

OMB Clearance Application

**Crime Prevention Through Environmental Design:
Linking Observed School Environments with Student and School-wide
Experiences of Violence and Fear**

Part B: Statistical Methods

2/1/2021

Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Injury Prevention and Control (NCIPC)
Division of Violence Prevention (DVP)

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B. STATISTICAL METHODS

B1. RESPONDENT UNIVERSE AND SAMPLING METHODS

The sampling approach for the CPTED School Study is designed to maximize the ability to meet the primary study objective, which is to test the degree to which CPTED School Assessment (CSA) scores co-vary with student perceptions of school safety. We have chosen a sampling process that seeks to identify and recruit a sample of schools that shows a range of school site environmental design characteristics, and that is broadly representative of the jurisdictions in the Atlanta area and the populations served by these school systems (i.e., socio-economic status, race/ethnic mix). The sampling objective is purposive, to select sites that show substantial variation with regard to physical environments and school safety climate, so as to increase the likelihood of variation in CSA scores. It does not support a probability sample that would provide accurate estimates for the full school study population from which the sample is drawn.

Middle schools will be selected from school districts in the greater metro-Atlanta area. We believe it will be important to include both Atlanta City schools and schools in the surrounding nine county region for the broadest possible student representation. This is because Atlanta City schools serve primarily African American students, and other school districts in the Atlanta area predominantly serve Caucasian students. Our records indicate that there are 157 middle schools in the school systems located in the Atlanta area, and ICF Macro has conducted studies following Centers for Disease Control and Prevention (CDC) protocols in all of them.

The study will generate a purposive sample of 50 middle schools from across 14 school districts with approximately 75 students selected from each site. This will produce a total estimated study sample of 3,750 participants from the universe of approximately 148,886 middle school students.

Table 1
SAMPLE UNIVERSE OF METRO ATLANTA AREA MIDDLE SCHOOL SITES

SCHOOL DISTRICTS	Total Sites	Total Enrollment
ATLANTA PUBLIC SCHOOLS	25	11,915
BUFORD CITY SCHOOLS	1	651
CLAYTON COUNTY SCHOOLS	13	12,586
COBB COUNTY SCHOOLS	26	26,537
DE KALB COUNTY SCHOOLS	27	26,331
DECATUR CITY SCHOOLS	1	264
DOUGLAS COUNTY SCHOOLS	8	6,317
FORSYTH COUNTY SCHOOLS	1	776

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FULTON COUNTY SCHOOLS	24	19,526
GWINNETT COUNTY PUBLIC SCHOOLS	18	31,432
MARIETTA CITY SCHOOL DISTRICT	3	1,984
NEWTON COUNTY SCHOOLS	4	4,082
PAULDING COUNTY SCHOOLS	2	1,711
ROCKDALE COUNTY PUBLIC SCHOOLS	4	4,532
Total school sites and enrollment	157	148,886

Power

Although the study is not designed to support statistical estimation of population parameters, we have calculated power estimates as a guideline of the sensitivity of the study to detect differences between schools. The proposed sample size of 50 schools and 75 students per school ($n=3,750$) has sufficient power to detect small effects. Depending on the variability of effect size across sites, power estimates to detect an effect of $d = .20$ ($r^2 = .01$) range from 100 percent for a small degree of effect size variability ($\sigma^2 = .01$) to 95 percent for a large variability of effect size ($\sigma^2 = .10$).

B2. PROCEDURES FOR THE COLLECTION OF INFORMATION

The procedures for the information collection include (1) sampling procedures used to select school sites and classrooms within school sites for inclusion in the study sample, (2) procedures for obtaining cooperation from school districts and approval from schools to participate, (3) procedures for training study personnel, (4) scheduling and logistical arrangements for data collection, and (5) on-site data collection procedures for conducting the CPTED School Assessment (CSA) (Appendix E), CPTED Student Survey (Appendix G), and CPTED School Site Data Form (Appendix F).

B2A. Sampling Procedures

Sampling will include two phases: (1) steps to sample participating middle schools; and (2) steps to sample participating students by classroom from each selected site.

School Selection

School sites will be selected using a factorial sampling frame that will include three variables: school facility age as a proxy for architectural design, percent of students eligible for Free/Reduced Lunch as a proxy for socioeconomic status (SES), and urbanicity as an indicator for community character. A data base containing public records of school facility and enrollment characteristics will be created to identify schools that are in sampling strata defined by the intersection of the three variable dimensions. The distribution of schools and districts across these cells will inform our strategy for purposively targeting districts and schools for selection. The sampling frame criteria should produce broad diversity in participants representing key demographic variables in each district such as race/ethnicity, SES, special education, and English language learners. Before finalizing the sample, diversity in these areas will be assessed.

To select schools we will (1) categorize all schools in the study population into urban, suburban, and rural or small town categories, and (2) categorize all schools into low, medium and high percentage of students qualifying for Free/Reduced Lunch. Schools will be allocated into the cells of a three-by-three factorial

sampling frame according to position on these two factors. In addition schools will be ranked according to the age of their physical facility adjusted by the recency of significant additions or renovations (adjustment procedure to be determined). Final school selections will be chosen from each cell in the sampling frame to maximize the range of school site environmental design characteristics and characteristics of populations served by these school systems. If a selected school chooses not to participate, another school will be selected as a replacement.

The advantage of this design is that it provides a diverse set of school physical plants and student populations that efficiently represent diversity in factors and combinations of factors that may be relevant to determining and confounding the relationship between the CSA variables and student and school recorded variables. This sample will provide sufficient variance to describe the strength of the correlation between school design and student perceptions and experiences related to school safety and fear across the potential range of values in different contexts. We will be able to conduct sensitivity tests with respect to different ranges of variance in variables, and in different contexts. This will maximize knowledge on the performance of the CSA (Appendix E) as a measure useful for designing schools to improve perceptions and experiences of safety in heterogeneous school and student contexts, which may occur at different places across the nation. This is the information most relevant to the primary purposes of this study.

Classroom Selection

Approximately 75 students will be selected from each school site. Students will be selected from up to two Health Education/Physical Education classes at each grade level in each school. All students in these middle schools are required to take Health/Physical education classes, providing a convenient sampling method that ensures that all students in the school have an opportunity to participate in the study. For a given school, classes will be selected well in advance of data collection from a list of class sections provided by the school's principal or the designated contact for the survey. The procedure will involve asking the school to use a frame of classes that includes each student once and only once. Schools are normally asked to provide a list of sections with teacher names, times of day, and the number of students enrolled in each section. We will sample approximately 75 students (n=25 per 6th, 7th, and 8th graders) at each of the 50 schools. Depending on the classroom sizes at each school, we will sample one or two classes per grade level to meet the sample size. Classes will be selected by opportunity to support efficient scheduling for administration of the survey, and representativeness for school demographics, including socioeconomic status, race/ethnicity, gender, English Language Learners, and special education. Only students whose parents provide written consent for their child's participation will participate in the survey.

Selection of School Administrator Participants

Principals at each participating school will be asked to identify an appropriate member of the administrative staff (e.g., assistant principal) to complete the CPTED School Site Data Form (Appendix F). Principals will be asked to select a school administrator with at least two years of experience working at the school.

B2B. Obtaining Cooperation from School Districts and Schools

ICF Macro's Recruitment Specialist will obtain cooperation from school districts and schools to participate in the CPTED School Study no later than one month following OMB clearance. The first step in the process of obtaining school district approval is compiling a compelling District Invitation and School Letter (Appendix L) and support materials for school districts. The letter is personally addressed to the district superintendent, with copies to local health district contacts, CDC, EMT and ICF Macro staff. If possible, we will obtain and include letters of support from State organizations involved in health

and education, such as the Georgia Parent Teacher Administration. These letters provide a strong statement about the importance of the CPTED School Study and represent endorsement of study participation. Also enclosed with the recruitment letter are copies of the CPTED Student Survey (Appendix G) and the CPTED School Site Data Form (Appendix F), and samples of the Active and Passive Parental Permission Form and Survey Fact Sheet (Appendix I). Recruitment packages are shipped to school districts via Federal Express priority overnight to (1) guarantee that materials are received and to document who signed for them; and, (2) ensure that packages are given priority attention. ICF Macro's Recruitment Specialist will follow up with each district within two business days in order to answer questions and to secure study participation permission.

In many school-based surveys, it is necessary to communicate with three to five different offices within a district before approval for contacting the schools can be obtained. The initial contact in a school district is addressed to the superintendent to ensure that the district puts its complete support behind the project. In turn, the superintendent can be expected to delegate responsibility for working with schools to the research director, Safe and Drug-Free Schools coordinator, curriculum supervisor, director of pupil services, director of school health, or district nurse, depending on how the school district interprets the project, and how the school district office is organized.

B2C. Obtaining School Approvals

Following receipt of district approval for study participation, each potential school flagged for participation will be contacted and consent formally obtained, even if the district has already consulted the school directly. This formality involves more than gaining access to the school. School approval involves converting the principal into an advocate of the study, learning about the school's culture, and determining the best method of tailoring study marketing to school staff and parents in a culturally-competent manner.

All components of the CPTED School Study, including the CSA (Appendix E) observations, CPTED Student Survey (Appendix G), and CPTED School Site Data Form (Appendix F), are to be completed within seven months of receipt of OMB clearance. In order to complete data collection within a truncated time period, study recruitment must be completed in an efficient manner. We will use a streamlined approach by including the recruitment packets for the schools in the original recruitment package sent to the school district. This provides the district with a convenient way to inform schools about the study and encourage their participation. The school recruitment packets are clearly marked with the names of the schools and principals for whom they are intended. The district is asked to write words of encouragement to the school either by enclosing a note or by writing the note on a label we have pre-affixed on the envelope in order to encourage school participation. The ICF Macro Recruitment Specialist will maintain regular contact with the district to determine when packets have been forwarded to the schools, and to follow up directly with the schools in order to answer questions. However, based on our previous experience in the Atlanta area, it is not unusual for a school to call to discuss study participation.

ICF Macro's Recruitment Specialist will work closely with school principals and administrative staff in order to maximize parental permission for student participation in the CPTED Student Survey (Appendix G). Methods of increasing parental permission rates that have been successful in previous national surveys involve: including a recruitment letter from the principal emphasizing the importance of the study to the school and to the district, offering to answer parent questions, and making the survey easily available for parents to review (e.g., at the school's main office or online at the school's webpage).

B2D. Training for Study Personnel

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No more than six months prior to initiation of the data collection, ICF Macro and Carter & Carter Associates (C & C) will recruit and train School-Based Data Collectors to administer CPTED Student Surveys (Appendix G) and train CPTED Site Assessors to conduct school site CSA (Appendix E) observations.

School-Based Data Collectors

ICF Macro will be responsible for recruiting and training School-Based Data Collectors who will be responsible for facilitating collection of the CPTED Student Survey (Appendix G) and assisting with completion of the CPTED School Site Data Form (Appendix F), if necessary. School-Based Data Collectors will be hired largely through assigning existing ICF Macro personnel or by hiring temporary employees that ICF Macro typically calls upon to do data collection work. A significant percentage (e.g. 50 to 75%) of ICF Macro data collectors engaged in our national survey efforts are returnees – data collectors who already have been trained and have worked with ICF Macro on prior studies. These alumni understand overall school-based student survey methodology and can assist in the training process. Given that the hiring process will take place at ICF Macro’s Atlanta offices, at least two ICF Macro staff will interview candidates, and then potential candidates will undergo a criminal justice background check and reference check (minimum 3 references). ICF Macro anticipates hiring four School-Based Data Collectors and does not foresee any difficulty with this process.

Training of School-Based Data Collectors will be conducted by ICF Macro and will include a thorough orientation to the CPTED Student Survey (Appendix G), the CPTED School Site Data Form (Appendix F), and the administration and data extraction procedures necessary for each data source. Trainings allow trainees to observe everything they will have to say or do being performed by ‘experts’ in a classroom-style training. Then they acquire these skills through practice, demonstrate them to each other, and finally refine each other’s performance through constructive feedback. Role play is a central feature of the training process, in order to come as close to the actual school-based data collection as possible while still in a safe environment of training. By the end of training, data collectors will have demonstrated that they have the professional skill set to represent CDC, EMT and ICF Macro in the field; are knowledgeable about the study; and are committed to the project, the training team, and each other.

CPTED Site Assessors

C & C will be responsible for training CPTED Site Assessors and for implementing the CSA (Appendix E) data collection and CSA scoring. Three teams of two CSA site assessors, each including one CPTED professional and one newly trained entry to mid-level local architect who has experience with schools, will be used to conduct all CSA observations no more than six weeks prior to the administration of the CPTED Student Survey (Appendix G).

C & C will develop and deliver a two-part CPTED training program to recruited CPTED Site Assessors and interested study staff. The first part will be an eight-hour training to include an introduction to CPTED, general CPTED concepts and principles, school-based CPTED, and the basis and use of the CSA instrument (Appendix E). Photographic examples will illustrate all keywords and provide a number of examples from all geographic areas (e.g. grounds, buildings and interiors) covered by the CSA. Exercises will be designed to test participants on appropriate rating of sample environments.

The second part of the training will be for the trained assessors to practice the assessment process by conducting a field exercise at a pilot school. The newly trained assessors will follow all established protocols for conducting assessments including early arrival, checking in with authorities, and conducting their assessments independently. After the school day is completed, C & C will meet with assessors to

address any specific observations and to answer any scoring or procedural questions. All scores will be compared and discrepancies will be addressed in order to achieve the highest level of inter-rater reliability as possible. Additionally, the field exercise will allow for eliminating anyone who feels the assessment process is too demanding or who does not perform satisfactorily in either the procedural or scoring capacity.

Field Supervision

One member of the ICF Macro team will be designated as the CPTED Site Assessors' and School-Based Data Collectors' point person. On a weekly basis, this individual will contact the CPTED Site Assessors and School-Based Data Collectors to determine whether they have encountered any issues in conducting their site assessments or with administration of the school surveys. The purpose is to provide a senior-level support person to the field data collectors.

B2E. Scheduling and Logistical Arrangements for Data Collection

Scheduling and logistical arrangements for data collection will be handled primarily by the ICF Macro Recruitment Specialist.

Shipment of Permission Form Packets to School with Schedules

After the school has agreed to participate and classes have been selected, the school administration will be given the option of using either active or passive parental permission forms to obtain parent consent for students' survey participation. Active consent forms will require that parents actively indicate their consent and return the permission form to the child's teacher before the child may complete the survey, whereas passive consent only requires parents to return the permission form if they do not consent for their child to participate. Once a determination has been made about the parental permission procedure (i.e., active or passive), the school's principal or designated contact is sent the appropriate active or passive school packet via Federal Express and packets for each teacher. The school packet contains: (1) a Letter to Principal/Contact in Participating Schools (Appendix M) thanking them for their school's participation along with instructions for distributing the permission form packets to teachers to ensure timely distribution; (2) a completed Summary of School Arrangements Form (Appendix R), which details the survey administration schedule (e.g., date, time), the identity of the classes selected (e.g., teacher name, subject area, section number), the survey location (e.g., classrooms, large group setting), and the name of the school contact; (3) a copy of the CPTED Student Survey (Appendix G), marked "sample, do not copy or distribute;" (4) a sample CPTED Student Survey Data Collection Checklist (Appendix N) as an illustration of what we will provide to the classroom teachers; and (5) one teacher packet (*see below*) for each of the selected teachers in the school. The ICF Macro Recruitment Specialist will confirm receipt by each school's contact of the school packet.

Each teacher's packet includes the following materials: (1) a Letter to Teachers in Participating Schools (Appendix O) thanking them for their participation, along with necessary instructions for timely distribution of either Active or Passive Parental Permission Forms (Appendix I); (2) a completed Summary of School Arrangements Form (Appendix R); (3) a CPTED Student Survey Data Collection Checklist (Appendix N) for use in monitoring distribution and returns of permission forms; (4) a Parental Permission Form Distribution Script (Appendix H) with instructions for the teacher to read when distributing permission forms; (5) Parental Permission Forms and Survey Fact Sheets in English and Spanish, if requested (Appendix I); (6) Parental Permission Form Reminder Notices (Appendix J) and an extra supply of permission forms when active permission is used; and (7) a copy of the CPTED Student Survey (Appendix G) questionnaire marked "sample, do not copy or distribute." Each teacher packet is marked on the outside, "Please open and distribute immediately."

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Permission form packets are sent to a given school at least two weeks in advance of the survey in order to allow sufficient time to permit the principal or designated contact to distribute permission form packets to each teacher, monitor their distribution, and allow time for students to take the forms home to their parents, for parents to view the survey if they so desire, and for parents to return the permission forms. We generally indicate that passive permission forms need be distributed to students three business days prior to the scheduled data collection date, while active permission forms should be distributed to students two weeks in advance to allow sufficient time to send out reminders and a second copy of the permission form.

ICF Macro's Recruitment Specialist will work closely with school principals and administrative staff in order to maximize parental permission for student participation in the student survey. Methods of increasing parental permission rates that have been successful in previous national surveys involve: including a recruitment letter from the principal emphasizing the importance of the study to the school and to the district, offering to answer parent questions, and making the survey easily available for parents to review (e.g., at the school's main office or online at the school's webpage).

Scheduling of Data Collection and Pre-Survey Meeting

Working collaboratively with the school's principal or designated contact, the ICF Macro Recruitment Specialist will arrange dates for both the CSA (Appendix E) observation and the CPTED Student Survey (Appendix G) data collection. ICF Macro will coordinate with C & C to schedule the CSA observations with schools no more than six weeks prior to the scheduled date of the CPTED Student Survey. The CSA will be arranged to accommodate school calendars and will be scheduled on normal school days to avoid major campus events, such as standardized testing dates, photo days, proms, major sporting events, scheduled safety drills, or any other events that would significantly alter student behavior. Assessment schedules will allow for 50 assessments to be completed within a 3-4 month period, taking into consideration assessor calendars and travel considerations.

The CPTED Student Survey (Appendix G) dates are scheduled at the convenience of schools and in a way to maintain a reasonable workload, allow for the control of travel costs, and complete the data collection in a timely manner. Survey scheduling will be arranged to accommodate school commitments (e.g., standardized testing dates and school events) and will be sensitive to concerns about interruptions and loss of instructional time. CPTED Site Assessors and School-Based Data Collectors will receive their assignments 3-4 weeks in advance through the Case Management System (CMS), which includes a calendaring function and provides details of the data collection arrangements at each assigned school.

Each school will also be assigned a lead School-Based Data Collector, responsible for the CPTED Student Survey (Appendix G) administration, who will contact the school prior to the survey date in order to determine if there are any last-minute challenges that need to be addressed, logistical considerations that may have arisen, or any technical assistance needs related to survey preparation that the school may have encountered. The lead is also responsible for preparing materials for survey administration, and facilitating survey data collection on the date of administration.

CPTED School Site Data Form

The CPTED School Site Data Form (Appendix F) will be sent to one member of the administrative staff as identified by the Principal from each of the 50 participating schools who will be asked to complete the form. A portion of the information reported on the CPTED School Site Data Form will be used in preparing for the CSA assessment. During school recruitment or scheduling of the data collection, the ICF Macro Recruitment Specialist will obtain the contact information (including the e-mail address) of the administrator appointed to complete the CPTED School Site Data Form. The Recruitment Specialist will

e-mail the CPTED School Site Data Form to the administrator as a form that can be completed electronically. Administrators will be asked to complete the form at least three weeks before CSA observations are conducted. It is expected to take administrators about 2 hours to complete. School-Based Data Collectors may assist with form completion by pre-filling all data that is available through public sources or written materials and records that may be accessed through the school prior to e-mailing the form.

If the Recruitment Specialist has not received the completed form at least two weeks prior to the scheduled date of the CSA, the Recruitment Specialist will contact the school administrator directly to obtain by phone all informational items recorded on the form that are necessary to prepare for the CSA (i.e., contact person, phone number, school name, total enrollment, school size, size and number of buildings, location, official school day schedules, including lunch schedules, percentages of students and faculty using modes of transportation, maps of the school campus with notations of any outbuildings or satellite facilities, and any special instructions). This information will be conveyed to C & C prior to the scheduled CSA visit.

B2F. On-Site Data Collection Procedures

Onsite data collection procedures specific to each of the data collection components are outlined below:

CPTED School Assessment

Observational assessments will be conducted using the CSA (Appendix E) tool by one CPTED professional and one newly trained entry to mid-level local architect who has experience with schools. C & C will contact each school on the day prior to an assessment to confirm the scheduled date. Observers will arrive at each school on the day scheduled and will follow any specific instructions for checking in on campus. Upon arriving on campus, they will observe arrivals and proceed to the main office within 10-15 minutes after the first bell to meet briefly with a school administrator. They will begin observations 30 minutes prior to the official start of the school day and end the assessment 30 minutes after the official end of a normal school day. After school activities will not be assessed. The two team members will conduct observations independently by refraining from communication about the observations until they finish recording all observations at one school. The observers will assess all areas of the campus. The Site Assessors will request that a school official (e.g., office staff or maintenance personnel) be available to unlock doors that may be customarily locked, such as auditoriums or computer rooms, and chaperone the checking of locker rooms and restrooms, when necessary. No other school staff members are required during the day-long assessment; it is, thus, anticipated that the involvement of school personnel will be minimal and episodic.

At the end of each assessment day, the two assessors will discuss any discrepancies in their scores and determine if the discrepancy is due to being unable to observe an area or event; differences in activities at the time of observation; or differences in opinion. A consensus will be formed and one set of final scores will be entered into an Excel database and transmitted electronically to EMT Associates for processing. Completed paper forms will be individually sealed and sent to EMT for the purpose of conducting data quality checks.

CPTED Student Surveys

Prior to arrival at a school, the lead School-Based Data Collector is expected to contact the school in order to establish direct contact with the school's primary point of contact for CPTED and confirm that the school is ready for data collection. In this call, the School-Based Data Collector also confirms the data collection date; the time of the meeting with the primary contact and teachers, if scheduled; that permission forms have been passed out by the teachers; the security procedures at the school; and parking

availability. When active permission is involved, the lead School-Based Data Collector will also obtain the number of returned (signed) parental permission forms during the call. This information will be communicated by each lead to the Survey Coordinator and/or Data Collection Manager. At the conclusion of the call, the contact is provided with a telephone number (and e-mail address, if requested) for reaching the lead School-Based Data Collector.

On the day of the student data collection, the Data Collector will check into the school office to establish their official presence and then proceed to the selected classrooms to administer the CPTED Student Survey (Appendix G). The teacher ordinarily introduces the Data Collector, who brings all survey materials, including the surveys, to the school. Students who sit closely together are asked to move further apart from each other in order to complete the survey in privacy. Each student is provided a survey, a #2 pencil (to ensure dark responses that can be read by the electronic scanner), and a 9 by 12 manila envelope into which they later will insert their completed questionnaire before sealing the envelope. The teacher will be asked to remain in the classroom at the front of the room with the Data Collector, rather than walking the aisles. The Data Collector will read from the CPTED Student Survey Administration Guide (Appendix Q) to initiate the survey process, clearly indicating that students should attempt to answer every question, and once they are done should review the survey for completeness. In order to minimize disruption during the survey administration, the Data Collector will meet briefly and quietly with students who lack parental permission (due to non-return of an active permission form) to provide them with an additional parental permission form to take home. The teacher will plan an alternate activity for those students who do not have parental permission to take the survey and for those students who have permission but did not assent on the day of data collection. As the classroom period for survey administration draws to a close, the Data Collector will remind students to review their surveys for completeness, and not to put any identifying information on the questionnaire or the envelope into which they deposit the completed survey.

Make-Up Survey Procedures

During the data collection, the Data Collector will meet quietly with the teacher to identify students who are eligible to take the survey but are unavailable to participate in the current administration. These students are listed on the CPTED Student Survey Make-Up List (Appendix P), a copy of which is left with the teacher and the primary point of contact. In addition, a copy is sent by the Data Collector to the ICF Macro Survey Coordinator. The teacher is asked to conduct a small group make-up survey administration with these students. The teacher is provided with survey materials and a business reply envelope, with his/her name and the school's address pre-entered in the 'from' section by the Data Collector to facilitate proper attribution of make-up surveys. Teachers are asked to administer and return the make-ups within two weeks of the initial data collection of her/her class. Small numbers of make-ups are normally conducted by teachers; however, if a major problem exists with a class or school, the Data Collector will arrange a return visit to the school. Additional follow-up contacts occur between the Data Collector and the teacher or school contact, as needed, to review progress on obtaining make-up surveys.

B2G. Statistical Power

The proposed sample size of 50 schools and 75 students per school has sufficient power to detect small effects. Depending on the variability of effect size across sites, power estimates to detect an effect of $d = .20$ ($r^2 = .01$) range from 100 percent for a small degree of effect size variability ($\sigma^2 = .01$) to 95% for a large variability of effect size ($\sigma^2 = .10$).

B3. METHODS TO MAXIMIZE RESPONSE RATES AND DEAL WITH NONRESPONSE

There are six potential types of nonresponse problems anticipated for the study: refusal to participate by selected school districts, schools, teachers, parents, or students; and collection of incomplete information from a student. To minimize refusals at all levels—from school district to student—a variety of techniques will be used, emphasizing the importance of the survey. Given the high visibility and subject matter of the survey, we expect that some school districts or schools will need to place the issue of survey participation before the school board. To increase the likelihood of an affirmative decision, we will: (1) indicate that the survey is being sponsored by CDC; (2) maintain a toll-free hotline to answer questions from school district and school officials, teachers, parents, and students throughout the process of recruiting schools and obtaining parental permission for the students' participation; (3) comply with all requirements from school districts in preparing written proposals for survey clearance; (4) convey a willingness to appear in person, if needed, to present the survey before a school board, research committee, or other local entity tasked with reviewing the survey; and (5) offer schools a \$200 monetary incentive for participation. The aforementioned toll-free hotline will be staffed between the hours of 8:30am to 5:00pm, Eastern Time. The hotline will have voicemail to accept calls that are placed afterhours as well as calls that exceed the number of rollover line(s) available. Messages left on the hotline will be returned by the next business day. The sampling plan allows for the replacement of schools for sites that choose not to participate. All participating school districts and schools will be promised and sent a copy of the published survey results.

Maximizing responses and dealing with refusals from parents, teachers, and students require different strategies. To maximize responses, we will recommend that schools help to advertise the survey through the principal's newsletter, PTA meetings, and other established means of communication. Parental Permission Form Reminder Notices (Appendix J) will be sent to parents who have not returned parental permission forms within an agreed upon time period (e.g., 3 days). Those who do not respond to the reminder will be sent a second and final reminder. The permission form will provide a telephone number that parents may call to have questions answered before agreeing to give permission for their child's participation. Permission forms will be available in English and Spanish. Field staff will be available on location to answer questions from parents who remain uncertain of permission.

Teacher refusals to cooperate with the study are expected to be minimal because schools already will have agreed to participate and burden to teachers is minimal. Nonconsenting teachers will *not* be replaced. If a teacher refusal is encountered, the Data Collector will discuss the refusal with the school contact and the Survey Coordinator or Data Collection Manager. Suggestions will be provided to the contact to overturn the refusal such as arranging for the teacher's class to be administered at a more convenient date and time.

Refusals by students whose parents have consented also are expected to be minimal. No punitive action will be taken against a nonconsenting student. Nonconsenting students will *not* be replaced. Data will be analyzed to determine if student nonresponse introduces any biases.

To minimize the likelihood of missing values on the survey, students will be reminded in writing in the questionnaire booklet and verbally by the survey administrator to review the optically scannable questionnaire before turning it in to verify that: (1) each question has been answered, (2) only one oval is filled in for each question with the exception of the question on race/ethnicity, and (3) each response has been entered with a No. 2 pencil, fills the oval, and is dark. A No. 2 pencil will be provided to each survey participant to reduce the likelihood that their responses will not scan properly, which would produce missing values. In addition, when completed questionnaires are visually scanned later at project headquarters, any oval that is lightly filled in will be darkened (unless they appear to be erasures) and stray marks will be erased before the forms are scanned. Missing values for an individual student on the survey will *not* be imputed.

B4. TESTS OF PROCEDURES OR METHODS TO BE UNDERTAKEN

The Centers for Disease Control and Prevention, National Center for Injury Control and Prevention, Division of Violence Prevention (CDC/NCICP/DVP) originally contracted with C & C to develop and establish the reliability of the CSA observational tool (Appendix E) to assess the physical characteristics of a school relative to the principles of CPTED. Pilot tests of the CSA tool conducted in Richmond, VA found good inter-rater reliability and contributed to refinements of the tool that have been incorporated into the current version of the CSA.

Information reported on the CPTED School Site Data Form (Appendix F) completed by the school administrator is archival and psychometric assessments do not apply.

B5. INDIVIDUALS CONSULTED ON STATISTICAL ASPECTS AND INDIVIDUALS COLLECTING AND/OR ANALYZING DATA

The Subcontractors responsible for field data collection include:

ICF Macro

11785 Beltsville Drive
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The Contractors responsible for the statistical design of the data collection and for data analysis include:

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