a point to which we return later); in the student-delivered method (that is, consent forms were sent home with and returned by students), the return rate was almost 90% and the average consent rate was almost 78%. These rates were considerably better than those achieved through a postal method that resulted in 58% and 52% return and active consent rates, respectively. In two other recent studies, the investigators report rates exceeding those reported by McMorris and colleagues; Unger and associates (2004) attained a rate of 76%, with 9% refusal (15% failed to return a form), and Eaton et al. (2004) reported student consent rates of 77% under active consent conditions compared to 87% in schools approving passive consent procedures.[2]

At this juncture, it is reasonable to conclude that lower participation rates, albeit not as low as initially argued, are associated with studies requiring active parental consent compared with studies permitting passive parental consent. This lower participation rate begs the question of its effect on sample generalizability.

Differential Loss Associated With Active Parental Consent

With the requirement of active parental consent as a condition for conducting most types of research in school settings, researchers have lamented this situation by citing research findings that active consent procedures negatively affect subject recruitment (e.g., Biglan et al. 1987; Donovan, Jessor, and Costa 1988; Ellickson and Hawes 1989; Esbensen et al. 1996, 1999; Ji et al. 2004; Lueptow et al. 1977; Murray et al. 1987; Severson and Biglan 1989). In addition to the effect on participation rates just discussed, another key issue associated with low participation rates is sample representativeness with respect to both demographic and behavioral characteristics.

Prior research has reported that students who return written parental permission, relative to students either not returning consent forms or with parental refusals, are more likely to be female, to live in two-parent families, and to have parents with higher educational attainment and are less likely to be from racial or ethnic minority backgrounds (e.g., Anderman et al. 1995; Dent et al. 1993; Esbensen et al. 1999; Kearney et al. 1983; Pokorny et al. 2001). Perhaps more important, it is not only with respect to demographic characteristics that active consent participants appear to differ from nonparticipants; they also differ on reports of involvement in risky behaviors. This is especially significant for evaluations of prevention programs: Studies requiring active parental consent are less likely to recruit those students most at risk or already involved in the targeted risky behaviors. That is, students excluded by lack of parental permission are more likely to engage in a variety of risky behaviors, including tobacco use, drug use, marijuana use, and delinquent activity (e.g., Anderman et al. 1995; Dent et al. 1993; Esbensen et al. 1999). Such forms of sample bias have important implications for analyses and findings concerning program effects (Berk 2004).

In contrast to these works, however, Eaton and colleagues (2004) have challenged the findings of differential participation attributable to active consent requirements. In their study of more than 13,000 high school students attending 150 schools, they "found significant differences in risk behaviors by type of permission for only 2 of 26 items tested" (Eaton et al. 2004, 570). Furthermore, they also failed to find any differences in the demographic composition (i.e., sex, race, and grade level in school) of their active and passive parental consent samples. The fact that participation rates in most of the schools in the Eaton et al. (2004) study exceeded 70% is posited as a possible explanation for the differences in their findings from those of the earlier works. This lack of differential loss of students in the Eaton et al. study suggests that participation rates in excess of 70% may reduce the probability of selection bias.

Passive parental consent rates, as already stated, generally produce participation rates greater than 80%. Active parental consent rates have historically produced participation rates considerably lower than 70%, although recent publications cite slightly higher rates. The question remains: What rate of participation is both desirable and attainable? In their seminal work on active consent, Lueptow and colleagues (1977) concluded:

> Even though these data do not provide accurate prediction of bias from response rate, they do provide some support for Babbie's (1973, 165) rule of thumb that a response rate of 70% is "very good" for analysis and for the Sewell and Hauser (1975) conclusion that about 80% response rate is necessary to insure low bias. (198)

These suggestions, therefore, set the standard to which researchers engaged in research with minors should strive: a minimum participation rate of 70%. Although the earlier active consent studies generally failed to achieve this standard, several recent studies reviewed above suggest that this is indeed an achievable goal; for example, Eaton et al. (2004) reported 77% active consent and Unger et al. (2004) reported 76%. In the next section, we detail a variety of approaches that have been used and their associated levels of success at achieving high rates of parental consent.

Strategies Associated With Successful Active Consent Efforts

A number of approaches to increase consent rates have been reported in the literature, including sending forms to parents through the U.S. mail, relying on students to bring forms home and to return them, attaching permission slips to school forms requiring parental signatures (i.e., report cards or activity permission slips), obtaining support from school administrators and/or teachers, making follow-up telephone calls, attending parent/teacher conferences, recruiting teachers to assist in the collection process, providing incentives to teachers and students, and providing incentives to classrooms and schools (e.g., Eaton et al. 2004; Ellickson and Hawes 1989; Esbensen et al. 1996, 1999; Ji et al. 2004; McMorris et al. 2004; Pokorny et al. 2001; Unger et al. 2004). All of these strategies clearly involve more effort than passive consent procedures that often are limited to sending forms home with students or one-time mailings to parents.

Some of the strategies rely largely on research staff time and effort, whereas others incorporate real financial costs (i.e., incentives to students and/or teachers). The relative cost of staff time versus incentives, however, should be considered. Ji and colleagues (2004), for example, experimented with various methods for obtaining active consent and found the most effective strategy (in terms of return rates) was "attaching the parent consent form to a school form that parents had to sign and return to the school" (Ji et al. 2004, 581). Although this approach produced a consent return rate of 68% (82% for middle schools and 57% for high schools), the active consent process required 9 months, from July 2001 through March 2002. Porkorny and colleagues (2001) also report favorable return rates when consent forms were attached to report cards that required parental signatures. In this latter instance, researchers were required to wait for a reporting period to collect consent forms, a luxury that some program evaluations will not allow, as pretest measures need to be collected prior to program delivery.

To achieve the targeted consent rate of 70%, several researchers report using a combination of strategies, including allocating several weeks to the process, attaching consent forms to official school forms requiring parental signatures, and providing incentives to teachers and students. One study, for instance, devoted 4 weeks of regular visits to the 24 participating Los Angeles area schools to collect consent forms and to distribute duplicate forms to those students who had not yet returned the forms (Unger et al. 2004). In addition, teachers received a $25 gift certificate and students received a "goody bag" (containing pencils and stickers) on return of a consent form (producing an active consent rate of 76%).

Such methods, however, often come with a hefty price tag—in terms of both time and money. Ellickson and Hawes (1989), in their pilot study assessing the strategies and costs associated with obtaining active consent, employed multiple follow-ups in a single school (including telephone calls, special parent meetings, and daily contact with teachers) that ultimately produced an 86% consent rate. Ellickson and Hawes (1989, 49) estimated that achieving this rate for a large study (similar to the one for which this pilot was conducted) of 7,500 students enrolled in multiple schools would cost $112,500 and require 20 interviewers for 3 to 4 weeks. It is worth noting that the estimated cost would be substantially greater today because of adjustment for inflation during the past 20 years. In another study, Esbensen and colleagues (1999) estimated the cost of obtaining their 57% active parental consent in their six-city study including 22 schools to be $50,000, requiring 6 months of effort.

Clearly, the cost and effort associated with reducing sample bias introduced through active consent procedures has called for creative solutions or strategies, as researchers must balance the costs of staff time and effort with costs associated with use of incentives while considering length of time that can be allowed for the active consent process, given other constraints. Two questions arise: What is necessary to increase active parental consent rates to approximate those achieved under passive consent procedures in a cost-effective and temporally expedient manner? Second, how do these procedures affect sample bias at the district, school, classroom, and/or teacher levels? The present study examines these issues using information from an ongoing, multisite evaluation of a school-based gang and violence prevention program.

Current Study

One of our goals in this current study was to achieve an active consent rate that would reduce the probability of selection bias and do so in a timely manner. Because of the need to obtain baseline data from students prior to program delivery, we were not in a position to implement a lengthy consent process.[3] We could not wait 9 months (as reported by Ji et al. 2004) or even 4 weeks (reported by Ellickson and Hawes 1989) for the active consent process to be completed. As such, we developed a multipronged strategy that we believed would produce a participation rate well in excess of 70% and one commensurate with the participation rates attained by large-scale general household surveys such as the National Youth Survey (Elliott et al. 1985) and the Denver Youth Survey (Huizinga et al. 1995)—that is, an active consent rate of at least 75%. Strategies for achieving this level included working closely with the schools, providing incentives for both students and teachers, providing additional incentives for each classroom, and having regular contact with the teachers recruited to collect the returned permission slips (this process is described in detail in the Method section of this article). A similar procedure produced a return rate of 86% and a parental permission rate of 72% in another multisite school-based evaluation conducted by the research team.[4]

In spite of recent reports of relatively high active consent rates, differences between and within schools persist. As cited in the preceding literature review, the same active consent procedures implemented in different schools produced quite varied rates of participation. These differences in active consent rates by school beg the question: What school-level factors are associated with differential consent rates? Although prior research focused on characteristics of the students and/or parents, our focus in this research is on macro-level variables. That is, we will examine differential consent rates by (a) city- and/or district-level characteristics (district size, student–teacher ratio, race/ethnicity, percentage of students on free and reduced lunch), (b) school-level characteristics (school size, student–teacher ratio, race/ethnicity, Title I status, percentage of students on free and reduced lunch), and (c) teacher- and classroom-level attributes (teacher "buy-in" and experimental condition).

Method

This multisite evaluation of the Gang Resistance Education and Training (GREAT) program, a school-based gang and violence prevention program, includes data from seven cities, 29 schools, 186 classrooms, and 4,653 students during the 2006–2007 school year. Site selection was driven by the presence of the GREAT program and willingness of the police departments and school districts to agree to the evaluation design. The seven cities were selected to represent geographical and population diversity of the United States and also take into consideration the volume of gang crime[5] in the cities. Agreements to participate were obtained from all seven of the law enforcement agencies contacted as well as the school districts. Within each district, schools were purposely selected from among those offering the program, with the added objective of selecting schools that would reflect district characteristics.

Once district approval was obtained, the targeted schools were contacted. In two instances, the principals declined to participate.[6] These schools were then replaced with a comparable school in the district.[7] This produced a final sample of 29 schools and 186 classrooms. School configuration varied somewhat, with 19 schools in traditional middle school organization with Grades 6 through 8, 6 had Grades 5 through 8 (4 in one district and 2 in two other districts), and 4 schools (all in one district) were organized as kindergarten through eighth grade. Sixth-grade students were included from 24 schools; seventh-grade students comprised the sample from the remaining 5 schools.[8]

Once school principals agreed to participate, in-person meetings were held with principals and, when possible, with teachers and officers. These meetings informed the school and law enforcement personnel about the overall evaluation and specifics for their schools, including the active consent process and subsequent student surveys.

The active consent process involved asking classroom teachers to assist in the collection of consent forms. They were informed that we would provide them with copies of a letter to parents and with active consent forms. These forms and letters were to be distributed to students and their return recorded on class rosters. This documentation allowed for follow-up forms to be sent home with students who failed to return the initial form. Teachers were notified that they would receive $2 compensation for each form collected regardless of whether permission was granted or denied. In addition, for each classroom, there was an incentive for teachers based on classroom-level return rates: The teachers would receive a $10 bonus if 70% or more of students returned consent forms, $20 if the class reached 80% or more, and $30 if 90% or more of the students in the classroom returned a form. Clearly, for teachers with multiple classrooms participating in the evaluation, this compensation arrangement could prove quite lucrative. In three cities, the school districts would not allow direct compensation to teachers, but in those cities, we were allowed to provide compensation to the school or district in the teachers' honor. In addition to compensating teachers, students were also provided with an incentive—a small portable FM radio with headphones (cost of approximately $3 wholesale). This strategy of compensating teachers and students, although costly, is to be recommended because it rewards teachers and students for their cooperation and allows the active consent process to be completed in a relatively short time frame. The direct cost of the teacher incentives was $12,894 and the cost of the 4,750 radios was $14,250, for a total of $27,144. This translates into a cost of approximately $3,878 per city, $936 per school, $146 per classroom, and

$7.39 per active consent participant. In addition to these incentives, teachers were contacted on a regular basis—in most instances, daily—to monitor return rates. In most schools, this consent process was completed in less than 2 weeks and, in several instances, in just 3 days.

Three important and consequential components of this evaluation design made the task of active parental consent even more challenging: (a) the design called for a randomized field trial, (b) a panel design with six waves of data collection that allows for examination of within individual change across time required parental approval of student participation for 5 years, and (c) the seven-city location included schools in seven different states representing all geographical regions of the country (i.e., the Northeast, Southeast, Midwest, South, Southwest, Rocky Mountains, and West Coast). Thus, parents had to be willing to agree to the random assignment of classrooms to treatment or control conditions and to their child(ren)'s participation in the evaluation for 5 years. The multisite nature of the study also required additional logistic and economic considerations.

Confronted with these challenges in implementing this multifaceted strategy, how successful were we in reaching our goal of a 75% active consent rate? Did these strategies produce consistent results across jurisdictions and within schools in the various districts? Are there identifiable district-, school-, or classroom-level factors that are associated with consent rates? And, is it the case that some teachers simply elicit higher return and consent rates than others (i.e., is the researcher at the mercy of teachers)? These are among the questions and issues that we examine in the subsequent analyses.

Results

The time and resources devoted to collecting active parental consent across study sites, outlined previously, were quite extensive. These efforts yielded an overall return rate of 90%, with 79% active consent and 11% of students' parents actively refusing their child's participation (see Table 1). Approximately 10% of students, therefore, failed to return parental consent forms, also eliminating them from participation in our research efforts.

Although our overall active consent rate is quite high compared to many published reports on active consent, there appears to be a sizable degree of variation in active consent across districts, schools, and classrooms. At the district (city) level, consent rates ranged from a low of 67% in City 6 to a high of 86% in City 3.[9] Parental refusal rates also varied among the cities, with 7% refusals in City 4 and 14% in City 1. To better understand the variation in

Table 1
City-Level Descriptives: National Evaluation of GREAT

	City							Sample	
Variable	1	2	3	4	5	6	7	Total	
Sample population	781	623	712	703	700	682	452	4,653	
Return rate									
Active consent (%)	76	78	86	83	84	67	78	79	
Parental refusal (%)	14	11	12	7	10	11	9	11	
No return (%)	10	11	2	10	6	22	13	10	
								Sample	
District characteristics								*M*	*SD*
Total no. of schools in district	157	105	73	31	130	273	634	200.4	205.8
Total district enrollment	93,341	47,649	56,236	17,978	72,807	187,547	426,812	128,910	141,884.6
Students eligible for free/reduced lunch (%)	49	45	45	49	64	80	85	60	17.0
English language learners (%)	15	13	22	23	10	NA	14	16	5.2
Student–teacher ratio	15	18	16	17	15	19	17	17	1.5
White students (%)	36	58	37	47	NA	14	9	34	17.4
Black students (%)	4	16	19	1	NA	66	50	29	25.1
Hispanic students (%)	52	13	37	50	NA	15	38	31	17.6
“Other” students (%)	8	13	7	2	NA	5	3	6	3.9

NOTE: NA = not available (The school district does not report this information).

consent rates, we further examined the extent of variation in consent rates at three separate levels of analysis: district, school, and classroom.

District-Level Descriptive Analyses

Table 1 presents district-level[10] characteristics for each of the seven school districts (one per city) included in the evaluation. Together, these measures demonstrate the diversity of cities included in the sample. For example, total student enrollment across districts ranged from a low of 17,978 students (a small Rocky Mountain city with a population of approximately 100,000) to a high of 426,812 students (a large Midwestern city with more than 1,000,000 inhabitants). At the district level, income levels also varied considerably, as students eligible for free and reduced-priced lunch ranged from 45 (a West coast city with a population of approximately 500,000 and a southern city located adjacent to a large metropolitan area) to 85% (a large Midwestern city), with a mean of approximately 60%. The races and ethnicities of the students enrolled in schools across these seven districts were also quite diverse, with minority students comprising two thirds of all students across these districts.

Examination of scatterplots revealed potentially substantive relationships between student–teacher ratio, percentage of free or reduced lunches, and active consent rates.[11] To better understand the magnitude of the relationship between the student–teacher ratio, percentage of free or reduced lunches, and consent rates, we conducted weighted least squares (WLS) regression analyses.[12] Results, shown in Table 2, Panel A, indicate that a 1-unit increase in the student–teacher ratio (i.e., one additional student per teacher) was related to a 2% decrease in active consent rates across study districts, controlling for the percentage of free and reduced lunches. The relationship between the percentage of free and reduced lunches and active consent was not as substantial; a 10% increase in the percentage of free and reduced lunches lunch was associated with a 1% decrease in active consent rates, holding the student–teacher ratio constant.

WLS analyses were also conducted with "no return" rates as the dependent variable. Results, shown in Table 2, Panel B, are similar to those found for active consent rates. That is, a 1-unit increase in the student–teacher ratio was associated with a 3% increase in the percentage of students failing to return parental permission forms, controlling for the percentage of free and reduced lunches. Free or reduced lunches, as was the case for active consent rates, displays a weak relationship with no return rates, with

Table 2
District-Level Weighted Least Squares Regression

	A Active Consent Rates		B Nonresponse Rates	
Variables	*B*	*SE*	*B*	*SE*
Student–teacher ratio	–0.024	0.015	0.027	0.011
Percentage of free and reduced lunch	–0.001	0.001	0.001	0.001
R^2	0.566		0.780	

a 10% increase in free or reduced lunches associated with a 1% increase in nonreturn rates.

To put these findings in perspective, we calculated how these findings would have affected our return rates given the diversity in sample characteristics across study districts. For example, given our range in student–teacher ratio, from a low of 15 to 1 to a high of 19 to 1, we would expect an 8% difference in active consent rates between schools with these student–teacher ratios (see Table 3). By calculating the expected active consent rate based on our observed active consent rate across sites, given that a 1-unit increase in student–teacher ratio is associated with a 2% decrease in active consent rates, we can calculate expected active consent rates based on both our best and worst case scenario in our study sample. If all study sites had a student–teacher ratio equal to 15 to 1, our lowest student–teacher ratio across sites, we would expect a 3% increase in total active consent rates (82% overall). Conversely, if all of our study sites had a student–teacher ratio of 19 to 1, our highest student–teacher ratio across sites, we would expect a 5% decrease in active consent rates (74% overall). Again, although the low total number of cities included in the sample precludes one from drawing firm conclusions, indicators of the district-wide income level (i.e., percentage of students eligible for free and reduced lunches) and student–teacher ratio are factors that may be related to active consent rates and warrant further examination in studies including a larger sample of school districts.

School-Level Analyses

School-level characteristics of the 29 participating schools reflect a diverse representation of schools. As was the case with the range of cities included in the study (and as was intended in site and school selection), the schools varied considerably with regard to school size, income level,

Table 3
District-Level Expected Consent Rates Based on WLS Regression

City Number	Observed AC Rate	Observed S–T Ratio	Expected If All = 15	AC Rate[a] If All = 19	Observed % FRL	Expected If All = 45	AC Rate[b] If All = 85
1	0.76	15	0.76	0.68	49	0.76	0.72
2	0.78	18	0.84	0.76	45	0.78	0.74
3	0.86	16	0.88	0.80	45	0.86	0.82
4	0.83	17	0.87	0.79	49	0.83	0.79
5	0.84	15	0.84	0.76	64	0.86	0.82
6	0.67	19	0.75	0.67	80	0.71	0.67
7	0.78	17	0.82	0.74	85	0.82	0.78
Total sample mean	0.79	17	0.82	0.74	60	0.80	0.76
% change			(+3%)	(–5%)		(+1%)	(–3%)

Note: WLS = weighted least squares. "All" refers to the fact that we are calculating expected return rates if all student–teacher (S–T) ratios were 15 and 19, respectively; so if all schools were to have an S–T ratio equal to 15, *x* is the expected return rate.
a. A 1-unit increase in S–T ratio is associated with a 2% decrease in active consent (AC) rates.
b. A 10% increase in percentage of students eligible for free and reduced lunch (% FRL) is associated with a 1% decrease in AC rates.

student–teacher ratio, and student composition with respect to race/ethnicity (see Table 4). The average school population in our sample was 836 students, with schools ranging in enrollment figures from 473 to a high of 1,796 students. At the school level, we include two measures of income: the percentage of free and reduced lunches and Title I status. Title I is a formula grant program offered through the U.S. Department of Education that seeks to improve the functioning and quality of education in schools serving a high number or high percentage of poor students by providing additional funding through local education agencies (United States Department of Education 1965). This classification is based primarily on census poverty statistics and educational costs in each state. Our sample of schools includes 20 Title-I-eligible schools and 9 non-Title-I-eligible schools. The percentage of students in each school eligible for free and reduced lunch ranged from 23% to 96%, with an overall average of 64%. The student–teacher ratio ranged from a low of 13.1 to a high of 21.5 students per teacher, with a mean of 17.5 students per teacher across schools.

At the school level, the racial and ethnic composition of the student body from which we draw our sample is quite diverse (see Table 4). Just more

Table 4
School-Level Descriptive Variables: National Evaluation of GREAT

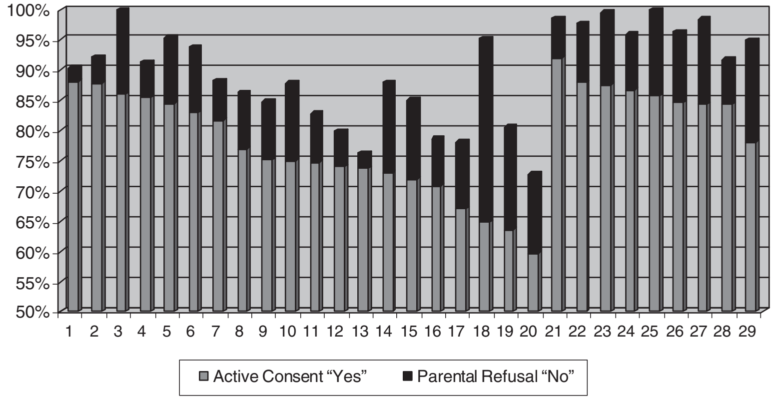
Variable	*M*	*SD*	Minimum	Maximum
% free and reduced lunch[a]	0.64	0.23	0.23	0.96
Title I status	0.69	0.47	0.00	1.00
Total school population	836.34	287.40	473.00	1796.00
Student–teacher ratio	17.51	2.19	13.10	21.50
% White[a]	0.34	0.21	0.00	0.81
% Black[a]	0.17	0.23	0.01	0.99
% Hispanic[a]	0.42	0.27	0.01	0.93
% Other race/ethnicity[a]	0.07	0.06	0.00	0.19
Return rate				
Active consent "yes"	0.79	0.09	0.60	0.92
Parental refusal "no"	0.11	0.05	0.02	0.30
No return	0.10	0.08	0.00	0.27

Note: $n = 29$. GREAT = Gang Resistance Education and Training.
a. One school district does not report percentage free and reduced lunch and statistics pertaining to the race/ethnicity of their students.

than one third of the students attending these schools are White (34%), with Hispanic and African American students representing 42 and 17% of the population, respectively. The level of diversity within each school, however, varies considerably. For instance, our sample contains racially/ethnically homogenous schools, such as one school with a substantial majority of White students (81%), a school with nearly all African American students (99%), and a school with nearly all Hispanic students (93%). Conversely, we have a number of schools with a high degree of within-school diversity, such as a school with 35% White students, 21% Black students, 29% Hispanic students, and 15% of students from other races/ethnicities. In all, the racial/ethnic composition of the schools included in our sample is quite diverse, with schools ranging from near perfect homogeneity to schools without a clear majority of any racial/ethnic group.

Again, although our overall active consent rate is 79%, there is considerable variability in active consent rates across schools in the sample. Figure 1 depicts the rate of active consent across schools. Schools range from a low of 60% (school number 20 in Figure 1) to a high of 92% (school number 21 in Figure 1). Furthermore, of the 29 schools in the sample, 4 schools had overall active consent rates between 60% and 69%; 10 schools, between 70% and 79%; 14 schools, between 80 and 89%; and 1 school, greater than 90%. Figure 1 also includes parental refusal information and

Figure 1
School-Level Return Rates by Title I Status



Note: Title I = Schools 1 through 20; and Non-Title 1 = Schools 21 through 29.

indicates that 16 of the 29 schools reached return rates exceeding 90% and all but 4 schools surpassed 80% return rates.

Next, we examined bivariate scatterplots between consent rates and school-level descriptive statistics to determine whether any substantive relationships exist. Only one school-level variable, Title I status, appeared to have a substantive relationship with school-level consent rates. To further explore this relationship, we examined the bivariate correlations and found statistically significant relationships between Title I status and active consent rates ($r = -.54$, $p < .05$) and no return rates ($r = .63$, $p < .05$). This finding indicates that at the bivariate level, Title I schools have lower active consent rates and higher nonresponse rates than do non-Title I institutions. Figure 1 also graphically displays this relationship between Title I status and active consent rates. As one can see, the range in active consent rates among Title I schools (Schools 1 through 20) is from a low of 60% to a high of 88%. Among non-Title I schools (Schools 21 through 29), the range is from a low of 78% to a high of 92%. The mean active consent rate across these groups was 76% for Title I institutions and 86% for non-Title I schools. With respect to overall return rates, the difference between Title I and non-Title I schools is also substantive, as 8 (88%) of the 9 non-Title I schools reached return rates equal to or greater than 95%, whereas only 3 (15%) of the 20 Title I schools reached this desirable level.

Much like our analysis of district-level differences, we again further explore the bivariate relationships found to potentially affect active consent rates through the use of WLS regression. To do so, the active consent rate was regressed on the Title I status of the schools. Results (not shown) revealed a substantial impact of Title I status on active consent rates ($b = -.101$, $SE = .029$), as movement from Title I to non-Title I status resulted in a 10% increase in active consent rates. We also regressed the nonreturn rate on Title I status ($B = .108$, $SE = .024$) and found that movement from Title I to non-Title I status was associated with an 11% decrease in nonreturn rates.

Again, we calculated how these findings would have affected our overall consent rates by calculating expected rates of consent from our observed rates of consent. Table 5, Panel A presents findings related to school-level active consent rates, including the observed active consent rates as well as expected rates if we were to have all Title I or no Title I schools in the study. Our predicted overall active consent rate if only non-Title I institutions were included in the study (Title I = No) is 86%, with a range of 70% to 98%. By contrast, if only Title I institutions were involved in the sample, we could expect an active consent rate of 76%, with a range of 60% to 88%. Table 5, Panel B reveals that if we were to include only non-Title I schools in our study, we could expect a nonreturn rate between 0% and 16%, with an overall average of 4% nonreturn. If we were to include only Title I schools, the expected range of nonreturn rates would increase to 0%to 27%, and the average nonreturn rate would be 15%.

In general, even with our 79% active consent rate across all 29 schools, school-level variation in active consent was still substantial. This diversity in consent rates (ranging from a low of 60% to a high of 92%) appeared in spite of similar efforts and strategies employed to obtain active consent in all the schools. With such variability in consent rates across schools, it becomes imperative to explore the source of variation within schools. Past researchers have suggested that school- and classroom-level variation in active consent rates may be attributable to administrator and/or teacher buy-in to the study (Esbensen et al. 1996; Ji et al. 2004; McMorris et al. 2004). It has also been suggested that treatment status of participating classrooms may be a factor, with treatment classrooms eliciting greater participation (Esbensen et al. 1999). Our next set of analyses, therefore, focuses on the potential source(s) of classroom-level variation in active consent rates.

Table 5
School Level Expected Consent Rates Based on WLS Regression

		A			B		
			Expected	AC Rates[a]		Expected	NR Rates[b]
School	Title I Status	Observed AC Rates	Non-Title I (“no” replies)	Title I (“yes” replies)	Observed NR Rates	Non-Title I (“no” replies)	Title I (“yes” replies)
1	Yes	0.88	0.98	0.88	0.10	0.00	0.10
2	Yes	0.88	0.98	0.88	0.08	0.00	0.08
3	Yes	0.86	0.96	0.86	0.00	0.00	0.00
4	Yes	0.86	0.96	0.86	0.09	0.00	0.09
5	Yes	0.84	0.94	0.84	0.05	0.00	0.05
6	Yes	0.83	0.93	0.83	0.07	0.00	0.07
7	Yes	0.82	0.92	0.82	0.11	0.00	0.11
8	Yes	0.77	0.87	0.77	0.14	0.03	0.14
9	Yes	0.75	0.85	0.75	0.17	0.06	0.17
10	Yes	0.75	0.85	0.75	0.15	0.04	0.15
11	Yes	0.75	0.85	0.75	0.12	0.01	0.12
12	Yes	0.74	0.84	0.74	0.20	0.09	0.20
13	Yes	0.74	0.84	0.74	0.24	0.13	0.24
14	Yes	0.73	0.83	0.73	0.12	0.01	0.12
15	Yes	0.72	0.82	0.72	0.15	0.04	0.15
16	Yes	0.71	0.81	0.71	0.21	0.10	0.21
17	Yes	0.67	0.77	0.67	0.22	0.11	0.22
18	Yes	0.65	0.75	0.65	0.05	0.00	0.05
19	Yes	0.64	0.74	0.64	0.19	0.08	0.19
20	Yes	0.60	0.70	0.60	0.27	0.16	0.27
21	No	0.92	0.92	0.82	0.02	0.02	0.13
22	No	0.88	0.88	0.78	0.01	0.01	0.12
23	No	0.88	0.88	0.78	0.02	0.02	0.13
24	No	0.87	0.87	0.77	0.04	0.04	0.15
25	No	0.86	0.86	0.76	0.00	0.00	0.11
26	No	0.85	0.85	0.75	0.04	0.04	0.15
27	No	0.84	0.84	0.74	0.02	0.02	0.13
28	No	0.84	0.84	0.74	0.08	0.08	0.19
29	No	0.78	0.78	0.68	0.05	0.05	0.16
Mean		0.79	0.86	0.76	0.10	0.04	0.15
Expected mean change			+7%	–3%		–6%	+5%
Minimum/ maximum		60%/92%	70%/98%	60%/88%	0%/27%	0%/16%	0%/27%

a. A 1-unit increase in Title I status is associated with a 10% decrease in active consent (AC) rates.
b. A 1-unit increase in Title I status is associated with an 11% increase in no return (NR) rates

Classroom-Level Analyses

The data collected as part of the current evaluation allow us to examine the effects of one operationalization of teacher "buy-in" when collecting active consent forms. By defining teacher buy-in in terms of the number of the teacher's classrooms involved in the research study, we can examine the effect of having one, two, and three or more classes participating in the evaluation. From this, we have the ability to examine whether there are potential teacher effects; that is, do some teachers either routinely fail or succeed in collecting consent forms across all of their respective classes, or does each individual classroom display a unique effect on active consent rates? In other words, we would expect to find similar consent rates across all of a teacher's classrooms if there truly is a teacher effect (i.e., buy-in). If there is a classroom cohort effect, we should see an almost random distribution of active consent rates across classrooms taught by the same teacher. To examine these two competing possibilities, we compared consent rates within all teachers who had more than one classroom included in the survey.

Before examining the role of teacher buy-in, we provide a descriptive examination of active consent rates within teachers. In all, there were 37 teachers who had more than one classroom participating in the study, with a total of 137 classrooms among these instructors. Across these teachers, the mean active consent rate across classrooms was 81% (see Table 6). The mean range in active consent by teacher is 17%, with a low of 0% by Teacher 10 and a high of 42% by Teacher 13. Interestingly, Teacher 32 had a low classroom-level active consent rate of 63% for one class and a high of 100%, a perfect active consent rate, for another class. Teacher 31 was responsible for the lowest overall classroom-level active consent rate of 48% but also had a classroom achieving 80% active consent. In all, only 9 teachers had classroom-level active consent rates with a range (that is, variability across their classes) less than 10%. Furthermore, 15 teachers had a range in active consent by classroom that was between 10% and 20%. This leaves 13 teachers who had a range in active consent rates per classroom greater than 20%. These figures leave us in the undesirable situation of concluding that some teachers appear to have a consistent positive effect on consent rates, although others seem to be at the mercy of the particular class, at least in terms of their success at collecting consent forms.

Despite the considerable within-teacher variation in consent rates, teacher buy-in can still be examined. To examine this issue, we used an independent-samples t test by creating a dummy variable with those teachers with only one classroom included in the study coded 0 and those with

Table 6
Within-Teacher Variation in Active Consent (AC) Rates (Teachers With More Than One Class)

Teacher	No. of Classes	Teacher Mean AC	Minimum	Maximum	Range
1	2	0.80	0.68	0.91	0.23
2	2	0.96	0.92	1.00	0.08
3	2	0.61	0.55	0.68	0.13
4	2	0.68	0.61	0.75	0.14
5	2	0.77	0.73	0.81	0.08
6	2	0.77	0.71	0.83	0.12
7	2	0.76	0.75	0.77	0.02
8	2	0.69	0.58	0.79	0.21
9	2	0.81	0.77	0.86	0.09
10	2	1.00	1.00	1.00	0.00
11	2	0.68	0.59	0.77	0.19
12	2	0.85	0.78	0.92	0.14
13	2	0.76	0.55	0.97	0.42
14	3	0.96	0.92	1.00	0.08
15	3	0.97	0.92	1.00	0.08
16	3	0.87	0.81	0.90	0.10
17	3	0.91	0.84	0.96	0.12
18	3	0.78	0.73	0.81	0.08
19	3	0.73	0.66	0.78	0.12
20	3	0.71	0.64	0.79	0.15
21	4	0.73	0.67	0.78	0.12
22	4	0.97	0.88	1.00	0.12
23	4	0.72	0.57	0.79	0.22
24	4	0.96	0.92	1.00	0.08
25	4	0.88	0.69	1.00	0.31
26	5	0.81	0.75	0.90	0.15
27	5	0.80	0.69	0.90	0.20
28	6	0.78	0.66	0.86	0.21
29	6	0.79	0.64	0.94	0.30
30	6	0.64	0.57	0.83	0.26
31	6	0.66	0.48	0.80	0.32
32	6	0.88	0.63	1.00	0.38
33	6	0.85	0.71	0.96	0.24
34	6	0.88	0.78	0.94	0.16
35	6	0.76	0.66	0.83	0.17
36	6	0.86	0.73	0.94	0.21
37	6	0.84	0.67	0.94	0.28
Total	137	0.81	0.48	1.00	0.17

multiple classrooms coded 1. Results (not shown) indicate that the mean active consent rate for those teachers with multiple classrooms in the evaluation was 81%, and the mean consent rate for those with one classroom was 74%, a significant ($p < .05$), and also substantive, difference.

It has also been suggested that treatment status of participating classrooms may be a factor, with treatment classrooms eliciting greater participation (Esbensen et al. 1999). To examine this possibility, we conducted an independent-samples *t* test analysis between our treatment and control classrooms (not shown). The mean active consent rate of those classrooms receiving the GREAT program was 80%, whereas non-GREAT classrooms had a 77% mean return rate, a substantively meager difference. Therefore, we find no evidence of a treatment effect across classrooms. This may be partly because of the fact that the random assignment process was not completed in some schools until after the active consent procedures were initiated. In other words, teachers and students were often unaware of whether their classes would be in the control or experimental group until after the consent process was nearly completed. Thus, it may not be surprising that consent rates did not vary by treatment condition, as teachers and students in both control and experimental classrooms were equally invested (or *un*invested) in the process.

Finally, we examined the magnitude of the effects that teacher buy-in and treatment status have on consent rates by simultaneously regressing the classroom-level active consent rate on both independent variables. Teacher buy-in was operationalized as a dichotomous variable, with teachers who had only one class included in the study coded 0 and teachers with multiple classrooms involved coded 1. Similarly, treatment status was also operationalized as a dichotomous variable, with control classrooms coded 0 and treatment classrooms coded 1. Results (not shown) revealed that having more than one class involved in the study was associated with an almost 7% increase in active consent rates, holding treatment status constant. Holding teacher buy-in constant, treatment status increased active consent rates by 3%.

To examine the substantive effect of these findings on the current sample of classrooms, we again apply the WLS results to our observed findings. If all of our classrooms had teachers with multiple classrooms involved in the study (our measure of teacher buy-in), our predicted overall active consent rate would be 81%. Similarly, if all classrooms were treatment classrooms, our predicted overall active consent rate would be 80%—merely a 1% increase more than our actual active consent rate. Examination of nonreturn rates using these same criteria reveals that by including only teachers with multiple classes involved in the study, our nonresponse rate would decrease by 1% (to 9%). If all classrooms were treatment classrooms, our nonresponse rate again would be 9%. Therefore, treatment status and our measure of teacher buy-in do not seem to have had a substantive effect on return rates in our sample of classrooms.

Summary and Conclusions

Although many researchers have lamented the deleterious effects of active parental consent processes on sample size and representativeness, the current study illustrates one example of how large school-based studies can obtain active parental consent rates, and thus initial student inclusion rates, on par with those obtained in household-based studies. Specifically, we outlined the results of one approach that yielded a 90% return rate and a 79% active consent rate in a study conducted in 29 schools in seven diverse communities across the United States. These efforts are in line with other recent studies (Eaton et al. 2004; Ji et al. 2004; McMorris et al. 2004) demonstrating that obtaining high levels of active parental consent is not an impossible task.

Prior research has also found that active parental consent may introduce sample selection bias in terms of student characteristics (Anderman et al. 1995; Dent et al. 1993; Esbensen et al. 1999), posing problems for analyses of program effects (Berk 2004). In this article, we expanded the inquiry by focusing on district-, school-, and classroom-level characteristics. Our analyses found the following: (a) Active consent rates vary substantially at the district level but converge between 75% and 85%; (b) at the school level, we again found considerable diversity (the range in school-level rates was 60% to 92%), with Title I status as the most salient factor associated with consent rates; and (c) although extreme differences exist between teachers and classrooms, none of the factors we examined (teacher buy-in to the research and experimental condition) helped to explain these variations.

We are thus left with the conclusion that differential return and consent rates are inherent in school-based research requiring active parental consent. Specifically, for researchers targeting high-risk schools (i.e., Title I schools) or districts with disproportionately high risk factors (i.e., high student–teacher ratios and/or high rates of students eligible for free and reduced-lunch rates), the task of achieving an acceptable consent rate may be more formidable than in schools and districts at the other end of the continuum. These findings also suggest that researchers working in Title I schools will have to be more diligent in their efforts if they hope to achieve the 70% to 80% standard recommended to reduce selection bias (Babbie 1973; Eaton et al. 2004; Sewell and Hauser 1975).

So what can be done to increase the success of active parental consent procedures? We have several suggestions at the administrative, school, and classroom levels. In this project, we have anecdotal evidence to support the belief that both principal and teacher buy-in are useful. Principals at some of the participating schools assumed a very pro-active role in the consent process. In some of these schools, return rates were in the mid-90% range. However, in other schools in which principals or designated coordinators were pro-active, the return rates were dismal in comparison (that is, in the mid-70% range). This leads us to conclude that although it is desirable to have a high level of support from the school administration, this is not a guarantee of high return or consent rates.

Still, the payoff of school administration buy-in in terms of assistance during the project must be considered as well. We are in agreement with the position of Ji et al. (2004, 589), as follows:

> The school's support is important because a positive relationship is needed between the school officials and the research staff to foster a climate that motivates the school's resources to engage in the additional efforts to collect the remaining consent forms.

Having principals "on board" provides a level of informal pressure that things will be done correctly and allows for a degree of day-to-day oversight that is not possible for researchers unable to have daily contact with the schools. Principals who are very invested in studies may also present a "last resort" for consent procedures. For example, some principals called the home of each student who had not returned a consent form when the research staff began pretesting. The level of commitment provided by these principals is commendable and invaluable.

What role do teachers play? In this research, teachers were heavily involved in the active consent process by distributing and collecting consent forms. Financial compensation was provided to the teachers (or their school or district when direct payment to the teachers was not allowed) to compensate them for their efforts and increase their potential buy-in. We found, however, that the within-school differences in active consent rates were as great as or greater than the between-site differences, suggesting a potential teacher effect. The evidence for this effect, however, is mixed. It appears that individual teacher or classroom qualities not measured in this research may impact consent rates, although the results simultaneously suggest that the teacher effect is negligible. What are these factors? It is difficult to say. Classrooms themselves appear to have their own "personality," independent of the teacher, when it comes to active consent processes. In light of this, we suggest that researchers also explore the possibility of these classroom differences as they affect the sample. Teachers themselves are often aware of strategies that work for one classroom but not another. Thus, we advocate working with the teachers to develop innovative incentives and methods to increase response rates. In fact, teachers are often willing to offer their own additional incentives (e.g., extra credit points, additional break time for students). However it is done, keeping the teachers involved in this process is recommended.

Given our procedures, what more could we have done to improve our consent rates? At the school level, one potential strategy to increase administrator buy-in is to provide a monetary incentive for participation, linking it to overall school return rates (this has the added advantage of reducing the potential for differential loss of subjects). For instance, schools could receive an initial $200 to offset inconveniences associated with evaluation participation. If the consent return rate exceeds 80% for the school, they could receive an extra $50, at 90% another $50, and another $50 for 95% or more. This strategy could be used in combination with standard procedures such as relying on students to bring forms home and to return them, attaching permission slips to school forms requiring parental signatures, obtaining support from school administrators and/or teachers, making follow-up telephone calls, attending parent–teacher conferences, recruiting teachers to assist in the collection process, and providing incentives to teachers and students (e.g., Eaton et al. 2004; Ellickson and Hawes 1989; Esbensen et al. 1996, 1999; Ji et al. 2004; McMorris et al. 2004; Pokorny et al. 2001; Unger et al. 2004).

Taken together, our findings in this multisite school-based study suggest that obtaining active consent levels exceeding 70% is not impossible; our active consent rates in this current project approximate consent rates achieved in household studies such as the National Youth Survey (Elliott et al. 1985) and the Denver Youth Survey (Huizinga et al. 1995). With adequate resources (both time and money) and innovative strategies, researchers should be able to obtain similar consent rates; recent publications (Eaton et al. 2001; Ji et al. 2004; McMorris et al. 2004; Unger et al. 2004) confirm this position.

Notes

1. Active parental consent procedures require that for a minor to participate in research endeavors, written permission from the minor's parent or guardian must be obtained; absent a signed consent form, the minor must be excluded from the study. This is contrasted with passive parental consent procedures, in which parents must exclude their children from research participation by returning a signed form declining participation; in this model, absent a signed form, all minors are included in the study.

2. Nonparticipation rates associated with active parental consent are similar to initial loss rates reported by household survey researchers, whose initial loss rates are associated with active refusals as well as failure to find a person at home. Initial loss rates in school-based studies include (a) those students whose parents either decline to provide permission or fail to return a consent form, (b) those students who themselves refuse to participate and/or are absent on the days of survey administration, and (c) those students who appear on the initial class roster but fail to actually enroll in and/or attend that school. In longitudinal panel designs, it is common to have initial loss rates of 20% to 25%. The National Youth Survey (Elliott et al. 1985) and the Denver Youth Survey (Huizinga et al. 1995) had initial participation rates of 73% and 80% of estimated youth in households: that is, initial loss rates of 27% and 20%, respectively (Menard 2006; D. Huizinga, personal communication, April 14, 2006).

3. The project term began July 1, 2006, and pretest data collection began in September 2006. The logistics of selecting sites and obtaining formal cooperative agreements from law enforcement agencies and approval from school districts took place between July and September. Prior to active consent procedures being implemented, additional activities were necessary to conduct the evaluation, such as hiring and training research personnel and meeting with school personnel and law enforcement officers supervising and delivering the program. Thus, the formal active consent procedures did not begin until mid-August—the beginning of the fall 2006 semester.

4. Teens, Crime, and the Community and Community Works is a school-based victimization prevention program offered through the National Crime Prevention Council (NCPC). For an expanded description of the program and evaluation design, see Melde et al. (2006).

5. One of the program's objectives was to reduce gang violence.

6. Principals declined their schools' participation for a number of reasons. One principal indicated that he had previously been a police gang investigator and, therefore, knew that the program worked; the second principal would not agree to random assignment and withholding some students from the program.

7. In one instance, an agreement to participate was obtained from a school principal. This school was dropped from the study, however, when the principal failed to respond to multiple phone calls, e-mails, and visits to the school to discuss the progress of the consent procedures in his school. By the time this decision was made, the local police department indicated that no comparable schools were available for replacement.

8. The program under evaluation is intended for delivery at middle-school entry. Law enforcement agencies, however, exhibited some variation in the grade level that they targeted. Thus, in some schools, the program was delivered to sixth graders and, in others, to seventh graders.

9. Although these different rates appear to be substantively important, differences in consent rates were statistically significantly different only between City 3 and City 6.

10. Throughout the article, we use the terms *city* and *district* interchangeably, as each city in the evaluation had only one public school district. In no city did we include private schools or any other school outside the district.

11. Although the low number of cities included in the sample precludes in-depth examination of city-level variation in active consent rates, bivariate correlations between district-level descriptive statistics and return rates were conducted. Results indicate that none of the district-level characteristics was statistically related to active consent rates, but given sample restrictions (i.e., small n, nonprobability sample), we merely use this information to help focus on the potentially substantive relationships indicated through these relationships. It is worth noting that there was a substantial negative (and statistically significant) correlation ($r = -.82$, $p < .05$) between student–teacher ratio and overall return rates and a substantial negative correlation of –0.72 for student–teacher ratio and active consent rates. This evidence suggests that as the student–teacher ratio increases, the probability of parental consent forms being returned and parents providing consent decreases. The percentage of students eligible for free or reduced lunch also appears to be modestly related to the percentage of students returning active parental consent forms ($r = -.53$; $p = .206$).

12. We use weighted least squares (WLS) for a couple of reasons. First, one of the assumptions of linear least squares regression is that each data point provides equally precise information. Given our various sample sizes across study sites and thorough examination of scatterplots, this assumption is not met in the current study. Second, WLS is an efficient procedure in cases in which one has a small number of data points, as is the case in our analyses (for an excellent discussion of WLS, see Carroll and Ruppert, 1988). Therefore, we follow the reviewer's suggestions by using the total number of students eligible to participate in the study as our weighting variable throughout the article.

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