Bureau of Justice Statistics Research and Development Series

Campus Climate Survey Validation Study Final Technical Report

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Abstract

Presents the results of a nine-school pilot test that was conducted to develop a campus climate survey that collects school-level data on sexual victimization of undergraduate students. The report describes the development of the survey instrument and procedures for data collection, nonresponse bias analysis, weighting, and validity assessment. It presents estimates for each school on the prevalence and incidence of sexual assault, rape, and sexual battery during the 2014–15 academic year, as well as characteristics of the victims and incidents. It also provides estimates of the prevalence of sexual assault since entering college and during the student's lifetime. In addition, the report examines the relationship between measures of campus climate and rates of sexual victimization.

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Executive Summary

The White House Task Force to Protect Students From Sexual Assault was established in January 2014. One of its primary goals is to provide institutions of higher education with tools that they can use to more effectively respond to and prevent rape and sexual assault. As noted in the first report of the Task Force *(Not Alone)*, one such tool is a climate survey designed to help schools understand the magnitude and nature of sexual victimization experienced by students. The Task Force specifically encouraged all schools to conduct a climate survey and included a draft survey in its toolkit (https://www.notalone.gov/assets/ovw-climate-survey.pdf).

In response to increasing recognition of the role of campus climate surveys, in August 2014 the Office on Violence Against Women (OVW) funded the Bureau of Justice Statistics (BJS), within the U.S. Department of Justice, to develop and test a pilot campus climate survey that could be implemented by schools or researchers, and used to address key Task Force goals and issues related to the measurement of rape and sexual assault in self-report surveys. BJS contracted with RTI International, a nonprofit research organization, to collaborate on the design and implementation of the Campus Climate Survey Validation Study (CCSVS). The purpose of the CCSVS was to develop and test a survey instrument and methodology for efficiently collecting valid school-level data on campus climate and sexual victimization. This Executive Summary provides an overview of the methodology used in the CCSVS and key substantive findings, with more comprehensive information presented in the full CCSVS Research Report.

CCSVS Research Goals

The CCSVS was designed and implemented around a number of research goals:

1. Develop a survey instrument that uses a collection of techniques to efficiently and confidentially collect valid data from undergraduate students about their sexual victimization experiences and their perceptions of the campus climate related to sexual harassment and sexual assault.
2. Design and implement a survey methodology that collects data from a sample of students, achieves response rate and survey completion targets, minimizes nonresponse bias, and ensures that the resulting estimates are precise and representative of the undergraduate student populations at participating schools.
3. Collect data from students at multiple schools using a standardized methodology (e.g., within a standardized time period and using a standardized instrument and process) to produce school-specific results that can be compared across schools and are useful to participating schools.

The project was to also generate estimates of sexual victimization that can potentially be compared to estimates generated by the National Crime Victimization Survey (NCVS) for identifying promising methods to inform NCVS redesign activities and other data collections that measure rape and sexual assault.

CCSVS Methodology

Developing the CCSVS Instrument

In August 2014, the CCSVS instrument development process began with an in-depth review of the survey included in the toolkit prepared by the White House Task Force to Protect Students From Sexual Assault (https://www.notalone.gov/assets/ovw-climate-survey.pdf). Modifications to the draft toolkit instrument were made to comply with best practices in survey research. Other climate surveys, existing scales, and individual measures used in prior campus sexual assault work were reviewed during this phase. In addition, a series of listening sessions were held with academic experts in campus sexual assault research, federal partners, and school administrators to obtain feedback on the survey's content and data collection methodology. A web-based instrument to be used in the CCSVS Pilot Test was drafted and reviewed by representatives from several federal agencies. A key feature of the survey was the use of behaviorally specific screening questions to identify sexual assault victims and to use detailed incident-level follow-up questions to capture information on up to three individual incidents of sexual assault. To maximize the survey's validity by focusing on recent events that would be easier for respondents to recall, the survey focused primarily on sexual assault victimization during the 2014–2015 academic year. A limited set of victimization questions were also asked about the broader reference periods of sexual assault experienced since beginning college and over the students' lifetimes. In addition, the survey included items for capturing experiences with sexual harassment; coerced sexual contact; intimate partner violence; and perpetration of sexual harassment and sexual assault. Other questions assessed several dimensions of campus climate, including students' school connectedness, perceptions of campus leadership efforts related to sexual misconduct, and student norms related to sexual misconduct.

Cognitive Testing of CCSVS Instrument

In January and February of 2015, the draft CCSVS instrument was cognitively tested with male and female college students, including victims of sexual assault. Two approaches to cognitive testing were employed: (1) crowdsourcing and (2) in-person. Crowdsourcing, which entailed administration of key sections of the instrument to 240 college students pre-registered with an online opinion hub to complete short web surveys for nominal compensation, allowed the study team to efficiently identify as many obvious problems with the survey instrument as possible. In-person cognitive testing, which entailed in-depth personal interviews covering the entire draft instrument with 36 male and female college students in three cities, generated a more nuanced understanding of how a smaller number of respondents—including victims of sexual assault—conceptualized and answered each question. The cognitive testing process was extremely helpful in identifying several issues with question framing and ordering, and a number of revisions were made to the instrument based on the knowledge gained during the cognitive testing process.

Sampling, Recruiting, and Working with Schools

From January to early March 2015, institutions of higher education were recruited to participate in the CCSVS Pilot Test. Data from the Integrated Postsecondary Education Data System (IPEDS) were used to identify eligible schools,[1] which were stratified by size, public vs. private status, and 2- vs. 4-year status. Schools were also selected to obtain some regional variation. Selected schools in each stratum were invited to participate in the CCSVS Pilot Test; out of 24 schools ultimately invited to participate, 9 agreed. The participating schools offer variation in terms of size, public vs. private status, 2- vs. 4-year status, and region of the country. Importantly, neither this sample of nine schools nor the data collected from the students attending them are intended to be nationally representative of all college students or institutions of higher education. The results can be compared to those of other campus climate surveys and from other federal surveys, however, in an effort to improve understanding of the impact that methodological decisions have on the magnitude and validity of victimization estimates. Memorandums of Understanding (MOUs) and Data Transfer Agreements (DTAs) were established with all participating schools. Where required, Institutional Review Board (IRB) approval was obtained from the school.[2]

Pilot Test Data Collection

The CCSVS Pilot Test was fielded in March 2015. From rosters provided by each school, stratified random samples of undergraduate, degree-seeking male and female students who were at least 18 years of age were drawn, with sample sizes designed to yield school-specific estimates of campus climate (for males) and sexual assault victimization within the 2014–2015 academic year (for females). Sampled students were recruited via email to participate in the confidential, web-based survey, which was designed to be fully functional on smartphones, tablets, laptops, and desktop computers. On average, the survey took 15 minutes for males and 16 minutes for females to complete. For taking the survey, students received a $25 gift card; however, in four schools an incentive experiment was conducted to determine whether $25 was more effective than $10, and whether $40 was more effective than $25.[3] The survey was open for approximately 57 days, but this varied slightly based on each school's academic calendar. Five reminder emails were sent to students who had not responded. Upon completing the survey, participants were able to access information on national, local, and school-specific resources and services related to sexual violence.

[1] For-profit schools, schools offering online classes only, and schools with fewer than 1,176 full-time undergraduate women were excluded. This resulted in 1,242 schools identified as eligible.

[2] IRB approval was also obtained from RTI International, which has Federalwide Assurance (FWA #3331). Clearance under the Paperwork Reduction Act was also received from the Office of Management and Budget (OMB, approval #1121-0339).

[3] In the remaining five schools, a greeting experiment was conducted, in which survey participation rates and sexual assault victimization rates were compared between students randomly assigned to receive a personalized greeting in their recruitment (and follow-up reminder) e-mail (e.g., "Dear Sarah") and those randomly assigned to receive a generic greeting (e.g., "Dear [FILL SCHOOL NAME] student").

CCSVS Results

Research Goal #1: Development of Survey Instrument

The CCSVS achieved its goal of using a collection of techniques to efficiently and confidentially collect valid data from undergraduate students about their sexual victimization experiences and the campus climate related to sexual harassment and sexual assault. Refined based on an extensive cognitive testing process, the final web-based survey instrument that was fielded used behaviorally specific screening questions to identify sexual assault victims and employed detailed incident-level follow-up questions to capture information about up to three individual incidents of sexual assault. The survey focused primarily on measuring sexual assault victimization experienced by undergraduate males and females at each school during the 2014–2015 academic year.

For the CCSVS, three key types of sexual victimization were measured: sexual assault, rape, and sexual battery. Sexual battery was defined as any unwanted and nonconsensual sexual contact that involved forced touching of a sexual nature, not involving penetration. This could include forced kissing, touching, grabbing, or fondling of sexual body parts. Rape was defined as any unwanted and nonconsensual sexual contact that involved a penetrative act, including oral sex, anal sex, sexual intercourse, or sexual penetration with a finger or object. Sexual battery and rape are mutually exclusive categories (e.g., a victim or a sexual victimization incident would be counted as one or the other, but not both). Sexual assault is the term used to describe any unwanted and nonconsensual sexual contact that involved either sexual battery or rape. It does not include sexual harassment or coerced sexual contact, which were measured separately.

To understand the types of sexual victimization experienced and the characteristics and outcomes of those experiences, the project team developed an incident-based approach to collecting the CCSVS Pilot Test data. The incident-based approach asks respondents to identify separate occurrences of victimization, date them, and then answer questions about each specific incident, for up to a maximum of three. Using an incident-based approach allows for the presentation of *prevalence* estimates—the number of unique victims who experienced one or more victimizations during the reference period (expressed as a percentage)—and *victimization* estimates—the number of incidents experienced by persons in the population (expressed as a rate and representing the number of victimization incidents experienced per 1,000 students). This makes it possible to present prevalence and victimization rates based on the type of victimization experienced, rather than looking only at the prevalence of any type of sexual victimization. Additionally, the incident-based approach allows incidents to be dated and placed within the reference period and allows for the identification of the characteristics and outcomes of specific types of incidents. Secondary outcomes also measured in the CCSVS Pilot Test included sexual assault experienced since beginning college and in students' lifetimes.

In addition to measuring rape and sexual assault, the survey included items for capturing experiences with sexual harassment; coerced sexual contact; intimate partner violence; and perpetration of sexual harassment and sexual assault; and several dimensions of campus climate, including school connectedness, perceptions of campus leadership efforts related to sexual misconduct, and student norms related to sexual misconduct.

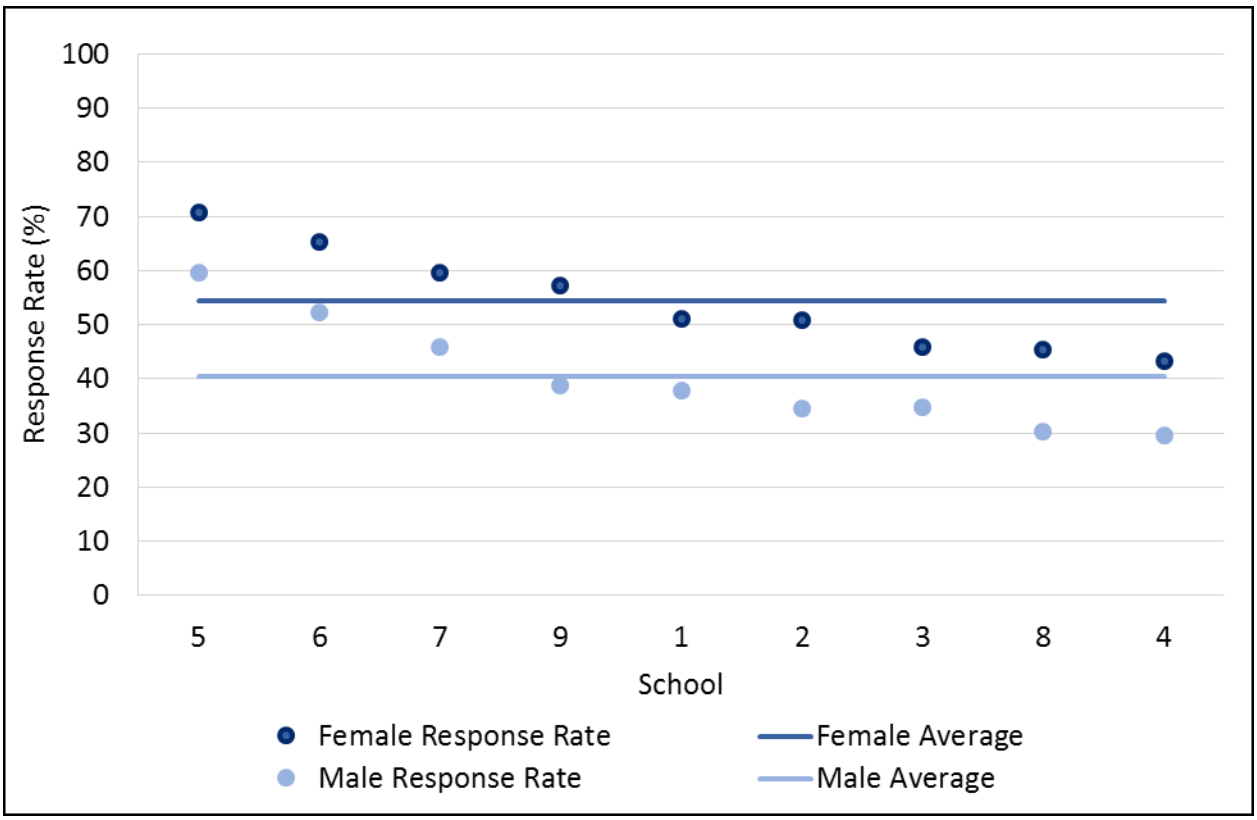
Research Goal #2: Response Rates, Data Quality, and Precision of Sexual Victimization Estimates

The CCSVS achieved its goal of implementing a data collection methodology that yielded reasonable response rates and high data quality. Surveys were completed by more than 23,000 undergraduate students (approximately 15,000 females and 8,000 males). The average[4] response rate across all nine schools was 54% for females and 40% for males. Response rates for females ranged from 43% (School 4) to 71% (School 5); in all schools, the expected response rate of 40% was exceeded. Male response rates ranged from 30% (School 4) to 60% (School 5), and expected response rates (35%) were achieved or exceeded in five of the nine schools (**Figure ES-1**).

Nonresponse bias analyses were conducted at the school level using detailed student roster data provided by the schools. The distributions of respondents and the sample population were compared for characteristics potentially correlated with nonresponse bias for the primary outcome of interest (sexual assault victimization during the 2014–2015 academic year). Minimal bias (i.e., differences in characteristics of respondents and the population of eligible students) was detected and the survey data were adjusted or weighted to compensate accordingly. In addition, a field-period analysis found that students who took the survey relatively early in the field period reported experiencing sexual assault victimization at the same rate as those who took the survey later in the field period.

[4]The average presented here is the arithmetic average. In other words, the estimate for each of the schools was added and divided by nine to get the average. This treats each school equally even though schools are not of equal size.

Figure ES-1. Response rates by school and sex

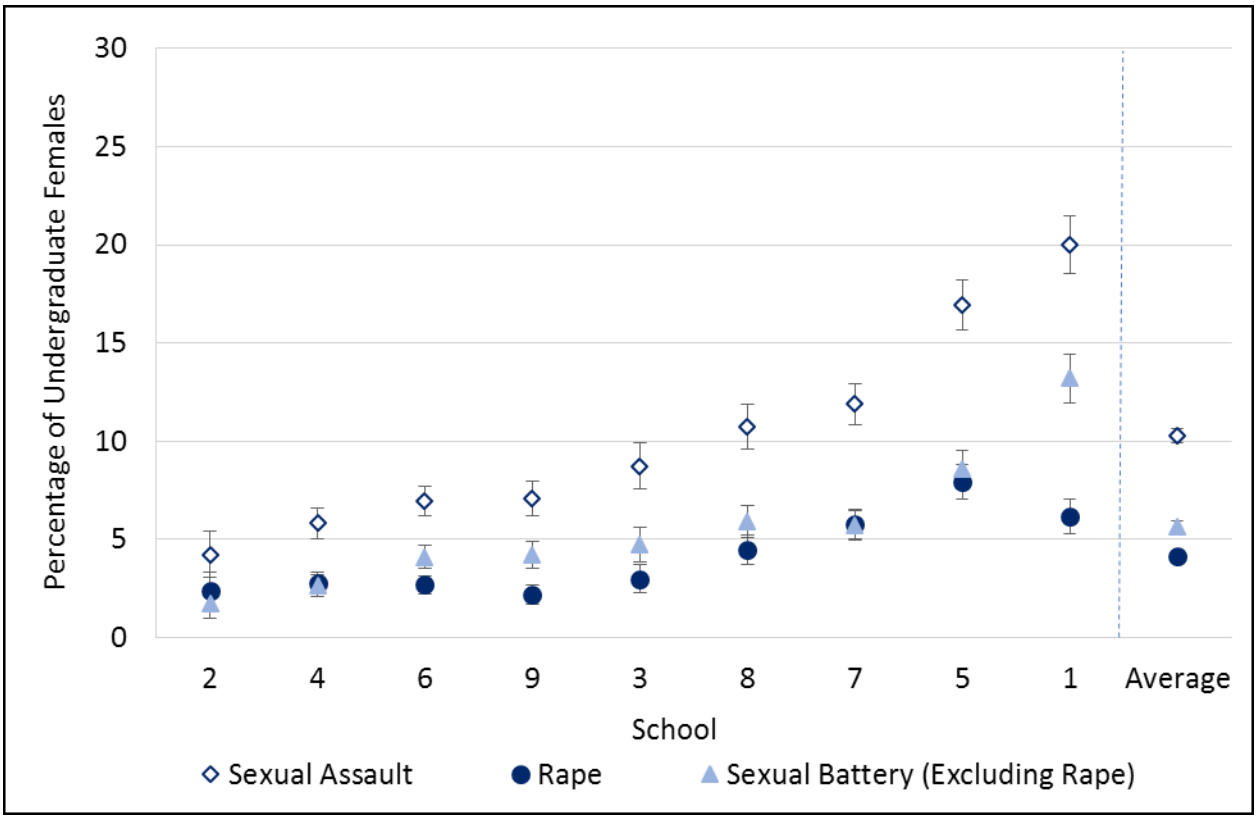


Source: Campus Climate Survey Validation Study (CCSVS), 2015

The survey data were thoroughly reviewed for quality and completeness. About 2% of respondents started but did not finish the survey. The level of missing data (i.e., the proportion of survey items not answered by survey respondents) was also relatively low for most items. The survey items that were most often not answered by students were the follow-up questions for the second and third incidents of sexual assault, which indicates respondent fatigue.

The CCSVS achieved its goal of obtaining prevalence estimates of sexual assaults experienced by females with the desired level of precision at eight of nine schools using a representative sample of students. The prevalence rate for completed sexual assault experienced by undergraduate females during the 2014–2015 academic year, averaged across the nine schools, was 10.3%, and ranged from 4.2% at School 2 to 20.0% at School 1 (**Figure ES-2**). The average prevalence rate for completed sexual battery during the 2014–2015 academic year was 5.6%, and ranged from 1.7% at School 2 to 13.2% at School 1. The average prevalence rate for completed rape during the 2014–2015 academic year was 4.1%, and ranged from 2.2% at School 9 to 7.9% at School 5.

Figure ES-2. Percentage of undergraduate females reporting sexual assault, rape, and sexual battery, 2014–2015 academic year, by school



Source: Campus Climate Survey Validation Study (CCSVS), 2015

The sexual assault victimization incidence rate for completed sexual assault, averaged across the nine participating schools, was 176 per 1,000 undergraduate females, and ranged from 85 at School 2 to 325 at School 1. The average victimization incidence rate for sexual battery per 1,000 undergraduate females was 96, and ranged from 34 at School 2 to 221 at School 1. The average victimization incidence rate for rape per 1,000 undergraduate females was 54, and ranged from 28 at School 9 to 110 at School 5. Across the nine participating schools, 4.3% of sexual battery incidents and 12.5% of rape incidents were reported by the victim to any official.[5]

The full technical report presents victimization estimates by key student subgroups, including age, year of study, race/ethnicity, and sexual orientation. Results showed that at most of the nine participating schools, students age 18–22 experienced sexual victimization at higher rates than those aged 23 or older, and that nonheterosexual students were more likely to be victimized than heterosexual students. Additional incident characteristics are also included in the full technical report, including the tactics used by the offender to commit the sexual assault, the month and location in which the incident occurred,

[5] This includes 1) administrators, faculty, or other officials or staff at the school; 2) a crisis center or helpline, or a hospital or health care center at the school; 3) a crisis center or helpline, or a hospital or health care center not at the school; 4) campus police or security, or 5) local police not at the school, such as the county or city police department.

the number and sex of the offender(s), the offender's school affiliation and relationship to the victim, the victim's and offender's alcohol and drug use, impact(s) on the victim, the victim's reporting experiences, and reasons for not reporting. Additionally, a number of other estimates were developed (and are included in the full technical report), including sexual assault victimization experienced since entering college and in students' lifetimes; experiences with sexual harassment, coerced sexual contact, and intimate partner violence victimization; sexual harassment and sexual assault perpetration; and a variety of campus climate measures and their association with sexual victimization rates.

Research Goal #3: Implement Methodology in a Standardized Manner that Allows for Cross-School Comparisons and Produces Procedures for Conducting Climate Surveys and Measuring Rape and Sexual Assault

The CCSVS Pilot Test achieved its goal of implementing a standardized methodology across all nine participating schools. The standardized methodology allowed prevalence and incident rates for key outcomes to be compared across schools. The school-level estimates presented in **Figure ES-2** are comparable because the same sampling, instrument, data collection, and estimation procedures were used at each school. Evident from **Figure ES-2** is the variability or range of these estimates across schools and that the estimates for several schools can be differentiated from one another statistically. The school-specific results are, in themselves, useful to the participating schools as they provide information about the magnitude and nature of sexual victimization experienced by their students; however, being able to compare the results from one school to another has additional value in that it enables a school to assess whether its estimates are similar to those of other schools. Using a standardized approach to climate surveys across schools can allow researchers and other interested stakeholders to learn more about why estimates vary across schools and how estimates relate to student demographics, student activities, school policies and procedures, and other factors. Using a standardized approach to climate surveys within a given school over time allows for a better understanding of how estimates change over time and the factors potentially associated with change.

Schools and other stakeholders have reasons to be confident in the CCSVS Pilot Test procedures used for conducting climate surveys and measuring rape and sexual assault. Numerous methodological assessments were conducted in an effort to assess the quality and validity of the data collected for the CCSVS Pilot Test and to provide guidance on how best to conduct future climate surveys similar in scope. For instance, a technique called latent class analysis was used to assess the validity of key sexual assault victimization estimates.[6] Based on the latent class analysis assessment, estimates did not appear to be impacted by false positive or false negative bias. The conclusions provided at the end of the full technical report provide commentary on a number of methodological considerations. For instance, it is suggested in the report that:

[6] Latent class analysis uses embedded replication (i.e., multiple survey items asking about a concept or a latent construct) to measure the accuracy of the key estimates and produce unbiased estimates of the latent construct of interest (e.g., experiencing unwanted sexual contact since the beginning of the 2014–2015 academic year).

- The survey instrument be brief (less than 20 minutes) and function on a variety of electronic devices (e.g., computers, tablets, and smartphones).
- The survey instrument use behaviorally specific language and a self-administered survey mode when asking questions about sexual victimization.
- Recruitment materials be personalized for potential respondents (e.g., address students by their first names) and that messages be customized for males to increase participation.
- The survey be administered towards the end of the academic year and remain in the field for at least one month, but preferably about two months.
- The methodology should include multiple follow-up reminders for nonrespondents.
- Incentives in the $20-30 range be given to survey respondents.

The CCSVS Pilot Test also addressed a variety of methodological issues that have implications for the measurement of rape and sexual assault within the general population in addition to a student population. In particular, the findings regarding the use of behaviorally specific questions, the self-administered mode of administration, and the two-stage screening approach could potentially be used to inform decisions related to ongoing NCVS redesign efforts, as well as efforts to improve other large federal surveys focused on sexual victimization. By analyzing data collected from NCVS respondents who are similar demographically to the CCSVS Pilot Test respondents (e.g., college students who are mostly 18 to 24 years of age), differences in the level and nature of sexual victimization captured by each survey can be attributed, at least in part, to the different approaches used to measure rape and sexual assault. For example, if CCSVS Pilot Test rates are considerably higher, that difference can potentially be attributed to the fact that the CCSVS employed a self-administered data collection mode and/or behaviorally specific survey questions to screen for sexual victimization. This finding, in turn, could inform assessments of the potential impact that changing how the NCVS measures rape and sexual assault may have on NCVS estimates going forward.

1. Background

In January of 2014, the White House established the Task Force to Protect Students From Sexual Assault. The Task Force was established with the goals of identifying promising practices for reducing rape and sexual assault among college students and bringing improvements, consistency, and evidence-based practices to campus responses to victimization. A major component of the Task Force's plan was to encourage the administration of campus climate surveys to capture self-reported data on students' experiences with sexual assault and perceptions of the climate related to sexual misconduct. Campus climate surveys provide one vehicle for measuring the problem of rape and sexual assault among college students, and have the potential to collect information that is needed to understand which policies and programs are most effective at reducing the prevalence of rape and sexual assault, providing effective and necessary services to victims, investigating sexual victimization incidents, and holding perpetrators accountable.

Self-reported data on rape and sexual assault provide an understanding of the extent and nature of crimes that often go unreported to police and are thus undercounted in official law enforcement statistics. The low reporting rate of rape and sexual assault is due to the sensitive and personal nature of these crimes, the fact that victims may not define or think about what happened to them as crimes, or victims' lack of confidence that reporting the crimes will result in satisfactory outcomes. Although the nature and definitional ambiguity of rape and sexual assault incidents can make measuring them accurately challenging for survey researchers, because these crimes can have severe impacts on and consequences for victims, the importance of understanding the prevalence, incidence, and nature of rape and sexual assault is widely recognized.

The Task Force developed a core set of items for a student climate survey to capture key aspects of the problem of sexual assault for campuses (https://www.notalone.gov/assets/ovw-climate-survey.pdf). The initial instrument was informed by prior research efforts and guided by the notion that for climate surveys to be effective, they must generate valid and reliable estimates of the prevalence of rape and sexual assault victimization; capture sufficient information about the victims, the incidents, the perpetrators, and the campus environment/culture to identify correlates of sexual victimization; and identify school policies or practices that might be associated with increases or decreases in the prevalence of sexual assault. The instrument developed by the Task Force covered the following topics: (1) general climate of the school, (2) perceptions of leadership, policies, and reporting, (3) the prevalence of sexual violence, (4) the context around the incidents of sexual violence, (5) bystander confidence and readiness to help, (6) perceptions of sexual assault, (7) rape myth acceptance, and (8) the prevalence of interpersonal violence.

Given the Bureau of Justice Statistics' (BJS') interest in and experience with the measurement of rape and sexual assault, the Office on Violence Against Women (OVW) funded BJS to develop and test a pilot campus climate survey that could be implemented by schools or researchers and used to address key Task Force goals and key issues related to the measurement of rape and sexual assault in self-report surveys. Because of the short turnaround time allotted for designing and administering the pilot test, BJS

contracted with RTI International, an independent, nonprofit research organization, as a partner in the effort to design and implement the tasks associated with this Campus Climate Survey Validation Study (CCSVS). Researchers at RTI have extensive experience measuring and studying rape and sexual assault and are responsible for several influential studies focused on college students (specifically, Krebs et al., 2009; Krebs et al., 2011).

1.1 Campus Climate Survey Validation Study (CCSVS)

Since 1992, BJS has collected self-report data on rape and sexual assault victimization through the household-based National Crime Victimization Survey (NCVS). The NCVS has respondents recall, enumerate, and date each incident of property and violent crime they experienced to produce annual victimization estimates. It uses a two-stage screening process to identity victims of a broad range of crimes, reported and not reported to police, and asks respondents directly if they experienced rape or sexual assault during the prior six-month period. NCVS data has been used to estimate the prevalence and incidence of these crimes, as well as the characteristics of victims, the circumstances surrounding the offense, reporting to the police, and the effects of the victimization.

Over the past few decades, a number of surveys employing a wide range of methodologies have measured rape and sexual assault, resulting in different estimates of the magnitude of the problem. Varying schools of thought have emerged on whether to approach the measurement of these crimes from the criminal justice perspective as the NCVS does or from a public health perspective, which encompasses experiences of a sexual nature that may be harmful but do not, in all cases, rise to the level of being criminal. Other methodological debates center on whether to ask questions about victimizations that occurred during a relatively recent (e.g., past 12 months) versus a lengthier (e.g., since turning 14 or lifetime) reference period; the impact of interviewer presence versus using a self-administered survey mode; whether to use a one-stage versus two-stage measurement strategy;[7] and whether to use terms like "rape" or "sexual assault" versus using only behaviorally specific language (that conveys the behaviors or events that transpire when rape or sexual assault occur) in the survey questions.

Given the importance of the topic and range of methodological issues for consideration, additional research is needed to fully understand the impact of context, survey mode, question wording, and length of the reference period on estimated rates of rape and sexual assault. The purpose of the Campus Climate Survey Validation Study (CCSVS) was to develop and test a survey instrument and methodology for efficiently collecting valid school-level data on campus climate and sexual victimization. Towards that purpose, the CCSVS was designed and implemented around the following research goals.

[7] The one-stage approach entails using behaviorally specific questions that include and convey all of the elements needed to establish that sexual victimization occurred (i.e., that consent was not provided or intended, the nature of the unwanted sexual contact, and the types of tactics used by the offender). The two stage-approach entails using behaviorally specific questions to establish that sexual victimization occurred (stage 1) along with follow-up questions (stage 2) to collect data on characteristics of the victimization (e.g., the nature of the unwanted sexual contact, the types of tactics used by the offender). Researchers sometimes reclassify respondents identified as victims in stage 1 based on data collected in stage 2.

1. Develop a survey instrument that uses a collection of techniques to efficiently and confidentially collect valid data from undergraduate students about their sexual victimization experiences and perceptions of campus climate related to sexual harassment and sexual assault.

4. Design and implement a methodology that collects data from a sample of students, achieves response rate and survey completion targets, minimizes nonresponse bias, and ensures that resulting estimates are precise and representative of the undergraduate student populations at participating schools.

5. Collect data from students at multiple schools using a standardized methodology (e.g., within a standardized time period and using a standardized instrument and process) to produce school-specific results that can be compared across schools and are useful to participating schools.

To achieve these goals, the research team used the survey instrument initially produced by the Task Force as a starting point for developing an instrument that was relatively short, used behaviorally specific cues to identify victims, and employed an incident-based approach to obtain details about the nature and consequences of specific rape and sexual assault incidents. Other important components of the revised instrument were a two-stage screening process, the dating of incidents to ensure they occurred within the reference period, and the use of questions to be used in latent class analysis, a statistical procedure used to assess the validity of responses.

In January and February 2015, RTI cognitively tested the preliminary CCSVS instrument with male and female college students, including victims of sexual assault, using both crowdsourcing and in-person methods. The cognitive testing process helped to identify issues with question framing and ordering, and a number of additional revisions were made to the instrument based on the knowledge gained during the cognitive testing process. The instrument was also reviewed by representatives from several federal agencies and their comments were incorporated.

From January to March 2015, nine schools were recruited to participate in the CCSVS Pilot Test. The participating schools offered diversity in terms of size, regions of the country, public vs. private status, and 2- vs. 4-year status. From March through May 2015, data collection for the Pilot Test was conducted, and completed surveys were collected from more than 23,000 undergraduate students at the nine schools.

This report provides a detailed presentation of all activities undertaken for the CCSVS, the school-specific estimates of sexual victimization and campus climate, and the results of numerous assessments of the CCSVS methodology and the validity and reliability of the resulting data. The information contained in this report will inform future efforts to measure rape and sexual assault in a way that maximizes the likelihood of generating valid data that can be used to understand how to prevent sexual victimization, provide effective and necessary services to victims, investigate sexual victimization incidents, and hold perpetrators accountable.

Although the CCSVS Pilot Test findings are not nationally representative of all college students or institutions of higher education, the results can be compared to those of other campus climate surveys and from other federal surveys in an effort to improve understanding of the impact that methodological decisions have on the magnitude and validity of victimization estimates. Ultimately, the methodological aspects of the CCSVS Pilot Test have implications for the design and administration of campus climate surveys and for the measurement of rape and sexual assault in general. The information presented in this report provides guidance and insights that reflect state-of-the-art methodology, as well as the most current knowledge and the best practices for measuring sexual victimization.

2. Instrument Development and Testing

The CCSVS Pilot Test survey instrument and methodology were designed to accomplish two primary objectives, one related to content and one related to quality.

First, in terms of content, the intention of the CCSVS Pilot Test was to develop valid measures of sexual assault victimization and aspects of campus climate related to sexual assault. For the CCSVS, three key types of sexual victimization were measured: sexual assault, rape, and sexual battery. Sexual battery was defined as any unwanted and nonconsensual sexual contact that involved forced touching of a sexual nature, not involving penetration. This could include forced kissing, touching, grabbing, or fondling of sexual body parts. Rape was defined as any unwanted and nonconsensual sexual contact that involved a penetrative act, including oral sex, anal sex, sexual intercourse, or sexual penetration with a finger or object. Sexual battery and rape are mutually exclusive categories (e.g., a victim or a sexual victimization incident would be counted as one or the other, not both). Sexual assault is the term used to describe any unwanted and nonconsensual sexual contact that involved either sexual battery or rape. Sexual assault, rape, and sexual battery were priorities, but other types of victimization (e.g., sexual harassment, intimate partner violence) were also measured, as was sexual assault perpetration. In terms of the reference period, the objective was to develop questions that could be used to produce valid estimates of the incidence and prevalence of sexual victimization since the beginning of the 2014–2015 academic year. Estimates based on broader reference periods (since beginning college and lifetime) were of secondary interest.

In addition to producing estimates of sexual victimization, a priority of the CCSVS was to evaluate the effectiveness of using a two-stage approach to identify sexual assault victims and to capture additional details about individual sexual assault incidents. The two-stage method entailed using a screener with behaviorally specific questions to first determine *if* an incident occurred and *how many* incidents occurred, and then, after placing each incident in time (the specific month since the beginning of the 2014–2015 academic year), to capture incident-level information through detailed follow-up questions about each specific incident. The content collected in the second stage enabled a detailed description of sexual assault incidents experienced by undergraduate students.

In addition to enumerating and describing victimization incidents, the survey also needed to measure various aspects of campus climate defined as student perceptions, knowledge, and attitudes about the campus culture and environment that might be relevant to the prevalence and nature of sexual assault; issues related to disclosure and reporting of victimization incidents to authorities; knowledge of policies, procedures, and available resources related to sexual harassment and sexual assault; and bystander intervention attitudes and behaviors related to sexual harassment and sexual assault. Including these measures necessitated consideration about item placement and ordering, as well as the types and number of items needed to fully capture these concepts.

Second, in terms of data quality, efforts were made to maximize the methodological rigor of the survey and increase the reliability and validity of estimates. For example, given that the survey included questions about sensitive topics, a private, self-administered, web-based mode of survey data collection

was employed. Because elevated respondent burden can reduce participation rates and data quality, and increase breakoff rates (Cape, 2010; Couper, 2008, p. 298; Macer & Wilson, 2014; McMahon & Stamp, 2009; Galesic, 2006; Galesic & Bosnjak, 2009), the goal was to ensure that the CCSVS instrument took an average of 15 minutes to complete. To cover all of the concepts of interest, this meant that each survey item had to have a specific purpose, and be as clear and efficient as possible. Taking the incident-based approach to capturing details about sexual assault incidents and having respondents place incidents in time minimized the likelihood of telescoping, which is when respondents recall events that happened outside of, but report them within, the specified reference period. However, this needs to be balanced with the concerns about the respondent's ability to accurately recall incident-specific information and to date the event in time. Many factors can affect a person's ability to recall information accurately.

Finally, a number of validity checks or quality measures were built into the survey instrument to facilitate validity assessments. For example, to assess face and predictive validity, internal consistency checks were embedded in the instrument to check whether responses to particular items were patterning in a consistent manner. In addition, latent class analysis, which is a technique for validating sensitive items such as questions related to sexual victimization without knowing the true prevalence of the outcome among the sample (i.e., it does not require a gold standard), was used. By embedding multiple survey questions that assess the same underlying concept, in this case sexual assault victimization, the number of potential false positive cases (i.e., situations in which the data indicate a sexual assault occurred when it truly did not) and the number of potential false negative cases (i.e., situations in which the data indicate a sexual assault did not occur when it truly did) can be estimated.

The process involved in developing and testing the CCSVS Pilot Test survey instrument and methodology was iterative and involved multiple mechanisms, including subject matter consultation, cognitive testing, and pilot testing.

2.1 Instrument Development

The first step in developing the CCSVS Pilot Test instrument entailed a review of the draft toolkit instrument, developed by the White House Task Force to Protect Students From Sexual Assault, which was based on or adapted from numerous existing scales and measures. The draft toolkit instrument included modules on a range of topics, including prevalence of rape and sexual assault; the context and characteristics of incidents; perceptions, knowledge, and attitudes relevant to sexual assault; issues related to disclosure and reporting to authorities; knowledge of policies, procedures, and available resources; bystander intervention attitudes and behaviors; and intimate partner violence/dating violence.

The CCSVS project team made modifications to the draft toolkit instrument in adherence to best practices in survey research that were designed, in part, to maximize response accuracy, reduce respondent and interviewer burden, and control costs (see **Table 1**). Many of the modifications were intended to

streamline the survey so that it could be administered in approximately 15 minutes.[8] Other modifications pertained to question ordering and wording.

The project team sought input on the final set of constructs to be included in the CCSVS instrument from numerous academic researchers, sexual assault survivor advocates, and federal scientific staff with expertise in the measurement of sexual assault. During these discussions, the decision was made to cover several additional constructs that were not included in the draft toolkit instrument, including sexual assault perpetration, sexual harassment victimization, and sexual harassment perpetration. For the measurement of the additional constructs and wording changes to existing toolkit instrument items, the study team reviewed several existing scales and survey instruments, with final survey items modified from among the following sources:

- The Sexual Experiences Survey Short Form Victimization (SES-SFV; Koss et al., 2006a; Koss et al., 2007) and Short Form Perpetration (SES-SFP; Koss et al., 2006b; Koss et al., 2007)
- The American Association of University Women sexual harassment survey (Hill & Kearl, 2011)
- The Campus Sexual Assault Study (Krebs et al., 2007)
- National College Women Sexual Victimization Study (Fisher, Cullen, & Turner, 2000)
- The National Crime Victimization Survey (Truman & Langton, 2014)
- The Partner Victimization Scale (Hamby, 2014)

[8] Several studies have determined that response quality starts to deteriorate after about the 20-minute mark in web surveys (e.g. Cape, 2010; Couper, 2008, p. 298; Macer & Wilson, 2014; McMahon & Stamp, 2009). In addition, Galesic (2006) compared 10-, 20-, and 30-minute questionnaires to look at breakoff rates, which went from 32% to 43% to 53%, respectively. Galesic & Bosnjak (2009) found that announcing to potential survey respondents that the length of the survey was going to be about 10, 20, or 30 minutes resulted in response rates of 75%, 65%, and 62%, respectively. Considering these and other studies, the authors of *Web Survey Methodology* (Callegaro, Manfreda, & Vehovar, 2015) conclude that "A very general and rough benchmark for the maximum length is around 20 minutes, after which the quality of responses often deteriorates rapidly."

Table 1. Crosswalk between original toolkit instrument and proposed revisions to instrument (with rationale)

Module	Original Approach	Proposed Revisions and Rationalea
Demographics	Covered race, ethnicity, gender assignment at birth, gender identity, sexual orientation, year of study.	▪ Add age, which is an important covariate to explore (independent of year of study). ▪ Streamline gender identity categories (but keep ability to specify "other") because rare categories (transgender male, transgender female, gender queer/gender-nonconforming, and other) will likely need to be collapsed for analytic purposes. ▪ Remove gender assignment at birth, which is less relevant than current gender identity. Revise the approach to measuring race/ethnicity to be consistent with OMB data collection standards.
General Campus Climate	Covered school connectedness; perceptions about faculty, staff, and administrators (respect for students, concern about students' welfare, fair treatment of students, demonstrate leadership during a crisis, protect and support students); perceptions of university response to reporting of sexual assault; participation in sexual assault prevention training; knowledge of university procedures and resources.	▪ Move questions about universityb response to sexual assault reporting to follow the sexual assault prevalence questions because covering the respondent's own sexual assault experiences before asking generally about the campus response to reporting is likely to generate more accurate answers and minimize the loss of missing prevalence data due to early "break-offs." In addition, using terms like "sexual assault" before asking the prevalence-related questions can prime respondents to think about their own experiences differently and inaccurately. ▪ Move questions about training and knowledge of university procedures/resources to follow the sexual assault prevalence questions for the same reasons described above. Additional recommendations for these questions include— – Ask a follow-up question about the topics covered in the training attended by the respondent – Add a few questions about the respondent's perception of the university's leadership efforts with regard to prevention (e.g., the school's commitment to prevention of sexual assault, whether current prevention efforts are effective). ▪ Ask separately about attitudes toward faculty and staff, administrators, and police/security because students may have very different attitudes about or views of each of these groups. ▪ Streamline/revise questions to focus on whether each group treats students fairly, is concerned about student welfare, cares about the students as opposed to the school's reputation, and whether students are comfortable seeking help from each group. Questions about handling crises or handling incidents, in general, are less likely to be associated with student's likelihood of reporting sexual assault than their comfort level with seeking help from the specific group of staff and their perceptions about whether each group is genuinely concerned with helping them.

(continued)

Table 1. Crosswalk between original toolkit instrument and proposed revisions to instrument (with rationale) (continued

Module	Original Approach	Proposed Revisions and Rationale
Sexual Assault Prevalence	Initial gate or screener questions covered both completed and attempted physically forced sexual assault and incapacitated sexual assault; timeframe not specified.	▪ Provide a detailed explanation of what students will be asked about (unwanted sexual contact), how it is defined, how it can occur, and who the perpetrators can be. ▪ Use a single screener or gate question to cover the different types of unwanted sexual contact (after providing examples of physically forced, threatened, and incapacitated) to prevent respondents from double counting a single incident as both physically forced and incapacitated. ▪ Use follow-up questions to determine whether incidents of unwanted sexual contact should be categorized as physically forced, threatened, and/or incapacitated. ▪ Focus on unwanted sexual contact since the beginning of the 2014–2015 academic year to avoid recall bias associated with lengthy reference periods, but also include a question that can be used to derive a "within the past 12 months" estimate to facilitate comparisons across schools. ▪ Do not ask about attempted sexual assault because attempts are very difficult to define and categorizing an event as an attempted sexual assault requires a high level of speculation about the perpetrator's intent. Also, incidents of attempted rape that entail forced touching will be captured as sexual battery in the overall sexual assault gate question and follow-ups. ▪ Add additional "confirmation" questions to allow for latent class analyses designed to detect false positive and false negative bias. ▪ Add an optional open-ended question to allow respondents the opportunity to describe each incident in their own words to provide additional context and possibly allow for additional classification of incidents.
Incident-Level Detail	Covered the type of sexual assault (e.g., oral sex, intercourse) for "most serious incident"; covered alcohol and drug consumption by respondent and perpetrator; relationship between perpetrator and respondent; perpetrator's affiliation with university; gender of perpetrator; how frightened respondent was; location of incident, categories of individuals the respondent disclosed the incident to; whether respondent used the "formal" reporting procedures; (if yes) whether the formal procedures helped respondent deal with the problem; and for respondents who did not disclose to anyone, why they did not.	▪ Do not ask about the "most serious" incident, which is problematic because it does not yield information that is necessarily representative of a "typical" incident (in that it underestimates minor events, which potentially distorts the picture of violence on campus) and requires a subjective determination about what is "most serious" from the respondent's perspective (e.g., extent of injuries, consequences to offender). Instead, ask the respondent how many incidents he/she experienced (within the 2014–2015 academic year) and then ask incident-level detail for up to 3 incidents selected by the respondent. This will allow for the documentation and description of many more incidents, and enable the analysis of relationships between incident-level characteristics/factors. Existing data suggest that most victims experience fewer than 3 incidents and 98% experienced 5 or fewer incidents during a 12-month reference period (Krebs et al., 2007).

(continued)

Table 1. Crosswalk between original toolkit instrument and proposed revisions to instrument (with rationale) (continued

Module	Original Approach	Proposed Revisions and Rationale
Incident-Level Detail (continued)		▪ Add a few additional details about each incident, including the month it happened (which can be used by schools to guide prevention efforts, as well as help the respondent keep up with various incidents during the incident follow-up questions), and the number of perpetrators (relevant for thoroughly describing incidents and for customizing the wording of incident-level follow-up questions about the perpetrator[s]). ▪ Remove items about how frightened respondent was (fear is potentially a less common and subjective construct and thus could result in data that are misconstrued); and whether the respondent used "formal procedures" (which most respondents are unlikely to be able to answer with confidence since it might not be clear what constitutes a procedure that is "formal"), replacing the items with more concrete measures of victim impact, such as whether the victim changed their schedule, dropped classes, grades suffered, dropped out of school, etc. ▪ Break out help-seeking and reporting behaviors by the following categories: (a) informal—roommates, friends, or family members, (b) crisis center/helpline/hospital/health care center at the school, (c) crisis center/helpline/hospital/health care center not at the school, (d) campus police/security, e) local (county, city) police, and (f) administrators, faculty, or other officials or staff at the school. Students experiencing sexual assault can notify/seek help from many different types of agencies and it is critical to learn about their experiences with each category (and reasons for not notifying each category). ▪ For categories b-f above, ask whether the agency or group was notified. For each group notified, ask whether the respondent or someone else notified the group (other students may notify or report on the behalf of the victim) and whether the group was helpful. For each group not notified, ask why the respondent did not notify that particular group (using a streamlined set of response options most relevant to that particular group). These additional details can be used to guide efforts to educate students about resources available to them and target needed improvements in responding to victims.

(continued)

Table 1. Crosswalk between original toolkit instrument and proposed revisions to instrument (with rationale) (continued

Module	Original Approach	Proposed Revisions and Rationale
Optional Module 1: Bystander Attitudes and Behaviors	Covered the respondent's stage of readiness in getting involved in campus sexual violence efforts; the respondent's confidence in their ability to engage in specific bystander behaviors; the respondent's perception of how likely other students on campus are to engage in specific bystander behaviors; the respondent's perception of how likely they are to engage in specific bystander behaviors; the respondent's experience having someone disclose sexual assault to them; the respondent's specific responses to observing a sexual assault situation.	▪ For measurement of bystander attitudes/behaviors, – Streamline scales to reduce administration length/burden. Focus on a small number of items that are most likely to discriminate among respondents and that reflect the scenarios most likely to be encountered among college students. – Edit wording of scales to avoid double-barreled or highly unlikely scenarios, question wording that assumes that a student feels a certain way (e.g., "express *my discomfort* if someone makes a joke about a woman's body"), and gender-specific scenarios. – Make response options consistent with other response options used throughout the survey to reduce respondent burden and improve accuracy of responses (e.g., use a simpler Likert scale to measure the likely use of bystander behaviors, such as a 4-option scale reflecting how likely they are to do certain things rather than using both a percent estimate of how confident/certain they are that they could do them and a 0–5 estimate of how likely they are to engage in certain behaviors). ▪ Delete scale measuring student's stage of readiness in getting involved in campus sexual violence prevention efforts in favor of scales that focus more directly on student's likely use of bystander behaviors and less on attitudes reflecting their tolerance for sexual assault (described below). ▪ Delete questions about the respondent's experiences of having others disclose sexual assault to them (and having observed a possible sexual assault situation), as such reports are somewhat distal to the respondent's own experiences and/or are not particularly relevant to the climate at a given campus.
Optional Module 2: Perceptions of Sexual Assault	Covered the respondent's perceptions about two vignettes that reflect sexual assault, rape myth acceptance.	▪ Develop streamlined scales that measure (a) the respondent's perceptions of the tolerance for sexual harassment and sexual assault among the campus community (i.e., the "campus norms" surrounding sexual assault), and (b) the respondent's own tolerance for sexual harassment and sexual assault. For each construct, focus on a small number of items that are most likely to discriminate among respondents (i.e., exclude items that the vast majority of students are likely to agree or disagree with). ▪ Use gender neutral wording throughout.
Optional Module 3: Physical Intimate Partner Violence	Covered the frequency with which the respondent has experienced specific types of physical intimate partner violence; for the most serious incident, how frightened/concerned the respondent was and whether the respondent was injured and sought services.	▪ Use a streamlined version of the Partner Victimization Scale (Hamby, 2014) to minimize survey length/respondent burden.

Source: Campus Climate Survey Validation Study (CCSVS), 2015

[a] The broad rationale for all proposed revisions was improvements to data quality and reductions in respondent burden by streamlining the instrument and using simple, clear wording.

[b] Throughout the survey, terms like "campus" and "school" were recommended in place of "university" to accommodate all types of institutions.

The draft CCSVS instrument was reviewed by several scientific experts in academia and the federal government. As described subsequently, further revisions were made to the instrument based on the knowledge gained during the cognitive testing process.

2.2 Cognitive Testing

Cognitive testing involves having potential survey respondents assess a survey instrument in terms of general understanding, question and response wording, skip logic, and visual aids. The purpose of cognitive testing is to understand the cognitive process participants use to conceptualize what a question is asking, develop their answers, and convey them via a response. The goal is to gain an understanding of how well the questions perform when administered to a sample of the survey's target population. The process usually follows a pre-developed protocol that guides the participant through the interview. The protocol can include scripted concurrent probes, to be asked while the participant is completing the survey, as well as scripted retrospective probes, to be asked once the participant has finished the survey. The results of cognitive testing are used to assist researchers in revising survey instruments for better participant understanding, leading to increased validity and reliability.

The draft instrument was programmed for web-based administration prior to cognitive testing. Two approaches to cognitive testing were employed: (1) crowdsourcing and (2) in-person, in-depth qualitative interviewing. The goal of crowdsourcing was to efficiently identify as many obvious problems with critical sections of the survey instrument as possible based on feedback from a large number of respondents. In-person cognitive testing was intended to yield a more nuanced understanding of how a smaller number of respondents—including victims of sexual assault—conceptualized and answered every question.

2.2.1 Crowdsourcing

Eligibility and Recruitment

To test the draft CCSVS instrument using crowdsourcing, RTI worked with Cint, an opinion hub that has access to a large number of pre-registered panel members who are interested in completing short, web-based surveys for minimal compensation. The panel allows researchers to gain insights by targeting specific panelist demographics (e.g., race, age, gender) and characteristics (e.g., occupation). This is important because cognitive testing is most useful when participants have similar characteristics to those who will be included in the eventual or expected sample. For the CCSVS cognitive testing, Cint panelists who resided within the United States, spoke English, were 18–25 years of age, and had self-reported occupations as students were selected. Eligible panelists were sent a recruitment email containing a link to an informed consent page. After indicating their consent, respondents who were interested in taking the survey then proceeded to the first survey question.

Study Sample

A total of 284 individuals began the survey, but 14 were excluded because they self-reported being under 18 years of age and one was excluded due to implausible responses. Of the remaining 269 respondents who were eligible, 89% (n=240) completed the survey. The vast majority of crowdsourced respondents (97%) were between the ages of 18 to 25.[9] Almost two-thirds of respondents (64%) were female, one-third (33%) were male, and 4% selected either transgender or "something else."[10] Slightly more than three-quarters (76%) of the sample described themselves as heterosexual, 12% as bisexual, 2% as lesbian or gay, and 9% as "something else."[11] The sample was racially and ethnically diverse. Seventeen percent classified themselves as Hispanic or Latino. Two-thirds of respondents described themselves as white, and similar proportions of respondents described themselves as black (19%) or Asian (18%).

Procedures

Respondents completed an abbreviated version of the draft CCSVS instrument (see **Appendix A1**), including the unwanted sexual contact gate or screening questions and a limited number of incident-specific follow-up questions (number of incidents, tactic used during the incident, type of unwanted sexual contact, month in which the incident occurred); intimate partner violence victimization; and perceptions about campus norms related to sexual harassment and sexual assault. For several questions in the survey, respondents were also asked to answer open-ended probes asking for feedback about the question. Some of these probes asked respondents whether they had read certain descriptions in the instrument; others asked them to write in a definition of a term that was defined in the survey (e.g., "unwanted sexual contact") to assess whether respondents were reading and understanding the descriptions provided as intended. Finally, at the end of the survey, respondents were asked a series of questions asking for their feedback on the survey questions overall and how they were administered.

The median crowdsourced cognitive interview completion time was 14 minutes, with a range of 0.6 to 114 minutes. Most respondents (66%) took the survey on a laptop, as opposed to a desktop (14%), smartphone (16%), or tablet (4%). Respondents received a nominal payment (approximately $6 each) through Cint's payment system.

[9] A few Cint panel members were identified as being 18–25 years of age but self-reported (in the survey) being over 25 years of age.

[10] The respondents who wrote in a thoughtful response after selecting "something else" for their gender identity used the terms "gender fluid" (n=2) or "agender" (n=1). Also, 30 respondents who began the survey did not answer the gender identity question at the end.

[11] The respondents who wrote in a thoughtful response after selecting "something else" for their sexual orientation used the terms "pansexual" (n=6); "asexual" (n=3); "bi-curious," "demisexual," or "hetero-romantic asexual" (n=2 for each term); or "between bisexual and straight" or "queer" (n=1 for each term).

Findings

Fourteen percent of the Cint respondents reported having experienced one or more incidents of unwanted sexual contact within the past 12 months.[12] In general, the gate questions seemed to perform well, with most students indicating that they read the definition of unwanted sexual contact, stating that they would not use an audio button for this definition if it were offered, and providing reasonable definitions of consent. These respondents then answered the incident-specific follow-up questions, which revealed the need for some modifications to the instrument (e.g., using drop-down boxes for number of incidents rather than write-in responses, determining whether another category for tactic used to achieve the unwanted sexual contact should be identified due to high numbers of "don't know" responses).

All respondents were asked to answer the intimate partner violence victimization questions and attitudinal questions covering campus norms regarding sexual harassment and sexual assault. Respondents' answers were fairly well distributed across the response options and, when probed, very few respondents believed that any of the attitudinal questions were difficult to answer. However, several respondents expressed a need for a neutral/don't know/unsure option, citing their difficulty generalizing to the entire student body at their school (particularly when being asked to think about hypothetical situations) or unfamiliarity with the extent of the problem at their school.

Finally, all respondents were asked for general feedback about the survey. Overall, most respondents reported that the survey was "very easy" (71%) or "somewhat easy" (26%) to complete. Only 3% reported it was "somewhat difficult" and no respondents indicated that it was "very difficult." Most respondents also reported that it would be very easy for other students to respond to the survey, although over a quarter (28%) said that it depended on the situation. Respondents also reported that overall, it was "very easy" (87%) for them to navigate through the survey (given the format, font size, and amount of text) and that they were very comfortable answering the questions in a web environment.

When asked about overall thoughts on the survey, relatively few respondents wrote in responses, but the most common themes referenced the survey being "OK/fine/good/fair" (n=46), "important/helpful" (n=33), "straightforward/precise" (n=29), and "interesting" (n=19). When asked whether there were any terms or definitions that they did not understand, the vast majority of respondents answered "no." Terms that were listed by one student each included "consent," "incident," and "gender identity." When asked what they would do to improve the survey, the most common response written in (besides "nothing") was to add a don't know/neutral/no opinion response option (n=28). The only other feedback that reflected more than one or two respondents' views was to change the question wording to make the items clearer (n=6), ask about scenarios (n=3), change the questions (n=3), and provide more or better response options (n=3).

[12]The past 12 months was used as the reference period in the crowdsourced cognitive testing instrument rather than the 2014–2015 academic year because it was administered in January 2015 and would therefore provide a longer reference period in which to pick up victimizations and enable the testing of questions about victims' experiences.

Based on the crowdsourced cognitive interview process, the following changes were made to the CCSVS survey instrument.

- The two gate questions that identify sexual assault victims (the yes/no question asking whether the respondent had experienced unwanted sexual contact, Survey Item P1, and the question asking about the number of incidents of unwanted sexual contact the respondent had experienced, Survey Item P2) were placed on the same screen, to increase the likelihood of consistent responses.
- Drop-down boxes, rather than write-in responses, were used to ask about the number of incidents of unwanted sexual contact experienced by the respondent (Survey Item P2).

Additional changes were made based on the results of both the crowdsourced and in-person cognitive interviews (discussed below). For example, the high numbers of "don't know" responses to the question about the tactic used to achieve unwanted sexual contact *(Survey Item ILF3)* among the crowdsourced respondents supported a suggestion made by in-person cognitive interview respondents to include grabbing and touching of sexual body parts as a tactic. In addition, in response to the difficulty that crowdsourced panelists had with the campus climate questions that require some generalization to the entire student body at their schools, more guidance was added to the beginning of each question series in this section asking students to think about the *overall population of students* at their school, and to answer the questions as best they can.

2.2.2 In-Person Cognitive Interviewing

In-person cognitive interviewing enables a more in-depth understanding of the process that respondents go through when answering survey questions and is used to assess a survey instrument for general understanding, question and response wording, skip logic, and visual aids. These interviews occur between a volunteer who fits the targeted sample population and a trained cognitive interviewer. In addition to using scripted concurrent and retrospective probes, cognitive interviewers also use spontaneous probing to gain a better understanding of how potential respondents conceptualize questions. Spontaneous probing occurs when the interviewer asks questions based on something the respondent says or does that was not anticipated or scripted ahead of time. Compared to crowdsourcing, which is much less interactive and primarily identifies obvious problems with survey questions (in an inexpensive and timely manner and with large numbers of respondents), in-person cognitive interviewing allows researchers to fully delve into technical and substantive issues, and to generate ideas for how to make significant changes and improvements to a survey instrument.

Recruitment

The in-person cognitive interviews were intended to capture the perspectives of a diverse group of college students similar to those who would be participating in the CCSVS Pilot Test, including students who had experienced sexual victimization while attending college as well as students who had not. Although no specific sampling targets were created, based on the cities and schools in which recruitment

took place, recruitment efforts were designed to recruit a sample that reflected diversity (e.g., in terms of race/ethnicity and socioeconomic status). This was important because respondents with different characteristics and backgrounds sometimes approach exercises like cognitive interviewing somewhat differently and view questions and terms from different perspectives. Incorporating diverse perspectives helps ensure that the final survey instrument accurately measures the key outcomes of interest for a wide variety of respondents in a somewhat standardized or universal manner.

College students were recruited from three different locations: Research Triangle Park, NC; Washington, DC; and Portland, OR. In each location, contact was made with multiple university victim advocacy groups for the purpose of recruiting victims of sexual assault. University contacts who agreed to help recruit victims either handed out fliers or discussed the interview with prospective participants. If interested in participating, they were provided with a phone number to call to set up an interview. An interviewer received the calls, screened potential respondents, and answered any questions prior to setting up an appointment. All aspects of this were voluntary, in that schools volunteered to help reach out to victims of sexual assault, and the victims themselves had to volunteer to participate in cognitive interviewing.

In addition, some victims were recruited through the same mechanism that was used to recruit non-victims: by placing recruitment advertisements on Craigslist.com. An ad was put on Craigslist.com, in the three cities, that included information about the study and a link to a website with a screening survey. Interested students completed the screening survey online and, if selected, were called by a recruiter to confirm the information they submitted. Again, these respondents volunteered to participate in cognitive interviewing.

Participants

The participants (n=36) in the in-person cognitive interviews were diverse in terms of demographic characteristics (**Table 2**). Both male and female victims were included.

Table 2. Demographics of cognitive interview participants (number)

Characteristic	Portland, OR	Washington, DC	RTP, NC	Total
Victimization Status				
Victims	7	5	7	19
Non-victims	10	3	4	17
Sex				
Male	5	2	1	8
Female	12	6	10	28
Age				
18–25	15	8	10	33
26–34	2	0	1	3
Race				
White	13	4	6	23
Black	1	3	4	8
Other	3	1	1	5
Hispanic origin				
Hispanic	1	1	0	2
Non-Hispanic	16	7	11	34
Educational Attainment				
Some College	13	7	8	28
College Graduate	4	1	3	8

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Procedures

The in-person cognitive interviews were conducted by staff who had experience interviewing victims of sexual assault and who had been trained on study protocols specific to the CCSVS. All interviews were held in person in private RTI offices or private locations on campus in the three cities. At the beginning of the in-person cognitive interview, respondents were handed a hard copy of the informed consent form, which was read aloud to them, and they indicated their consent to participate in the interview, have the interview audio-recorded, and, for some interviews, allow other members of the study team to observe the interview.

The interviewers adhered to the cognitive interview protocol (see **Appendix A-2** for the final interview guide*)* to ensure consistency in interview administration across interviewers, as well as to ensure that all topics of interest were covered. However, the in-person cognitive testing process was iterative, with some changes to the draft instrument made after the first few interviews, and new modules tested as they were revised. During the interviews, respondents were handed a laptop and completed the web survey. At key points as respondents were completing the survey, interviewers asked a series of open-ended concurrent and retrospective probes; each probe was purposefully designed to assess understanding and capture cognitive feedback from the respondents. Probes were both scripted and spontaneous depending

on the direction the interview took and level of understanding from the respondent. For example, following an existing question in the instrument, one scripted probe read, "In your own words, what do you think 'forced touching of a sexual nature' includes?" Responses enabled the study team to assess consistency of interpretation and understanding of this terminology across respondents. An example of a spontaneous probe came on the heels of several respondents' confusion following a question regarding their "current student status" as a "first year student," "second year student," and so on; the spontaneous probe emerged as, "how easy or difficult was this question to answer, and why?"

The interviews lasted approximately 1 hour. They were audio-recorded, with hard copy notes also taken by the interviewer. At the conclusion of the interview, participants received $40 cash for their time. At the end of the interview, all respondents were also provided with a list of national hotline/helpline telephone numbers and a list (customized for each of the three locations) of university and local resources. As another safeguard, if the respondent was recruited from either a crisis center or victims' group, he/she was reminded about the services available for further assistance should he/she have any additional questions or needs at the conclusion of the interview. These centers were listed as resources in the list provided to respondents, and the centers were kept apprised of the general interview schedule so their staff were sure to be available to provide services, if needed.

At each interview's conclusion, the interviewers typed up individual notes using their audio-recordings and any notes taken during the interview. These individual interview notes were then compiled into one central document per site, and combined into a single, final document spanning sites. The study team then summarized and analyzed emergent patterns and key findings within the final document.

Findings

The cognitive interviewing process revealed several fairly substantive issues with the instrument that required revisions, some of which were handled in an iterative fashion during the cognitive interviewing process. These issues pertained to question ordering, recommended deletions, and question framing.

First, several respondents suggested re-ordering the series of sexual assault and sexual harassment/coerced sexual contact questions. Some respondents who had experienced coerced sexual contact and/or sexual harassment endorsed the gate question about unwanted sexual contact, which originally appeared first, but their experiences did not meet the study's criteria for unwanted sexual contact. When the respondents later arrived at the coerced sexual contact and/or sexual harassment items, they indicated they would not have endorsed the gate question about unwanted sexual contact had they known they would later have the opportunity to report their coerced sexual contact/sexual harassment experiences. Based on this feedback, the survey was re-ordered so that sexual harassment victimization and coerced sexual contact appeared first (*Survey Section 2*), followed by unwanted sexual contact (i.e., victimization; *Survey Section 3*).

Second, several victims of unwanted sexual contact indicated that the contact was achieved by someone randomly grabbing their sexual body parts. They expressed difficulty in answering the question about tactics (*Survey Item ILF3*) as it was originally worded because none of the existing tactics appeared to appropriately represent or reflect their experience. Therefore, one change to the instrument included adding a new tactic in the response options (and in the lead framing language) used to document how the unwanted sexual contact was achieved ("someone grabbing or touching your sexual body parts").

Third, several respondents were concerned about the off-putting nature of the follow-up questions about perpetration of unwanted sexual contact. Although only a very small number of respondents who endorsed at least one of the perpetration gate questions felt this way, the study team was concerned about the potential level of breakoff from the survey that might occur or the risk of participants going back to this section to change their answers. Therefore, the gate question on perpetration was reworded and the perpetration-related incident-level follow-up questions were removed.

Fourth, several victims of unwanted sexual contact did not like the question that asked them to provide a description of the incident in their own words. They felt that it could be upsetting to other victims and felt that if they were taking the survey on their own, they would likely skip that question. Several respondents recommended making that question optional and focusing on whether there was anything else that they would like to add. This feedback was incorporated into the final version of the instrument.

Additionally, several campus climate questions were deleted due to feedback from respondents noting that the questions were confusing or difficult to understand. As with the crowdsourced participants, several in-person participants expressed general difficulty answering the campus climate questions because the response options forced them to either agree or disagree and because the questions asked them to generalize about "most students" on campus. Because of the disadvantages of adding a neutral/neither agree nor disagree response option—mainly the limited analytic utility of these responses—no changes were made to the response options. However, more guidance was added to the beginning of each question series in this section asking students to think about the *overall population of students at their school*, and to answer the questions as best they can. In addition, in another section where respondents were asked to answer questions about specific groups of university staff (e.g., campus police, faculty), terms such as "overall" were added to make it easier for students to respond (e.g., "overall, campus police are doing a good job protecting students").

Lastly, a variety of item-specific changes were made based on feedback from in-person respondents, including changes to a question's wording, changes to the response options (e.g., adding additional categories, clarifying existing categories), and changes in formatting (e.g., emphasizing key words, using "yes/no" grids rather than "select all that apply," and avoiding open-ended formats for items that could be handled otherwise).

The cognitive interviewing process was important for informing decisions about how to modify the instrument to improve the quality of the data collected during the CCSVS Pilot Test. With the incorporation of feedback from cognitive interviewing, the research team was confident that the final version of the survey would perform considerably better and more accurately capture the experiences of a diverse group of respondents. The cognitive interviewing process helped improve the survey instrument to the point that it was believed to be as scientifically rigorous as possible, that respondents would understand the questions, and that it would be measuring what it was intended to measure.

2.3 Final CCSVS Instrument

Following cognitive testing, the content of the CCSVS instrument was finalized. The final instrument comprised the following seven sections that covered, in order—

1. demographics, school connectedness, and general campus climate;
2. experiences with sexual harassment and coerced sexual contact;
3. sexual assault victimization (with detailed follow-up questions asked about up to three incidents);
4. intimate partner violence victimization;
5. sexual harassment and sexual assault perpetration;
6. school climate related to sexual harassment and sexual assault prevention; and
7. final student demographics.

See **Appendix B** for the final instrument used in the CCSVS Pilot Test. The field name of the survey was the College Experiences Survey (CES). This neutral title was chosen over a more specific title focused on rape and/or sexual assault to avoid selection bias, or the possibility of students who have certain characteristics or experiences being more or less likely to participate in the survey. In addition, the term "climate" was avoided in the study name because it was learned during cognitive testing that this term made students think the survey might have something to do with weather or climate change. To successfully recruit representative samples of undergraduate students at each participating school, all efforts were made to develop study materials that did not in any way encourage or discourage participation by students with certain characteristics or any specific groups of students. For example, recruitment emails encouraged all students to participate by stating things like, "Your views and experiences are very important and your participation will help inform positive change at *[UNIVERSITY NAME]*, so we hope you will make your voice heard by taking the survey!" This point was reiterated on the survey start screen, "We want the study to represent **all** undergraduate men and women, so we need everyone who was selected to participate no matter what experiences they have had." In these places, the communication also conveyed the confidential aspects of the study, by stating, "Students' responses to the survey questions will remain completely confidential and no survey responses will ever be associated with students' identities. The participating schools will not know which students took the survey."

Survey Section 1 captured some basic demographic information about the students, assessed how they felt about their school in general, and developed rapport before asking the more sensitive questions that were included in later sections. This section did not include any references to "sexual assault" or "rape" but rather focused on the general climate at school and perceptions of various categories of school staff. *Survey Section 2* assessed whether the student had experienced sexual harassment and/or coerced sexual contact during the 2014–2015 academic year, with the intention being to have the student report these experiences before answering the questions on sexual assault (*Survey Section 3*) and thus avoid having harassment and/or coerced sexual contact experiences included in the sexual assault question. In addition, *Survey Section 2* included detailed, behaviorally specific definitions of each type of sexual contact (e.g., oral sex, anal sex, sexual intercourse) used in the remainder of the survey.

Survey Section 3 assessed whether students had experienced sexual assault during the 2014–2015 academic year (as well as since entering college and in their lifetime), when it occurred, and collected details about up to three incidents. Asking the student to place the incident on a calendar aids in recall and reduces telescoping (i.e., respondents mistakenly reporting events that occurred outside of the school year reference period). Respondents were asked detailed follow-up questions about each incident of unwanted sexual contact they reported experiencing during the 2014–2015 academic year; respondents who reported experiencing **more than** three incidents were asked detailed questions about, or looped through, only three incidents. The incident follow-up loops covered the nature of the sexual contact, the tactics used to achieve the sexual assault, the month and location in which the incident occurred, the number and sex of the offenders, offender school affiliation and relationship to victim, victim and offender alcohol and drug use, impacts on the victim, and reasons for not reporting. The detailed follow-up questions were limited to three incidents to avoid imposing excessive burden on respondents who had experienced many victimizations and to minimize the amount of missing data and the likelihood of survey breakoffs. In addition, the results of existing data indicate that, of those students who have experienced sexual assault, most experienced three or fewer incidents within a school year (Krebs et al., 2007).

Beyond asking respondents to provide a date for each incident they experienced, no instructions were provided about which incident they should label as "incident #1," "#2," "#3," or which of the three incidents they should answer questions about. No guidance was given on these fronts because it was not known a priori what would be easiest for respondents. It was also thought that asking respondents to select either the first three incidents, the last three incidents, or the three "most serious" incidents could introduce bias into the selection process. Instead, respondents were able to decide which incidents of unwanted sexual contact to answer questions about and the order in which they organized and were looped through questions about their chosen incidents, with post-hoc assessments of how respondents ordered incidents planned (see **Section 5.5.2** for the results of these analyses). It was believed that by letting respondents make decisions about which incidents they would answer detailed questions about, it was more likely that data would be collected on a "snapshot" of incidents of unwanted sexual contact that took place throughout the reference period. The decision to limit the number of incidents of unwanted sexual contact about which respondents would be asked detailed follow-up questions was validated by the

fact that the large majority of victims reported experiencing three or fewer incidents. It was also observed that missing data became more of a problem when respondents were being asked about the second and third incidents (see **Section 4.2.3**).

In a few places in Survey Section 3, respondents were given the opportunity to write in open-ended responses. For example, when asked *how* a person had unwanted sexual contact with them during a specific incident *(Survey Item ILF3)*, in addition to being able to select response options that correspond to being threatened, physically forced, and/or incapacitated and unable to provide consent, respondents could select "Other" and write in a description. After answering detailed follow-up questions about each incident of unwanted sexual contact, respondents were invited to write in anything else they wanted to say about the incident *(Survey Item VQ)*. This qualitative information was reviewed and, as part of a methodological exercise (see **Section 5.2.5**), used to generate alternative estimates of sexual assault prevalence that reflect reclassifying some incidents based on the open-ended information provided by respondents.

Survey Section 4 asked about experiences with intimate partner violence victimization during the 2014–2015 academic year. *Survey Section 5* covered whether students had perpetrated sexual harassment and/or sexual assault during the 2014–2015 academic year. The wording of these items generally paralleled the wording of the victimization questions, in an effort to capture the same types of behaviors. *Survey Section 6* included questions on a number of dimensions of campus climate specific to sexual harassment and sexual assault. The items covered students' perceptions of the school's leadership efforts related to sexual misconduct, students' perceptions of the campus culture or climate among students (e.g., student norms), and students' *own* attitudes toward sexual misconduct and the use of bystander intervention behaviors. Finally, *Survey Section 7* captured data on additional demographic characteristics including race/ethnicity and sexual orientation.

2.4 Instrument Programming and Testing

The survey was programmed for web-based administration using Voxco's Acuity4 Survey, a Secure Socket Layers (SSL) encrypted online survey platform used to build and manage web surveys. Voxco's data security approaches were reviewed by RTI's information technology specialists and deemed to be sufficiently secure for use.

The versions of the instruments that were cognitively tested were programmed and tested to ensure that they functioned as designed (e.g., skip logic, fills) and were capturing data in the desired formats. The programming of the pilot survey was an iterative, working process, with programming changes occurring as needed in conjunction with multiple rounds of review and testing. Once the cognitive testing was complete and results were evaluated, final changes to the instrument were programmed in Acuity.

To ensure that the instrument was tested from every possible approach, different test scenarios were created prior to testing that included variations on age, gender, and victimization (number of incidents). The following aspects of the web instrument were tested to ensure it functioned and displayed as designed:

- Text: Each screen was tested to ensure that the text displayed properly and was void of typos and errors in spelling and grammar.
- Logic and recalls/fills: The survey was tested to ensure that all skips and hide logic worked correctly. Fills/recalls were also tested to confirm that the appropriate text displayed based on previously answered questions and/or preloaded variables.
- Movement: The instrument was tested to ensure that respondents could go backward and forward without issue and to ensure that skip logic and recalls still functioned properly when respondents backed up and changed their answers. It was also tested to ensure that respondents could leave items unanswered (given that the survey was voluntary).
- Look and feel: The display was tested to ensure that questions, grids, logos, and other visual items appeared as designed and also displayed correctly across various types of devices and operating systems (e.g., mobile, desktop, iOS, Android).

To ensure that the survey would function across a range of devices, the survey's performance was also tested using Acuity's device simulation feature, which simulates varied device sizes (i.e., desktop, laptop, smartphone, and tablet). Beyond simulated testing, testing was also done with various actual devices (i.e., desktop, laptop, iPhone- and Android-based smartphones) and Internet browsers (i.e., Chrome, Firefox, Internet Explorer, and Safari) to ensure that the survey functioned and displayed properly across all devices and browsers.

3. Pilot Test Sample Selection and Data Collection Methodology

The CCSVS Pilot Test methodology included a process by which schools were selected and recruited, undergraduate students were sampled, and all data collection materials and procedures were developed and implemented.

3.1 School Recruitment

3.1.1 Eligible Schools

From the outset, the CCSVS Pilot Test was designed to include a diverse set of schools. Some of the school dimensions on which diversity was desired include school size, 2-year vs. 4-year status, public vs. private status, and geography. Although it was not possible to include enough schools to create national victimization estimates or estimates for schools of a certain type, having a diverse set of schools enabled the study to represent a wider range of experiences when recruiting and working with schools, which facilitated a more diverse sample of students and allowed for the exploration of variability across a broad range of school characteristics. At the same time, it was necessary to ensure that all participating schools met some basic criteria, such as enrolling undergraduate students and having an actual physical campus as opposed to being entirely online.

Data from the Integrated Postsecondary Education Data System (IPEDS) were obtained to identify schools that would be potentially eligible to participate in the CCSVS Pilot Test. IPEDS is a system of interrelated surveys conducted annually by the U.S. Department of Education's National Center for Education Statistics. It collects information from every college, university, and technical and vocational institution that participates in federal student financial aid programs. Because the Higher Education Act of 1965 requires institutions that participate in federal student aid programs to report data on enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid, using IPEDS helped ensure that all potentially eligible schools were included in the selection pool.

IPEDS includes data on approximately 7,600 schools in the United States; however, many of these schools were deemed ineligible for the CCSVS. Specifically, schools that met any of the following criteria were excluded from consideration:

- For-profit schools
- Nondegree granting schools
- Schools with less than 2-year programs (below the associate's degree)
- Schools offering classes online only
- Service academies

- Schools that did not have a sufficient number of eligible undergraduate students to yield the desired level of precision.[13]

This last factor was used in the CCSVS Pilot Test to ensure that statistically stable school-level estimates could be created for all participating schools. Smaller schools can certainly administer or participate in climate surveys, but achieving sufficient precision might require a census rather than a sampling approach. For the CCSVS Pilot Test, a conservative standard was employed to ensure sufficient statistical power and thereby increase the likelihood of achieving study goals with the desired level of precision (given the assumed response and prevalence rates).

Excluding schools that met any of these criteria resulted in 1,242 potentially eligible schools. The schools were them stratified by size, public vs. private status, and 2-year vs. 4-year status. Initial selection targets for the number of schools to be recruited within each stratum were created (**Table 3**).

Table 3. Selection targets for CCSVS Pilot Test schools (number of schools)

School Size	Public 4-Year	Private 4-Year	2-Year
< 5,000	1	2	0
5,000–9,999	2	1	1
10,000–19,999	2	1	1
20,000+	2	1	0

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Eligible schools were then ordered randomly within each stratum. Based on the selection targets, a pre-specified number of schools in each stratum was invited to participate in the CCSVS Pilot Test, beginning with the first school in the randomly ordered list. For example, the first school in the < 5,000, Public 4-Year stratum, and the first two schools in the < 5,000, Private 4-Year stratum were invited to participate. Some changes were made to this plan, however, to introduce additional diversity. For example, a school on the list in a stratum was skipped over if the school was in the same state as a school in another stratum in an effort to introduce additional geographic variability. These deviations from the random design did not detract from the ability to meet study goals because the intent was not to produce a nationally representative sample of schools, or to make representative estimates for schools within particular strata, but to recognize and select key areas of institutional diversity that could inform future collections.

[13]Based on initial assumptions about response rates and precision goals, it was determined that schools had to have at least 1,176 degree-seeking undergraduate women enrolled to be eligible to participate in the CCSVS Pilot Test.

3.1.2 Recruitment

Initially, 14 schools were selected using the process outlined above. Each selected school was approached and offered an opportunity to participate in the CCSVS Pilot Test. In early January 2015, the presidents/chancellors of selected schools were sent an invitation letter from the Bureau of Justice Statistics (BJS) via overnight mail. The content of the letter appears in **Appendix C-1**.

After about 10 days, the letters were followed by telephone calls and emails to the presidents/chancellors of the selected schools. Some schools immediately agreed to be in the CCSVS Pilot Test, whereas some schools were nonresponsive and others quickly declined the invitation. A number of reasons for declining were provided. For example, some schools reported they were already participating in or planning a survey of this kind either individually or in conjunction with another research effort, and others indicated they were not yet ready to participate in a survey of this kind. Some schools simply thought the schedule was too time sensitive and did not think they could get the necessary approvals in time to facilitate participation. When a school declined or, after multiple attempts (e.g., several emails and telephone calls) did not provide any sort of decision or response, the next school on the list for that stratum was invited to participate in the CCSVS Pilot Test. In addition, a handful of schools heard about the study and expressed interest in participating; a couple of schools joined the sample as a result of such informal recruitment. A total of 24 schools were ultimately invited to participate in the CCSVS Pilot Test, and 9 schools agreed to participate.

Recruiting the schools typically entailed communicating with multiple staff members at the school about what participation would entail, that students' survey data would remain anonymous, how data would be collected and protected, that school identities would not be disclosed, and which results would be shared with the schools, among other factors. **Appendix C-1** shows the list of Frequently Asked Questions (FAQs) and answers that were shared with schools along with the initial invitation letter. As noted previously, the field name of the CCSVS Pilot Test was the College Experiences Survey (CES).

Study procedures were reviewed and approved by the Institutional Review Board (IRB) at RTI International, which has Federalwide Assurance (FWA #3331), and the Office of Management and Budget (OMB, approval #1121-0339). In addition, the study complied with IRB requirements at each of the nine participating schools, most of which considered the school to not be actively engaged in the research. One participating school required full IRB review prior to approving the research. Memorandums of Understanding (MOUs) and Data Transfer Agreements (DTAs) were signed with all participating schools so that all parties had a complete understanding of the respective responsibilities of RTI and the participating schools, as well as the data security protocols and the disposition of roster data provided to RTI.

3.2 Student Sampling

3.2.1 Developing the Sampling Frames

As described in **Section 1**, one of the goals of the CCSVS Pilot Test was to determine whether a representative sample of students (rather than surveying the entire student population) could be used to obtain school-level sexual assault incidence and prevalence estimates with acceptable levels of precision (a percent relative standard error (RSE)[14] of 9%). Many schools face constraints related to costs and the logistical challenges of data collection, data processing, and data analysis. For a large school, conducting a census and collecting and processing thousands of surveys, in some cases more than 30,000, would be an intensive effort that would not be expected to result in a more representative estimate of the prevalence of sexual victimization than an estimate based on a randomly selected sample of a much smaller size. If incentives are being offered—which is critical for increasing response rates and minimizing nonresponse bias—the cost of using a census approach could quickly become prohibitive for large schools. Sampling smaller but representative groups of students enables the researcher to offer survey incentives in an effort to increase response rates and also minimizes the burden placed on the student population. A sampling approach, with incentives, can produce estimates with very reasonable levels of precision for many key student subgroups and is thus a more cost-effective approach to conducting surveys like the CCSVS Pilot Test. However, for small schools a census is likely the necessary approach to achieve sufficiently precise estimates. For example, as discussed below, in the CCSVS Pilot Test, censuses were required at schools with approximately 1,400 or fewer males and 2,800 or fewer females in order to meet the desired levels of precision.

Once schools were recruited to participate in the CCSVS Pilot Test, they were asked to prepare a roster of all undergraduate students who were at least 18 years of age to facilitate sampling, data collection, and analysis. The rosters prepared by schools were password-protected and uploaded onto an FTP site, which encrypted the files during transmission. The following information was requested as core data elements:

- Unique Student Identification Number
- First name
- Last name
- Sex/gender
- Birth date (or current age in years)
- Race/ethnicity

[14] The percent RSE, the square root of the variance of an estimate [Var(Y)] divided by the estimate (Y) is expressed as a percentage ($100 \times \sqrt{Var(Y)/Y}$). The RSE is a measure of the precision of the survey estimates.

- Year of study (1st year undergraduate, 2nd year undergraduate, 3rd year undergraduate, 4th year undergraduate, or 5th or more year undergraduate)
- Part-time/full-time status
- Degree-seeking status
- Email addresses
- Campus/local mailing address
- Distance learning status

In addition, some universities provided some additional data elements:

- Transfer status (yes/no)
- Major
- Highest SAT score
- Highest ACT score
- GPA
- Educational Testing Service (ETS) code or CEEB code
- Whether living on or off campus
- Dorm (if living on campus)
- Whether studying abroad

The roster data were used as the sampling frame for the selection of the student sample, to recruit sampled students for the study, to send follow-up reminders, to conduct a nonresponse bias analysis, and to perform weight calibrations. It was important to have as much information as possible for the full sampling frame (i.e., respondents, nonrespondents, and students not selected for the study) to facilitate all data collection and post-data collection activities.

3.2.2 Determining CCSVS Pilot Test Sample Sizes

Full-time and part-time degree-seeking undergraduate students from participating schools age 18 and older who did not complete coursework solely via distance learning were eligible to participate in the CCSVS Pilot Test. Once the roster was received from a school, the number of eligible students on the roster was used to determine the number of male and female respondents needed to achieve the desired level of precision for key estimates. For females, the primary sampling goal was to achieve a 9% RSE for sexual assault prevalence estimates. For males, sample sizes were selected to achieve a 12% RSE for

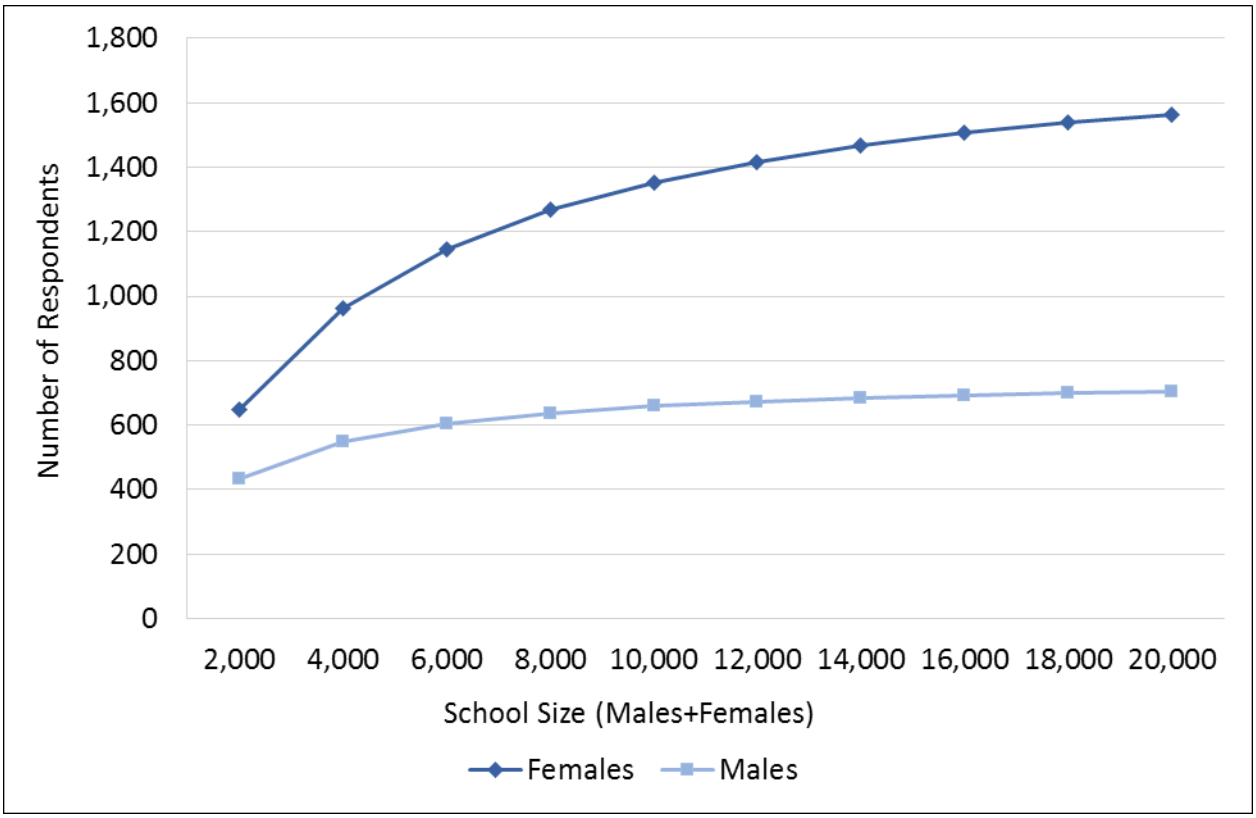
key climate measures. Sample size calculations accounted for these precision goals as well as anticipated prevalence rates, design effects, and use of the finite population correction (FPC) factor[15] in estimation (**Figure 1**). Because these calculations take into account the FPC factor, required sample sizes vary by school size, with larger schools requiring larger samples than smaller schools. For example, for a school with 10,000 degree-seeking undergraduates, completed surveys from approximately 1,350 females and 660 males are needed to produce valid estimates of sexual assault prevalence (for females) and campus climate attitudinal measures (for males). For schools with 20,000 eligible students, approximately 1,560 female and 700 male respondents would be needed to achieve equivalent precision.

Target sample sizes were then inflated to account for anticipated nonresponse. Response rates were estimated at approximately 40% for females and 35% for males, but it was not known how accurate these estimates would be. Therefore, in addition to the primary sample that was released at the start of data collection, "hold" or "reserve" samples of males and females were drawn for the larger schools (in which a surplus of non-sampled students was available). If response rates were lower than anticipated after approximately 2 weeks of fielding the survey, the survey could be fielded to the hold sample of additional students to achieve the desired number of completed interviews at the school.[16]

[15] When developing precision estimates, it is appropriate to use the FPC factor when samples are selected without replacement from a relatively small, finite population. In this case, students were sampled within schools and were not replaced for any reason(s). Using the FPC factor appropriately reduces standard errors and thus the width of the confidence intervals of the estimates.

[16] Another nuance related to the release of cases is that one school requested that RTI withhold the release of the survey to a specific subgroup of sampled students who had been selected to participate in another survey. It was only possible to recruit these students after giving them sufficient time to complete the other survey. Therefore, in this school, some students in the sample were not recruited until a few weeks after the original release of cases.

Figure 1. Illustration of sample size requirements based on school size, by sex



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: These sample sizes are powered to produce 9% relative standard errors (RSEs) for a female prevalence rate of 7.4% and 12% RSEs for a male proportion of 9.9% (sexual assault and campus climate estimates from Krebs et al., 2007). They take into account the FPC factor, account for the anticipated design effect due to sampling and weighting, and assume that females and males each represent 50% of each school's eligible population.

3.2.3 Selection of Student Samples

After the male and female sample sizes were determined for each school, a gender-stratified, simple random sample of eligible students for the CCSVS Pilot Test was selected. Selected students were randomly assigned to the primary or hold samples and to experimental treatment groups (as further discussed in **Section 10**).

A total of 28,839 females and 21,293 males were sampled for the CCSVS Pilot Test (**Table 4**). This includes those released through the "hold" samples, which happened for the female sample in two schools and the male sample in five schools. As previously discussed, to achieve CCSVS precision targets, censuses of students were required for smaller schools. Ultimately, in four schools, all undergraduate, degree-seeking females were sampled and in three schools, all undergraduate, degree-seeking males were sampled.

Table 4. Final number of sampled students, by sex and school

School	Females	Males
Total	28,839	21,293
1	3,296	2,096
2	1,353	1,266
3	3,995	2,951
4	4,821	3,608
5	1,526	1,143
6	2,585	1,443
7	3,063	2,531
8	5,077	3,671
9	3,123	2,584

Source: Campus Climate Survey Validation Study (CCSVS), 2015

3.3 Data Collection

Supplementary materials were developed for administering the CCSVS Pilot Test, including marketing and recruitment materials, informed consent materials, student support resources, and an incentive system, which are described in this section of the report.

3.3.1 Materials

Marketing and Recruitment

Because not all students were sampled at most participating schools, campus-wide marketing was generally not attempted. However, several schools posted advance notices about the survey in their student newspapers and/or on a school-sponsored Facebook page. These marketing materials informed the students about the upcoming "College Experiences Survey (CES)" to be conducted by an independent, nonprofit research organization, and encouraged them to participate in the survey if given the opportunity to do so. In addition, immediately prior to fielding the survey, staff at the participating schools sent all undergraduate students an email describing the study and encouraging them to participate in the CES if they were contacted by RTI and invited to take the survey. The text contained in this email is included in **Appendix C-2**. Pre-notifications such as this email tend to increase response rates by confirming the legitimacy of the survey and emphasizing how participation will potentially benefit sample members (Dillman et al., 2014). For the CCSVS Pilot Test, the pre-notification was an important step in developing trust with sample members because it conveyed the school's support of the survey and emphasized that results would be used to inform positive change at the school. Potential respondents were informed that the CES was being conducted by an independent, nonprofit research organization so students did not develop concerns about providing answers to sensitive questions that might be seen by staff at their school.

Sampled undergraduate students at each school were sent a brief recruitment email from the CES email address, collegeexperiences@rti.org. The email, which is included in **Appendix C-3**, informed the student that he/she had been randomly selected from among all undergraduate students at his/her school to participate in a voluntary, confidential, 15 minute web-based survey about sexual experiences and attitudes. The email included the student's Survey Access Code[17] and a link to a generic survey website (described below). The email also informed the student that for completing the survey, he/she would receive a gift card for a store of his/her choice from among nine online and in-store options. In five schools, the incentive was $25 and in the remaining four schools, in which an incentive experiment was conducted (see **Section 10**), the amount listed in the email was customized for each student ($10, $25, or $40).

The recruitment and reminder emails were sent to sample members using Voxco's Acuity4 Survey. A total of 12 different email templates were created in Acuity to facilitate recruitment and nonresponse follow-up. The templates contained merge codes to fill in language that differed across respondents, such as school name, greeting, and incentive value. Because data collection periods and contact schedules varied slightly across schools, sample filtering was used to specify exactly which groups of sample members should receive which emails. A master file was created that contained the appropriate filtering expression for each school and group (i.e., primary or hold sample) at each contact point (e.g., invitation, reminder 1) prior to the start of data collection to ensure the distribution process was as streamlined as possible.[18]

Informed Consent Materials

Survey administration procedures were designed to guide students from the recruitment email to a generic (i.e., not customized for each student), publicly available survey website hosted by RTI (http://collegeexperiencessurvey.org), which provided additional details about the survey along with an email address students could use to ask questions about the survey and the phone number for RTI's Office of Research Protection. **Appendix C-4** includes the full content of the generic website.

At the bottom of the generic survey website, students were asked to click a box to start the survey or learn more about it. Upon clicking the box, students were taken to a survey access site (hosted by Voxco) where they were asked to enter the Survey Access Code they had been emailed. After entering their access code, students were presented with the additional informed consent information, specific to their

[17]Each sampled student was assigned a unique Survey Access Code (i.e., password) consisting of eight digits, including a combination of letters and numbers.

[18]Given the complex nature of email distributions, extensive distribution testing was done to ensure that all messages and fills displayed and worked as designed. A total of 1,410 emails were sent to a test email account accessible only by project staff to test the various fills and to ensure Acuity's email distribution system functioned smoothly with large scale distributions. The email distribution testing also facilitated the assignment of test cases to staff testing the survey instrument. An inbox folder was created for each tester that contained approximately 50 test case emails that included different fills (incentive value and school name) and greeting (generic, personalized) variations. This approach streamlined testing as testers were able to (1) review email content for accuracy and (2) access and test the web survey using test cases emailed during distribution testing.

school.[19] This screen is shown in Appendix C-5. After entering their Survey Access Codes, students also had the opportunity to view a letter of support from their school leadership. This was done to convey the legitimacy of the survey to potential respondents.

The survey was designed to be confidential, in that only sampled students could participate (through the Survey Access Code validation process) but that no identifying information about the students was stored with or linked to their survey data. The use of Survey Access Codes also allowed students to exit the survey and reenter where they left off, and ensured that each student completed the survey only once.

Student Support Resources

To connect students with national, local, and school-specific resources related to sexual violence in the event that taking the survey caused them any distress, resource pages that were customized for students at each participating school were shared. After the respondents completed the last survey question, the survey displayed text informing them that there were many support services in their area for people who would like help dealing with sexual violence and asking whether they would like to view a list of local and national support services. Respondents who answered affirmatively were presented with a description and contact information for local support services, including student counseling services, women's centers, campus police, student health services, community crisis centers, and national resources (listed in **Appendix C-6**). Approximately 15% of survey respondents clicked on the links provided and viewed information about these various resources.

Incentive System

To maximize response rates and reduce the risk of nonresponse bias affecting key estimates (i.e., bias caused when respondents with certain characteristics or experiences directly related to the key estimates or outcomes of interest are more likely to participate in a particular survey), many surveys offer financial incentives to sample members to encourage participation. Theories suggest that incentives are effective due to their interpretation as either a token of appreciation (social exchange theory—see Dillman, Smyth, & Christian, 2014), compensation for one's time and effort (economic exchange theory—see Biner & Kidd, 1994), or the subjective weight a sample member puts on various factors when a survey request is made (leverage-salience theory—see Groves, Singer, & Corning, 2000; Groves, Presser, & Dipko, 2004). For these reasons, most CCSVS sample members were offered a $25 gift card as an incentive for completing the CES, though this incentive amount varied at four of the nine schools (see **Section 10** for more information on the incentive experiment).

[19]This information was accessible only to sample members after entering a valid Survey Access Code. The use of two websites was necessary for the CCSVS Pilot Test because (1) no identifying information about the participating schools (e.g., letters of support) could be accessible from a public website, and (2) the Voxco survey platform requires participants to log in on a standardized screen before viewing any study-specific information. It was important that students were able to learn some things about the survey before having to enter their Survey Access Code, so the generic website approach provided students with some basic information that would enable them to decide whether they wanted to proceed further. Then, once students entered their Survey Access Code and saw the full consent information customized to their school, they could make an informed decision about whether to actually start the survey.

An incentive system was developed for the CCSVS Pilot Test. After completing the survey and viewing (or declining to view) student support resources, respondents were informed that they would be redirected to a separate website—one that was not linked to any of their survey responses—and asked to enter an email address at which they would like to be contacted by the company responsible for distributing the gift cards. The separate website was programmed as a survey and could only be accessed with a sample member's Survey Access Code. Redirecting respondents to a separate website was done to demonstrate to students that the email address they provided was completely separate from their survey responses. Upon being redirected to the website and entering their Survey Access Code, respondents were asked to provide the email address to which they would like their incentive sent. Respondents were informed that The Virtual Reward Center would email them within 2 business days with instructions on how to obtain their gift card. Respondents then received an email from The Virtual Reward Center[20] thanking them for their participation in the CES and including a link through which they could select and claim their gift card. Respondents had the choice of nine in-store and online vendors: Amazon.com, Starbucks, Walmart, Chili's, Domino's Pizza, Staples, Dunkin' Donuts, Panera Bread, and CVS.

3.3.2 Recruitment Procedures and Data Collection Schedule

Because the CCSVS Pilot Test was designed to document unwanted sexual contact taking place since the beginning of the 2014–2015 academic year, the goal was to administer the survey during the spring academic semester, fielding the survey shortly after spring break and ending prior to finals week. This allowed the team to maximize the reference period, capture most of the school year, and have enough time to properly administer the survey and collect the adequate number of responses. Fielding too early would limit the student's experience to only the fall semester but waiting too long would compete with final exams and students leaving campus for the summer break. A data collection schedule was thus developed based on each school's calendar. The survey was fielded in mid-March, beginning with two schools on the first day and then being rolled out to the remaining schools shortly afterward. The survey was kept open until mid-May, with a total data collection period of 57 days (with some schools having a slightly shorter window due to a later roll-out).

Sampled students were sent an initial email invitation and up to five reminders encouraging their participation in the CES. Reminders were sent only to sample members who had not yet responded[21] to the survey. Each reminder (see **Appendix C-7**) was worded slightly differently in an attempt to appeal to a broader range of respondents, with the exception of one reminder sent to some respondents twice (several days apart) late in the field period. The email wording was based on recommendations by Dillman, Smyth, & Christian (2014). Follow-up reminders typically generate spikes in responses, which is what was found

[20] During data collection, RTI staff uploaded encrypted files to the incentive distribution company on a daily basis containing the e-mail address and incentive amount for each student who had completed the survey related to the incentive.

[21] For purposes of the follow-up e-mail reminders, students were considered survey completers once they reached the end of the sexual assault victimization questions (*Survey Item LCA3*).

in the CCSVS Pilot Test (described **Section 4.1.2**). However, following up too frequently can be annoying to respondents. Therefore, only five reminders were sent over the course of the 57-day field period to avoid overly frequent contact with nonrespondents.

Different studies have found that emailing sample members on different days of the week or at different times of the day are most likely to result in completed surveys (Callegaro, Manfreda, & Vehovar, 2015). Not knowing which contact schedule would work best with this sample, emails were sent at various times of day and days of the week, including on weekends. The earliest emails were sent at 7:00 a.m. and the latest at 6:37 p.m. The email contact schedule differed across schools to account for differences in their academic schedules and time zones. In addition to varying across schools, the contact schedule also varied within several of the schools due to the later release of the hold samples and a staggered sample for one group of students as requested by that school. Because these groups had a shorter field period, most received fewer email contacts than the remainder of the sample.

In addition to the reminders sent by RTI (from the CES email address), most participating schools agreed to send an additional email to all undergraduate students[22] encouraging their participation. This message was sent several weeks after initial student recruitment began. This email was used to further emphasize the school's support of the survey, its legitimacy, and its potential positive impact.

[22]The email from the school could not be sent only to sampled students because the participating schools did not know which students had been sampled.

4. Pilot Test Data Assessment and Weighting

Throughout the CCSVS Pilot Test administration, measures were taken to monitor the data and ensure that the respondents were not attempting to complete the survey multiple times. Following the data collection period, it was necessary to clean the data, assess nonresponse bias, and develop survey weights to adjust for potential nonresponse and coverage error (i.e., to make the data representative of the population of male and female undergraduates at each school).

4.1 Completed Surveys

At the conclusion of the data collection window, the targeted number of completed interviews was obtained in all participating schools except one (School 2). For analysis purposes, an interview was "complete" if the respondent provided her/his age (*Survey Item D1*), gender identity (*Survey Item D3*), and the number of separate incidents of unwanted sexual contact she/he had experienced during the 2014–2015 academic year (*Survey Item P2*). (For a more detailed discussion of missing data and breakoffs, see **Sections 4.2.1** to **4.2.3**.)

4.1.1 Sample Yield

Completed surveys were obtained from 14,989 undergraduate females and 8,034 undergraduate males across the nine CCSVS Pilot Test schools. On average, 140% of the targeted number of completed interviews were obtained for female undergraduate students and 152% of the targeted number of completed interviews were obtained for male undergraduate students (**Table 5** and **Table 6**). Among female students, the highest percentage of completed interviews relative to the original targeted number was 158% (School 1) and the lowest was 88% (School 2). Among male students, the highest percentage of completed interviews was 190% (School 7) and the lowest was 92% (School 2).

Table 5. Sampling metrics for undergraduate females, by school

School	Number Sampled	Hold Sample Released (Y/N)	Number of Respondents	Targeted Number of Interviews	Percentage of Completes Relative to Targeted (%)
Total	28,839		14,989	10,704	140.0 %
1	3,296	N	1,685	1,069	157.6
2	1,353	N	688	783	87.9
3	3,995	N	1,837	1,598	115.0
4	4,821	Y	2,086	1,339	155.8
5	1,526	N	1,081	838	129.0
6	2,585	N	1,691	1,080	156.6
7	3,063	N	1,826	1,225	149.1
8	5,077	Y	2,309	1,523	151.6
9	3,123	N	1,786	1,249	143.0

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Targeted number of completed interviews are based on a target RSE of 9% for a sexual assault prevalence rate of 7.4% (estimate from Krebs et al., 2007).

Table 6. Sampling metrics for undergraduate males, by school

School	Number Sampled	Hold Sample Released (Y/N)	Number of Respondents	Targeted Number of Completed Interviews	Percentage of Completes Relative to Target
Total	21,293		8,034	5,281	152.1 %
1	2,096	N	793	584	135.8
2	1,266	N	438	475	92.2
3	2,951	Y	1,028	715	143.8
4	3,608	Y	1,063	627	169.5
5	1,143	N	681	456	149.3
6	1,443	N	754	505	149.3
7	2,531	Y	1,162	613	189.6
8	3,671	Y	1,113	680	163.7
9	2,584	Y	1,002	626	160.1

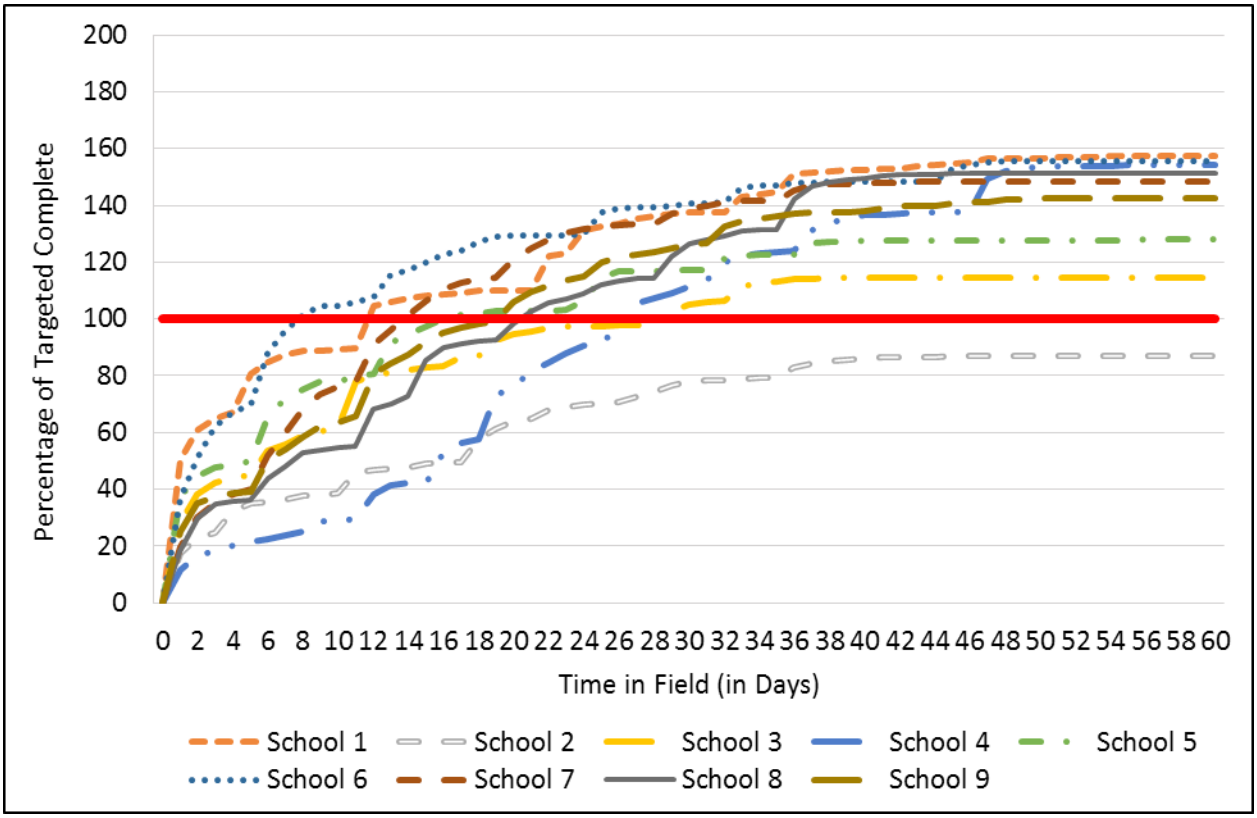
Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Targeted number of completed interviews are based on a target RSE of 12% for a male climate estimate of 9.9% (estimate from Krebs et al., 2007).

4.1.2 Completed Surveys by Time in the Field

An area of uncertainty going into the CCSVS Pilot Test was the response rates and the extent to which these rates would vary across schools and between males and females. To minimize the number of students sampled at each school (given that an incentive was offered to all sampled students), a *hold or reserve sample* (i.e., a randomly selected portion of the sample that is not released initially) was selected for each school. Hold samples for males and females were selected at each school and released only if response rates were below a certain threshold after 2 weeks of data collection. To assess whether the hold sample needed to be released, the number of completed surveys was tracked daily during data collection to monitor the percentage of targeted surveys completed by school and sex. In response to this monitoring, the release of the female hold sample was required at two schools and, for the male hold sample, for five schools after 2 weeks of data collection. Ultimately, in all schools except one (School 2), the percentage of targeted completed interviews for females and males was achieved within the first 28 days of data collection (**Figure 2** and **Figure 3**).

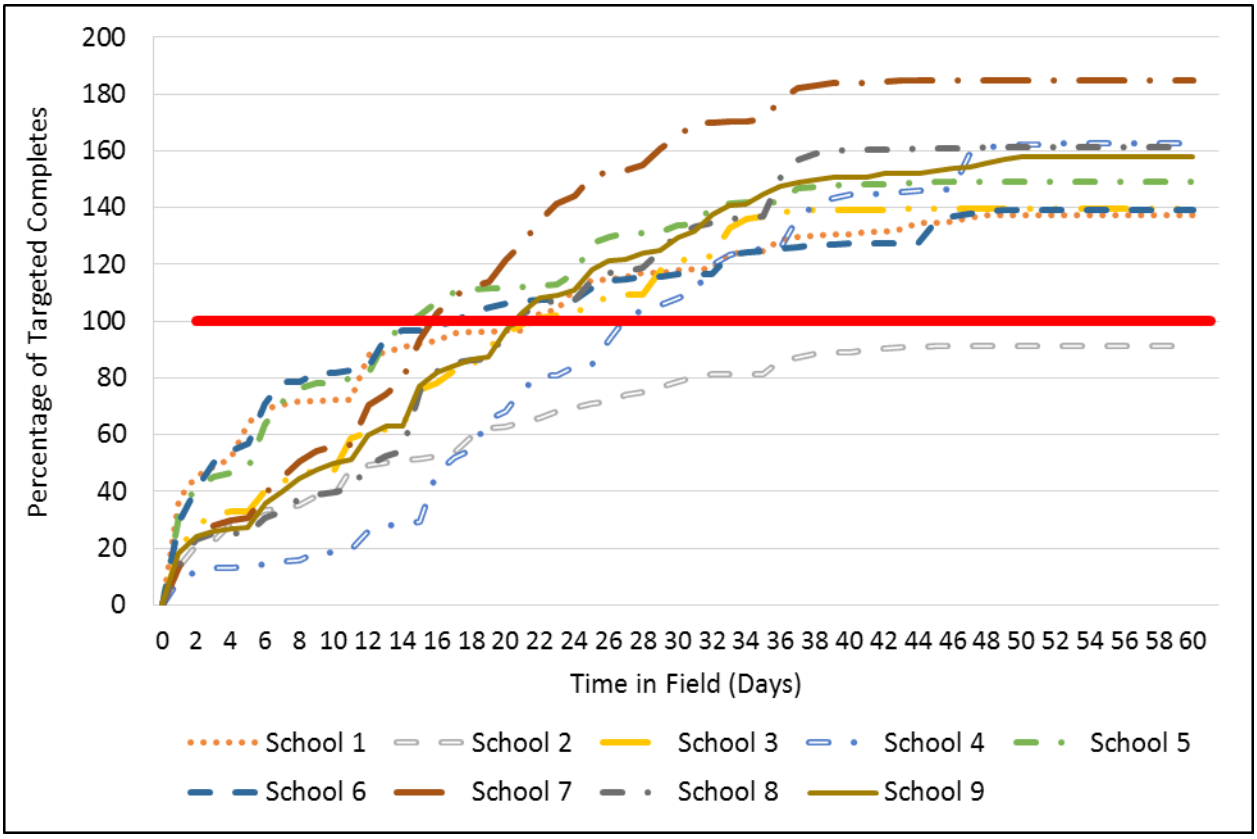
Figure 2. Percentage of targeted number of completed interviews by school and day of data collection for undergraduate females



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Bold horizontal line represents 100% of targeted interviews completed.

Figure 3. Percentage of targeted number of completed interviews by school and day of data collection for undergraduate males



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Bold horizontal line represents 100% of targeted interviews completed.

Several methodological lessons were learned regarding the sampling strategy and field period used in the CCSVS Pilot Test:

- Incorporating a hold sample into the design to account for uncertainty in the response rate and minimize the number of students sampled can be effective in meeting sample size targets.
- For school-level prevalence estimates of sexual assault, approximately 28 days appears to be a sufficient field period to achieve the desired precision, provided that targeted sample sizes are achieved within this period.
- To improve precision for estimates among subpopulations of interest (e.g., freshmen) it might be preferable to use a longer field period beyond 28 days and obtain more completed interviews. An analysis comparing early responders to late responders is necessary to determine if nonresponse bias exists after an abbreviated field period (see **Section 5.5.1** for this analysis).

In addition, the effectiveness of reminder emails sent to nonrespondents—up to five reminders were sent over the 57-day data collection period—is suggested by the appearance of bumps in the number of completed interviews corresponding to the days that reminder emails were sent.

4.1.3 Completed Surveys by Type of Device

The CCSVS Pilot Test survey was designed to be self-administered on a variety of device types, including desktop/laptop computers, tablets, and smartphones. Across all of the schools, 70% of respondents used a desktop or laptop computer, 27% used a smartphone, and 3.2% used a tablet (**Table 7**). However, there was variation in the distributions across schools. At School 1, for example, 86% of students used a desktop or laptop computer, and 14% used either a smartphone or tablet; whereas 44% of students at School 4 used a computer, and 56% used a smartphone or tablet (8% on a tablet).

The variation in device types used by the CCSVS respondents across schools suggests that college students do take advantage of the ability to complete a web-based survey on a variety of devices. Therefore, one methodological lesson for future studies similar in scope is that response rates will likely be maximized by using a survey format that can be self-administered on as many device types as possible.

Table 7. Distribution of respondents by device type and school

School	Percentage of Respondents by Device Type		
	Desktop/Laptop	Smartphone	Tablet
Cross-School Average	70.0 %	26.8 %	3.2 %
1	85.8	13.3	0.9
2	62.6	34.1	3.3
3	62.0	34.8	3.0
4	44.0	47.8	8.0
5	72.0	25.7	2.3
6	74.8	22.5	2.6
7	77.8	19.2	3.0
8	76.1	21.1	2.8
9	74.8	23.4	1.8

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Percentages may not sum to 100 within a school because a small number of devices could not be classified.

4.2 Data Cleaning and Adjustments

CCSVS Pilot Test data were monitored daily during data collection to examine patterns in response, estimated time to complete the survey, and potential fraudulent or duplicate emails used in an effort to obtain multiple incentives. Once data collection was complete, all interviews deemed complete were identified and fully reviewed for quality. Under the quality review, several checks were performed, including—

- **Identifying the number of survey respondents who broke off.** This breakoff analysis identified 442 respondents (2% of total interviews) who were classified as completers[23] but did not get through the full survey (i.e., were not presented with the final survey question). In addition, 405 students started the survey but their participation did not meet the criteria to be considered completed interviews.
- **Reviewing data inconsistencies within the victimization section.** The review of data inconsistencies found that 152 respondents had begun answering the sexual assault victimization follow-up questions (i.e., they indicated experiencing at least one incident of unwanted sexual contact during the 2014–2015 academic year and started to answer the detailed incident-level follow-up questions), but then backed out of the module and changed the number of victimizations to zero. This accounted for 8% of the respondents who entered the victimization set of items. For analysis purposes, these cases were treated as non-victims (see Section 5.5.2 for additional assessments of these cases).
- **Final review of potential fraudulent emails was conducted.** The final review of potentially fraudulent emails resulted in the removal of 25 cases from the final dataset because a duplicate email address or clearly bogus email account was used when trying to obtain the survey incentive, as this indicated that the survey record was a duplicate and/or not valid.

4.2.1 Assessment of Item Nonresponse

For item nonresponse, each individual survey item and each derived variable was reviewed. For each survey item, the number of eligible persons was identified[24] and compared to the number who provided a non-missing response. These item nonresponse levels were then categorized into ranges. For most survey items, item nonresponse was not a major problem (**Table 8**). For example, for nearly 60% of the survey items, the item nonresponse level was less than 5%, meaning that fewer than 5% of the respondents who were provided with such items did not provide a valid response. However, for 20 out of the 347 questions included in the survey (6%), the item nonresponse level was 15% or higher. When looking at the nature of the items that were most likely to be missing, it appears that the vast majority

[23] As noted previously, an interview was considered to be "complete" if the respondent provided her/his age (*Survey Item D1*), gender identity (*Survey Item D3*), and the number of separate incidents of unwanted sexual contact she/he had experienced during the 2014–2015 academic year (*Survey Item P2*).

[24] Eligible persons for an item took into account skip patterns. In other words, persons who did not receive an item due to a logical skip were not considered eligible to receive the item, either when taking the survey or in the analysis.

(i.e., 90%) of the 20 items with at least 15% of the data missing were in the detail loop for the second or third incident of sexual assault victimization. In other words, respondents who experienced two or more victimizations skipped over several of the detailed incident follow-up questions when reporting on the second and third incidents. This pattern may be indicative of respondent fatigue. This is further demonstrated by the average item nonresponse level by survey section (prior to the incident detail loop, for each detail loop, and for items following the detail loop) (**Table 9**). Item nonresponse increased for each of the incident detail loops, from an average nonresponse of 4% in incident detail loop 1 to an average of 13% in incident detail loop 3. Within the incident detail loop questions, the item with the highest rate of missingness is the open-ended question asking respondents if they would like to provide any additional details about the incident (*Survey Item VQ*); for this item, the rate of missingness ranges from 85% missing (loop 1) to 90% missing (loop 2). Item nonresponse is quite low outside of the incident detail loops.

Table 8. Item nonresponse summary

Item Nonresponse Level	Number of Items	Percent of Total
Less than 2.0%	133	38.3 %
2.0% up to 5.0%	72	20.7
5.0% up to 10.0%	60	17.3
10.0% up to 15.0%	62	17.9
15.0% up to 20.0%	4	1.2
20.0% or more	16	4.6

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Table 9. Item nonresponse by survey section

Survey Section	Number of Items	Average Item Nonresponse Level
Prior to Incident Detail Loop	38	0.2
Incident Detail Loop 1	79	4.3
Incident Detail Loop 2	79	10.1
Incident Detail Loop 3	79	13.4
Following Incident Detail Loop	72	1.8

Source: Campus Climate Survey Validation Study (CCSVS), 2015

4.2.2 Missing Data for Key Derived Variables

For derived variables, a missing value was assigned if any component of the derived variable was missing. For females, the percentage of missing data for derived variables was highest at School 2, for which two key variables (rape and tactic used—someone touched/grabbed your body parts[25]) had a missing rate of more than 10% (**Table 10**). However, for males, all schools had at least one derived variable with a missing rate of more than 10% (**Table 11**). For males, the largest proportion of missing data was for derived variables related to the types of tactics used (e.g., touched or grabbed sexual body parts).

[25] For more discussion of how these derived variables were measured, see **Section 5.1**.

Table 10. Item nonresponse among derived variables, undergraduate females, by school

Variable	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9
Estimates									
Rape	6.5 %	13.5 %	6.7 %	8.0 %	4.9 %	6.3 %	7.9 %	6.7 %	5.3 %
Sexual battery	2.0	7.7	3.2	4.7	1.3	2.6	2.4	3.1	1.4
Sexual harassment	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2	1.0
Coerced sexual contact	0.2	0.3	0.2	0.0	0.0	0.4	0.2	0.2	0.8
Sexual assault since entering any college	0.1	0.1	0.1	0.2	0.1	0.0	0.2	0.3	0.3
Sexual assault in lifetime	0.4	0.6	0.5	0.4	0.6	0.6	0.9	0.8	0.7
IPV (physical abuse/ violence only)	0.9	0.6	0.4	1.0	0.6	0.4	0.7	1.3	1.7
IPV (physical and/or sexual)	0.9	0.4	0.4	0.8	0.6	0.4	0.7	1.3	1.7
Perpetration Estimates									
Sexual harassment	1.1 %	1.0 %	0.6 %	1.6 %	0.7 %	1.0 %	1.0 %	1.7 %	2.8 %
Sexual assault	1.2	0.7	0.5	1.3	0.6	0.8	1.0	1.5	2.5
Sexual Assault Incident Follow-up									
Tactic Used—Touched or grabbed	4.3 %	13.5 %	9.9 %	8.5 %	3.6 %	4.8 %	5.2 %	7.0 %	5.8 %
Tactic Used—Threat or force	6.3	7.7	6.7	6.1	4.9	5.3	8.4	6.5	3.4
Tactic Used—Incapacitated during incident	5.5	7.7	5.6	6.1	3.6	5.3	8.2	5.2	2.9
Location of incident	1.4	5.8	2.4	5.2	0.3	2.6	3.5	3.4	0.0
Victim drug/alcohol use	2.2	5.8	2.0	5.7	1.0	3.2	4.1	3.4	0.5
Offender drug/alcohol use	2.0	5.8	4.0	6.6	0.6	3.7	3.5	3.4	2.4

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Bolded numbers indicate an item nonresponse rate of 10% or greater.

Table 11. Item nonresponse among derived variables, undergraduate males, by school

Variable	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9
Victimization Estimates									
Rape	13.6 %	0.0 %	21.4 %	18.2 %	5.7 %	13.6 %	16.2 %	8.7 %	2.6 %
Sexual battery	9.1	0.0	11.9	20.5	3.8	0.0	10.8	4.3	0.0
Sexual harassment	0.1	0.5	0.2	0.0	0.6	0.3	0.3	0.6	1.8
Coerced sexual contact	0.3	0.0	0.1	0.3	0.1	0.1	0.2	0.2	0.9
Sexual assault since entering any college	0.1	0.2	0.3	0.3	0.1	0.0	0.0	0.4	0.6
Sexual assault in lifetime	1.0	1.1	0.8	0.8	1.3	0.4	0.6	1.3	1.5
IPV (physical abuse/ violence only)	0.6	0.9	1.2	1.0	0.7	0.0	0.3	1.1	3.2
IPV (physical and/or sexual)	0.6	0.9	1.2	0.9	0.7	0.0	0.3	1.1	3.2
Perpetration Estimates									
Sexual harassment	0.6 %	0.9 %	1.8 %	1.2 %	1.2 %	1.1 %	0.8 %	1.3 %	4.4 %
Sexual assault	1.1	0.9	1.9	1.2	0.9	0.1	0.5	1.9	3.6
Sexual Assault Incident Follow-up									
Tactic—Touched or grabbed	13.6 %	27.3 %	21.4 %	34.1 %	15.1 %	31.8 %	20.3 %	13.0 %	15.4 %
Tactic—Threat or force	13.6	18.2	19.0	18.2	5.7	9.1	13.5	6.5	2.6
Tactic—Incapacitated during incident	15.9	9.1	16.7	18.2	5.7	9.1	13.5	8.7	2.6
Location of incident	9.1	0.0	14.3	20.5	5.7	0.0	10.8	4.3	0.0
Victim drug/alcohol use	11.4	0.0	14.3	20.5	5.7	0.0	13.5	6.5	2.6
Offender drug/alcohol use	11.4	0.0	14.3	25.0	5.7	0.0	10.8	6.5	0.0

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Bolded numbers indicate an item nonresponse rate of 10% or greater.

4.2.3 Breakoff Rates

Some of the "completed" surveys included in the CCSVS analyses were breakoffs, or partially completed interviews, where the respondent answered key questions but did not complete the full survey. In addition, some students who started the CCSVS did not meet the criteria for being considered a completed case and were thus excluded from analyses. These students are also considered breakoffs. Across the board, breakoff rates were relatively low for males and females (**Table 12**). The majority of respondents who broke off the survey did so in the Demographics and General Climate Section, with descending rates of breakoffs observed in the remaining sections. Overall, 97% of respondents who started the survey finished all six sections. More than 98% of females and males who were deemed to be survey completers finished all six sections of the survey.

Table 12. Distribution of CCSVS Pilot Test completes by sex and furthest section completed

	Broke off in general demographics/ climate section		Broke off in sexual harassment and coercion section		Broke off in sexual assault section		Broke off in IPV section		Broke off in perpetration section		Broke off in campus climate section		Finished all six sections	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Female														
Complete[a]	0	0.0 %	0	0.0 %	86	0.6 %	13	0.1 %	16	0.1 %	192	1.3 %	14,682	98.0 %
Incomplete[b]	156	60.9	51	19.9	11	4.3	0	0.0	1	0.4	2	0.8	35	13.7
Total	156	1.0	51	0.3	97	0.6	13	0.1	17	0.1	194	1.3	14,717	96.5
Male														
Complete[a]	0	0.0 %	0	0.0 %	41	0.5 %	3	0.0 %	13	0.2 %	78	1.0 %	7,899	98.3 %
Incomplete[b]	89	59.7	37	24.8	3	2.0	0	0.0	0	0.0	1	0.7	19	12.8
Total	89	1.1	37	0.5	44	0.5	3	0.0	13	0.2	79	1.0	7,918	96.8
Overall														
Complete[a]	0	0.0 %	0	0.0 %	127	0.6 %	16	0.1 %	29	0.1 %	270	1.2 %	22,581	98.1 %
Incomplete[b]	245	60.5	88	21.7	14	3.5	0	0.0	1	0.2	3	0.7	54	13.3
Total	245	1.0	88	0.4	141	0.6	16	0.1	30	0.1	273	1.2	22,635	96.6

Source: Campus Climate Survey Validation Study (CCSVS), 2015

[a] An interview was considered to be "complete" if the respondent provided her/his age, gender identity, and the number of separate incidents of unwanted sexual contact she/he had experienced during the current academic year.

[b] An interview was considered to be "incomplete" if the respondent started the interview but did not provide her/his age, gender identity, or the number of separate incidents of unwanted sexual contact she/he had experienced during the current academic year

4.2.4 Response Rates

Response rates were calculated separately for female and male undergraduate students at each school. For each school, the response rate was calculated as follows.

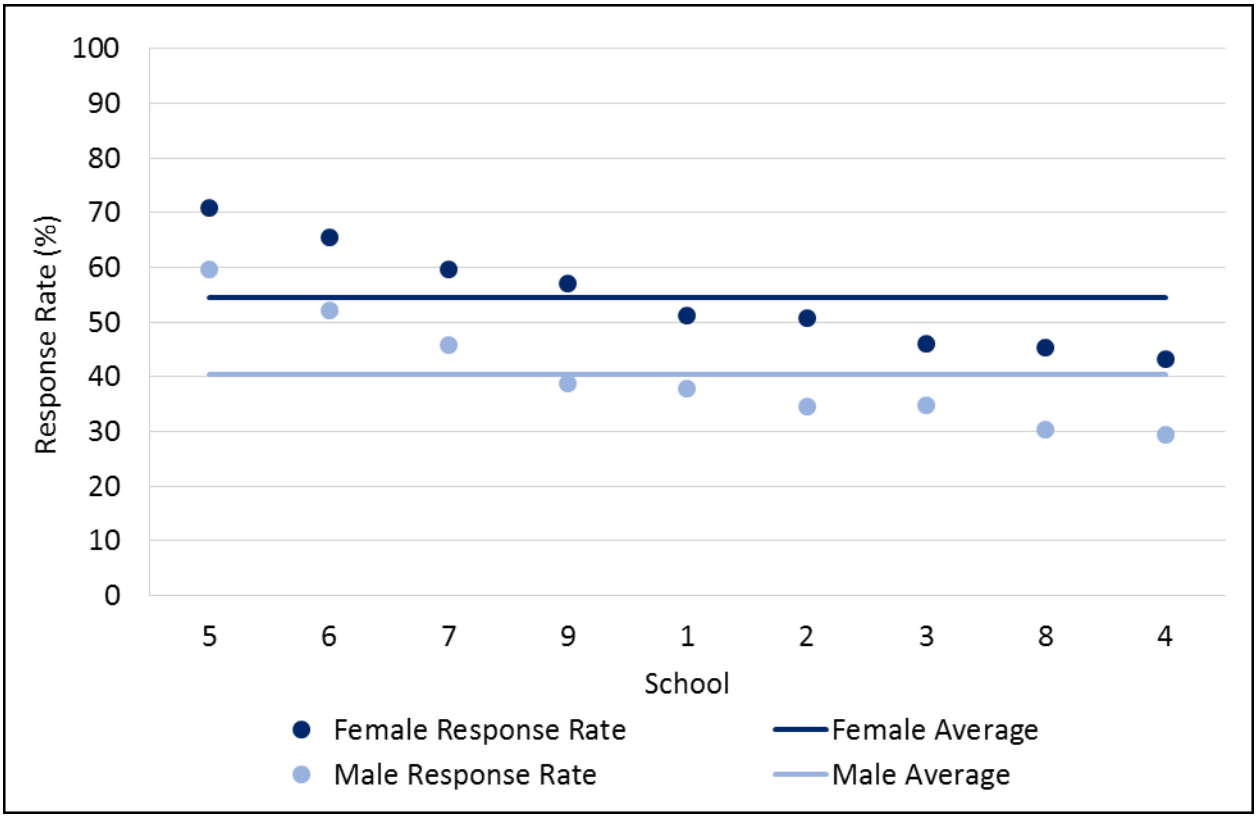
$$\frac{C_g}{S_g - I_g}$$

Where C_g is the number of completed interviews for sex *g*, S_g is the total sample released including any hold sample for sex *g*, and I_g is the number of ineligible students for sex *g*. Ineligible students were those who self-reported in the survey that they were less than 18 years old.

As discussed previously, the target response rate per school was 40% for females and 35% for males. This target was exceeded for females in all schools, with female response rates ranging from 43% (School 4) to 71% (School 5) (**Figure 4**). For males, response rate targets were achieved in five out of the nine schools, with male response rates ranging from 30% (School 4) to 60% (School 5). The average response rate across all nine schools was 54% for females and 40% for males. [26] (See **Appendix D-1** for the estimates shown in **Figure 4**). Although female response rates were consistently higher than male response rates within a given school, schools with high female response rates also tended to have higher male response rates. In other words, school characteristics appeared to drive response rates, as male and female response rates within schools tended to track with one another (even though response rates for males were consistently about 12% lower than those for females).

[26] The average is the arithmetic average. In other words, the estimate for each of the schools was added and divided by nine to get the average. This treats each school equally even though schools are not of equal size.

Figure 4. Response rate, by school and sex



Source: Campus Climate Survey Validation Study (CCSVS), 2015

4.2.5 Nonresponse Bias

Although relatively modest response rates like the ones achieved in the CCSVS Pilot Test are not necessarily an indication that bias exists (i.e., that respondents who participated in the survey are different from those who were recruited but did not participate in ways that could affect the key estimates of interest), a low response rate can increase the potential that bias exists and it can exacerbate any bias that is present. Therefore, it is critical to assess the likelihood of nonresponse bias in the estimates. Nonresponse bias is defined as follows:

$$B_{NR} = (1 - \rho r) \times (X_R - X_{NR})$$

where ρ_r is the response propensity, X_R is the value among respondents for an outcome of interest, and X_{NR} is the value among nonrespondents for the outcome of interest.

As the formula demonstrates, the only way to truly measure nonresponse bias is to have an estimate for the measure of interest (e.g., sexual assault victimization) from nonrespondents. For many surveys, including the CCSVS Pilot Test, this information may not be available. Therefore, a proxy measure for nonresponse bias needs to be used to assess the likelihood that bias exists in the estimates.

One approach is to compare the distributions of respondents and the sample population using auxiliary information that is potentially correlated with nonresponse bias for the outcome of interest. This auxiliary information needs to be available for both respondents and nonrespondents. The nonresponse bias analysis was conducted using the student roster information provided by each school for all degree-seeking undergraduate students (**Table 13** and **Table 14**). For each characteristic provided by the school, and separately for males and females, the distributions of respondents and the sample population were compared using a Cohen's Effect Size statistic (Cohen, 1988; sometimes referred to as Cohen's d). An effect size measures the strength of association for a phenomenon—in this case, the association between the distribution of characteristics between respondents and the population. An effect size is considered "small" if it is around 0.2, "medium" if it is around 0.5, and "large" if it is around 0.8.

Table 13. Cohen's effect sizes, by school and student characteristic among undergraduate females

	School								
Characteristic	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Age	**0.18**	0.06	0.04	0.13	0.05	**0.17**	0.12	0.12	**0.16**
Year of Study	**0.18**	0.12	0.03	0.05	0.04	0.08	--	0.06	0.14
Race/Ethnicity*	0.09	0.08	--	0.05	0.05	0.07	--	0.05	0.06
Transfer Status	0.02	0.02	--	0.04	0.02	0.10	--	--	0.05
Living on Campus	0.11	--	--	--	0.04	**0.16**	0.12	--	0.13
SAT/ACT Score	0.08	0.11	--	0.13	0.09	0.11	--	--	0.10
GPA	0.02	0.20	--	0.11	0.10	0.07	--	--	0.12
Part Time/Full Time	0.03	0.12	--	**0.17**	0.03	0.12	0.15	0.11	0.07

Source: Campus Climate Survey Validation Study (CCSVS), 2015

*Race/ethnicity categories were standardized across each school. The categories were white non-Hispanic, black non-Hispanic, Hispanic, American Indian/Alaska Native, Asian, Other Pacific Islander, Other, multiple races, and missing/unknown.

-- School did not provide characteristic on the roster of students.

Note: Cohen's effect sizes that are 0.15 or larger appear in **bold** type.

Table 14. Cohen's effect sizes, by school and student characteristic among undergraduate males

Characteristic	School								
	1	2	3	4	5	6	7	8	9
Age	**0.15**	0.11	0.09	0.12	0.11	**0.21**	0.09	**0.18**	**0.25**
Year of Study	**0.17**	**0.16**	0.05	0.07	0.04	0.09	--	0.08	**0.17**
Race/Ethnicity*	0.09	0.10	--	0.11	0.07	0.07	--	0.10	0.08
Transfer Status	0.02	0.12	--	0.01	0.03	**0.16**	--	--	0.12
Living on Campus	0.13	--	--	--	0.05	**0.22**	0.14	--	**0.24**
SAT/ACT Score	0.11	0.07	--	**0.19**	0.06	0.13	--	--	**0.23**
GPA	0.09	**0.27**	--	**0.23**	**0.16**	0.15	--	--	**0.21**
Part Time/Full Time	0.01	**0.17**	--	0.11	0.04	0.17	**0.17**	**0.15**	0.09

Source: Campus Climate Survey Validation Study (CCSVS), 2015

*Race/ethnicity categories were standardized across each school. The categories were white non-Hispanic, black non-Hispanic, Hispanic, American Indian/Alaska Native, Asian, Other Pacific Islander, Other, multiple races, and missing/unknown.

-- School did not provide characteristic on the roster of students.

Note: Cohen's effect sizes that are 0.15 or larger appear in **bold** type.

For females across all schools, all characteristics had effect sizes of around 0.2 or less. Most effect sizes for males were also below this threshold. Based on general guidelines, these effect sizes are considered small. As an additional check, the relative differences among the effect sizes were compared. In general, the effect sizes for males are larger than the effect sizes for females. This can be attributed to the lower response rates among males which exacerbate any observed differences in the distributions between respondents and nonrespondents. Among females, four of the nine schools have their largest effect size for age. In these cases, younger students are more likely to have participated in the survey than older students. Among males, GPA has the largest effect size. At schools where GPA has a large effect size, it is due to students with higher GPAs responding to the survey at a higher rate than students with lower GPAs.

In general, as the effect sizes indicate, for auxiliary student characteristics available for both respondents and nonrespondents, there is little evidence of nonresponse bias. However, to further reduce the potential for bias, as many characteristics as possible were included in a nonresponse weight adjustment model for each school (as detailed below). For future studies similar in scope, a key methodological lesson learned from the CCSVS is that a nonresponse bias analysis (at the school level) is critical to understanding any ways in which students who participate in a survey of this nature differ from those who were eligible to participate and that the rigor of the nonresponse bias analysis is greatly improved by having as many auxiliary variables as possible for the entire sampling frame.

4.2.6 Weighting Approach

Weights are statistical adjustments made to estimates to account for the sample design, unit nonresponse, and coverage error. These adjustments are made to ensure that estimates meet known population totals and are representative of the population of interest. A total of three weights were produced for the CCSVS Pilot Test data: design-based person weight, final person weight, and incident weight. The final person weight and the incident weight were used during analysis, with these weights based on the design-based weight and adjusted for nonresponse and coverage error. Below is a description of how each weight was created and the population it is designed to represent.

Design-based person weight (W_{ikg}^{DES}). The design-based person weight for student *i* in school *k* and sex *g* is the inverse probability of selection for student *i* in sex *g* where the numerator for weight is the total eligible population in sex *g* in school *k* (N_{kg}) and the denominator is the number of students recruited (including the primary sample plus any released hold samples) (n'_{kg}). That is, $W_{ikg}^{DES} = \frac{N_{kg}}{n'_{kg}}$

Without any nonresponse or coverage error, the sum of the design-based weights would represent the target population (i.e., all degree-seeking undergraduate female and male students).

Nonresponse adjustment. The nonresponse adjustment is designed to correct for any potential bias due to disproportionate participation by sampled respondents with certain characteristics (see section above on nonresponse bias for further details). The nonresponse adjustment reallocates the design-based weight of nonrespondents in school *k* and sex *g* to respondents in school *k* and sex *g* based on similar known characteristics (e.g., information available on the frame) that are likely to be correlated with the outcome of interest. For each school *k* and sex *g* combination, an initial calibration model using SUDAAN's WTADJUST procedure was conducted to adjust the weights of respondents to account for the weights of nonrespondents based on the characteristics in the model. The characteristics used for the nonresponse adjustment, which used some of the roster data provided by the participating schools, include (1) age of student, (2) incentive amount offered,[27] (3) greeting type used,[28] (4) race of student, (5) part-time/full-time status, (6) whether student lives on campus, (7) entrance exam scores of student, (8) current GPA of student, and (9) transfer status of student, as well as all possible interactions with age and race/ethnicity of student. All possible main effect and lower-level interaction characteristics were included within the nonresponse adjustment model for each school *k* and sex *g*, where a checkmark indicates that the characteristic was present in the model (**Table 15** and **Table 16**). Due to small sample sizes, the removal of a minimal number of characteristics was required in some schools. Some additional characteristics were excluded when they were not provided by the school.

[27] If the incentive experiment was conducted at the school. As described in **Section 10**, each school participated in either the incentive experiment or the greeting experiment.

[28] If the greeting experiment was conducted at the school.

Table 15. Characteristics present in the nonresponse adjustment model for undergraduate females, by school

	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9
Age	✓	✓	✓	✓	✓	✓	✓	✓	✓
Experiment Group	✓	✓	✓	✓	✓	✓	✓	✓	✓
Race	✓	✓		✓	✓	✓		✓	✓
Part time/Full time	✓	✓		✓	✓	✓	✓		✓
Living on Campus	✓	X			✓	✓	✓		✓
ACT/SAT Score	✓	X		✓	✓	✓			✓
GPA	✓	✓		✓	✓	✓			✓
Transfer Status	✓	✓		✓	✓	✓			✓
Age*Race	✓	✓		✓	✓	✓		✓	✓
Age*Experiment Group	✓	✓	✓	✓	✓	✓	✓	✓	✓
Age*Living on Campus	✓	✓			✓	✓	✓		✓
Age*Part time/ Full time	✓	✓		✓	✓	✓	✓		✓
Age*GPA	✓	✓		✓	✓	✓			✓
Race*Experiment Group	✓	✓		✓	✓	✓			✓
Race*Living on Campus	✓	✓			✓	✓			✓
Race*Part time/ Full time	✓	✓		✓	✓	✓			✓
Race*GPA	✓	✓		✓	✓	X			X

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: ✓ indicates that the characteristic was included in the model, X indicates that the characteristic was not included in the model due to small sample sizes, and blank cells indicate that the school did not provide the data element in the roster file.

Table 16. Characteristics present in the nonresponse adjustment model for undergraduate males, by school

	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9
Age	✓	✓	✓	✓	✓	✓	✓	✓	✓
Experiment Group	✓	✓	✓	✓	✓	✓	✓	✓	✓
Race	✓	✓		✓	✓	✓		✓	✓
Part Time/Full Time	✓	✓		✓	✓	✓	✓		✓
Living on Campus	✓	X			✓	✓	✓		✓
ACT/SAT Score	✓	X		✓	✓	✓			✓
GPA	✓	✓		✓	✓	✓			✓
Transfer Status	✓	✓		✓	✓	✓			✓
Age*Race	✓	✓		✓	✓	✓		✓	✓
Age*Experiment Group	✓	✓	✓	✓	✓	✓	✓	✓	✓
Age*Living on Campus	✓	✓			✓	✓	✓		✓
Age*Part Time/Full Time	✓	✓		✓	X	✓	✓		X
Age*GPA	✓	✓		✓	✓	✓			X
Race*Experiment Group	✓	✓		✓	✓	✓			X
Race*Living on Campus	✓	✓			✓	✓			X
Race*Part Time/ Full Time	✓	✓		✓	X	X			X
Race*GPA	✓	✓		X	✓	X			X

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: ✓ indicates that the characteristic was included in the model, X indicates that the characteristic was not included in the model due to small sample sizes, and blank cells indicate that the school did not provide the data element in the roster file.

Coverage adjustment. The coverage adjustment further calibrates the design-based weights to account for any differences between the set of sampled students[29] and the target population. This post-stratification adjustment ensures that weight totals equal the eligible population for known frame characteristics (i.e., the student characteristics used in the nonresponse adjustment models, except incentive amount and greeting type). The coverage adjustment is conducted for each student i in school k and sex g and includes the same main effects and lower level interactions that were used for the nonresponse adjustment for school k and sex g (**Table 15** and **Table 16**).

[29] The initial set of sampled students including nonrespondents.

Final person weight *(w_{okg}^{PER})*. The final person weight for student *i* in school *k* and sex *g* is the adjusted design-based person weight for student *i* in school *k* and sex *g* taking into account adjustments for nonresponse and post-stratification (i.e., coverage error adjustment). If *I(complete)* is a dichotomous indicator that equals one if the student completed the survey and zero otherwise, then the final person-level weight for student *i* in school *k* and sex *g* is the product of the person design-based weight, the adjustment for nonresponse, the adjustment for post-stratification, and *I(complete)*, as follows:

$$w_{ikg}^{PER} = w_{ikg}^{DES} \times ADJ_{ikg}^{NR} \times ADJ_{ikg}^{PS} \times I(complete)$$

and $\Sigma_{i\epsilon k,g}\, w_{ikg}^{PER} = N_{kg}$ is the total number of eligible students in school *k* and sex *g*.

The final person weight was used for all person-level outcomes (e.g., victimization status, campus climate scores).

Although nonresponse and coverage error adjustments reduce the potential for bias in the estimates, they can increase the variance in estimates due to the increase in unequal weights across students. To measure the impact of the weights on the precision of survey estimates, design effects due to unequal weighting were calculated by school and gender. The unequal weighting effect measures the increase in the estimate variance due to variation in the survey weights (Kish, 1992). Schools that did not provide many characteristics on their frame have the lowest design effects (e.g., School 3 provided only sex and age on their frame and had the lowest design effects); however, their estimates have the greatest potential for bias because of the smaller number of characteristics that could be taken into account during the adjustment process (**Table 17**). In general, higher design effects were evident for males than females. This is due to the larger amount of nonresponse among male undergraduate students. However, all design effects due to unequal weighting are relatively low (the maximum is 1.19 for females and 1.28 for males), so the increase in the variance of estimates due to the weighting process is quite minimal.

Incident-level weight (w_{ikg}^{INC}). Incident weights are used to calculate estimates of the number or characteristics of sexual assault incidents on campus (e.g., the number of rapes experienced in the 2014–2015 academic year at a particular school; the percentage of sexual battery incidents reported to campus authorities). The incident-level weight for student *i* in school *k* and sex *g* is the weight for a particular sexual assault incident (i.e., sexual battery or rape) reported in the survey by a victim. The survey allowed for a victim to indicate that he/she experienced either exactly 1, 2, 3, 4, or 5 or more incidents since the beginning of the 2014–2015 academic year. In other words, the number of incidents of unwanted sexual contact was truncated at 5, as shown in the following formula.

$$n_{ikg}^{INC} = min(n_{ikg}^{NC'}, 5)$$

where $n_{ikg}^{NC'}$ is the actual number of incidents since the beginning of the 2014–2015 academic year for student *i* in school *k* and sex *g*.

Table 17. Design effects due to unequal weighting, by school and sex

School	Females	Males
1	1.11	1.25
2	1.19	1.27
3	1.01	1.02
4	1.14	1.23
5	1.09	1.14
6	1.14	1.28
7	1.05	1.08
8	1.06	1.14
9	1.12	1.26

Source: Campus Climate Survey Validation Study (CCSVS), 2015

In addition, incident-level detail was collected on up to three of the incidents (i.e., if one incident was indicated then there was one incident report, if two incidents were indicated then two incident reports were completed, if three or more incidents were indicated then three incident reports were completed). The incident-level weight is associated with each incident report completed by a victim and represents all incidents of type *t* that occurred at school *k* in sex *g*. If *I(victim)* is a dichotomous indicator for whether a student reported at least one victimization, then the incident-level file for school *k* and sex *g* is a $n_{ikg}^{VIC} \times n_{kg} \times I\ (victim)$ record file. In other words, the incident-level file contains a record for the fourth or fifth incident, when applicable, even though no incident report was completed for these incidents.

The incident-level weight for incident *t* for victim *i* in school *k* and sex *g* is the student's final person weight. In other words, the person weight is repeated for each of the n_{ikg}^{VIC} victimization incidents reported by student *i* in school *k* and sex *g*. Thus, for each type of victimization, the sum of the incident-level weights represents the number of incidents for that type of victimization. More specifically,

- If *I(rape)* is a dichotomous indicator that equals one if incident *t* is a rape and zero otherwise then $\Sigma_{i\epsilon k,g}\, w_{itkg}^{INC} \times I(rape)$ is the total number of rapes that occurred since the beginning of the 2014–2015 academic year in school *k* and sex *g*,
- If *I(battery)* is a dichotomous indicator that equals one if incident *t* is a sexual battery and zero otherwise then $\Sigma_{i\epsilon k,g}\, w_{itkg}^{INC} \times I(battery)$ is the total number of sexual batteries that occurred since the beginning of the 2014–2015 academic year in school *k* and sex *g*, and
- if *I(unknown)* is a dichotomous indicator that equals one if the student was either unsure of the type of victimization or the incident was the fourth or fifth or more reported by the student, then $\Sigma_{i\epsilon k,g}\, w_{itkg}^{INC} \times I(unknown)$ is the total number of sexual victimizations where the student was unsure of the type of victimization or the incident was the fourth or fifth or more incident.

Therefore, $\Sigma_{i\epsilon k,g}\, w_{itkg}^{INC} = N_{kg}^{INC}$ is the total number of incidents (capped at 5) that occurred at school *k* in sex *g* since the beginning of the academic year (i.e., N_{kg}^{INC} is the numerator for the incident rate at school *k* and sex *g*).

Weights were applied, as appropriate, to obtain all school-level estimates. Estimates that combine data across schools were calculated in one of two ways.

1. **Arithmetic Average**: Estimates based on the arithmetic average are calculated by summing the estimate for each of the schools and dividing the sum by nine (the total number of participating schools). This treats each school equally even though schools are not of equal size. This is the preferred method of calculating cross-school estimates because the nine schools are not nationally representative and thus estimates cannot be generalized beyond the nine schools included in the study. However, the arithmetic average is not appropriate when school-level estimates are unstable (i.e., demonstrate low levels of precision or are based on few sample cases). This method is used to calculate cross-school averages for all estimate types excluding incident characteristics and estimates of perpetration.

6. **Weighted Average**: The weighted average is calculated by pooling data from all respondents across the nine schools and calculating a weighted overall estimate. This method gives greater influence to larger schools, and is more appropriate for estimate types for which many of the school-level estimates are unstable because it is based on all responding students combined rather than nine point estimates. However, these estimates cannot be generalized beyond the nine schools. This method is used to calculate cross-school averages for incident characteristics and estimates of perpetration.

4.2.7 Timing

The CCSVS was designed to average around 15 minutes in terms of administration length, and respondents' time was monitored throughout the field period. Across the nine schools, the average survey length was 16 minutes for females and 15 minutes for males (**Table 18** and **Table 19**). For both females and males, the average time at each school was very similar to the overall average. Across all schools, the range of the average lengths for females was 14 minutes (School 1) to 19 minutes (School 3). For males, the range of the average lengths was 13 minutes (School 1) to 18 minutes (School 2).

Table 18. Mean time to complete CCSVS Pilot Test (in minutes) and percent distribution for undergraduate females, by school

School	Number of Completed Interviews	Mean	Percentiles						
			Min	10th	25th	Median	75th	90th	Max
Total	14,989	16.2	1.2	8.9	11.1	14.5	19.2	25.7	86.1
1	1,685	14.2	3.5	7.6	9.6	12.5	16.8	22.9	68.3
2	688	17.5	4.5	10.0	12.1	15.8	20.6	27.6	75.5
3	1,837	18.7	3.3	10.0	12.6	16.5	22.0	30.0	84.7
4	2,086	16.0	4.2	9.0	11.3	14.4	18.7	24.8	61.1
5	1,081	16.4	3.8	8.9	11.5	14.7	19.5	26.2	63.6
6	1,691	16.1	2.1	9.4	11.6	14.6	19.0	24.3	83.0
7	1,826	17.1	3.6	9.8	11.9	15.1	20.4	27.0	82.1
8	2,309	15.5	1.8	8.9	11.0	13.9	18.2	24.1	71.0
9	1,786	15.3	1.2	7.5	10.1	13.2	18.8	25.5	86.1

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Data are shown only for students classified as completers.

Table 19. Mean time to complete CCSVS Pilot Test (in minutes) and percent distribution for undergraduate males, by school

School	Number of Completed Interviews	Mean	Percentiles						
			Min	10th	25th	Median	75th	90th	Max
Total	8,034	15.2	1.0	8.0	10.5	13.7	18.2	24.0	81.2
1	793	12.9	3.0	7.0	8.9	11.5	15.3	20.4	54.5
2	438	17.6	3.4	9.3	12.1	15.9	21.0	27.5	80.9
3	1,028	16.2	3.7	8.3	10.8	14.7	19.4	26.6	68.3
4	1,063	15.5	2.6	8.3	11.0	14.2	18.3	23.8	50.3
5	681	15.0	2.4	8.1	10.6	13.5	17.8	23.9	55.2
6	754	15.6	4.2	9.1	11.4	14.3	18.4	23.5	59.8
7	1,162	16.1	4.0	9.2	11.2	14.7	19.4	24.7	63.7
8	1,113	15.2	2.9	8.5	10.7	13.6	17.9	24.1	81.2
9	1,002	13.5	1.0	5.2	8.5	12.0	16.4	23.5	62.3

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Data are shown only for students classified as completers.

In terms of the range of time it took students to complete the survey, the minimum time was 1.2 and 1.0 minutes for females and males, respectively, and the maximum time was 86 minutes and 81 minutes for females and males, respectively. Although some of the extreme values (minimum and maximum lengths) varied across schools, the tenth and ninetieth percentiles were fairly consistent across all nine schools (i.e., on average 8.9 and 8.0 minutes for the tenth percentile and 26 and 24 minutes for the ninetieth percentile for females and males, respectively). After examining all of the extreme survey lengths across all respondents, there did not appear to be a pattern or clustering at one or two schools. Furthermore, in regard to the long survey lengths, it appeared that these students may have simply let

the survey time out after 15 minutes several times and logged back in prior to completing it. For the short survey lengths, the surveys that took less time than was thought to be "reasonable" were examined closely. However, because there were no clear outliers, all surveys that met the criteria of being considered complete (i.e., valid response to the questions on age, gender identity, and the number of sexual assault incidents experienced during the 2014–2015 academic year) were retained in the analyses.[30]

In general, sexual assault victims,[31] regardless of sex, took longer than non-victims to complete the survey (**Table 20**). This was expected because the instrument included questions designed to collect detailed information about up to three victimization incidents if a respondent indicated that she/he was a victim of sexual assault. Across all nine schools, female victims took, on average, 23 minutes to complete the survey compared to 15 minutes for non-victims. Similarly, male victims took, on average, 20 minutes compared to 15 minutes for non-victims, to complete the survey.

Table 20. Mean time (in minutes) to complete CCSVS Pilot Test survey by sex, victimization status, and school

	Survey Length (in minutes)			
	Females		Males	
School	Non-victims	Victims	Non-victims	Victims
Cross-School Average	15.4	23.3	15.0	20.2
1	12.9	19.6	12.7	17.0
2	17.0	27.9	17.4	29.7
3	18.0	25.7	16.1	23.2
4	15.5	24.0	15.4	20.2
5	15.0	23.3	14.8	18.6
6	15.6	23.1	15.6	19.1
7	15.9	25.6	15.9	20.1
8	14.6	23.4	15.1	20.1
9	14.6	24.0	13.3	21.7

Source: Campus Climate Survey Validation Study (CCSVS), 2015

4.3 Study Sample

The distribution of demographic characteristics among the CCSVS Pilot Test respondents is shown in **Table 21**. The data in the table are unweighted, such that equal weight is given to each respondent; however, all estimates in the remainder of the report are weighted to adjust for potential nonresponse and coverage bias.

[30]Respondents who skipped a lot of questions, which is likely responsible for extremely short survey times, were treated as missing in the analyses of the questions they skipped.

[31]"Victim" refers to students who reported one or more incidents of unwanted/nonconsensual sexual contact in the 2014–2015 academic year. See **Section 5.1** for additional details about the calculation of this estimate.

An extensive disclosure risk analysis was conducted to prevent the identities of participating schools from being discerned, the results of which guided decisions about whether certain student or victimization characteristics could be reported at the school level. The primary concerns pertained to students' demographic characteristics, which could not be shown at the individual-school level without risking potential identification of the school. Most of the estimates included in this report are shown for each participating school as well as at the aggregate level. For particularly rare estimates at smaller schools or those with lower response rates, some estimates did not meet acceptable levels of precision (noted in the graphics and appendix tables).

Throughout this report, all data are shown separately for undergraduate females and males, a categorization based on the sex indicated on the student rosters that were provided by the schools. The self-reported data on gender identity indicates that while the vast majority of students considered themselves to be male or female, 64 respondents (0.4% of the female sample) who were reported to be female by their school identified as male and 58 students (0.7% of the male sample) who were reported to be male by their school identified as female (**Table 21**). The decision to present estimates by the students' school-provided sex rather than student-reported gender was made for two reasons.

First, because the power calculations for determining the number of respondents needed in each school (i.e., the sample size) were based on the school-provided sex (because of differing goals for males and females), a student's probability of selection was based on school-provided data on sex. As a result, the selection weights and weights for nonresponse (based on the nonresponse bias analysis comparing responders to nonresponders, by sex, using roster data available for the whole sampling frame) depend on the school-provided sex.

Second, reporting based on student-reported gender identity would require reporting results for self-reported (1) females, (2), males, and (3) transgender persons. At both the aggregate and school level, the precision to report estimates for transgender persons was lacking. While the number of self-reported transgender persons is small (0.2% of the female sample and 0.2% of the male sample), it was important to include them in the analytic results (i.e., the results of transgender persons would always need to be suppressed due to disclosure and reliability concerns). Presenting results by school-provided sex allowed for their inclusion.

Table 21. Distribution of undergraduate female and male samples, unweighted data

Characteristic	Female Sample		Male Sample	
	Number	Percent	Number	Percent
Year of study				
1	3,826	25.5 %	2,118	26.4 %
2	3,375	22.5	1,775	22.1
3	3,599	24.0	1,909	23.8
4	4,092	27.3	2,181	27.1
Other	85	0.6	47	0.6
Missing	12	0.1	4	0.0
Age				
18	1,769	11.8 %	787	9.8 %
19	3,240	21.6	1,676	20.9
20	2,806	18.7	1,406	17.5
21	2,529	16.9	1,315	16.4
22	1,715	11.4	980	12.2
23+	2,930	19.5	1,870	23.3
Race/ethnicity				
White	9,309	62.1 %	5,085	63.3 %
Black	1,031	6.9	447	5.6
Hispanic (any race)	1,599	10.7	847	10.5
Asian	1,939	12.9	1,068	13.3
Other	741	4.9	392	4.9
Missing	370	2.5	195	2.4
Race/ethnicity (dichotomous)				
Non-Hispanic White	9,309	62.1 %	5,085	63.3 %
Other	5,310	35.4	2,754	34.3
Missing	370	2.5	195	2.4
Gender identity				
Female	14,856	99.1 %	58	0.7 %
Male	64	0.4	7,939	98.8
Transgender	37	0.2	19	0.2
Something else	32	0.2	18	0.2
Sexual orientation (dichotomous)				
Heterosexual	13,456	89.8 %	7,306	90.9 %
Lesbian, gay, bisexual, or other	1,191	7.9	552	6.9
Missing	342	2.3	176	2.2

Source: Campus Climate Survey Validation Study (CCSVS), 2015

The male and female samples contained fairly even distributions of students by year of study and age. Any overrepresentation of a particular subgroup (based on comparing respondents to nonrespondents using student-roster data) was addressed through weighting so that the weighted data that are used in the remainder of the report reflect the full population of degree-seeking undergraduate students at each school. To simplify the presentation of victimization estimates for age subgroups, age was collapsed into two categories (18–22 and 23 and older) when creating subgroup estimates.

The samples are fairly diverse in terms of race and ethnicity when examining the overall male and female samples. However, there was substantial variation in the distribution of race/ethnicity across schools and, due to the very small numbers of specific racial/ethnic subgroups in the student population at several participating schools, the respondent sample had similarly low representation of these subgroups. Among the female samples, the proportion of non-Hispanic white students at the participating schools ranged from 22.8% to 86.5%, the proportion of non-Hispanic black students ranged from 0.6% to 18.8%, the proportion of non-Hispanic Asian students ranged from 1.8% to 38.2%, the proportion of Hispanic students ranged from 2.4% to 27.9%, and the proportion of students who were either American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, or multiracial ranged from 3.4% to 6.6%. In addition, because the race and ethnicity questions were asked at the very end of the survey, and were not required to be answered, race/ethnicity could not be classified for 370 students in the female sample and 195 students in the male sample who left the questions blank. Because of the low representation of several racial/ethnic subgroups in some schools—and the pilot study's commitment to minimizing the risk of school disclosure—school-specific victimization estimates for subgroups based on race/ethnicity could be created with acceptable precision only for non-Hispanic white students and non-white students (which included non-Hispanic black, non-Hispanic Asian, Hispanic, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, and multiracial).

Overall, about 90% of the female sample and 91% of the male sample considered their sexual orientation to be heterosexual, and these proportions did not vary substantially across schools. For example, among the female sample, the proportion who reported that they were heterosexual ranged from 84% to 91%. Two categories were used to generate school-level subgroup estimates for sexual victimization based on sexual orientation: heterosexual and lesbian, gay, bisexual, or other. This decision was made because acceptable precision when using four categories for sexual orientation was lacking, particularly given that this variable was missing for 344 students in the female sample and 176 students in the male sample.

5. Sexual Assault, Rape, and Sexual Battery

The CCSVS Pilot Test focused on measuring three key types of sexual victimization: sexual assault, rape, and sexual battery. Sexual battery was defined as any unwanted and nonconsensual sexual contact that involved forced touching of a sexual nature, not involving penetration. This could include forced kissing, touching, grabbing, or fondling of sexual body parts. Rape was defined as any unwanted and nonconsensual sexual contact that involved a penetrative act, including oral sex, anal sex, sexual intercourse, or sexual penetration with a finger or object. Sexual battery and rape are mutually exclusive categories (e.g., a victim or a sexual victimization incident would be counted as one or the other, not both). Sexual assault is the term used to describe any unwanted and nonconsensual sexual contact that involved either sexual battery or rape. It does not include sexual harassment or coerced sexual contact, which were measured separately (see **Section 6**).

In order to gather information about the types of sexual victimization experienced and the characteristics and outcomes of those experiences, the research team designed the CCSVS Pilot Test with an incident-based approach to collecting data. The incident-based approach asks respondents to identify separate occurrences of victimization, date them, and then answer questions about each specific incident, up to a maximum of three incidents. Using this approach allows for the presentation of *prevalence* estimates—the number of unique victims who experienced one or more victimizations during the reference period—and *victimization* estimates—the number of incidents experienced by persons in the population. Therefore, throughout this section, prevalence and victimization estimates are presented for sexual assault, rape, and sexual battery. The incident-based approach also makes it possible to present victimization and prevalence rates based on the type of victimization experienced, rather than looking only at the prevalence of any type of sexual victimization. Additionally, it allows incidents to be dated and placed within the reference period and allows for the identification of the characteristics and outcomes of specific types of incidents.

Because the nine schools included in the CCSVS Pilot Test were not randomly selected, the conclusions and comparisons made regarding the estimates are specific to these nine schools and cannot be generalized to all postsecondary institutions or to the national population of college students. However, the results from these schools do provide insight into the best methods for collecting sexual victimization and campus climate data from college students. In addition, the results demonstrate the potential of cross-school comparisons and the utility of a cross-school average for many estimates.

5.1 Measurement

Several key survey items were used to identify victims of sexual assault. First, before any questions about unwanted and nonconsensual sexual contact were covered, respondents were asked about sexual harassment victimization and experiences with coerced sexual contact (see **Section 6.1**).[32] This section of the survey described five types of sexual contact that would be relevant throughout the survey. Gray text was programming language not visible to respondents.

Sexual contact includes:

- touching of a sexual nature (kissing, touching of private parts, grabbing, fondling, rubbing up against you in a sexual way, even if it is over your clothes)
- oral sex (someone's mouth or tongue making contact with your genitals or your mouth or tongue making contact with someone else's genitals)
- anal sex (someone putting their penis in your anus)
- sexual intercourse (someone's penis being put in [IF D3=MALE, FILL "someone's", ELSE FILL "your" vagina)
- sexual penetration with a finger or object (someone putting their finger or an object like a bottle or a candle in your [IF D3 NE MALE, FILL: "vagina or"] anus.

Next, after answering the questions about sexual harassment and coerced sexual contact, respondents started a new section of the survey. They were provided with the definition of "unwanted sexual contact" (sexual contact that the person did not consent to and did not want to happen) and descriptions of tactics that could be used to achieve unwanted sexual contact. Respondents were required to check a box next to each tactic description (shown one at a time) before advancing to the next screen. This strategy was informed by the in-person cognitive interview process and implemented to increase the likelihood that respondents would read the descriptions and lead language.

[32] As described in **Section 2**, the strategy of covering sexual harassment and coerced sexual contact before sexual assault was informed by the in-person cognitive interviewing, in which it was evident that when these topics were covered in the reverse order (which was the original strategy), some victims of sexual harassment and/or coerced contact included these experiences in the sexual assault victimization question but noted that they would not have done so if they had known that the survey was going to later ask specifically about harassment and/or coerced sexual contact.

This section asks about times when you may have experienced unwanted sexual contact. In these questions, **unwanted sexual contact** is sexual contact that you did not consent to and that you did not want to happen. Remember that sexual contact includes touching of your sexual body parts, oral sex, anal sex, sexual intercourse, and penetration of your [IF D3=FEMALE OR TRANSGENDER OR SOMETHING ELSE OR MISSING, FILL "vagina or"] anus with a finger or object.

Please check off each point as you read through these descriptions.

Unwanted sexual contact could happen when: [EACH ITEM MUST BE CHECKED TO ADVANCE]

- ☐ someone touches or grabs your sexual body parts (e.g., butt, crotch, or breasts);
- ☐ someone uses force against you, such as holding you down with his or her body weight, pinning your arms, hitting or kicking you;
- ☐ someone threatens to hurt you or someone close to you; or
- ☐ you are unable to provide consent because you are incapacitated, passed out, unconscious, blacked out, or asleep. This could happen after you voluntarily used alcohol or drugs, or after you were given a drug without your knowledge or consent.

Please keep in mind that anyone—regardless of gender—can experience unwanted sexual contact. Also, the person who does this could be a stranger or someone you know, such as a friend, family member, or person you were dating or hanging out with.

Respondents were then taken to a new page that asked whether they had experienced unwanted/nonconsensual sexual contact since the beginning of the academic year, regardless of where it happened (Survey Item P1). This language was included in order to capture all incidents of unwanted sexual contact experienced by respondents, not only those that took place on school property or were perpetrated by individuals with an affiliation to the school.[33] Regardless of their response to the question, students were also asked how many times they had experienced unwanted sexual contact during the reference period. The question about the number of times (Survey Item P2) was the key variable used in the sexual assault victimization estimates (both prevalence and incident rates). The first question (Survey Item P1) was used primarily in latent class analyses to assess the reliability and consistency of a respondent's answers.[34]

[33] This decision was made because colleges and universities provide a number of support services to students who experience sexual violence, and these services are not limited to those who were victimized on school property or by school-affiliated offenders. For planning and policy purposes, school administrators need to have accurate information about the number of students who experience sexual victimization and the nature of these incidents.

[34] Latent class analysis (LCA) involves embedding several similar questions that ask about an underlying construct (i.e., sexual assault). The analysis requires that all respondents answer the key question from which prevalence estimates are derived and each LCA question (i.e., they cannot be skipped based on the key question from which prevalence estimates are derived). **Section 5.5.3** provides additional information about the LCA findings.

When you answer the questions in this section, please count any experience of unwanted sexual contact since the beginning of the current academic year, regardless of where it happened.

P1. **Since the beginning of the current academic year in [FILL: August/September], 2014**, has anyone had unwanted sexual contact with you?

- ○ Yes
- ○ No

P2. How many separate incidents of unwanted sexual contact have you experienced **since the beginning of the current academic year in [FILL: August/September], 2014**?

- ○ 0 incidents [IF P2 = 0 IINCIDENTS, SKIP TO LCA2]
- ○ 1 incident
- ○ 2 incidents
- ○ 3 incidents
- ○ 4 incidents
- ○ 5 or more incidents

Respondents who reported 1 or more incident in *Survey Item P2* were then taken to a new page in which they were informed that they would be asked a series of follow-up questions about each incident (up to three incidents).

Respondents were asked to place each incident in time, with response options limited to the months of the 2014–2015 academic year (see *Survey Item ILF1*). If a respondent who had reported more than one incident in *Survey Item P2* selected the same month for more than one incident, the survey was programmed to confirm that these were actually separate incidents (see *Survey Item ILF1a* below).

ILF1. [IF P2 = 2 OR MORE, FILL: "Please think about incident #1."] In what month did this incident of unwanted sexual contact occur?

- o August 2014
- o September 2014
- o October 2014
- o November 2014
- o December 2014
- o January 2015
- o February 2015
- o March 2015
- o April 2015
- o May 2015
- o Unsure/Don't know

[IF P2= 2 OR 3, AS THE RESPONDENT COMPLETES ILF1 FOR THE 2ND OR 3RD INCIDENT, THE INCIDENT(S) AND DATES ALREADY REPORTED WILL DISPLAY (E.G., "INCIDENT #1: December 2015, INCIDENT #2, January 2015]

ILF1a. [ASK IF RESPONDENT SELECTS 2 INCIDENTS IN THE SAME MONTH IN ILF1] Just to confirm, you reported incident #1 in [FILL WITH MONTH, YEAR] and incident #2 in [FILL WITH MONTH YEAR]. Are these separate incidents?

- o Yes, these are separate incidents
- o No, this is the same incident [COMBINE THESE INTO 1 INCIDENT]

After each incident was placed in time (calendar month), respondents were taken through a series of questions (approximately 25, depending on skip patterns) about each incident, up to the maximum of three incidents.[35] The first two questions documented the nature of the sexual contact (Survey Item ILF2) and the tactic used to engage in the sexual contact (Survey Item ILF3). The first item on the nature of sexual contact was used to define whether the incident was rape or sexual battery.

[35] As described in **Section 2.3**, for respondents who reported more than one incident in *Survey Item P2*, no instructions were provided about which incident they should consider as "incident #1" and which they should consider as "incident #2" in *Survey Item ILF1*. Similarly, for respondents who reported three or more incidents in *Survey Item P2*, no instructions were provided about which three incidents they should date in *Survey Item ILF1*. These decisions were made because of concerns that asking respondents to select either the first three incidents, the last three incidents, or the three "most serious" incidents could introduce bias into the selection of incidents that were captured. Instead, the goal was to capture a "snapshot" of incidents that took place throughout the calendar year. The incident-level follow-up questions were limited to three incidents to avoid imposing excessive burden on respondents who had experienced multiple victimizations, to minimize the likelihood of missing data and survey breakoffs, and in anticipation that relatively few victims would report experiencing more than three incidents, which turned out to be the case.

ILF2. During [IF P2=1, FILL "the incident"; IF P2=2 OR MORE, FILL "incident #1"], which occurred in [FILL THE MONTH AND YEAR REPORTED IN #ILF1, e.g., "October, 2014."], which of the following types of unwanted sexual contact happened? Please indicate whether each type of unwanted sexual contact happened during this incident.

	Yes	No	Unsure
a. **Forced touching of a sexual nature** (forced kissing, touching of private parts, grabbing, fondling, rubbing up against you in a sexual way, even if it is over your clothes)	o	o	o
b. **Oral sex** (someone's mouth or tongue making contact with your genitals or your mouth or tongue making contact with someone else's genitals)	o	o	o
c. **Anal sex** (someone putting their penis in your anus)	o	o	o
d. [RESPONSE WILL NOT DISPLAY IF D3=MALE] **Sexual intercourse** someone putting their penis in your vagina)	o	o	o
e. **Sexual penetration with a finger or object** (someone putting their finger or an object like a bottle or a candle in your [IF D3=FEMALE TRANSGENDER, SOMETHING ELSE, OR BLANK, FILL: "vagina or anus"; IF D3=MALE, FILL: "anus"])	o	o	o

ILF3. During [IF P2=1, FILL "the incident"; IF P2=2 OR MORE, FILL "incident #1"] which occurred in [FILL THE MONTH REPORTED IN ILF1, e.g., "October, 2014"], how did the person(s) have unwanted sexual contact with you? Please indicate whether each of the following happened.

	Yes	No	Unsure
a. [THIS ITEM ONLY DISPLAYED IF RESPONDENT ANSWERED YES TO ILF2a AND **DID NOT** ANSWER YES TO ILF2b, ILF2c, ILF2d, OR ILF2e] Touched or grabbed your sexual body parts (e.g., butt, crotch, or breasts)	o	o	o
b. Threatened to hurt you or someone you care about	o	o	o
c. Used physical force against you, such as holding you down with his or her body weight, pinning your arms, hitting or kicking you	o	o	o
d. You were unable to provide consent or stop what was happening because you were incapacitated, passed out, unconscious, blacked out, or asleep	o	o	o
e. Other. [TEXT FIELD IS ONLY ACTIVE IF ILF3E=YES OR UNSURE Please describe how the incident happened: _____	o	o	o

All respondents, both victims and non-victims, were given an additional set of questions for the latent class analysis (see **Section 5.5.2**) and for calculating estimates of sexual assault victimization since entering college and in the students' lifetimes (see **Section 5.2.2**). These questions are shown below.

LCA2. Just to confirm, **since the beginning of the current academic year in** [FILL: **August/September**]**, 2014**, has anyone had any of the following types of unwanted sexual contact with you (i.e., sexual contact without your consent and that you did not want to happen?

	Yes	No
a. **Forced touching of a sexual nature** (forced kissing, touching of private parts, grabbing, fondling, rubbing up against you in a sexual way, even if it is over your clothes)	o	o
b. **Oral sex** (someone's mouth or tongue making contact with your genitals or your mouth or tongue making contact with someone else's genitals)	o	o
c. **Anal sex** (someone putting their penis in your anus)	o	o
d. [RESPONSE WILL NOT DISPLAY IF D3=MALE] **Sexual intercourse** (someone putting their penis in your vagina)	o	o
e. **Sexual penetration with a finger or object** (someone putting their finger or an object like a bottle or a candle in your [IF D3= FEMALE OR TRANSGENDER ORSOMETHING ELSE OR MISSING, FILL: "vagina or"] anus	o	o

LCA3. Thinking about your **whole life**, when was the last time you experienced unwanted sexual contact?

Never	Month			Year		
☐	Select an answer…	v	[DROP DOWN LIST JAN-DEC]	Select an answer…	v	[DROP DOWN LIST 2015-2005 OR EARLIER

LCA4. [SKIP IR P1=YES OR P2=1+ OR LCA2a=YES OR LCA2b=YES OR LCA2c=YES OR LCA2d=YES OR LCAe=YES OR LCA=NEVER] For the final question in this section, please think about the time since you entered college. If you have attended more than one school, please think about the time since you first entered any college or university. At any point **since you entered college**, has anyone had unwanted sexual contact with you?

- o Yes
- o No

5.2 Prevalence Estimates

5.2.1 Prevalence of Sexual Assault during the 2014–2015 Academic Year

Calculation of Prevalence Estimates

Respondents who reported having experienced one or more incidents of unwanted sexual contact since the beginning of the 2014–2015 academic year (based on *Survey Item P2*) were classified as victims of completed sexual assault. Victims who experienced forced touching of a sexual nature and did not experience a penetrative act (oral sex, anal sex, sexual intercourse, or sexual penetration with a finger or object) during any incident that occurred during the academic year (based on *Survey Item ILF2*) were classified as victims of sexual battery. Victims who experienced a penetrative act during any incident within the reference period (based on *Survey Item ILF2*) were classified as victims of rape. Victims of sexual assault who did not report the type of sexual contact (based on *Survey Item ILF2*) could not be classified as having experienced rape or sexual battery but were still classified as sexual assault victims.

The prevalence rates for sexual assault, rape, and sexual battery were calculated by dividing the weighted number of victims by the total population (i.e., weighted number of survey respondents). Prevalence rates were computed separately for females and males at each school, and a cross-school average was also created for females and males.

Female Estimates

The prevalence rate for completed sexual assault experienced by undergraduate females during the 2014–2015 academic year, averaged across the nine schools, was 10.3%, and ranged from 4.2% at School 2 to 20.0% at School 1 (**Figure 5**). Five of the nine schools had a sexual assault prevalence rate above 7.4%, which was the estimate used for the power calculations. Because sample-size targets were also exceeded in eight of the nine schools, percent relative standard errors (RSEs)[36] for female sexual assault prevalence estimates were below the targeted 9% in all schools except School 2. Excluding School 2, the RSEs for sexual assault ranged from 3.7% to 6.9%. (See **Appendix E-1** through **3** for all prevalence estimates, standard errors, and RSEs for female estimates.)

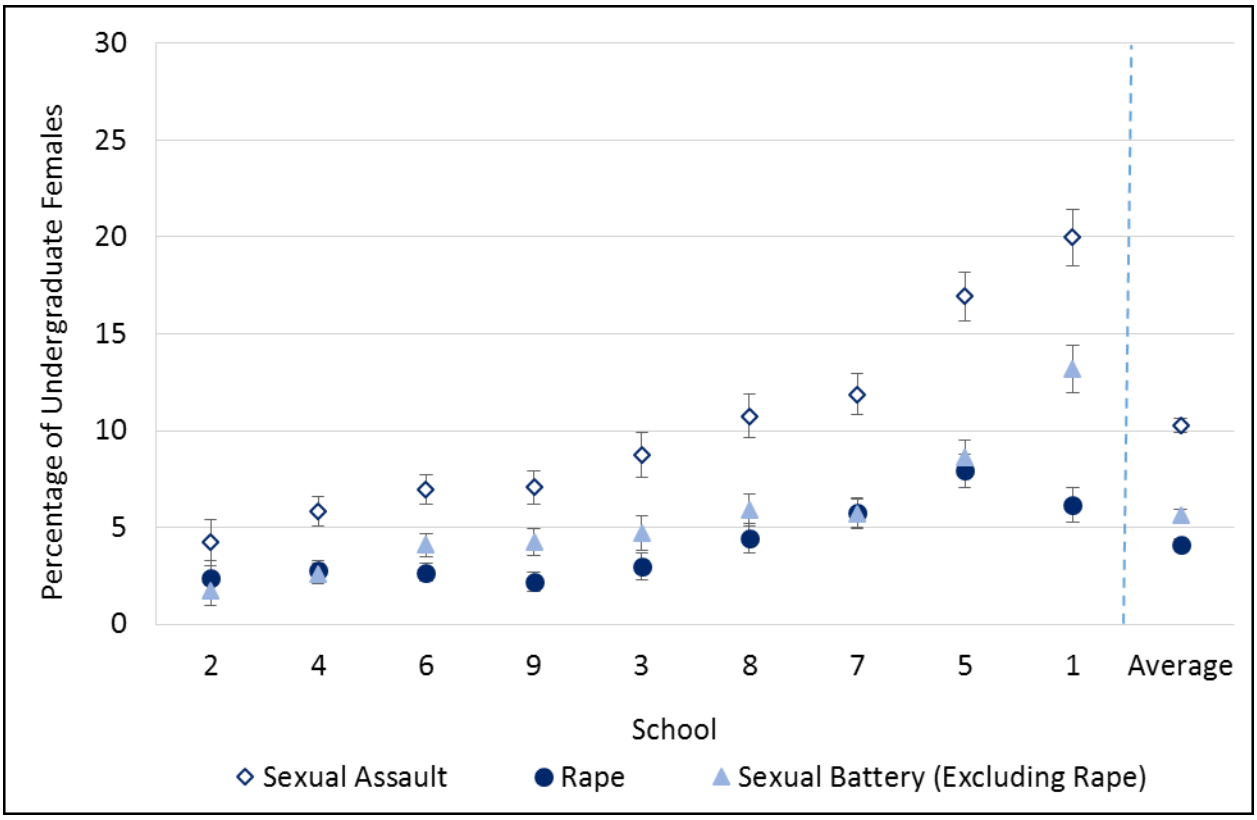
The average prevalence rate for completed sexual battery during the 2014–2015 academic year was 5.6%, and ranged from 1.7% at School 2 to 13.2% at School 1. The average prevalence rate for completed rape during the 2014–2015 academic year was 4.1%, and ranged from 2.2% at School 9 to 7.9% at School 5.[37] The RSEs (excluding School 2) ranged from 5.7% to 12.2% for rape and from 4.8% to 10.7% for sexual battery. The relative precision of these school-level estimates of sexual assault was in part due to two factors: (1) the better than anticipated response rates and resulting larger than expected number of completed interviews, and (2) a higher prevalence of sexual assault than expected in most schools.

[36]The percent RSE is the square root of the variance of an estimate divided by the estimate and expressed as a percentage. The RSA is a measure of the precision of the suvey estimate(s).

[37]The prevslence rates of sexual battery and rape do not sum exactly to the prevalence rate of sexual assault because the nature of hte sexual contact was covered in the incident-specific follow-up questions, and some students left this item blank (see Section 5.2.1)

Given the relatively small standard errors and the range of these estimates across schools, the estimates for several schools were statistically different from one another. (By using the vertical error bars surrounding each estimate, which represent the 95% confidence intervals, it is possible to see which school-specific estimates are significantly different from either the cross-school average estimate or from other school estimates based on whether the error bars overlap.) For instance, the prevalence of sexual assault victimization at School 6 was significantly lower than at Schools 8, 7, 5, and 1.

Figure 5. Percentage of undergraduate females reporting sexual assault, rape, and sexual battery, 2014–2015 academic year, by school



Source: Campus Climate Survey Validation Study (CCSVS), 2015

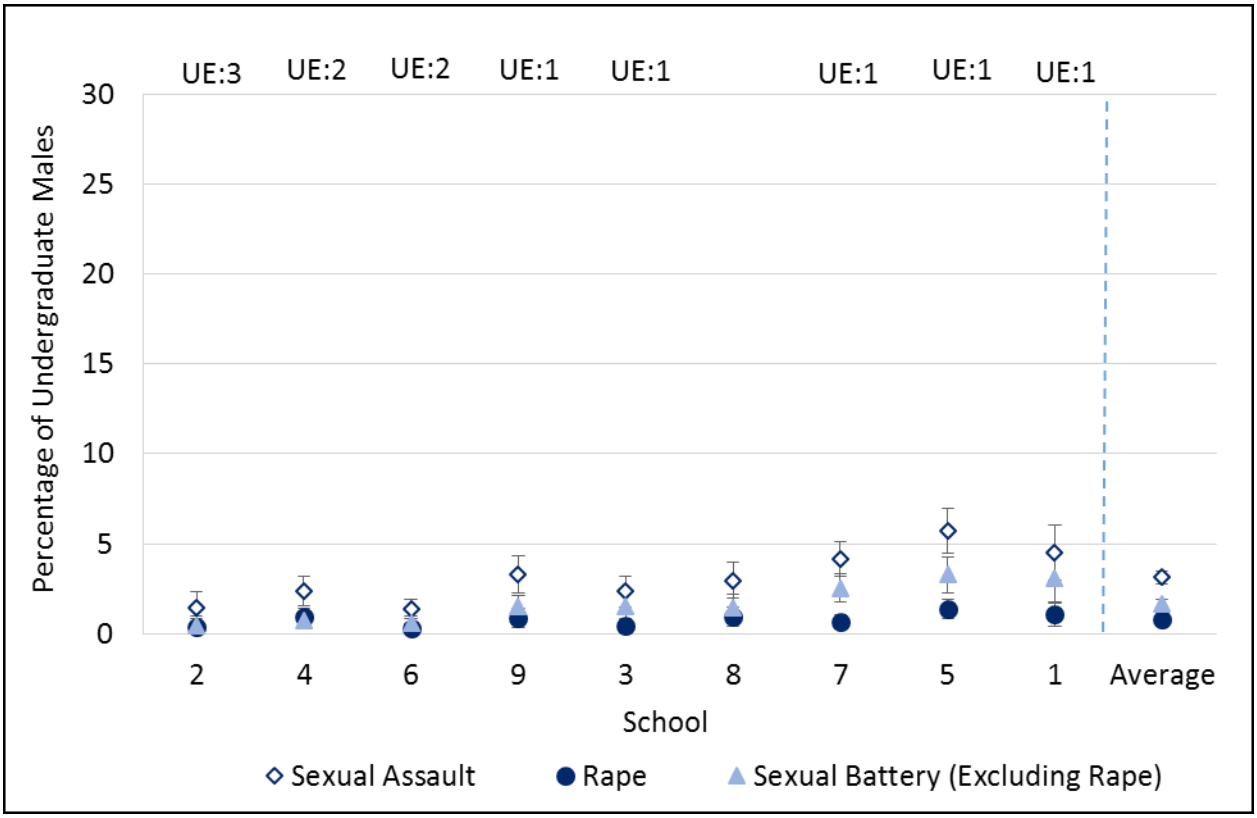
Male Estimates

The prevalence of completed sexual assault among undergraduate males during the 2014–2015 academic year ranged from 1.4% at Schools 2 and 6 to 5.7% at School 5, with a cross-school average rate of 3.1% (**Figure 6**). Across the nine schools, the average prevalence rate for completed sexual battery experienced by undergraduate males was 1.7% (ranging from 0.4% at School 2 to 3.3% at School 5). The average completed rape was 0.8% (ranging from 0.3% at School 6 to 1.4% at School 5). (See **Appendix E-4** through **6** for all prevalence estimates, standard errors, and RSEs for male estimates.) Based on significance tests conducted to compare prevalence rates between males and females, the prevalence of sexual assault, sexual battery, and rape were significantly lower for males than females at each of the nine participating schools (see **Appendix E-7**).

Even though the CCSVS Pilot Test was not powered to generate precise, school-specific estimates of sexual assault for males, sufficiently stable [38] estimates were generated at eight of the nine schools, with these estimates ranging from 1.4% to 5.7%. Six school-specific estimates for sexual battery victimization experienced by males during the 2014–2015 academic year were determined to be sufficiently stable, with these estimates ranging from 1.5% to 3.3%. Because of the relatively low prevalence of rape experienced by males, the school-specific estimate was stable only at one of the nine schools participating in the CCSVS Pilot Test. In general, because of the imprecision of the male estimates (as evidenced by the large confidence intervals), few were statistically distinguishable from one another.

[38] Estimates were considered stable if they were based on a sample size of more than 10 and if the RSE was less than or equal to 50%.

Figure 6. Percentage of undergraduate males reporting sexual assault, rape, and sexual battery, 2014–2015 academic year, by school



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Unreliable estimates (UE) refer to the number of estimates out of 3 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.2.2 Prevalence of Sexual Assault since Entering College and in Lifetime

Calculation of Prevalence Estimates

Respondents who experienced sexual assault victimization during the 2014–2015 academic year (*Survey Item P2*) **or** who answered yes to *Survey Items P1, LCA2, or LCA4* (see **Section 5.1**) were classified as having experienced sexual assault since entering college. Respondents who were classified as victims of sexual assault during the 2014–2015 academic year **or** since entering college **or** who selected a year in *Survey Item LCA3* were classified as having experienced sexual assault in their lifetime. Prevalence rates for sexual assault experienced since entering college and in lifetime were created by dividing the weighted number of victims by the total population (i.e., weighted number of survey respondents).

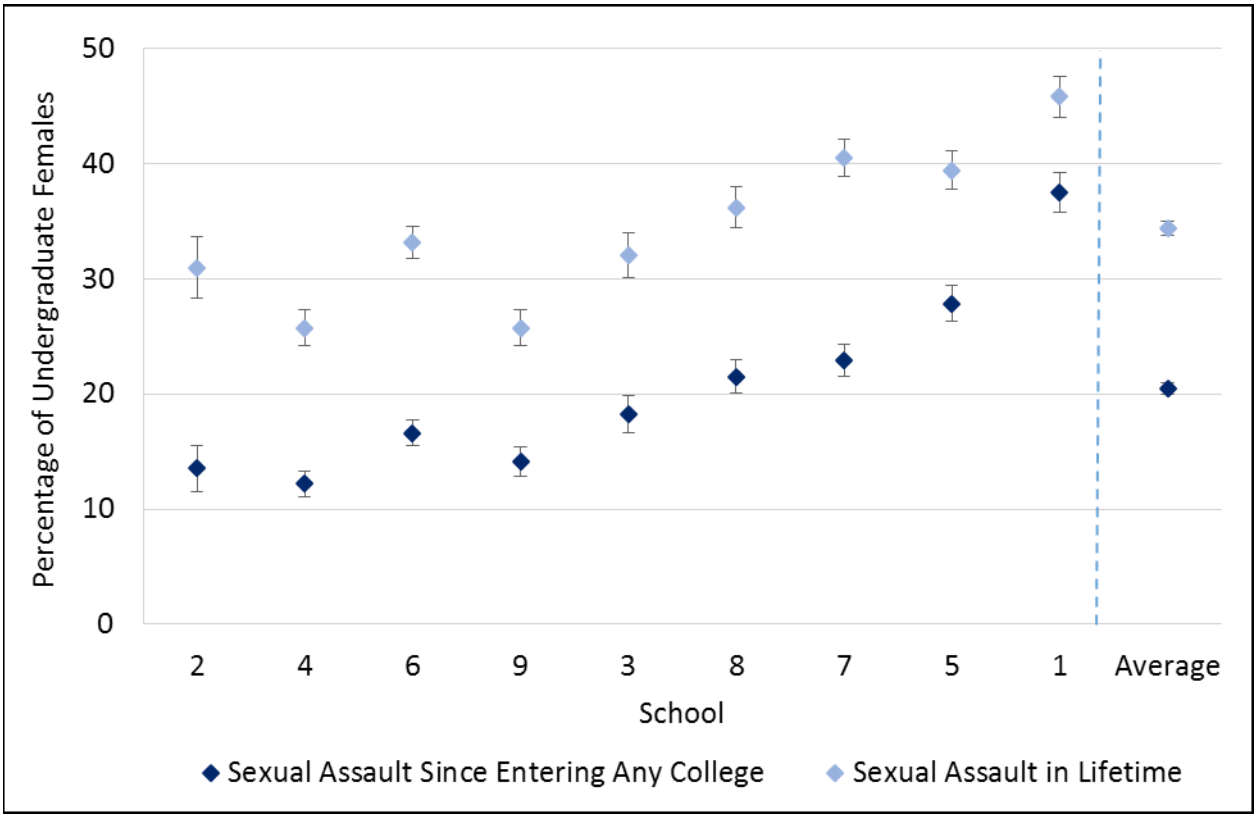
Because the primary focus of the CCSVS was on developing a valid methodology for estimating victimization within the 2014–2015 academic year, limited information was collected to assess the validity of the estimates for the since entering college and lifetime reference periods. No information was collected

about the number of such incidents, the type of unwanted/nonconsensual sexual contact that occurred, the tactics used, the month/year of the incident, or any other incident-level details for sexual victimizations experienced prior to the 2014–2015 academic year. Therefore, these estimates for both males and females should be interpreted with caution.

Female Estimates

The prevalence rate for completed sexual assault since entering college among the female sample ranged from 12% at School 4 to 38% at School 1, with a cross-school average rate of 21% (**Figure 7**). The percentage of undergraduate females who experienced sexual assault during their lifetime ranged from 26% at Schools 4 and 9 to 46% at School 1, with a rate of 34% for all nine schools combined. Because the rates for sexual assault since beginning college and in lifetime are, by definition, higher than in the 2014–2015 academic year, the RSEs for these estimates were smaller than the RSEs for sexual assault during the 2014–2015 academic year (see **Appendix E-3**).

Figure 7. Percentage of undergraduate females reporting sexual assault, since entering college and in lifetime, by school

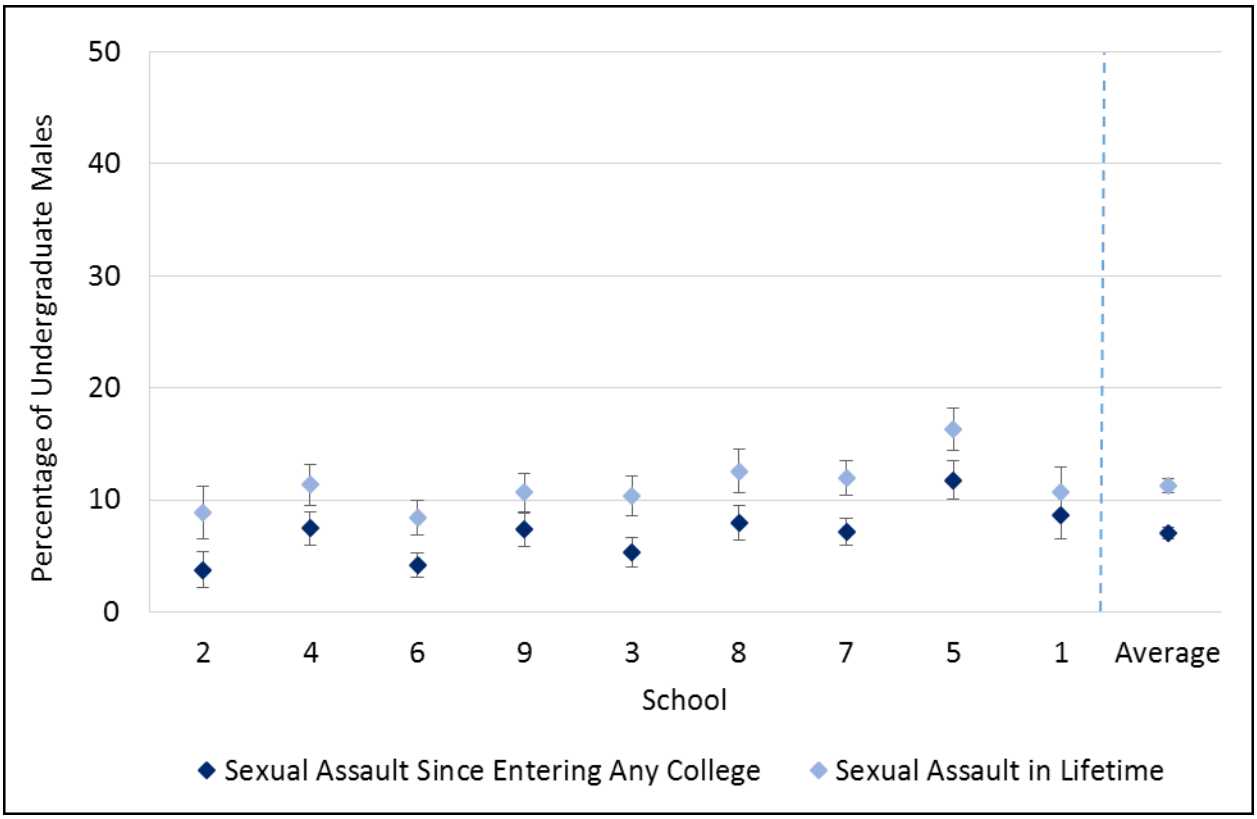


Source: Campus Climate Survey Validation Study (CCSVS), 2015

Male Estimates

For undergraduate males, the overall prevalence rates for completed sexual assault since entering college ranged from 3.7% at School 2 to 11.8% at School 5, with an average rate of 7.0% across all participating schools (**Figure 8**). The percentage of undergraduate males who experienced completed sexual assault at some point in their lifetime ranged from 8.4% (School 6) to 16.3% (School 5), with an average prevalence rate of 11.2% across the nine schools. Both sets of estimates had larger relative standard errors than the estimates for females, and the apparent differences in the rates between schools were not statistically significant.

Figure 8. Percentage of undergraduate males reporting sexual assault, since entering college and in lifetime, by school



Source: Campus Climate Survey Validation Study (CCSVS), 2015

5.2.3 Prevalence of Female Sexual Assault during Academic Year 2014–2015, by Key Population Subgroups

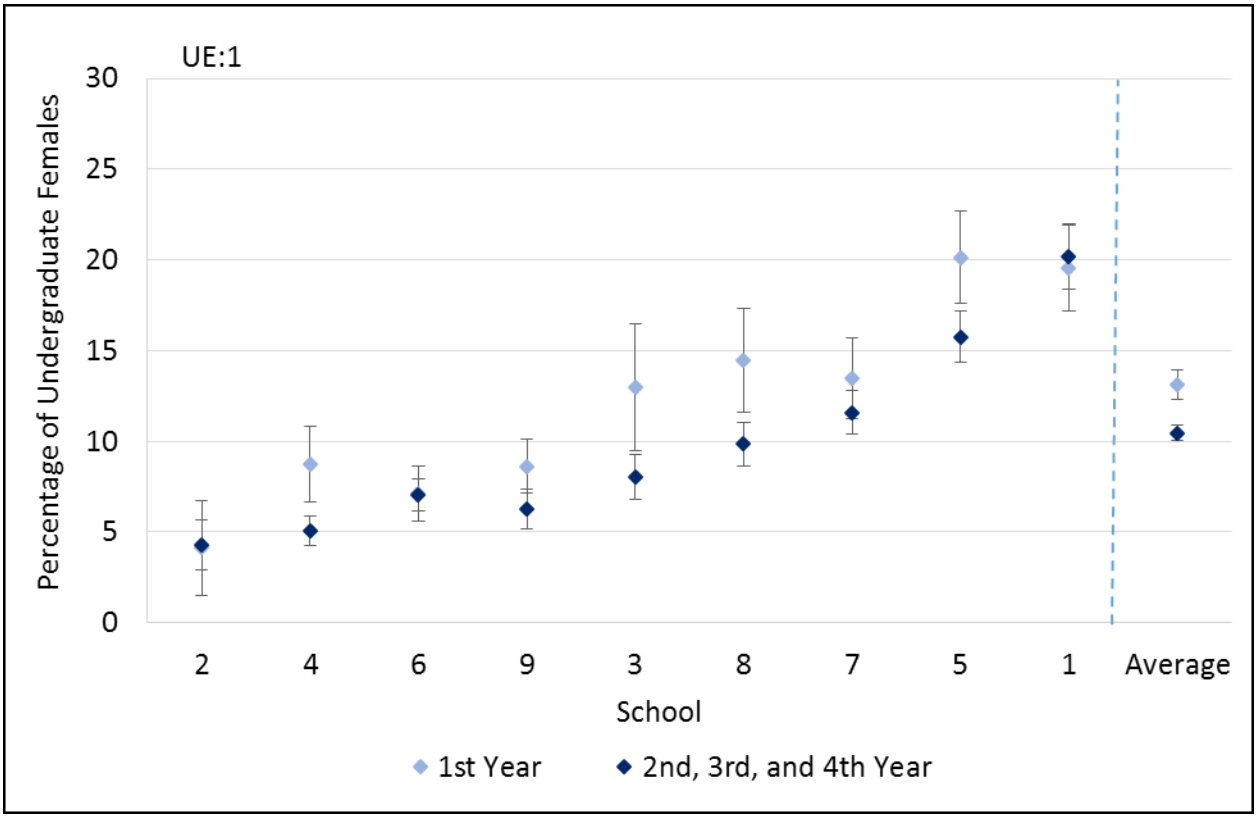
This section presents sexual assault prevalence rates for population subgroups within the female sample. Specifically, sexual assault victimization prevalence during the 2014–2015 academic year is explored among the female sample by year of study, age, race/ethnicity, and sexual orientation. Subgroup estimates for other types of victimization (rape and sexual battery during the 2014–2015

academic year, sexual assault since entering college, sexual assault in lifetime, and sexual harassment) are included in **Appendix E-9**. This section presents subgroup estimates for the female sample overall and by school (where precision levels are acceptable). Because of the lack of precision in developing estimates for subgroups of male victims at the school level, the data in this section focus exclusively on the female sample.

Year of Study

During the 2014–2015 academic year, the prevalence of sexual assault for female undergraduates at the nine schools was significantly higher for first year students than 2nd, 3rd, and 4th year students at several schools (School 3, 4, 5, 8, and 9) (**Figure 9**). Similar patterns were evident when examining prevalence estimates for sexual battery and rape by year of study (see **Appendix E-9** through **18**).

Figure 9. Percentage of undergraduate females reporting sexual assault by year of study and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Unreliable estimates (UE) refer to the number of estimates out of 2 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

Additional Findings on Sexual Assault Victimization Since Entering College by Year of Study

The percentage of female undergraduates in the nine CCSVS Pilot Test schools who experienced sexual assault since entering college increased by year of study (see Appendix E-9).

Examining the prevalence of sexual assault experienced since entering college among 4th year female students facilitates an examination of females' risk of experiencing a sexual assault during their entire college careers. The same estimate from a previous study (Krebs et al., 2009) has been used widely to suggest that 1 in 5 undergraduate females will be sexually assaulted while in college. The comparable CCSVS estimates, which are shown in Appendix E-9 along with their standard errors, varied across schools. Across the four-year schools in the CCSVS, over a quarter of senior females (25.1%) reported that they had experienced unwanted/nonconsensual sexual contact since entering college.

School	Prevalence	Rate
1	50.8%	1/2
5	31.9%	1/3
7	26.6%	1/4
8	23.7%	1/4
3	19.8%	1/5
6	18.1%	1/6
9	16.0%	1/6
4	13.7%	1/7
2	13.2%	1/8
Cross-School Average[a]	25.1%	1/4

[a] For this estimate, only 4-year schools are included.

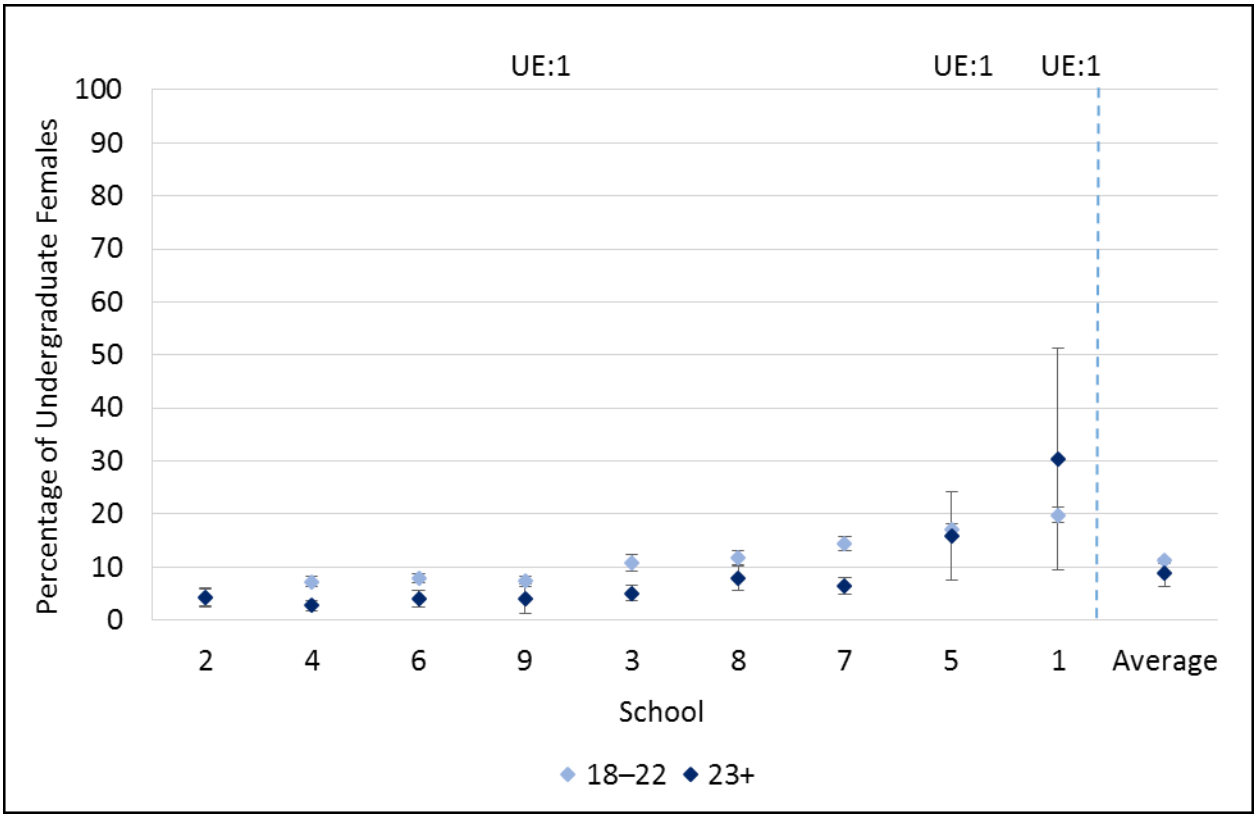
Source: Campus Climate Survey Validation Study (CCSVS), 2015

This rate ranged from 1 in 8 (School 2) to 1 in 2 (School 1). However, several caveats about these estimates should be noted. As discussed in Section 5.2.2, no information about the number of such incidents, the type of unwanted/nonconsensual sexual contact that occurred, the tactic used, the month/year of the incident, or any other incident-level details were obtained about victimizations experienced prior to the 2014–2015 academic year. In addition, the longer reference period for these estimates of approximately 3.5 years for senior females might be more susceptible to measurement error in the form of recall bias or telescoping. Therefore, the "since entering college" estimates should be interpreted with caution.

Age

At most schools participating in the CCSVS Pilot Test, the prevalence of sexual assault experienced during the 2014–2015 academic year was higher for younger female students (age 18–22) than older female students (ages 23+) (**Figure 10**). Similar patterns were observed in the prevalence of rape and sexual battery among younger and older students (**Appendix E-9** through **18**).

Figure 10. Percentage of undergraduate females reporting sexual assault, by age and school, 2014–2015 academic year



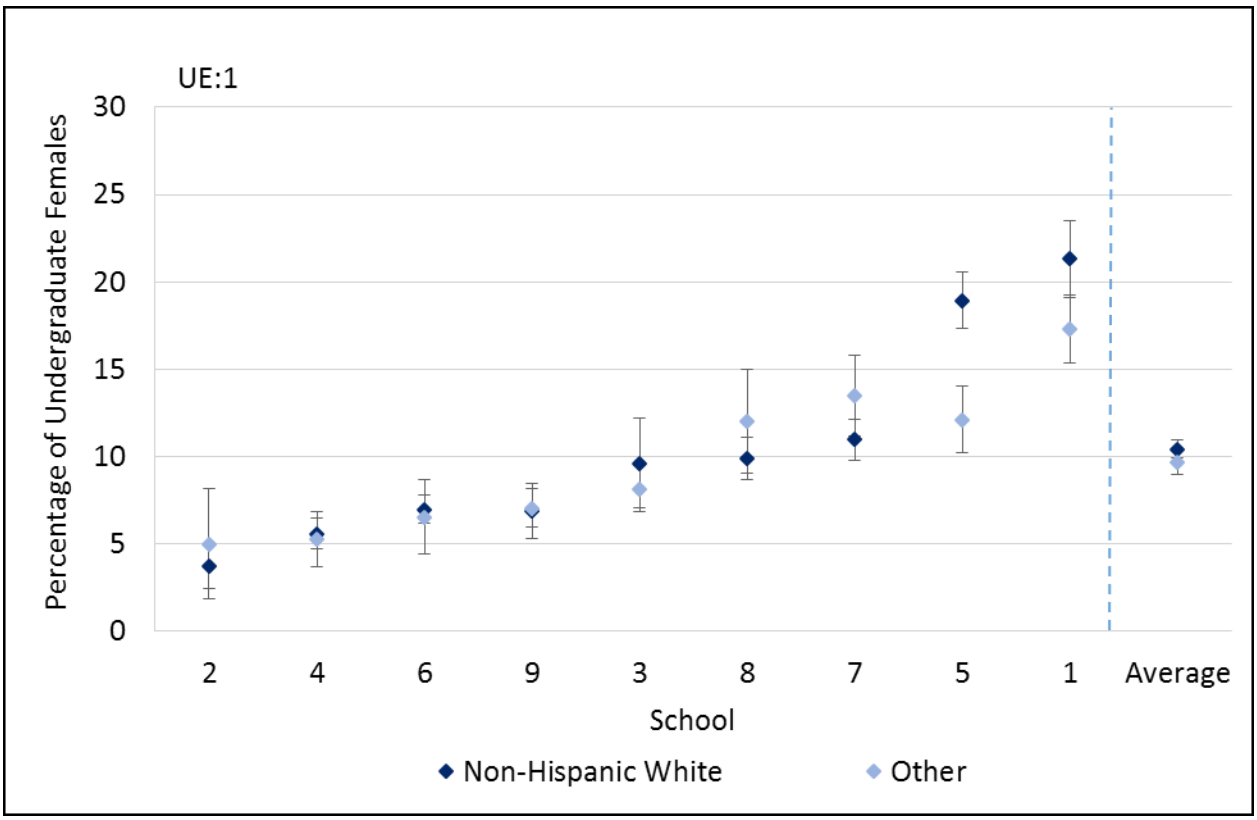
Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Unreliable estimates (UE) refer to the number of estimates out of 2 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

Race/Ethnicity

Across most schools, rates of sexual assault for white and non-white students in the female sample were not statistically distinguishable (**Figure 11**). However, at two schools (Schools 1 and 5), the prevalence rates were higher for white students than non-white students.

Figure 11. Percentage of undergraduate females reporting sexual assault, by race/ethnicity and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

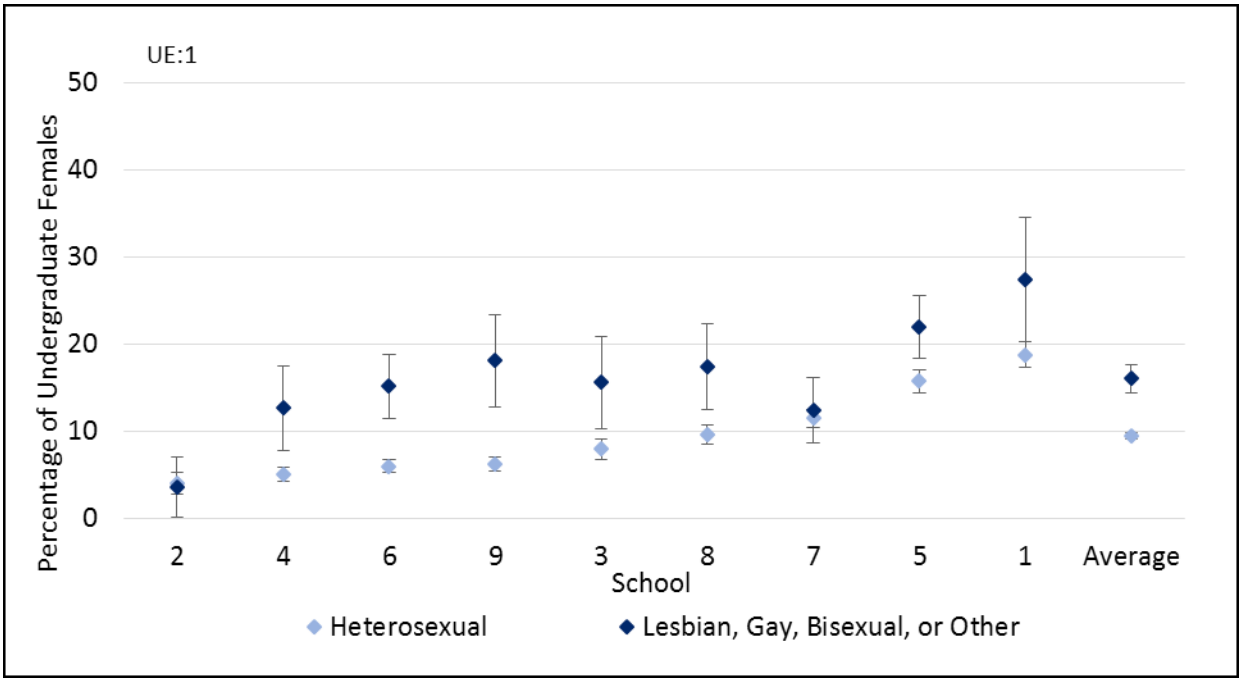
Note: Unreliable estimates (UE) refer to the number of estimates out of 2 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

Sexual Orientation and Gender Identity

Overall, the prevalence of sexual assault was significantly higher for nonheterosexual than heterosexual female students at the nine schools (**Figure 12**). School-specific estimates for sexual assault by sexual orientation subgroups met acceptable levels of precision in eight schools. At each of these eight schools, the observed prevalence of sexual assault victimization was higher for nonheterosexual students than heterosexual students in the female sample. A similar pattern is evident in the schools for which sufficiently precise estimates were created for sexual battery and rape (see **Appendix E-10** through **18**); with one exception (sexual battery rates in School 5), rates of sexual battery and rape were significantly higher for nonheterosexual students than heterosexual students.

Although it was not possible to generate school-specific estimates of the prevalence of sexual assault for transgendered persons, **Appendix E-9** shows cross-school average estimates for sexual assault, rape, and sexual battery victimization for those who self-identified as transgender/other and female.

Figure 12. Percentage of undergraduate females reporting sexual assault, by sexual orientation and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Unreliable estimates (UE) refer to the number of estimates out of 2 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.2.4 Impact of Weighting on Female Sexual Assault Prevalence Estimates

As discussed previously (see **Sections 4.2.5** and **4.2.6**), a nonresponse bias analysis was conducted to determine the extent to which survey respondents differed from the population of eligible students, with nonresponse adjustments (e.g., survey weights) employed to correct for this potential bias. As a statistical check, the weighted estimates were compared to unweighted estimates to assess the potential impact of nonresponse on the key prevalence estimates of sexual assault, rape, and sexual battery experienced in the 2014–2015 academic year among the female sample. This analysis indicates that the weighted prevalence estimates were not substantially different from the unweighted estimates (**Table 22**, with additional detail in **Appendix E-19**). This suggests that, for the characteristics known for both respondents and nonrespondents, there was little nonresponse bias due to differential response propensities.

Even though the weighting did not alter the key estimates greatly, it is still recommended that the potential for bias be thoroughly assessed and that school-level weights be developed using as many student characteristics as possible. This ensures that potential bias is reduced for all estimate types and that estimated counts correctly sum to the population totals rather than the sample totals.

Table 22. Unweighted and weighted undergraduate female prevalence estimates of sexual assault, rape, and sexual battery, 2014–2015 academic year, by school

School	Sexual Assault		Rape		Sexual Battery	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Cross-School Average	10.3 %	10.3 %	4.2 %	4.1 %	5.6 %	5.6 %
1	19.5	20.0	6.1	6.2	12.8	13.2
2	4.1	4.2	2.2	2.4	1.7	1.7
3	8.9	8.7	3.0	3.0	4.8	4.7
4	6.1	5.8	3.0	2.8	2.6	2.6
5	16.7	16.9	8.0	7.9	8.2	8.6
6	7.2	7.0	2.9	2.7	4.0	4.1
7	12.4	11.9	6.0	5.8	6.0	5.7
8	10.7	10.7	4.4	4.5	5.9	5.9
9	7.4	7.1	2.2	2.2	4.5	4.2

Source: Campus Climate Survey Validation Study (CCSVS), 2015

5.2.5 Alternative Methods for Estimating Sexual Assault Prevalence

The primary sexual assault prevalence measure presented in this report classifies respondents as sexual assault victims if they indicated they had experienced one or more incidents of unwanted/nonconsensual sexual conduct during the 2014–2015 academic year, regardless of their responses to other items.[39] This question appeared in the survey after unwanted sexual contact had been clearly and thoroughly defined for the respondents using behaviorally specific terms.

To demonstrate the impact that different measurement strategies can have on sexual assault prevalence rates, the primary prevalence estimates presented for the female sample in this report (**Section 5.2.1**) were compared to estimates resulting from eight alternative approaches to calculating the prevalence of sexual assault (and sexual misconduct conceptualized more broadly). The alternative approaches being compared have one *or more* of the following features.

1. Using a two-step approach that involves using screener questions to identify potential sexual victimizations, and additional information about the incident, to determine whether the incident classifies as a sexual assault and is within the survey reference period.
2. Using one or more behaviorally specific screener questions to identify sexual victimizations.
3. Including additional victimization types, such as coerced sexual contact or sexual harassment, in the sexual assault prevalence measure.

[39] See **Section 5.1** for additional details about how sexual assault was defined and measured for the CCSVS.

Eight alternative approaches to calculating the prevalence of sexual assault (and sexual misconduct) were compared to the primary sexual assault prevalence estimate used in this report (**Figure 13**). Methods 1–5 are different two-step approaches that use various criteria to identify whether the incident meets the definition of a sexual assault. Method 6 is a single-step approach that identifies victims of sexual assault based on a single behavioral screener that asks respondents whether or not they experienced each type of unwanted sexual contact during the 2014–2015 academic year (a survey question that was primarily intended to facilitate the latent class analyses described in **Section 5.5.3**). Methods 7–8 include additional types of victimization—coerced sexual contact and sexual harassment—in the calculation of the sexual misconduct prevalence rate. This exercise demonstrates the potential range of estimates when different approaches are utilized.

Cross-school average and school-level sexual assault prevalence rates for the primary sexual assault prevalence estimate and each of the eight alternative approaches were generated (**Table 23**, with additional details shown in **Appendix E-20** and **21**). Because the two-step approaches exclude some incidents, these rates are lower than the primary estimate. Exclusions based on open-ended responses and missing unwanted sexual contact types (Two-Step 1 and Two-Step 3) reduced the average prevalence rates by 0.2 and 0.3 percentage points, respectively. The exclusion of incidents that were not placed in a month (Two-Step 2) lead to an overall reduction of 1.4 percentage points, whereas the exclusion of incidents for which the respondent did not endorse a tactic (Two-Step 4) reduced the average prevalence rate by 0.5 percentage points. When the first four measures are applied simultaneously (Two-Step 5), this translates to an average reduction of 2.0 percentage points, with school-level reductions ranging from 0.4 percentage points (School 2) to 3.8 percentage points (at School 5).

Figure 13. Eight alternative approaches to calculating sexual assault prevalence for undergraduate females

1. Two-Step 1: classifies respondents as sexual assault victims if one or more incidents of unwanted sexual contact are specified in *Survey Item P2*, unless respondents provided information in open-ended responses to suggest that something other than a sexual assault occurred.[a]
2. Two-Step 2: classifies respondents as sexual assault victims if one or more incidents of unwanted sexual contact are specified in *Survey Item P2* **AND** respondents identified the month in which the incident occurred *(Survey Item ILF1)*.
3. Two-Step 3: classifies respondents as sexual assault victims if one or more incidents of unwanted sexual contact are specified in *Survey Item P2* **AND** respondents identified the type of sexual contact that occurred during the incident (*Survey Item ILF2)*.
4. Two-Step 4: classifies respondents as sexual assault victims if one or more incidents of unwanted sexual contact are specified in *Survey Item P2* **AND** respondent identified one or more tactics used by the perpetrator to engage in unwanted sexual contact (*Survey Item ILF3)*.
5. Two-Step 5: classifies respondents as sexual assault victims if one or more incidents of unwanted sexual contact are specified in *Survey Item P2* **AND** respondent (1) identified the month of the incident (*Survey Item ILF1)* **AND** (2) identified the type of sexual contact that occurred during the incident (*Survey Item ILF2)* **AND** (3) identified one or more tactics used by the perpetrator to engage in unwanted sexual contact (*Survey Item ILF3)* **AND** (4) did not provide information in open-ended responses to suggest that something other than a sexual assault occurred.[a]
6. Behavioral Screener: classifies respondents who endorsed any of the sub-items in *Survey Item LCA2*, which presents behaviorally-specific questions about different types of unwanted sexual contact, as sexual assault victims
7. Sexual Misconduct 1: classifies respondents as sexual assault victims if one or more incidents of unwanted sexual contact are specified in *Survey Item P2* **OR** if respondents experienced coerced sexual contact (*Survey Item EC1*[b]).
8. Sexual Misconduct 2: classifies respondents as sexual assault victims if respondent (1) specified one or more incidents of unwanted sexual contact in *Survey Item P2*, (2) experienced coerced sexual contact (*Survey Item EC1*[b]), or (3) experienced any type of sexual harassment (*Survey Item SH*[b]).

Source: Campus Climate Survey Validation Study (CCSVS), 2015

[a] Every open-ended response to *Survey Items ILF3E* (which asked about the tactic used in the unwanted sexual contact) and *VQ* (which asked if there was anything else about the incident the respondent wanted to report) was carefully reviewed. Based on the information provided by respondents, incidents that did not appear to involve sexual assault because (1) consent was provided (often after coercion) or (2) no sexual contact appeared to have occurred were flagged for exclusion based on methods 1 and 5.

[b] See **Section 6.1** for the question wording for *Survey Item EC1 and SH1*.

Table 23. Comparison of approaches to sexual assault prevalence measurement, 2014–2015 academic year, by school

School	Primary Measure	Two-Step 1	Two-Step 2	Two-Step 3	Two-Step 4	Two-Step 5	Behavioral Screener	Sexual Misconduct 1	Sexual Misconduct 2
Cross-School Average	10.3 %	10.1 %	8.9 %	10.0 %	9.8 %	8.3 %	11.0 %	14.1 %	32.4 %
1	20.0	19.7	18.1	19.8	19.4	17.3	20.8	23.3	50.9
2	4.2	4.1	3.9	4.1	4.0	3.8	4.6	6.2	16.8
3	8.7	8.5	6.9	8.2	8.0	5.9	9.2	12.2	32.0
4	5.8	5.6	4.8	5.5	5.5	4.4	6.2	10.2	25.5
5	16.9	16.7	14.0	16.5	16.4	13.1	17.1	21.9	46.7
6	7.0	6.9	6.3	6.9	6.8	6.2	7.5	9.6	22.9
7	11.9	11.7	10.3	11.5	11.3	9.6	13.2	15.7	36.5
8	10.7	10.5	9.4	10.5	10.0	8.8	11.4	15.2	32.9
9	7.1	6.8	6.1	6.5	6.7	5.4	9.3	12.3	27.4

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Methods are defined in Figure 13.

The behavioral screener and sexual misconduct approaches classify more respondents as sexual assault victims compared to the primary measure. Overall, the sexual assault prevalence rate under the Behavioral Screener approach (alternative approach #6) was 0.7 percentage points higher than the primary measure, ranging from 0.2 percentage points higher at School 5 to 2.2 percentage points higher at School 9. Sexual Misconduct 1, which includes coerced sexual contact, increased the prevalence rate by 3.8 percentage points on average, with school-level increases ranging from 2.0 percentage points at School 2 to 4.4 percentage points at School 4. Inclusion of sexual harassment, along with coerced sexual contact, leads to the most dramatic increase in the prevalence rates, more than tripling the average prevalence rate and producing school-level changes ranging from 12.6 percentage points (at School 2) to 30.9 percentage points (at School 1).

When designing a study to measure sexual assault, differences in definitions and question wording, measurement strategies, and data collection modes can result in sexual assault prevalence rates that vary—sometimes dramatically. When studies use different approaches, it is virtually impossible to compare the resulting rates. A strength of the CCSVS Pilot Test is that the same measurement approach was used across the nine participating schools, making comparisons possible and appropriate methodologically.

5.3 Victimization Estimates

5.3.1 Number of Sexual Assault Incidents in the 2014–2015 Academic Year

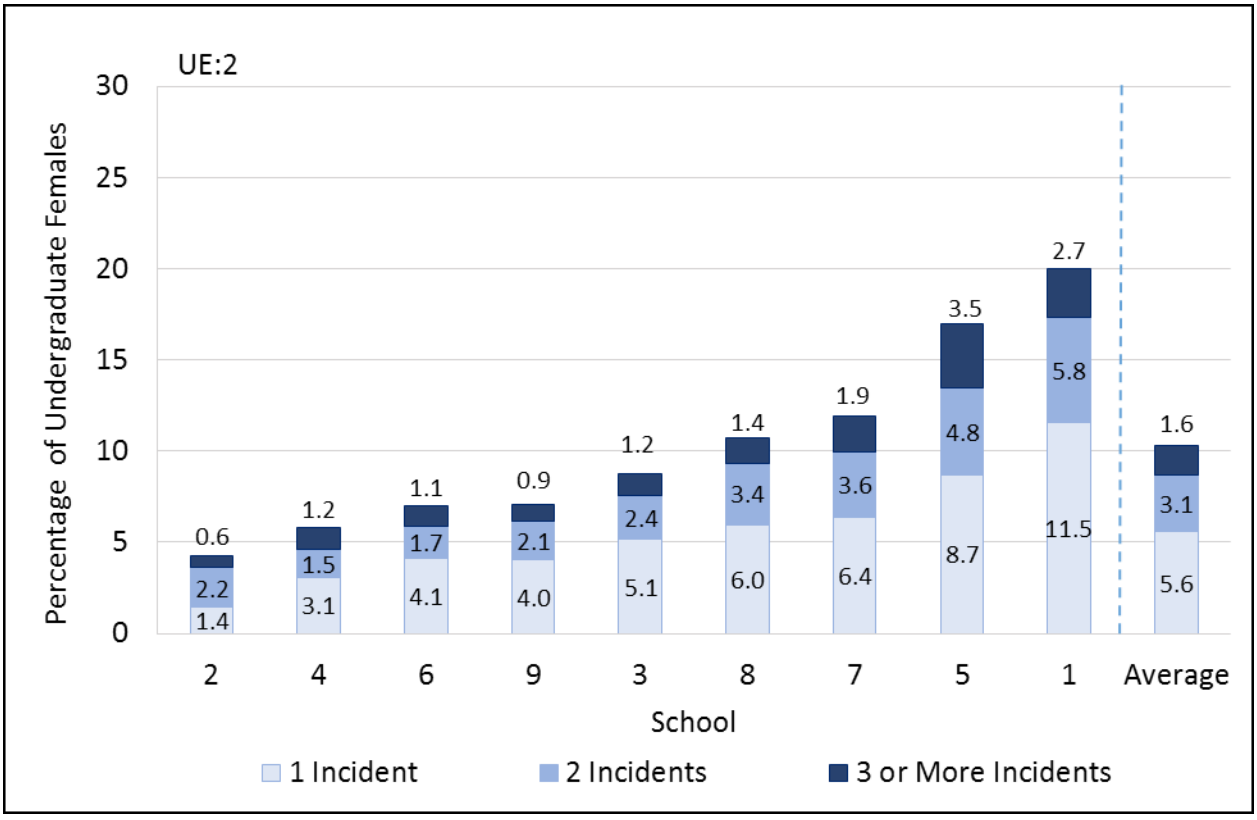
Calculation of Estimates

In addition to prevalence estimates, the incident-based approach used in the CCSVS Pilot Test made it possible to create a number of victimization estimates, or the number of incidents experienced by persons in the population. Because respondents were asked to provide a count of the number of times they experienced unwanted sexual contact since the beginning of the academic year (*Survey Item P2*), it was possible to generate estimates of the number of incidents experienced by male and female undergraduates at each school during the 2014–2015 academic year. These incidence counts were generated for sexual assault, rape, and sexual battery. The number of incidents of sexual assault was created by summing the number of incidents reported by each respondent in *Survey Item P2* (with "5 or more incidents" counted as 5).

Female Estimates

Female victims at each of the nine schools could have experienced one, two, or three or more incidents of completed sexual assault during the 2014–2015 academic year.[40] With the exception of victims at School 2 (for which precise estimates could not be developed at this level of detail), the majority of sexual assault victims experienced one completed sexual assault incident during the 2014–2015 academic year (**Figure 14**, with additional details shown in **Appendix E-22** and **23**). For example, at School 8, 6.0% of undergraduate females experienced one incident, whereas 4.8% (3.4% + 1.4%) experienced two or more incidents of completed sexual assault.

Figure 14. Percentage of undergraduate females reporting 1, 2, and 3 or more incidents of sexual assault, 2014–2015 academic year, by school



Source: Campus Climate Survey Validation Study (CCSVS), 2015

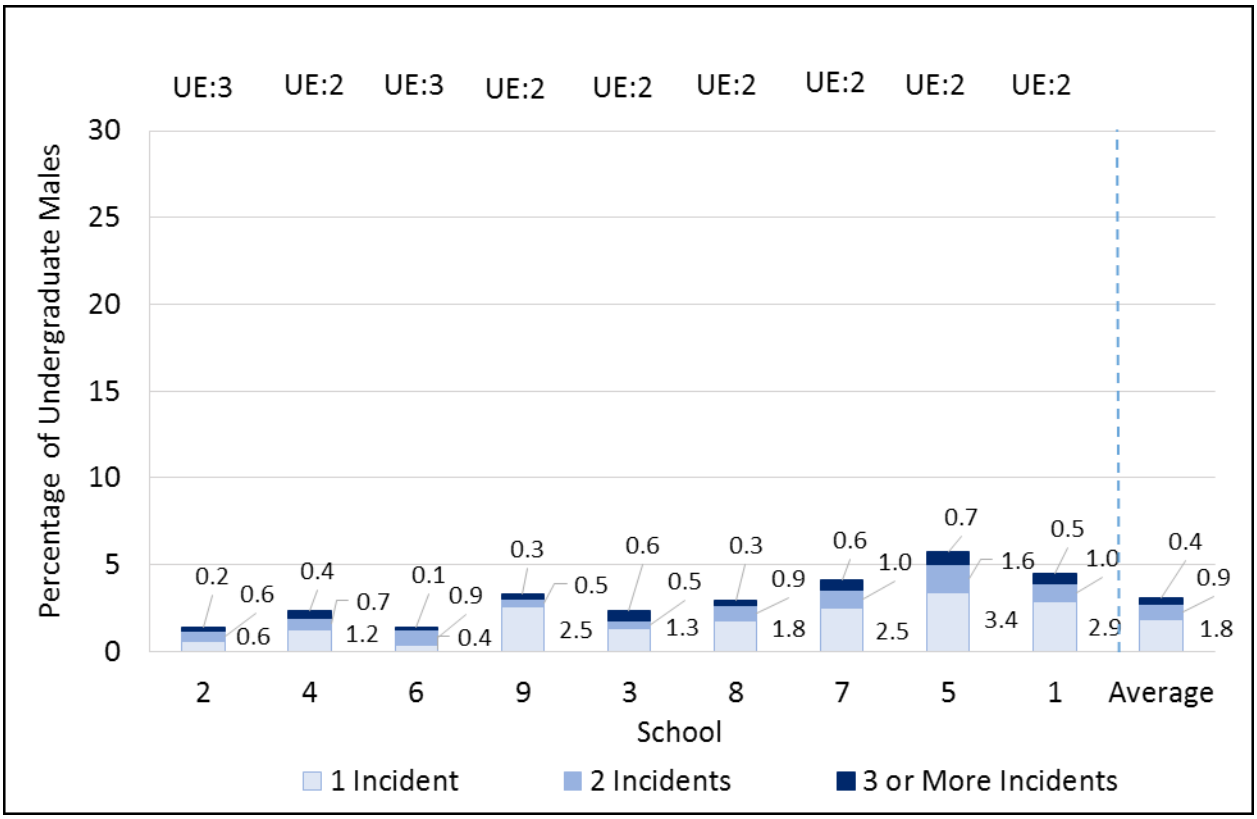
Note: Unreliable estimates (UE) refer to the number estimates out of 3 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

[40]Because few respondents indicated experiencing three, four, or five or more incidents of unwanted sexual contact, these categories were collapsed for **Figure 14**.

Male Estimates

As with female sexual assault victimization, the majority of male sexual assault victims at each school, except at School 2, experienced one completed sexual assault incident during the 2014–2015 academic year (**Figure 15**, with additional details shown in **Appendix E-24** and **25**).

Figure 15. Percentage of undergraduate males reporting 1, 2, and 3 or more incidents of sexual assault, 2014–2015 academic year, by school



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Unreliable estimates (UE) refer to the number estimates out of 3 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.3.2 Sexual Assault Incidence Rates (Academic Year 2014–2015)

Calculation of Estimates

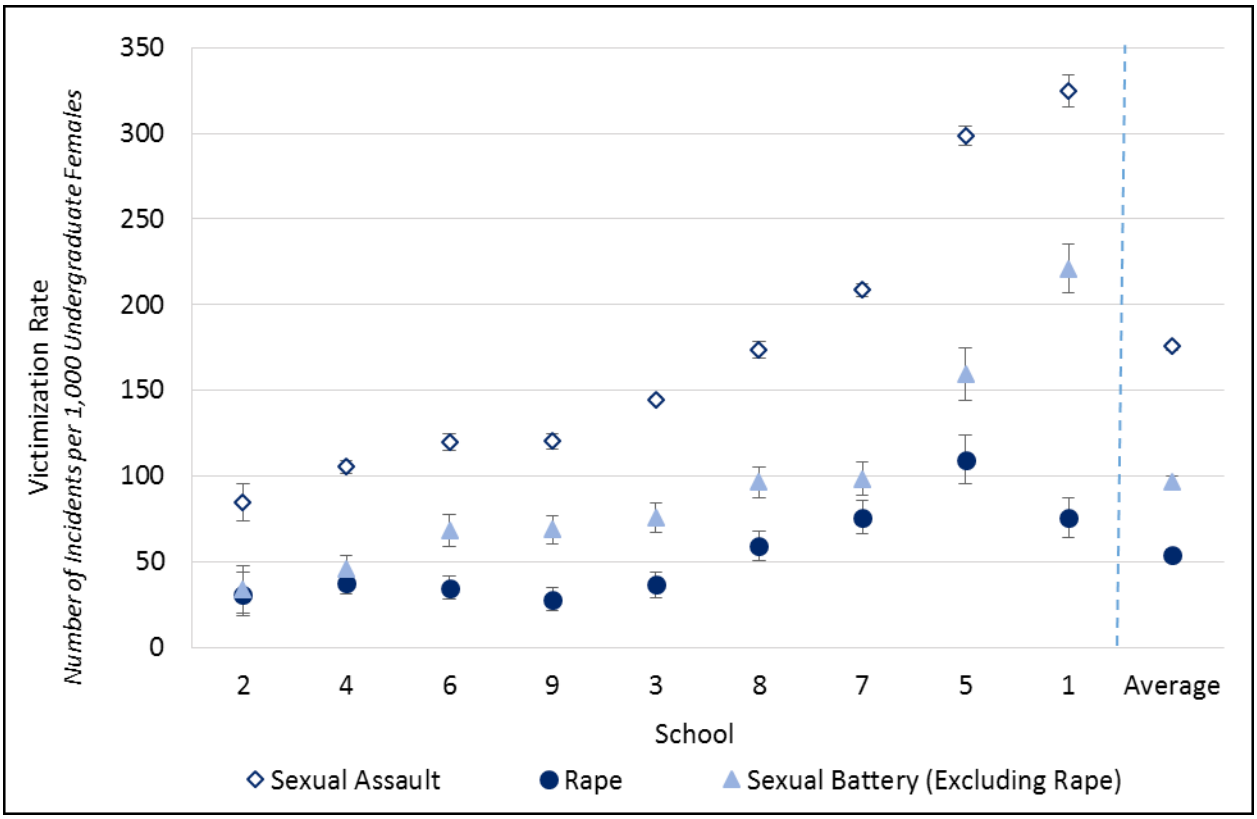
Sexual assault, sexual battery, and rape victimization incidence rates, which represent the number of completed incidents experienced per 1,000 undergraduate females during the 2014–2015 academic year, were calculated for each participating school and averaged across the nine schools. Rates were created by summing the weighted number of incidents reported by each respondent in *Survey Item P2* (with "5 or more incidents" counted as 5), dividing by the student population (or weighted number of respondents),

and multiplying the ratio by 1,000 to show the rate of sexual assault victimizations per 1,000 students. Incidence rates for rape and sexual battery were computed similarly but using the incident-level responses about the type of unwanted contact experienced (*Survey Item ILF2*). Incidence rates for sexual assault, rape, and sexual battery were computed for each school with separate estimates for females and males.

Female Estimates

For undergraduate females, the rate of sexual assault victimization ranged from about 85 incidents per 1,000 female students at School 2 to 325 per 1,000 at School 1 (**Figure 16**, with the estimates and standard errors shown in **Appendix E-26** and **27**). The cross-school average victimization rate for completed sexual assault was 176 per 1,000 undergraduate females. The average victimization incidence rate for sexual battery per 1,000 undergraduate females was 96, and ranged from 34 at School 2 to 221 at School 1. The average victimization incidence rate for rape per 1,000 undergraduate females was 54, and ranged from 28 at School 9 to 110 at School 5. As with the prevalence estimates, many of the victimization rates at particular schools were statistically distinguishable from one another, with the highest sexual assault victimization rate evident for Schools 1 and 5, and the lowest at Schools 2 and 4.

Figure 16. Undergraduate female sexual assault rates for sexual assault, sexual battery, and rape, 2014–2015 academic year, by school

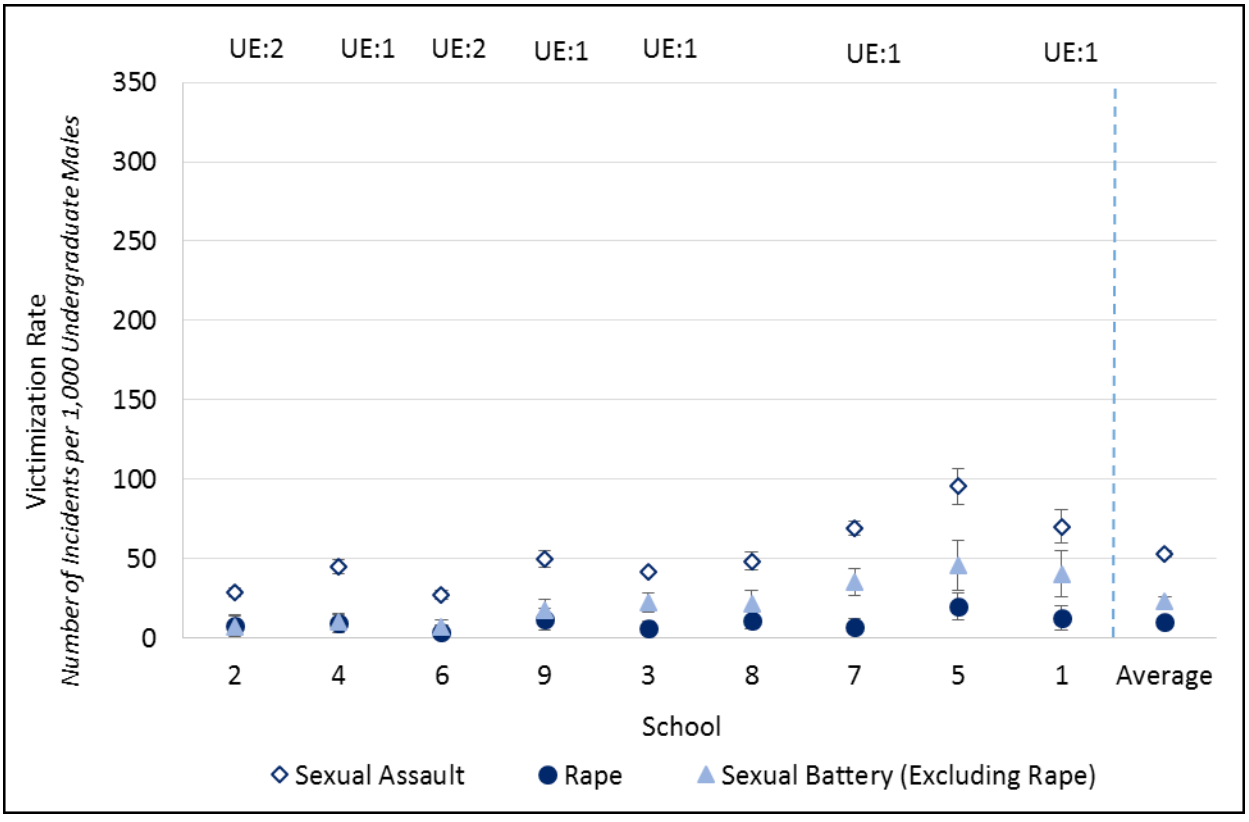


Source: Campus Climate Survey Validation Study (CCSVS), 2015

Male Estimates

For male students, the victimization rate ranged from 27 sexual assaults per 1,000 male undergraduates at School 6 to 96 per 1,000 at School 5 (**Figure 17**, with the estimates and standard errors shown in **Appendix E-28** and **29**). The cross-school average sexual assault victimization rate for males was 53 victimizations per 1,000 undergraduate males. For sexual battery, the victimization rate ranged from 6.8 per 1,000 male undergraduates at School 6 to 45.7 per 1,000 at School 5. The cross-school average sexual battery victimization rate for males was 23.1 per 1,000 undergraduate males. For rape, the victimization rate ranged from 3.8 rapes per 1,000 male undergraduates at School 6 to 19.9 per 1,000 at School 5. The cross-school average rape victimization rate for males was 10.1 per 1,000 undergraduate males. The relative standard errors were larger around the male victimization rates than the female rates. Thus, many of the apparent differences in rates across schools were not statistically significant.

Figure 17. Undergraduate male victimization rates for sexual assault, sexual battery, and rape, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Unreliable estimates (UE) refer to the number of estimates out of 3 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.4 Characteristics of Female Sexual Assault Incidents

Because one of the goals of the CCSVS Pilot Test was to develop measures for collecting data that can be used to understand the characteristics and outcomes of sexual victimization experiences, the incident-based approach entailed having respondents identify separate occurrences of victimization, date them, and then answer questions about each specific incident, up to a maximum of three. Each incident loop collected information on the type of unwanted sexual contact that occurred, the tactic used by the offender, the location of the incident (on or off campus), offender characteristics (number of offenders, sex of offenders, offender affiliation with the school, and the relationship between the offender and victim), drug and/or alcohol use during the incident (for both the victim and offender), help-seeking behavior and disclosure experiences (e.g., reporting to on- and off-campus officials, satisfaction with the response elicited by reporting, reasons for not reporting), and the consequences of the incident for the victim (and any actions taken such as moving or dropping classes).

Respondents who reported more than one incident were taken through the incident follow-up questions for incident #2 and, if applicable, incident #3. The survey featured a display tool to help respondents keep track of the incident they were asked to focus on—a header that listed the incidents by number (e.g., incident #1, incident #2) and the month/year of each. In addition, the incident being discussed appeared in bold type throughout all of the follow-up questions. Using this approach, detailed follow-up information was obtained about the majority of victimizations.

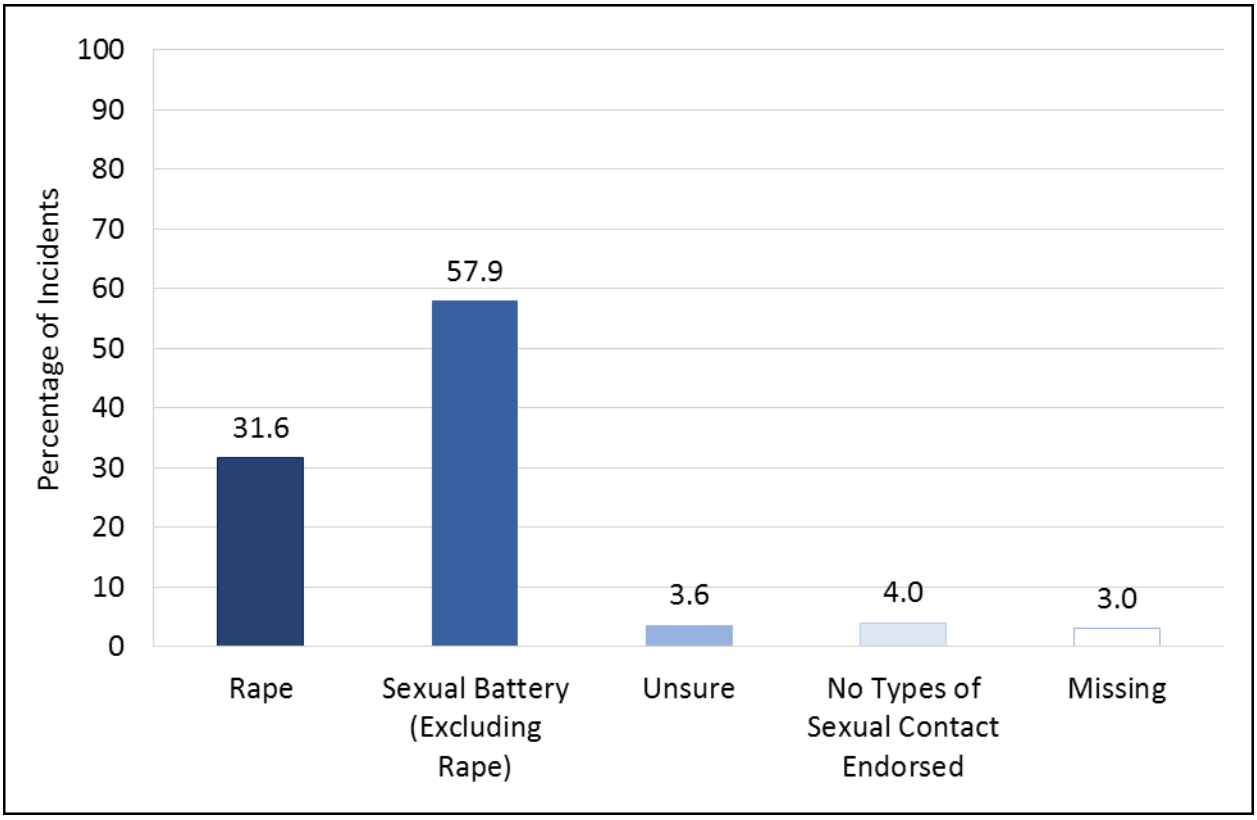
The sections that follow describe incident-level characteristics for sexual assault incidents experienced by female undergraduates during the 2014–2015 academic year. Incident characteristics are presented only for females due to the lack of precision for victimizations experienced by males.

5.4.1 Classification and Distribution of Sexual Assault Type

Across all sexual assault incidents involving female victims at the nine schools, 90% could be classified as either rape or sexual battery based on responses to *Survey Item ILF2* (**Figure 18**, with additional details shown in **Appendix E-30** and **31**). The remaining incidents were classified as "unsure" (3.6%), "no sexual contact type specified" (4.0%), or "missing" (3.0%). An "unsure" victimization type was assigned when a respondent indicated "unsure" for at least one of the types of unwanted sexual contact listed in *Survey Item ILF2* (unwanted touching, oral sex, anal sex, sexual intercourse, sexual penetration with finger or object) but did not endorse "yes" for any type. A "no victimization type specified" was assigned when the respondent answered "no" to all types of unwanted sexual contact (in *Survey Item ILF2*). A "missing" victimization type was assigned when the respondent did not indicate "yes," or "unsure" to any of the types of unwanted sexual contact but also did not indicate "no" to all of the types of unwanted sexual contact. The incidents that could not be classified as rape or sexual battery were included in the rates of sexual assault but not in the more specific breakouts by type of victimization.

Although the majority of sexual assault victims at the nine schools specified the type of unwanted sexual contact they experienced, one suggestion for future studies similar in scope would be to incorporate editorial checks into the instrument to prompt respondents to provide a response to this critical item if they initially leave it blank. However, human subjects' protection considerations about voluntary participation typically mean that participants are explicitly told that they can skip any question in the survey.

Figure 18. Distribution of sexual assault experienced by undergraduate females, by type of sexual contact specified, 2014–2015 academic year



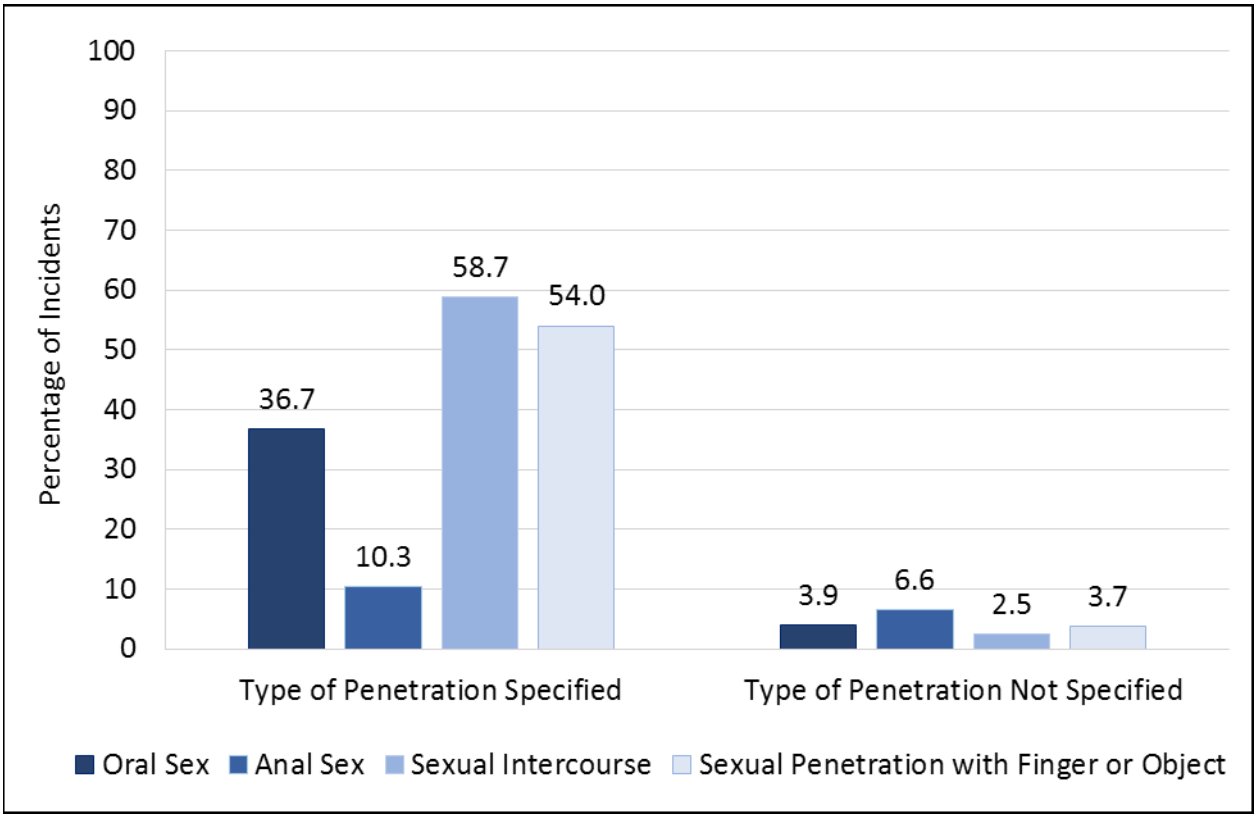
Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: For incidents in which multiple forms of sexual contact occurred, the incident was coded as the most serious type of contact. The hierarchy for the most serious type of contact was rape, sexual battery, unsure, no type of sexual contact endorsed, and missing.

5.4.2 Distribution of Type of Penetration

For female undergraduates at the nine schools, 32% of all sexual victimization incidents were classified as rape. These incidents could be further disaggregated by the type of penetration experienced by the victim. The CCSVS Pilot Test captured data on four types of penetration for females, including oral sex, anal sex, vaginal sexual intercourse, and sexual penetration with a finger or object. Across all nine schools, the largest percentage of rape incidents involved vaginal sexual intercourse (59%), while the smallest percentage involved anal sex (10%) (**Figure 19**, with additional details shown in **Appendix E-32** and **33**).[41]

Figure 19. Percentage of rape incidents by type of penetration specified and type of penetration not specified for undergraduate females, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

In some instances, data on the type of penetration were missing, either because the respondent reported being unsure of whether that type of unwanted sexual contact had occurred or left the question (*Survey Item ILF2*) blank. Examining the missing data on types of penetration provides additional information about the possible nature of sexual assault incidents. For example, although 10% of rape incidents involved anal sex, female victims were unsure or left the anal sex question blank in 6.6% of

[41] Victims could experience multiple types of penetration during an incident of rape.

incidents. This may suggest that female victims did not want to disclose whether an incident involved anal sex and that the actual percentage of incidents in which anal sex occurred could be higher than 10%.

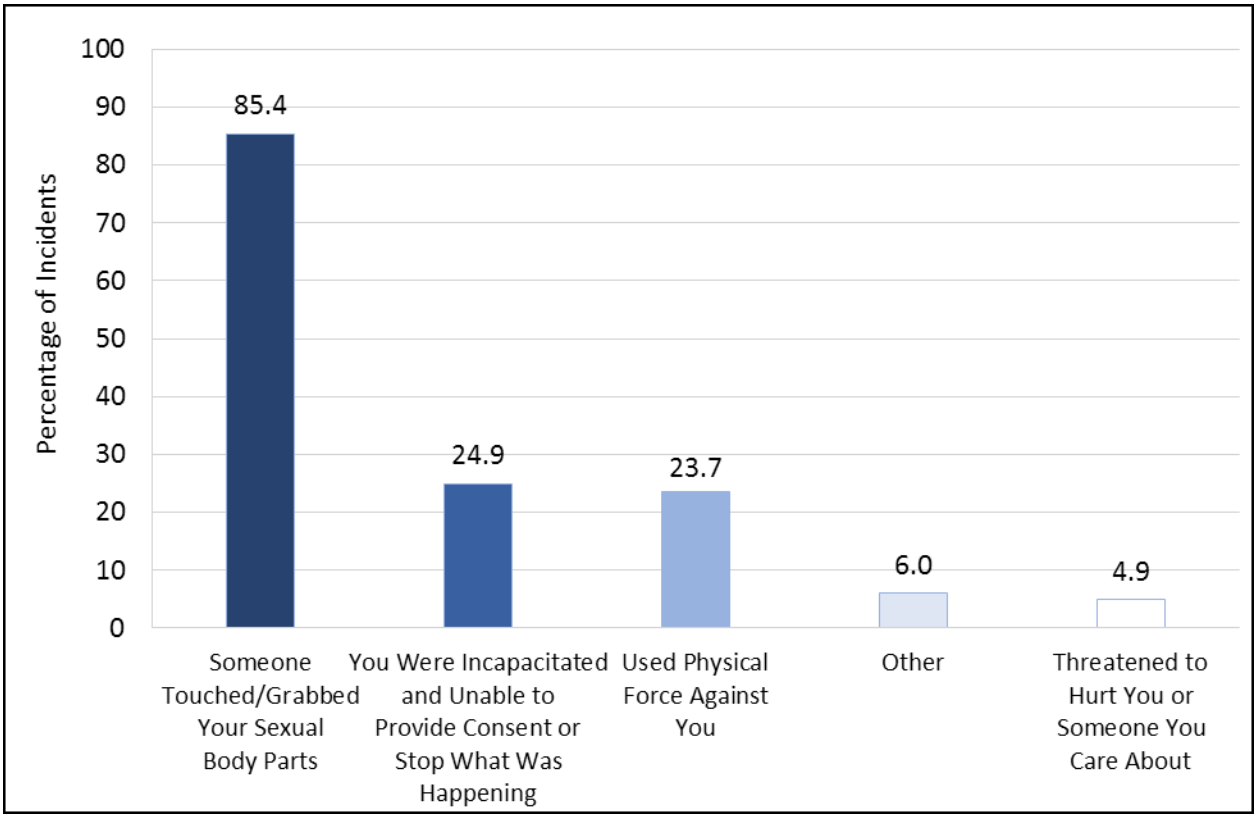
5.4.3 Type of Tactic

For each sexual assault incident, victims were asked to specify the types of tactics that the offender used to engage in the unwanted sexual contact. The five tactics presented in the CCSVS instrument were (1) touched/grabbed your sexual body parts; (2) threatened to hurt you or someone close to you; (3) used physical force against you; (4) you were unable to provide consent or stop what was happening because you were incapacitated; and (5) other (*Survey Item ILF3*, with question wording shown in **Section 5.1**). The tactic of "touched/grabbed your sexual body parts" was offered as a response option only if the incident did not involve sexual penetration because it was assumed that all incidents involving penetration also involved the "touched/grabbed" tactic.

Among female undergraduates at the nine schools, being touched or grabbed by the offender was the most frequently specified tactic for sexual assault incidents (85%) (**Figure 20**, with additional details shown in **Appendix E-34** and **35**).[42] After touching or grabbing, 25% occurred when the victim was incapacitated and unable to provide consent and 24% of sexual assault incidents involved physical force against the victim. About 6% of sexual assault incidents involved an "other" type of tactic that could not be reclassified into one of the other four tactics, even after manually examining the information participants keyed in when they selected "other." An additional 5% of sexual assault incidents involved the offender threatening to harm the victim or someone she cared about. Because victims could specify multiple tactics the offender used during the incident, there was a fair amount of overlap between some of the endorsed tactics. For example, of female victims who specified either physical force or incapacitation, 18% endorsed both tactics (see **Appendix E-36**).

[42]This estimate includes all students who reported a tactic associated with rape because, by definition, the student had a sexual body part touched or grabbed as well.

Figure 20. Distribution of tactics used by offenders reported by undergraduate female sexual assault victims, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Each tactic did have some level of item nonresponse: touched or grabbed a sexual body part (11% missing); threatened to hurt you or someone you care about (6.7%); used physical force against you (6.2%); you were unable to provide consent to stop what was happening (5.5%); and other (26%). Distributions based on weighted average rather than cross-school average.

The across-school variability of tactics used in rape and sexual battery incidents was also assessed (**Figure 21**, with additional details shown in **Appendix E-37** through 40). In these analyses, threats of force were combined with the use of physical force, and touching/grabbing is shown only for sexual battery incidents because this tactic was a response option only if respondents did not indicate that penetration occurred during the incident. As with tactics shown in **Figure 21**, many of the other incident characteristic graphics in the remainder of **Section 5.4** show the range of estimates (i.e., minimum and maximum) across schools,[43] as well as the overall estimate (cross-school average). The lowest and highest proportions of rape and sexual battery incidents for which the victim indicated that each tactic was used, from among the eight schools (excluding School 2) are shown. The error bars indicate whether the minimum and maximum estimates are statistically distinguishable from one another.

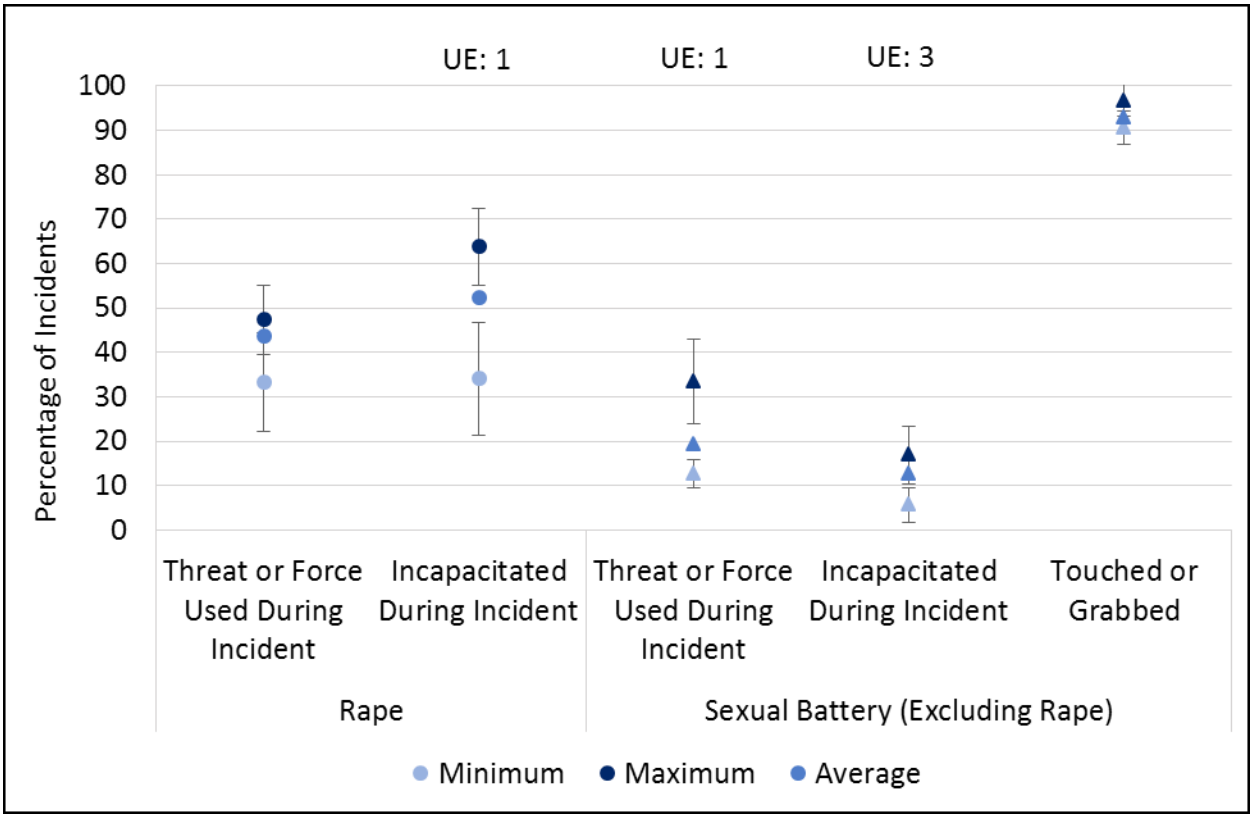
There was variation across schools for certain tactics but not others. Specifically, the estimates for rape incidents involving the victim being incapacitated during the incident were statistically distinguishable between the minimum and maximum schools. In other words, in the school with the maximum estimate, it was more common for females to experience rape while incapacitated than in the school with the minimum estimate. For sexual battery incidents, the use of threat or force was also more common in the school with the maximum estimate than the school with the minimum estimate. The use of other tactics did not appear to differ across schools.

In addition to examining the school-level variability in tactics used, the number of schools for which the estimate was unreliable was also examined.[44] While estimates of the proportion of victimizations involving each tactic are reasonably precise at the school level (i.e., there are few unreliable estimates), only a few estimates were distinguishable across schools. For example, the maximum and minimum values for incapacitated during incident for rape victims and threat or use of force used during incident for sexual battery are statistically different, but in both cases, by a relatively small amount (i.e., the lower confidence limit for the maximum and upper confidence limit for the minimum are close to each other). This indicates that the estimates for the remaining schools are not distinguishable from the maximum school and/or the minimum school. The other tactics have maximum and minimum values that are not statistically distinguishable, implying that none of the schools can be distinguished from the maximum or the minimum school. The lack of statistical differentiation between schools could either be due to similar estimates across these schools or a lack of statistical power to detect differences in these incident-level estimates.

[43] School 2 is excluded from all incident characteristic graphics because its target sample size was not achieved. Therefore, its estimates exhibited a low level of reliability for the majority of characteristics.

[44] Unreliable estimates were those based on responses from 10 or fewer incidents or with a relative standard error (RSE) of greater than 50%.

Figure 21. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females involving various tactics, 2014–2015 academic year



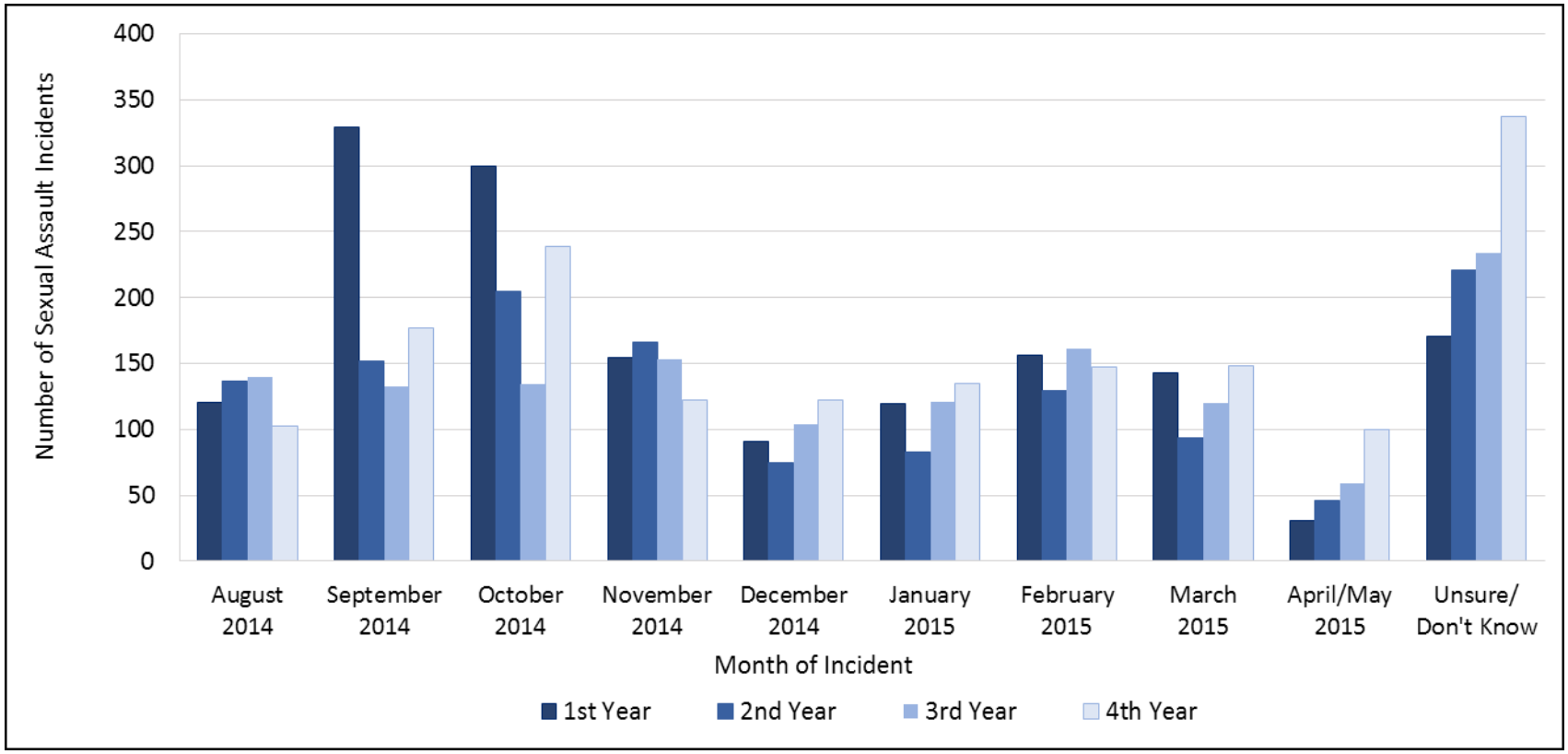
Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.4.4 Month of Occurrence

For female undergraduates at the nine schools, a large portion of incidents occurred in September or October, the beginning of the 2014–2015 academic year (**Figure 22**). This was particularly the case for first year students. A lower number of incidents were reported at the end of the academic year, in part because the survey was fielded in the spring and could not capture victimizations that occurred after respondents completed the survey. (For additional details, see **Appendix E-41** and **42**.)

Figure 22. Number of sexual assault incidents experienced by undergraduate females, by month and year of study, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

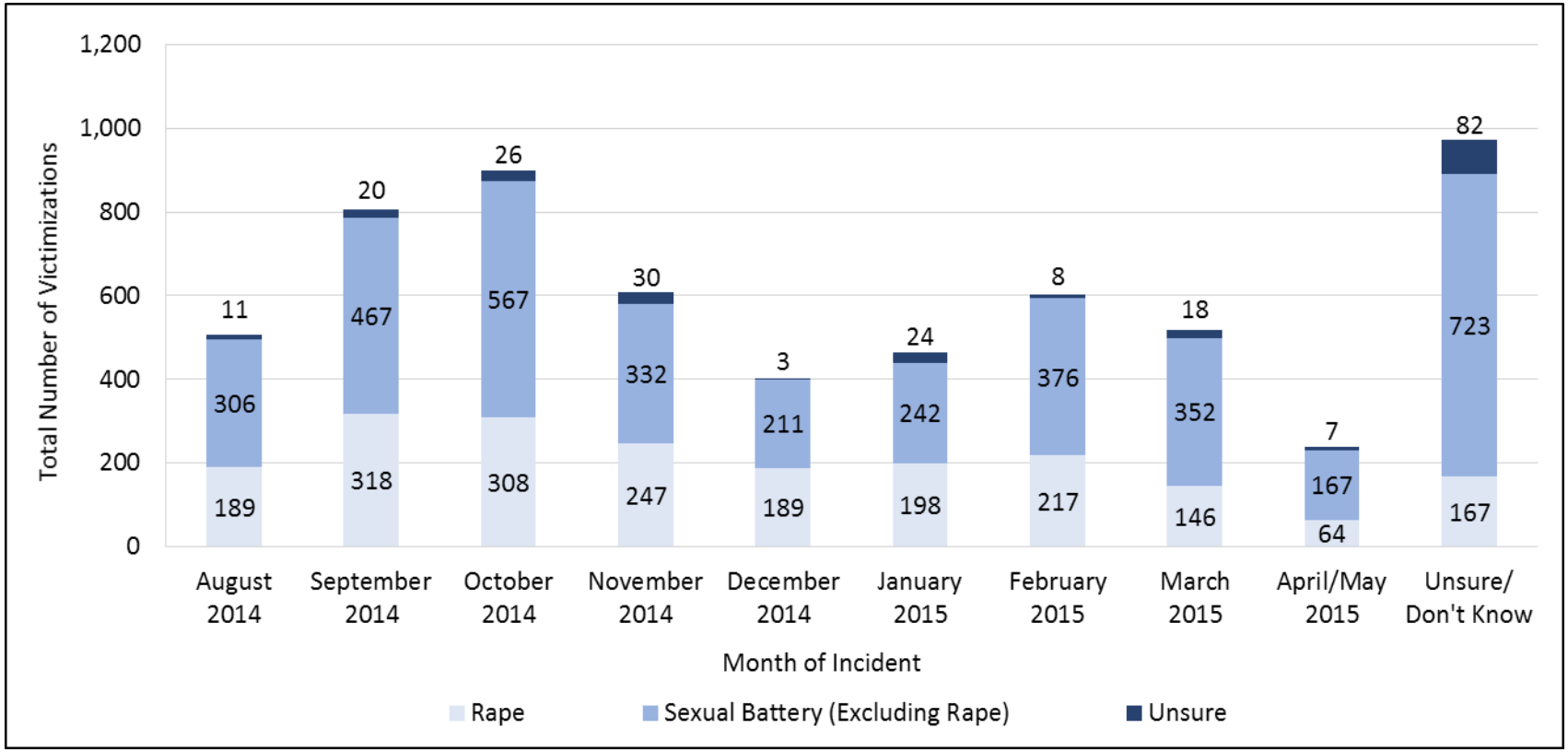
Note: Figure only includes respondents at 4-year schools.

Nearly 1,000 incidents out of the 6,854 that occurred at the nine schools could not be dated due to respondent uncertainty about the month in which the sexual assault incident occurred. The number of victimizations occurring during the 2014–2015 academic year that could not be dated was greater among upperclassmen females than first or second year students. This could be an indication of potential "telescoping," that is, students who are further along in their college careers may have reported sexual assault incidents that actually occurred prior to the 2014–2015 academic year (even though the *Survey Item P2* asked about incidents that occurred since the beginning of the 2014–2015 academic year). It could also be an indication that female upperclassmen tend to experience less severe forms of sexual assault, since most of the unsure responses were associated with less severe types of victimization, namely, sexual battery (**Figure 23**).

To further explore the potential that some respondents were reporting incidents that occurred outside of the reference period (i.e., telescoping), female respondents who did not provide a month for any of their reported incidents of sexual assault were identified. Of the 1,554 female respondents who indicated experiencing one or more incidents of unwanted sexual contact, 200 (13%) did not provide a month for any reported incident (in *Survey Item ILF1*).[45] The number of respondents who did not provide a month for any of their reported sexual assault incidents was smallest for first year students and largest for fourth year students (**Figure 24**).

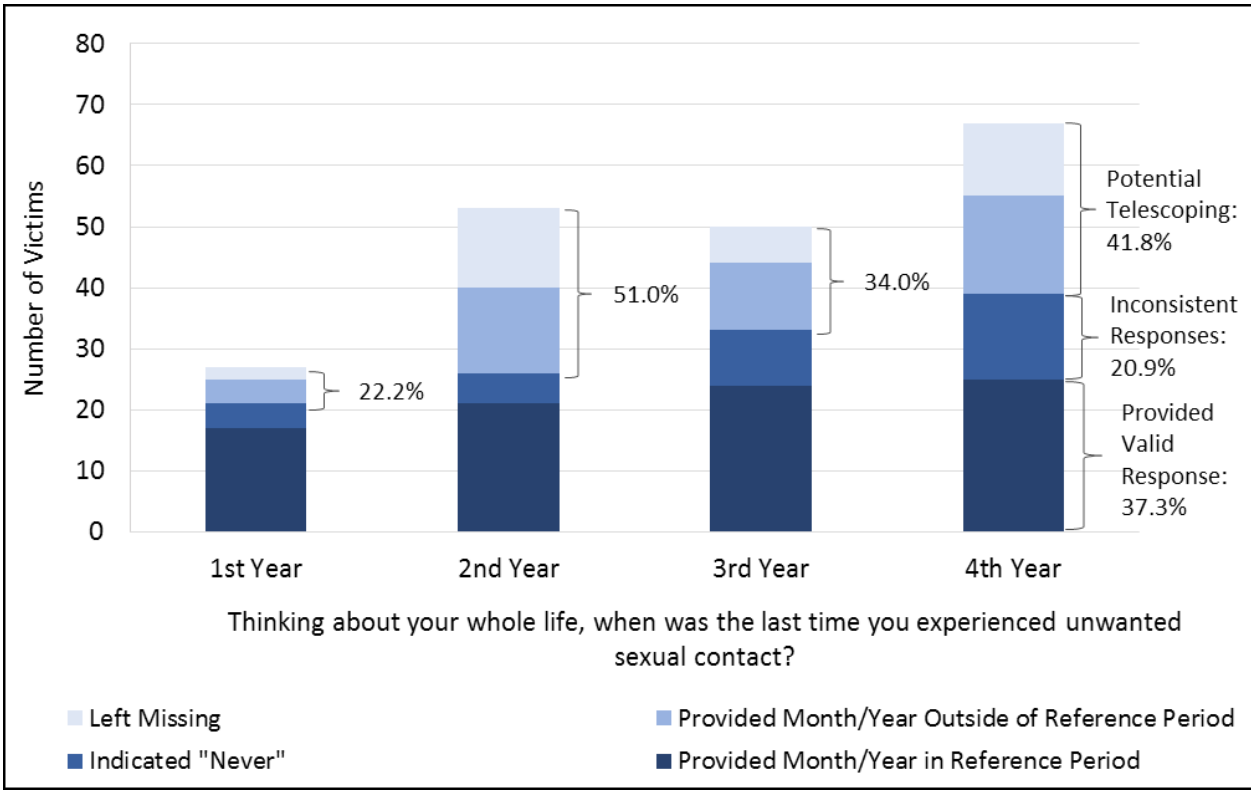
[45]When weighted, the 1,554 female survey respondents who reported one or more unwanted sexual contact represent 4,077 females across the nine schools. The 200 respondents who did not provide a month for an incident represent approximately 598 females in the population.

Figure 23. Number of rape and sexual battery incidents experienced by undergraduate females, by month and type of sexual assault, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Figure 24. Distribution of undergraduate female victims who indicated that they were unsure in which month/year the incident occurred, by *Survey Item LCA3* response and year of study, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Figure includes only respondents at 4-year schools.

After identifying respondents who did not place their sexual assault incidents in a month of the 2014–2015 academic year, students' responses to *Survey Item LCA3* ("Thinking about your **whole life**, when was the last time you experienced unwanted sexual contact?") were examined and respondents were classified into one of four categories: (1) indicated "never," (2) provided a month/year within the reference period, (3) provided a month outside the reference period, and (4) left missing. Respondents classified in category 1 provided inconsistent responses, in that they reported unwanted sexual contact in *Survey Item P2* but later indicated that they had never experienced unwanted sexual contact. It was unclear whether or not respondents in this category were telescoping. Respondents who were classified in category 2 were most likely not telescoping as they provided a valid response to *Survey Item LCA3* (a date within the 2014–2015 academic year). Finally, respondents classified in categories 3 and 4 could potentially be telescoping their sexual assault incidents. They indicated they had experienced one or more sexual assault incidents in the 2014–2015 academic year in *Survey Item P2*, but later reported that the last time they experienced unwanted sexual contact was outside of the reference period, or they left it blank.

This group of respondents represented 41.8% of fourth year undergraduate female students who did not place any of their incidents in a month within the 2014–2015 academic year. (See **Appendix E-43** for additional details.)

This evaluation produced some potential evidence of telescoping for some female respondents who did not place their sexual assault incidents in a month within the 2014–2015 academic year. There are a few strategies to mitigate the impact of telescoping. A two-step approach to classifying victims can be employed, where respondents who do not indicate the month in which an incident occurred could be excluded from victimization estimates. An example of this approach was presented in **Section 5.2.5** (measurement method Two-Step 2). This approach produces substantively lower sexual assault prevalence rates,[46] but may remove not only respondents who are telescoping but also those respondents who are reporting sexual assault incidents that did occur within the 2014–2015 academic year but could not pinpoint the exact month in which it occurred (or chose to leave the item blank for other reasons). As noted in Groves et al. (2009), dates are the aspect of events that are the most challenging for respondents to remember with precision.

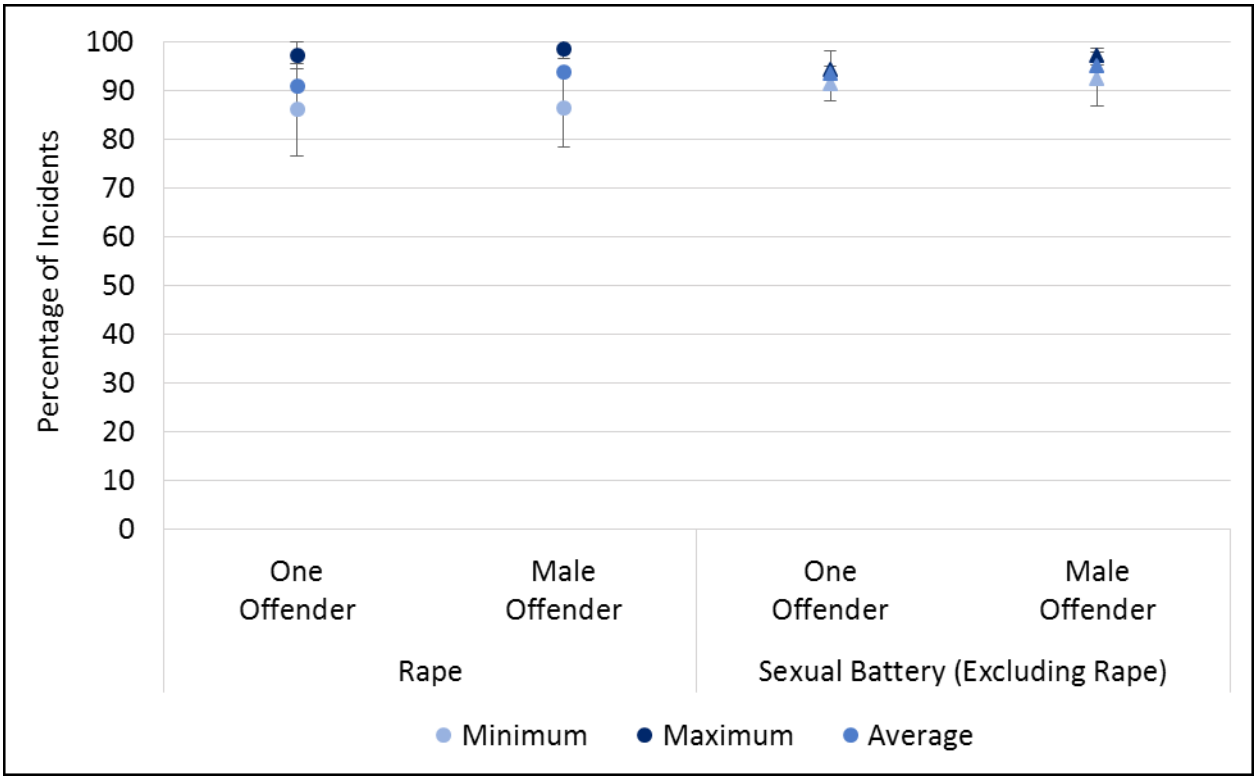
A second strategy to mitigate potential telescoping in future studies that use the CCSVS Pilot Test instrument might involve revising the response options for *Survey Item ILF1* to allow respondents to provide information about an incident outside the reference period. These telescoped incidents can then be easily identified and excluded (e.g., "prior to August 2014"). Additionally, respondents who classify an incident as "unsure" could be further prompted to provide a more broad classification of when the victimization occurred with benchmark reference points (e.g., before Thanksgiving break, in the spring semester).

5.4.5 Offender Characteristics

When considering the number and sex of offenders involved in incidents of rape and sexual battery (**Figure 25**), the estimates across schools were not statistically distinguishable from one another. Overall, for the vast majority of incidents of rape (91%) and sexual battery (94%), females reported that one offender was involved. Similarly, for the vast majority of incidents of rape (94%) and sexual battery (95%), the female reported that the offender was male. This pattern was consistent across schools, with a limited range evident for both rape (87% to 99%) and sexual battery (92% to 97%). Due to the unreliability of the estimates surrounding characteristics of the incidents for School 2, these estimates have been excluded from all ranges. **Appendix E-44** through **47** contain school-specific estimates and standard errors for basic incident characteristics described in **Sections 5.4.5** through **5.4.8**.

[46] Significance tests were not conducted because the students who make up each estimate are highly overlapping. Therefore, the correlation in the estimates will be very large, which will reduce the standard error for the test of differences (resulting in significant findings).

Figure 25. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females involving one offender and a male offender, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.4.6 Victim-Offender Relationship

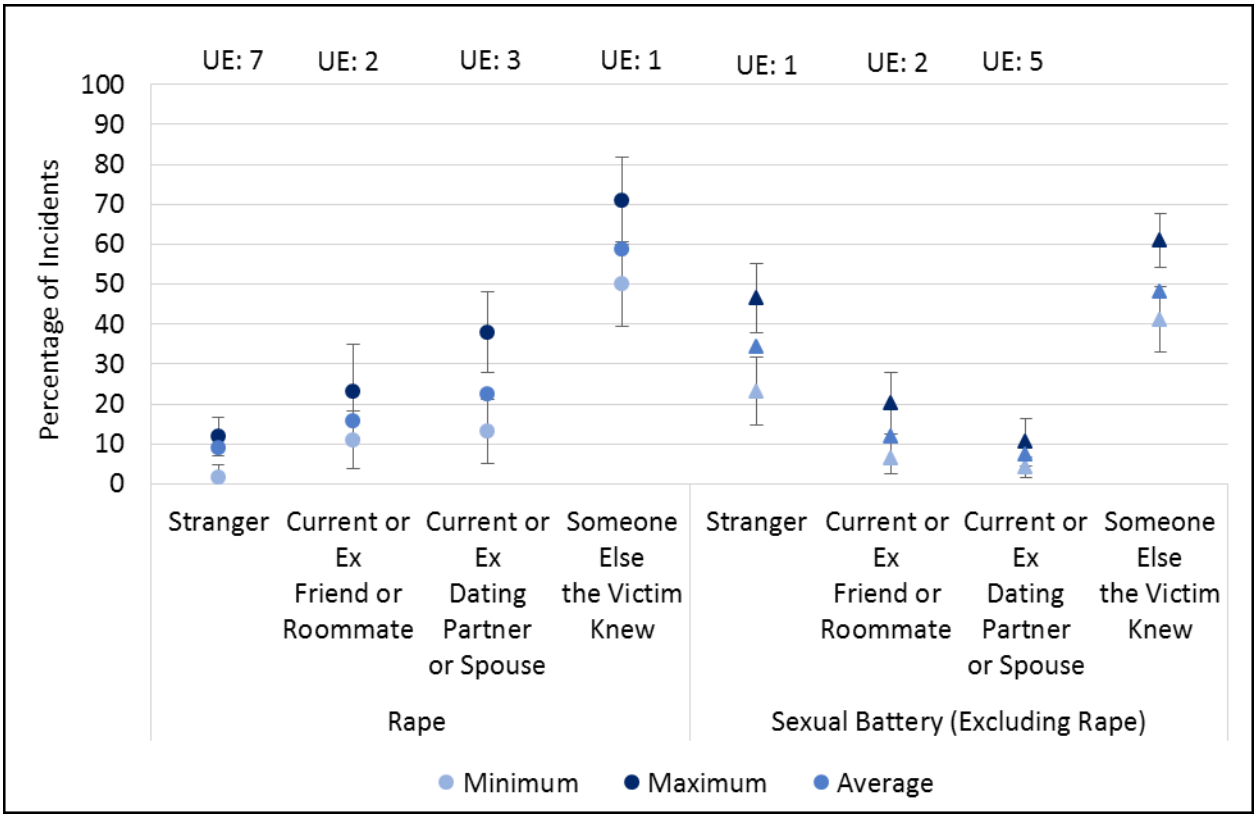
The incident follow-up loops captured information on the relationship between the victim and the offender. This question included seven response options (a stranger; someone you had seen or heard about but not talked to; an acquaintance, friend of a friend, or someone that you had just met; a professor or teaching assistant; a current or ex friend or roommate; a current or ex dating partner or spouse; or someone else). Because the large number of categories created difficulty in developing precise estimates for each, the categories were collapsed into four:[47] a current or ex friend or roommate, a current or ex dating

[47]The "someone else" category was excluded from all four categories due to low levels of endorsement (0.3% for rape and 0.7% for sexual battery).

partner or spouse, someone else known to the victim (including someone the victim had seen or heard about but not talked to; an acquaintance, friend of a friend, or someone that the victim had just met; or a professor or teaching assistant), and stranger.

The findings suggest that, among female victims at the nine schools, incidents of rape and sexual battery were most likely to be perpetrated by someone the victim knew casually (**Figure 26**). Across the nine schools, an average of 48% of sexual battery incidents and 59% of rape incidents were perpetrated by "someone else the victim knew." When examining the specific types of offenders within this category, 53.0% of rape incidents and 41.1% of sexual battery incidents were perpetrated by an acquaintance, friend of a friend, or someone that the victim had just met; 7.7% of rape incidents and 9.3% of sexual battery incidents were perpetrated by someone the victim had seen or heard about but not talked to; and 0.9% of rape incidents and 0.9% of sexual battery incidents were perpetrated by a professor or teaching assistant. Some degree of school-level variation was evident in these estimates. For example, the percentage of rape incidents involving someone else the victim knew as the category of offender ranged from 50% at School 4 to 71% at School 3.

Figure 26. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females involving various offender categories, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

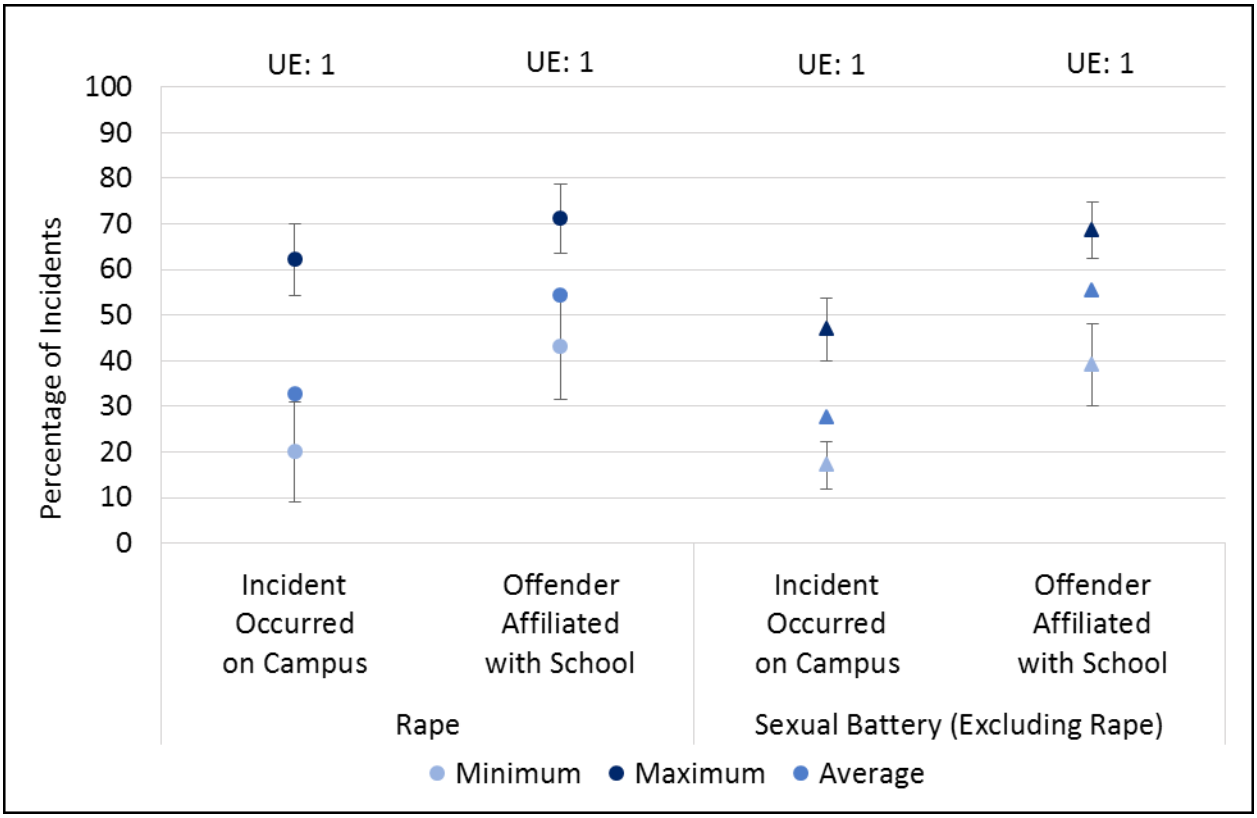
For incidents of sexual battery, the second most common category of offenders was strangers. On average, across the nine schools, the offender was a stranger in 34% of sexual battery incidents. However, for rape incidents, an average of 9% were perpetrated by a stranger. Across schools, the percentage of sexual battery incidents perpetrated by strangers ranged from 23% at School 4 to 47% at School 9. Among female victims across the nine schools, the offender was a current or ex dating partner or spouse in 23% of rape incidents and 7.2% of sexual battery incidents. Current or ex friends or roommates perpetrated 16% of rape incidents and 12% of sexual battery incidents overall.

5.4.7 Location and Offender School Affiliation

Overall, about one-third of rape incidents (33%) and 28% of sexual battery incidents took place on campus (**Figure 27**). However, some variability across schools was evident. At some schools (Schools 1 and 5), more incidents of rape actually took place on campus than off campus. For example, in School 5, which had the highest proportion of rape incidents occurring on campus, 62% of rape incidents happened on campus. In all schools, more incidents of sexual battery took place off campus than on campus, with the highest proportion of sexual battery incidents that took place on campus being 47% (School 5).

Overall, slightly more than half of the offenders in rape (55%) and sexual battery (56%) incidents were affiliated with the school, meaning that they were students, professors, or other employees of the school. The highest school estimate for offender school affiliation was 69% for sexual battery incidents (School 7) and 71% for rape incidents (School 1), meaning that at these schools, more than two-thirds of rape and sexual battery incidents experienced by undergraduate females during the 2014–2015 academic year were perpetrated by someone who was affiliated with the school. The lowest school estimate for offender school affiliation (from among the eight schools with sufficiently precise estimates) was 39% for sexual battery incidents (School 6) and 43% for rape incidents (School 6).

Figure 27. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females that took place on campus and involved an offender affiliated with the school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

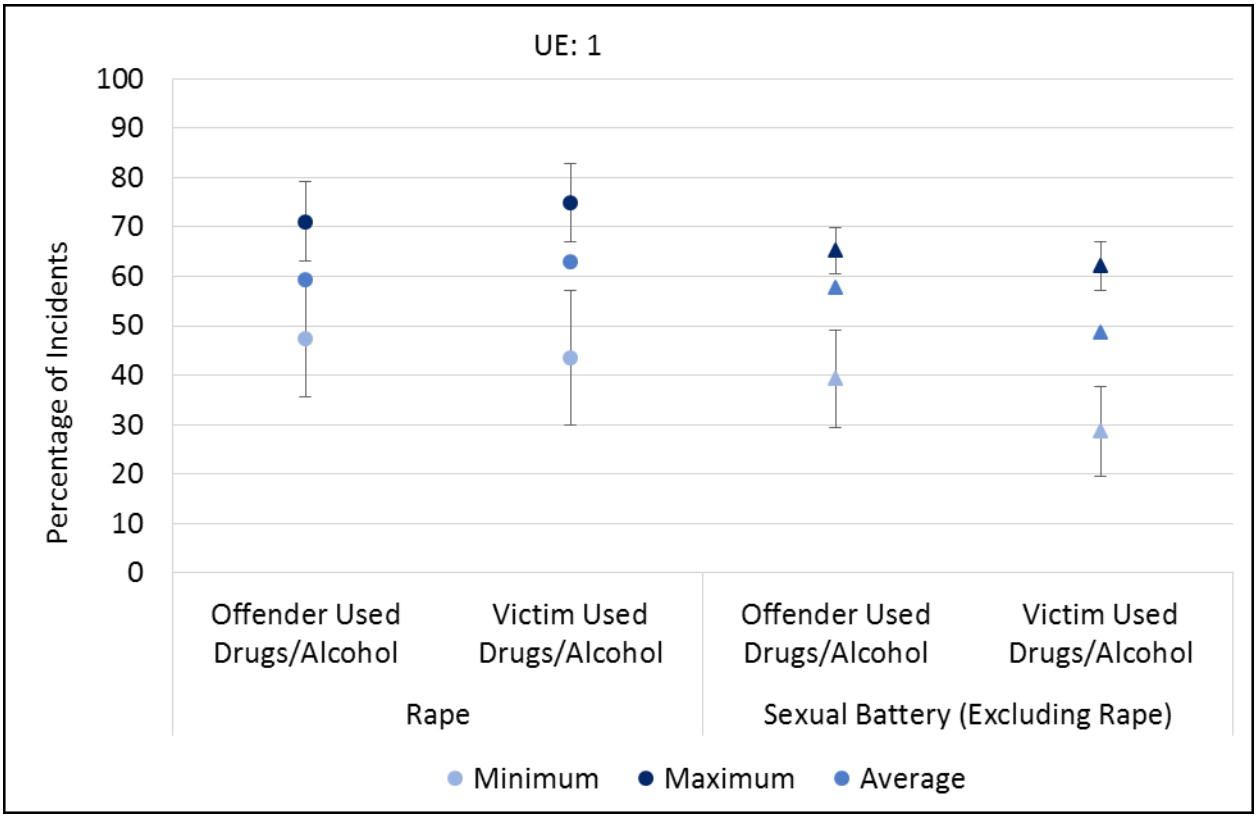
Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.4.8 Drug and Alcohol Use

In more than half of the incidents of rape (59%) and sexual battery (58%), the victim perceived that the offender was under the influence of alcohol or drugs. There was school-level variation in these estimates (**Figure 28**). The percentage of female rape victims who indicated that the offender had been drinking or using drugs ranged from 47% at School 6 to 71% at School 1.

Overall, for the nine schools, victims' use of alcohol and drugs in the hours prior to the incident was more common for rape incidents (63%) than incidents of sexual battery (49%). The percentage of rape incidents that occurred when the victim was using alcohol or drugs ranged from 43% at School 9 to 75% at School 1.

Figure 28. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females that were believed to involve offender and victim alcohol/drug use, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.4.9 Reporting of Incidents

Across all schools, the majority of incidents of rape (64%) and sexual battery (68%) were disclosed to a roommate, friend, or family member.

The likelihood of formal reporting was much lower (**Figure 29**).[48] Across all nine schools, 4.3% of sexual battery incidents and 12.5% of rape incidents were reported by the victim to **any official,** including—

- Administrators, faculty, or other officials or staff at the school
- A crisis center or helpline, or a hospital or health care center at the school
- A crisis center or helpline, or a hospital or health care center not at the school
- Campus police or security at the school
- Local police not at the school, such as the county or city police department.

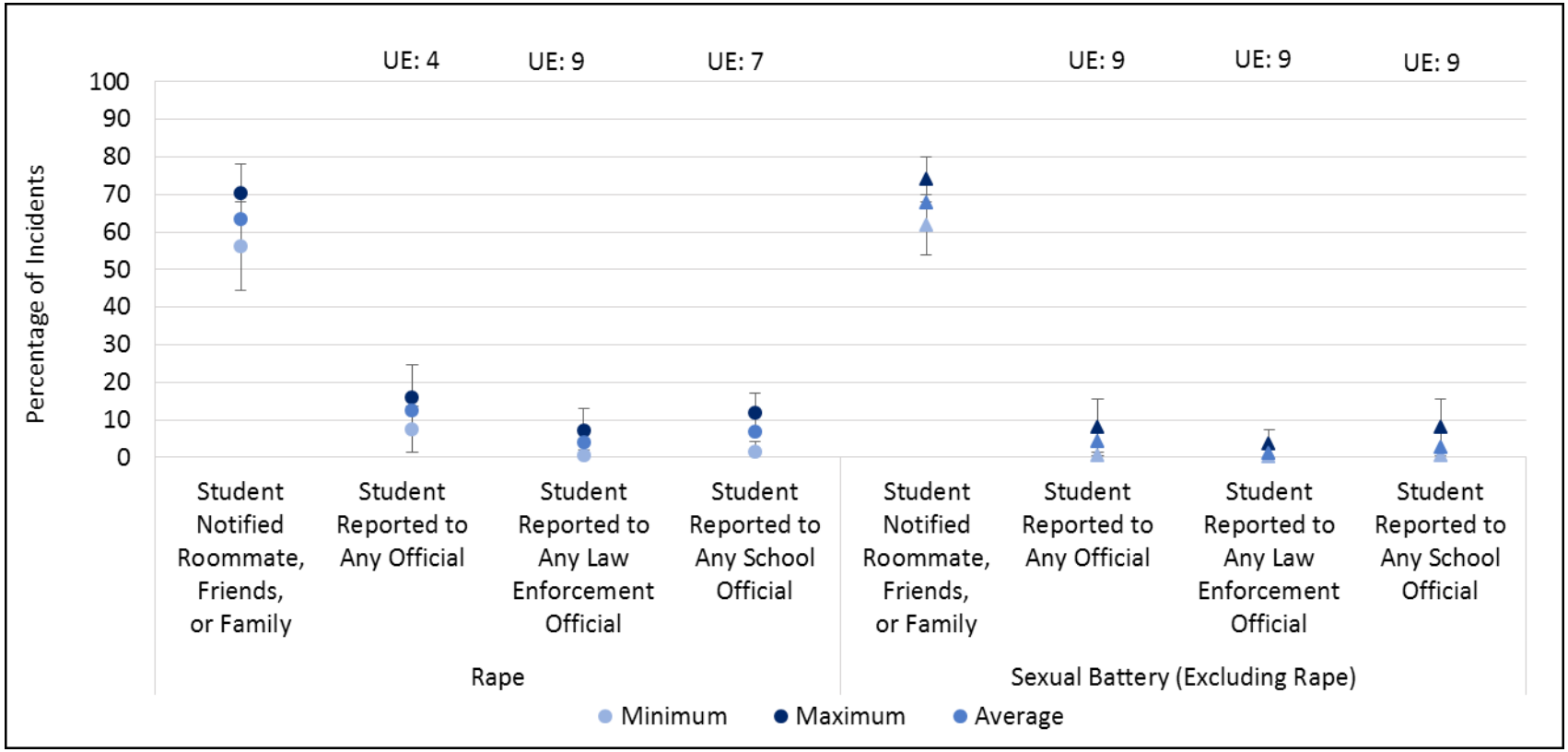
Due to the small sample sizes, it was not possible to generate school-specific estimates of the percent of rape incidents reported to any official for four of the schools. For sexual battery, all nine of the schools had too few victims who reported to generate school-specific estimates. It was not possible to develop precise estimates for each of the five categories of officials covered in the survey, even at the aggregate level. However, aggregate estimates of the percentage of incidents reported to **any law enforcement official** (which includes campus police or security at the school and local police not at the school, such as the county or city police department) and the percentage of incidents reported to **any school official** (which includes administrators, faculty, or other officials or staff at the school; a crisis center or helpline, or a hospital or health care center at the school, and campus police or security at the school) were created. Across the nine schools, 1.1% of sexual battery incidents and 4.2% of rape incidents were reported by the victim to any law enforcement agency.[49] About 2.7% of sexual battery incidents and 7.0% of rape incidents were reported by the victim to any school official.[50] It was not possible to report these estimates at the school level, precluding comparisons in reporting to these organizations across schools.

[48] Because incidents of sexual assault could be reported by someone other than the victim, the survey also asked whether the incident was reported by someone else. These estimates are a little higher than for self-reporting to officials, with 5.3% of sexual battery incidents and 14.6% of rape incidents reported by either the victim or someone else to any of the officials listed.

[49] When factoring in reports made about the incident either by the victim or someone else to a law enforcement agency, these estimates increase to 1.9% for sexual battery incidents and 6.8% for rape incidents.

[50] When factoring in reports made about the incident either by the victim or someone else to any school official, these estimates increase to 3.4% for sexual battery incidents and 9.1% for rape incidents.

Figure 29. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females that were disclosed to various sources, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

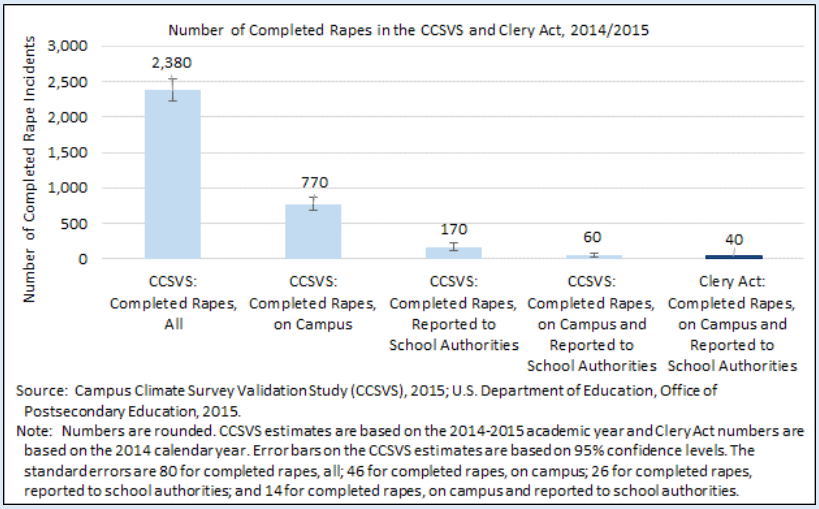
Of the victims who reported the incident to officials, the majority believed that the officials were helpful. This was particularly true for rape incidents that were reported. For 81% of rape incidents and 79% of sexual battery incidents that were reported to any official, victims considered the official to be helpful.[51] When considering only incidents that were reported to a law enforcement agency, victims considered the official to be helpful for 53% of rape incidents and 69% of sexual battery incidents. Finally, when considering only incidents that were reported to any school official, victims across the nine schools considered the official to be helpful in 75% of rape incidents and 66% of sexual battery incidents. Once again, due to the small number of victims who reported, it was not possible to generate school-specific estimates of satisfaction with reporting experiences, making it difficult to compare estimates across schools. See **Appendix E-48** through **51** for estimates and standard errors for all reporting characteristics discussed in this section.

The Clery Act and Reporting Campus Rape

The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act was signed into law in 1990 as the Campus Security Act, and it has been amended several times.a The act requires institutions of higher education that participate in federal financial aid programs to keep and disclose information about crime on and near their campus. The U.S. Department of Education monitors compliance. Schools in violation can face warnings, up to $35,000 per violation fines, limitations or suspension of federal aid, or the loss of eligibility to participate in federal student aid programs. The Clery Act requires institutions to fulfill the following obligations:

- Publish an annual campus security report by October 1 that documents three calendar years of specified campus crime statistics. This report must be made available to current and prospective students and employees. The crime statistics must include incidents occurring on campus, in public areas adjacent to or running through the campus, and at certain off-campus buildings.
- Maintain a timely public log of all crimes reported or otherwise known to campus law enforcement officials. The log must be accessible to the public during normal business hours.
- Give timely warning of crimes that represent a threat to student or employee safety.
- Submit an annual report to the U.S. Department of Education. The report should include statistics on criminal homicide, sex offenses (forcible and nonforcible), robbery, aggravated assault, burglary, motor vehicle theft, and arson. The report must identify any of these offenses, as well as any incidents of larceny or theft; simple assault; intimidation; and destruction, damage, or vandalism of property that are believed to be hate crimes. The report must also include arrests and disciplinary referrals for liquor law violations, drug law violations, and illegal weapons possession. Clery Act statistics are available at http://ope.ed.gov/security/.

[51] If a victim reported to more than one organization and indicated that any of them were helpful, the report was considered to be helpful.



Source: Campus Climate Survey Validation Study (CCSVS), 2015; U.S. Department of Education, Office of Postsecondary Education, 2015.

Note: Numbers are rounded. CCSVS estimates are based on the 2014-2015 academic year and Clery Act numbers are based on the 2014 calendar year. Error bars on the CCSVS estimates are based on 95% confidence levels. The standard errors are 80 for completed rapes, all; 46 for completed rapes, on campus; 26 for completed rapes, reported to school authorities; and 14 for completed rapes, on campus and reported to school authorities.

Based on data from the CCSVS, male and female undergraduate students at the nine institutions participating in the CCSVS experienced a total of 2,380 incidents of completed rape during the 2014–15 academic year, of which 770 (32%) occurred on campus. According to the CCSVS data, about 60 of these rape incidents (margin of error between 30 and 90 incidents) were committed on campus and reported to school authorities. In other words, approximately 3% of all completed rapes captured by the CCSVS would be expected to be included under Clery reporting standards. When comparing the number of rape incidents subject to Clery reporting standards among the nine CCSVS institutions with actual Clery data for these institutions based on the most recent Clery data available (2014 calendar year), the CCSVS estimate (60 rape incidents) was not statistically different from the Clery number of rapes reported (40 rape incidents).

In other words, the Clery data and the CCSVS data appear to converge in terms of the number of rape incidents that were committed on campus and reported to school authorities. Although some caution should be used in interpreting these findings due to slight measurement differences between the CCSVS and Clery collections,b the CCSVS data suggest that the vast majority of rapes are not reported to authorities and are not represented in an institution's Clery numbers. Self-report surveys such as the CCSVS can produce a more complete picture of rape and sexual assault experienced by students and provide data that can be used to describe these incidents.

[a] On Aug. 14, 2008, the Higher Education Opportunity Act, or HEOA (Public Law 110-315), reauthorized and expanded the Higher Education Act of 1965, as amended. HEOA amended the Clery Act and created additional safety- and security-related requirements for institutions

[b] Clery uses a calendar year reference period; the CCSVS was administered in the spring of 2015 and asked about incidents that occurred since the beginning of the academic year. Clery includes all students, undergraduates and graduates, whereas the CCSVS represents only undergraduates. In addition, some victimized students may have dropped out of school and not had the opportunity to participate in the survey. Other potential sources of variation between the CCSVS and Clery include definitional differences (e.g., rape, what is defined as being on campus, who is considered a reporting official) and reporting differences (e.g., in the CCSVS, students may have misreported incidents that actually occurred outside the referenced school year, whereas with Clery numbers, schools may not report all incidents).

5.4.10 Reasons for Not Reporting

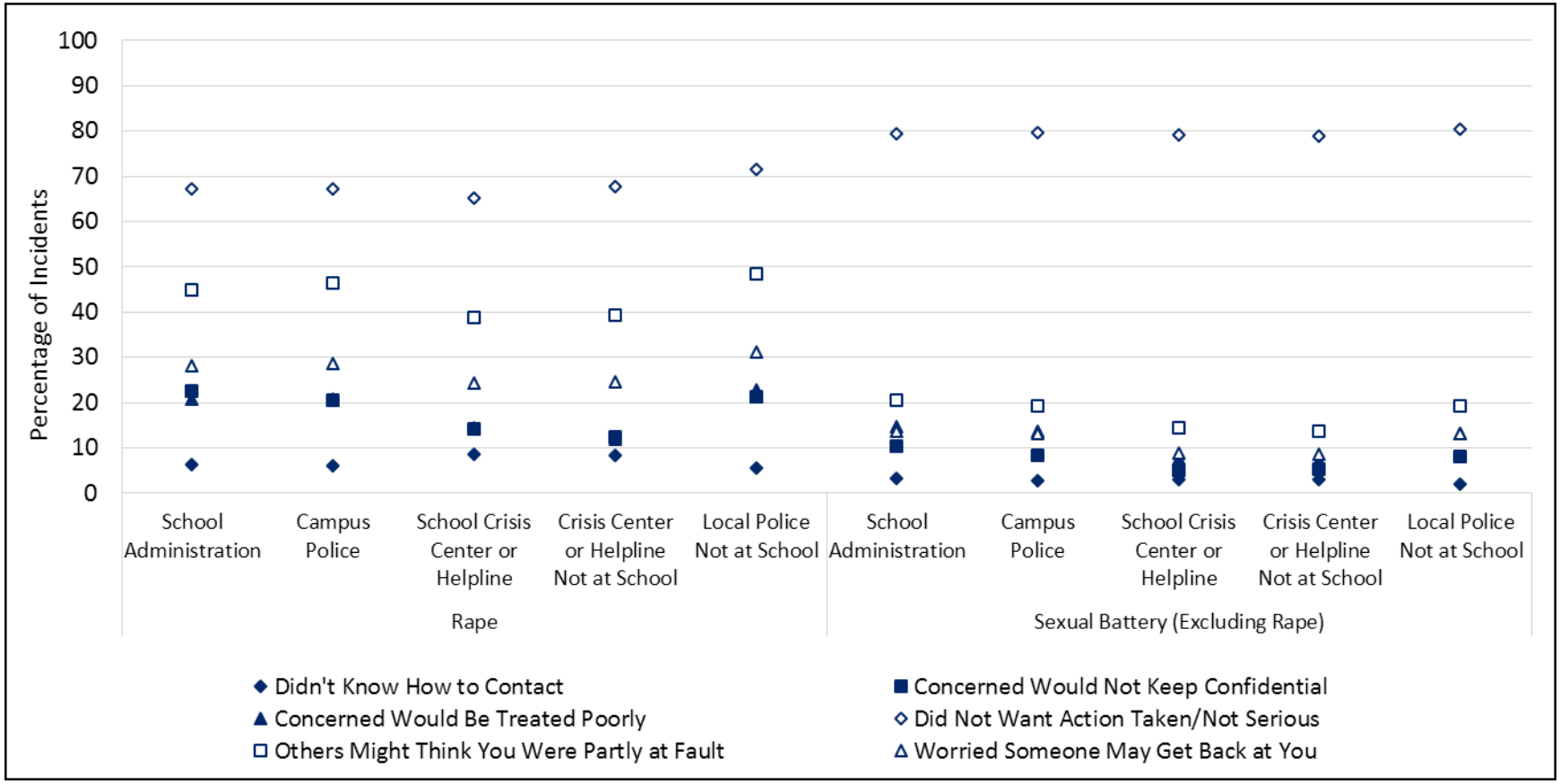
For each agency to which the victim did not report an incident of sexual assault (out of the five organizations listed above), victims were asked whether each of the following six factors were a reason for not reporting the incident.

- The student did not know how to contact the group.
- The student was concerned that the group would not keep his/her situation confidential.
- The student was concerned that the group would treat him/her poorly, not respond effectively, or not take any action.
- The student did not need assistance, did not think the incident was serious enough to report, or did not want any action taken.
- The student felt that other people might think that what happened was at least partly his/her fault or that he/she might get in trouble for some reason.
- The student was worried that either the person who did this to him/her or other people might find out and do something to get back at him/her.

Because the majority of incidents were not reported to an official, school-level estimates of the reasons victims did not report to each of the five organizations were precise.

Across all nine schools, the most common reason for not reporting both rape and sexual battery incidents to each of the five categories of officials was that the victim did not need assistance, did not think the incident was serious enough to report, or did not want any action taken (**Figure 30**, with additional details shown in **Appendix E-52** through **55**). More sexual battery incidents than rape incidents were not reported for this reason. The second and third most commonly endorsed reasons for not reporting were that the student felt that other people might think that what happened was at least partly her fault or that she might get in trouble for some reason; and that the student was worried that either the person who did this to her or other people might find out and do something to get back at her. These were the next most commonly endorsed reasons for not reporting both rape and sexual battery incidents, for all five agency types, and across all nine schools. However, overall, victims were more likely to identify these considerations as reasons for not reporting rape incidents than sexual battery incidents. For rape incidents, concerns about confidentiality and poor treatment were also more commonly reported as reasons for not reporting than for sexual battery incidents. Overall, not knowing how to contact particular organizations did not appear to be a major factor for not reporting either rape or sexual battery incidents. A relatively low percentage of incidents were not reported for this reason, making it difficult to compare these estimates across schools due to low precision.

Figure 30. Reasons for not reporting rape and sexual battery incidents experienced by undergraduate females to various officials, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Because of its high level of endorsement, future studies could consider splitting the "did not need assistance, did not think the incident was serious enough to report, or did not want any action taken" reason for not reporting into multiple response options. These considerations, which are in many ways quite distinct, were aggregated in the CCSVS Pilot Test instrument. To better understand whether endorsement of this item was likely due to the respondent not wanting action taken or the respondent thinking the incident was not serious enough to report, additional analyses were conducted (see **Appendix E-56** through **59**). The joint endorsement of this item with the other reasons for not reporting was examined (as noted above, respondents could endorse multiple reasons for not reporting incidents to each reporting organization). For a sizable proportion of incidents where the respondent indicated that she did not want action taken or thought the incident was not serious enough to report, the respondent provided at least one other reason for not reporting. As shown in the appendix tables, this proportion varied across reporting organizations, schools, and victimization types. Respondents endorsed one or more additional reasons for not reporting to local police for the majority of rape incidents at all schools except one (School 9), ranging from 56% of victimizations (at School 4) to 77% of victimizations (at School 3). For sexual battery incidents, among the eight schools with reliable estimates, respondents endorsed additional reasons for not reporting to local police for 21% (at School 1) to 41% (at School 5) of incidents. The most common additional reasons endorsed were that the student felt that other people might think that what happened was at least partly her fault or that she might get in trouble for some reason; that the student was worried that either the person who did this to her or other people might find out and do something to get back at her; and that the student was concerned that the group would not keep her situation confidential.

5.4.11 Impact of Incidents

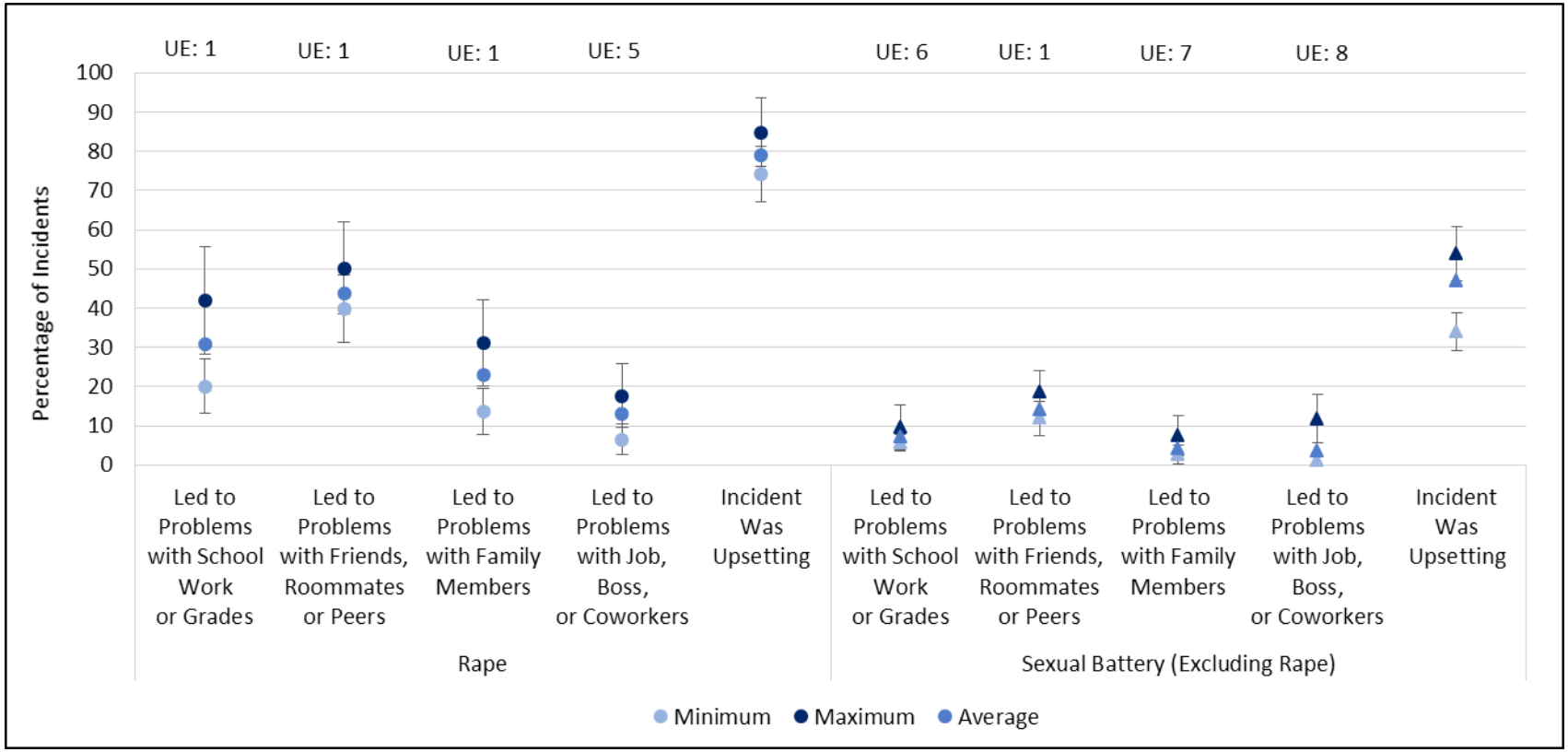
The incident follow-up loop also included a series of questions that could be used to assess the harms associated with sexual assault victimization. Overall, the majority (79%) of rape incidents were described by the victim as upsetting or very upsetting (**Figure 31**). The percentage of rape incidents described as upsetting or very upsetting ranged from 74% at School 5 to 85% at School 2. In contrast, 47% of sexual battery incidents were described as upsetting or very upsetting by the victim.

The most common set of problems that resulted from both rape and sexual battery incidents were problems with friends, roommates, or peers (such as getting into more arguments or fights than before, the victim not feeling that he/she could trust them as much, or not feeling as close to them as before). This held true across all schools. However, overall it was more commonly reported as a consequence of rape incidents (44%) than incidents of sexual battery (14%).

In general, a greater percentage of incidents of rape caused problems for the victim compared to incidents of sexual battery. Across the nine schools, about 30.7% of rape and 7.3% of sexual battery incidents impacted victims' schoolwork or grades. Just under a quarter of rape incidents (22.9%) and 4.1% of sexual battery incidents caused problems with family members and 13.0% of rape and 3.7% of sexual battery incidents caused problems at work.

Other consequences of the incident were covered in the survey, such as whether the victim moved (or wanted to move) to a new dormitory or other residence, dropped classes or changed his/her schedule, or considered taking time off school, transferring, or dropping out. Incidents of rape were more likely to result in each action on the part of the victim than sexual battery incidents (**Figure 32**). On average, for 21.7% of rape incidents (and 5.9% of sexual battery incidents), the victim thought about taking some time off from school, transferring, or dropping out. For 8.4% of rape incidents (and 1.6% of sexual battery incidents), the victim dropped classes or changed her schedule. Additionally, for 11.4% of rape incidents and 4.4% of sexual battery incidents the victim indicated that she *wanted* to drop classes or change her schedule. Finally, the victim moved or changed where she lived after 7.2% of rape incidents and 1.1% of sexual battery incidents; in an additional 15.5% of rape incidents and 6.7% of sexual battery incidents, the victim *wanted* to move or change where she lived. All estimates and standard errors for the victim impact characteristics discussed in this section are shown in **Appendix E-60** through **63**.

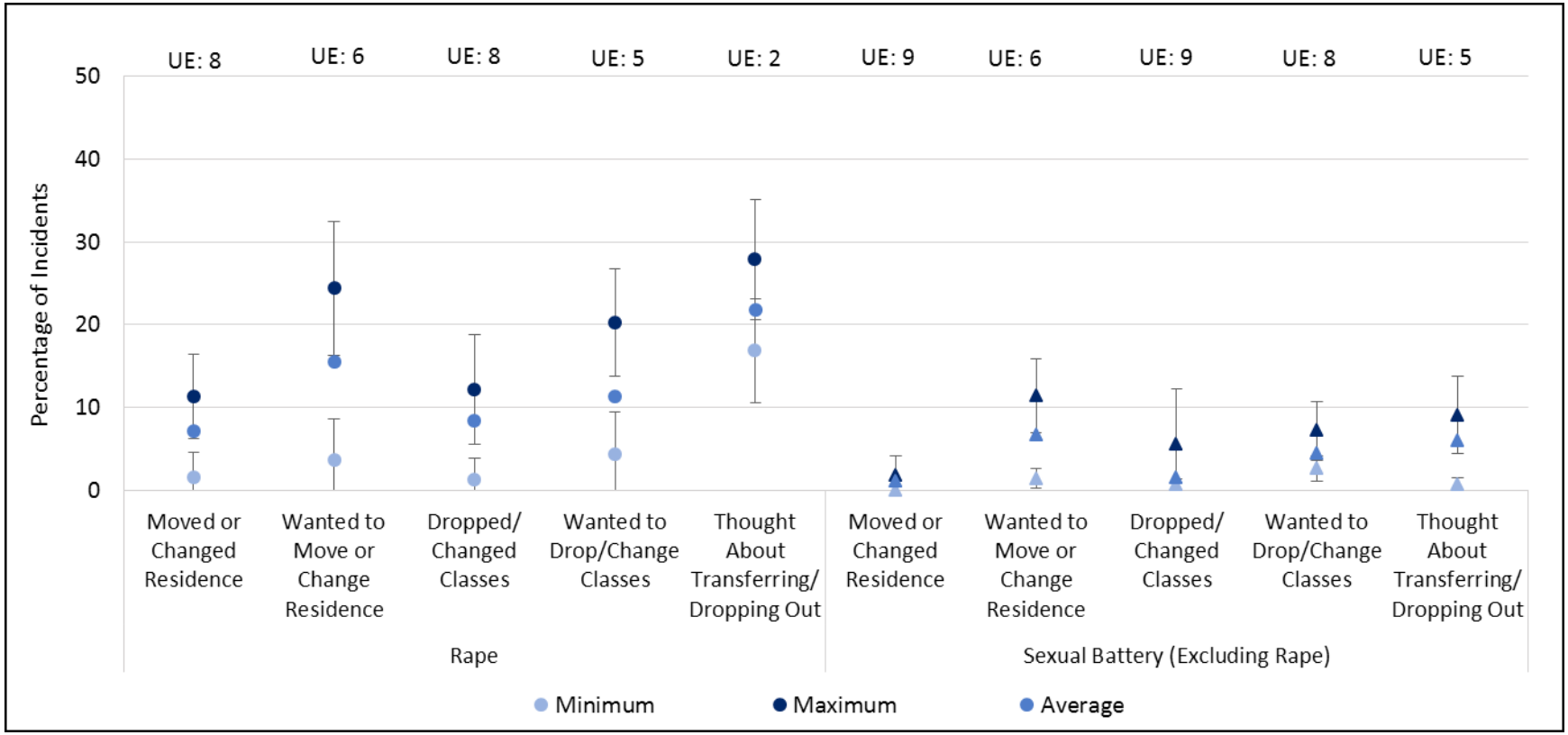
Figure 31. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females that led to various problems, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

Figure 32. Minimum, maximum, and overall average estimates of the percentage of rape and sexual battery incidents experienced by undergraduate females that led to various victim actions, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: School 2 was excluded from the min/max estimates of incident characteristics as its sample sizes and low prevalence rates did not provide sufficient precision for the majority of incident-level estimates and thus it provides an unrepresentative depiction of the variation across schools. However, School 2 is included in the average estimates and the unreliable estimate (UE) count. Unreliable estimates refer to the number of schools out of 9 that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

5.5 Methodological Assessments Related to Sexual Assault Estimates

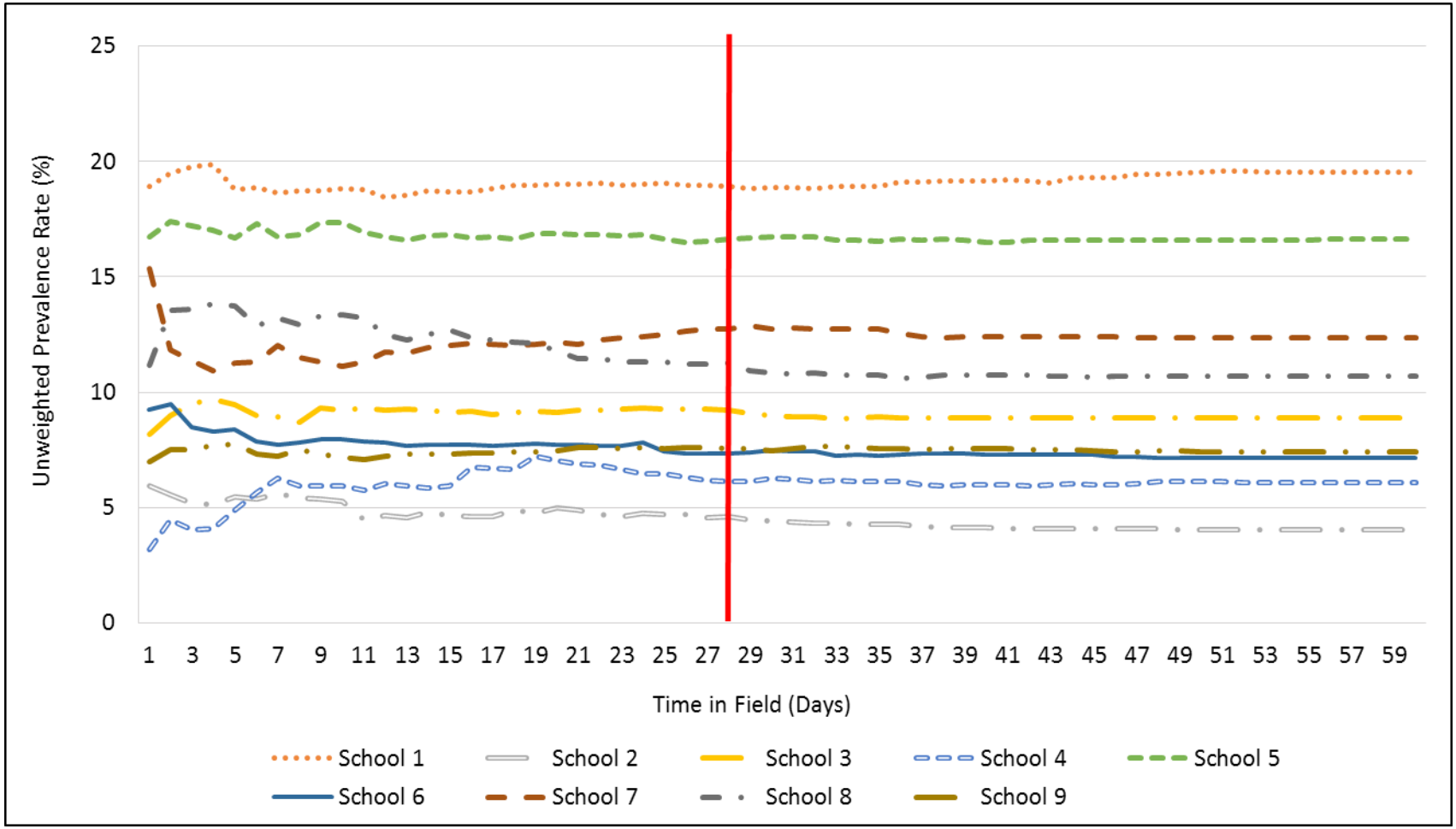
The CCSVS Pilot Test included numerous methodological assessments designed to inform future efforts similar in scope and to better understand the validity of the data gathered. These assessments, which are discussed in the subsections below, include an analysis of the ideal field period for capturing stable and precise estimates of sexual assault victimization, an assessment of how respondents ordered multiple incidents in the survey, an examination of incidents that were entered but then "backed out" by respondents, and the findings from the latent class analyses.

5.5.1 Field Period Assessment

As described in **Section 3.3.2**, the data collection period for the CCSVS Pilot Test lasted between 5 and 6 weeks at each school during spring 2015, with an average field period of 57 days. The exact field period depended on when spring break was scheduled and when final exams began. As discussed previously, almost all schools achieved their targeted number of completed interviews within 28 days. As such, it is of interest to know if the victimization rate at each school changed after this time. If students who responded to the survey later in the field period were more or less likely to have experienced sexual assault than early responders, estimates would be expected to change over the field period as late responses trickled in (i.e., this would indicate that the estimates would be biased if the field period ended before the late responders participated). However, if there was no clear association between sexual assault victimization and when students completed the survey, estimates would remain stable across the field period.

After 28 days of data collection, the victimization rate for females did not appear to change significantly (**Figure 33**). For males, the rates were somewhat less stable over time (**Figure 34**). This was due in part to the fact that the CCSVS Pilot Test was not powered to produce sexual assault estimates for males at the school level.

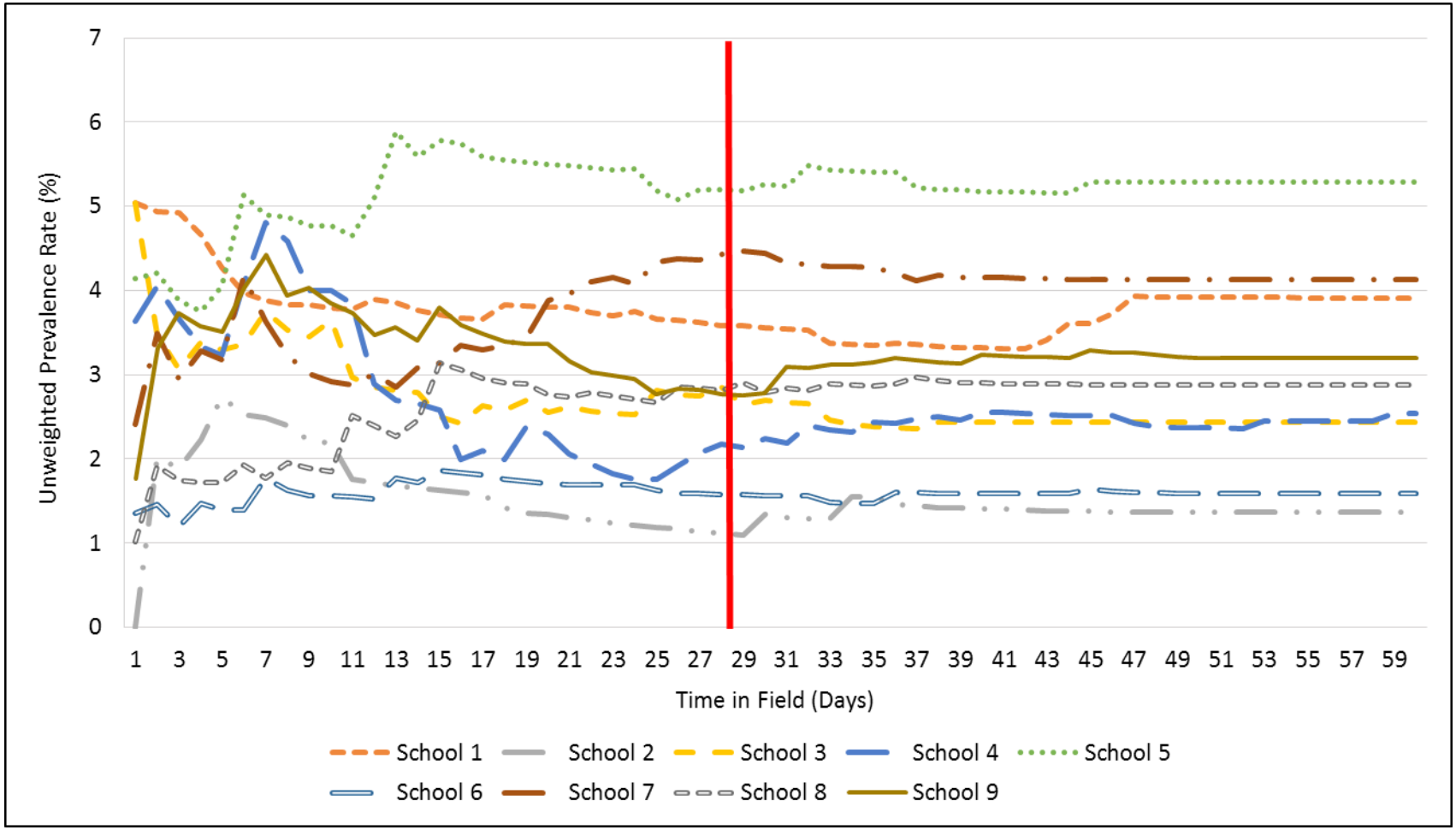
Figure 33. Unweighted estimated sexual assault rates for undergraduate females, by time in field and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Bold vertical line indicates the 28th day of data collection at each school.

Figure 34. Unweighted estimated sexual assault rates for undergraduate males, by time in field and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Bold vertical line indicates the 28th day of data collection at each school.

Although the estimated sexual assault prevalence rate among females appeared to stabilize after 28 days, the precision of that estimate will decrease if a shorter field period results in fewer students responding to the survey. To inform future surveys similar in scope, a simulation was run to assess how much the precision would change and whether any bias (i.e., change in the estimates) would be introduced with a shorter field period than was used for the CCSVS Pilot Test. **Table 24** presents the weighted sexual assault prevalence estimate among females[52] and its resulting relative standard error under (1) the full CCSVS Pilot Test field period (approximately 57 days), (2) a 28-day field period, and (3) a 21-day field period.[53] For this simulation analysis, surveys were sorted by their completion date. Surveys completed after the alternative field period (e.g., after 28 days for the 28-day estimates) were considered nonrespondents. Appropriate analysis weights were then computed based on the desired field period (i.e., weights were recalibrated to account for the changes in response status among students due to a shorter field period).

Table 24. Weighted estimates and relative standard errors for sexual assault prevalence rates among undergraduate females, by field period length and school, 2014–2015 academic year

	Full Period		28-Day Period		21-Day Period	
School	Estimate	RSE	Estimate	RSE	Estimate	RSE
Overall	10.3 %	1.8 %	10.4 %	2.2 %	10.5 %	2.4 %
1	20.0	3.7	19.1	5.4	19.5	5.9
2	4.2	14.4	4.8	15.0	5.2	16.2
3	8.7	6.9	9.1	7.4	9.0	7.5
4	5.8	6.9	5.6	9.1	6.4	10.6
5	16.9	3.8	16.6	4.4	16.9	5.2
6	7.0	5.5	7.1	6.2	7.3	6.7
7	11.9	4.5	12.3	5.0	11.7	5.4
8	10.7	5.3	11.1	6.2	11.3	6.5
9	7.1	6.4	7.4	7.1	7.5	8.1

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: RSE = relative standard error.

This assessment of field period length had two objectives:

1. Determine if point estimates for sexual assault changed under shorter field periods, and
2. Determine how much larger the standard errors would become as the field period decreases.

[52] This evaluation was not conducted for males because the CCSVS was not designed to produce precise estimates of sexual assault victimization for males.

[53] These two alternative field periods were chosen because they either achieved the targeted number of completed interviews (six of the nine schools achieved their target sample size within 21 days) or seemed like a plausible field period if time was limited.

The estimated prevalence of sexual assault among females changed by less than one percentage point when the data collection window was shortened to 28 or 21 days (**Table 24**). Therefore, for the nine participating schools it does appear that the sexual assault prevalence rate would not have substantively (or statistically) changed if the field period was reduced to 21 or 28 days.

In assessing the second objective, the results show that the relative standard error does increase as the data collection period is reduced. This is expected because the number of respondents, and thus the precision, is reduced as the field period is shortened. However, even for a 21-day field period, all schools except School 2 and School 4 maintain an RSE of less than 10%.[54]

This analysis does not take into account the impact on precision for subpopulation (e.g., year of study, race/ethnicity) or sub-victimization type (e.g., rape) estimates. In other words, using a shorter field period might still yield stable overall sexual assault prevalence rates, but any efforts to analyze rates for subpopulations or specific victimization types might be futile with the reduced precision of a shorter field period. Therefore, even though, in the CCSVS, the estimates for the prevalence of sexual assault victimization appear stable and the RSEs remain reasonable (i.e., late responders do not experience sexual assault at a higher or lower rate than early responders), when the field period is shortened, future similar studies should consider using a longer field period to maximize the precision for subpopulation estimates and minimize the potential for bias.

Given that the estimates for the prevalence of sexual assault victimization and RSEs remained stable across field periods, the underlying components of sexual assault victimization—rape and sexual battery—were assessed to ensure that the same result held. In terms of bias, the estimates for the prevalence of both rape and sexual battery were stable across the three field periods (**Table 25** and **Table 26**). For both components, the absolute difference between the full period estimate and the abbreviated field period estimate was less than 1% for all estimates except one (School 1 at 28 days for sexual assault). However, in terms of precision, the RSEs do increase for both outcomes as the field period is reduced—especially for rape. For rape, the RSE increases by 25% or more in seven of nine schools, with the largest increases occurring at School 1 (97%) and School 4 (57%) when the field period is reduced to 21 days (not shown). With a 28-day field period, the percent change in RSE is less than 20% in all schools except School 1 and School 4. For sexual battery, the RSEs are more stable than the RSEs for rape, but four of the nine schools have an increase in RSE greater than 25%. The largest increase is at School 4 (53%).

[54] An RSE less than 10% is usually considered reasonable precision for a survey estimate.

Table 25. Weighted estimates and relative standard errors for rape prevalence rates among undergraduate females, by field period length and school, 2014–2015 academic year

	Full Period		28-Day Period		21-Day Period	
School	Estimate	RSE	Estimate	RSE	Estimate	RSE
Average	4.1 %	3.0 %	4.2 %	3.9 %	4.2 %	4.3 %
1	6.2	7.3	6.6	13.1	6.6	14.3
2	2.4	20.2	2.6	21.0	2.6	23.9
3	3.0	12.1	3.2	13.0	3.3	13.0
4	2.8	9.7	2.6	13.2	2.8	15.3
5	7.9	5.7	7.4	6.8	7.4	7.9
6	2.7	8.6	2.7	10.0	2.7	11.0
7	5.8	6.6	5.7	7.5	5.5	8.3
8	4.5	8.8	4.3	10.3	4.3	11.1
9	2.2	11.9	2.4	13.4	2.5	15.3

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: RSE = relative standard error.

Table 26. Weighted estimates and relative standard errors for sexual battery prevalence rates among undergraduate females, by field period length and school, 2014–2015 academic year

	Full Period		28-Day Period		21-Day Period	
School	Estimate	RSE	Estimate	RSE	Estimate	RSE
Overall	5.6 %	2.5 %	5.7 %	2.9 %	5.9 %	3.2 %
1	13.2	4.8	11.9	6.0	12.3	6.6
2	1.7	22.7	2.1	22.7	2.5	23.3
3	4.7	9.5	4.9	10.3	4.7	10.6
4	2.6	10.7	2.5	13.4	3.0	16.4
5	8.6	5.6	8.8	6.5	9.1	7.7
6	4.1	7.6	4.2	8.3	4.3	9.0
7	5.7	6.7	6.1	7.1	5.7	8.0
8	5.9	7.3	6.6	8.4	6.8	8.7
9	4.2	8.3	4.3	9.5	4.4	10.6

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: RSE = relative standard error.

5.5.2 Assessment of Incident Ordering

Chronological and Severity Ordering

The survey instrument included up to three incident follow-up loops in which victims of unwanted sexual contact answered detailed questions about each incident. If the student indicated (in *Survey Item P2*) that she/he experienced more than three incidents, the incident follow-up loop was not repeated for the fourth (or more) incident. The survey instrument allowed respondents to adopt their own ordering strategy and order their incidents of unwanted sexual contact in a manner they found most convenient or sensible. As a result of this uncontrolled strategy, for students who experienced more than three incidents (and for which details about the fourth or more incident were not captured), it is possible that incident-level analyses may be biased if all incidents are reported in a systematic manner (e.g., in chronological order or based on severity of incident). To assess whether this potential bias exists, three analyses were conducted among students who reported experiencing two or three incidents of unwanted sexual contact (using the incident-level follow-up details provided for the first three incidents).[55] These analyses include—

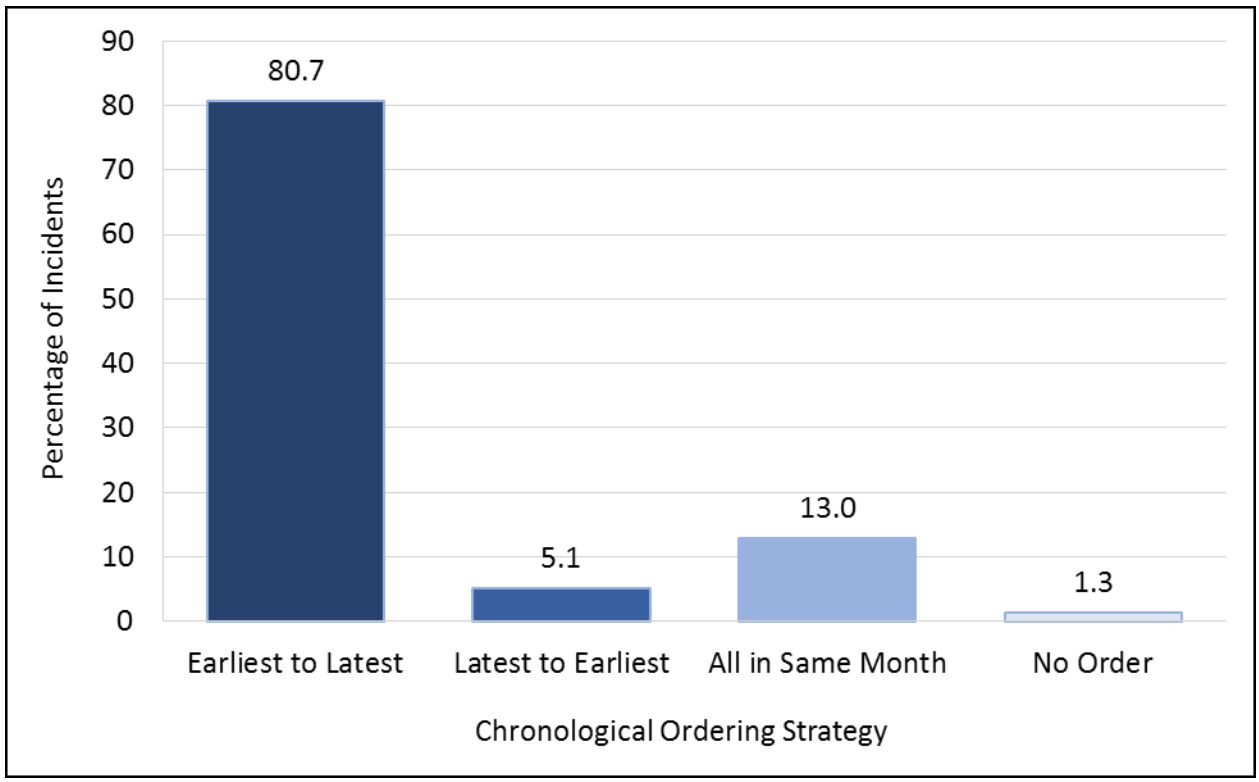
1. Assessment of the chronological order in which incidents were reported,
2. Assessment of the order in which incidents are reported based on the severity of the incident,[56] and
3. Assessment of when a student indicates he/she is "unsure" of the month in which the incident occurred.

Across all nine schools, 86% of students had incidents that occurred in different months and ordered their incidents chronologically, with the majority (81%) ordering them from the earliest to the latest in the 2014–2015 academic year (**Figure 35**). Chronological order could not be determined for the 13% of students whose incidents occurred in the same month.

[55]This analysis was limited to students who reported two or three incidents. It is not possible to assess incident ordering for those who experienced more than three incidents as the type of victimization and month of occurrence for the 4th and 5th incidents were not collected.

[56]Severity ordering was assessed based on the following hierarchy (from most to least serious): rape, sexual battery, unsure, no type of sexual contact endorsed, and missing.

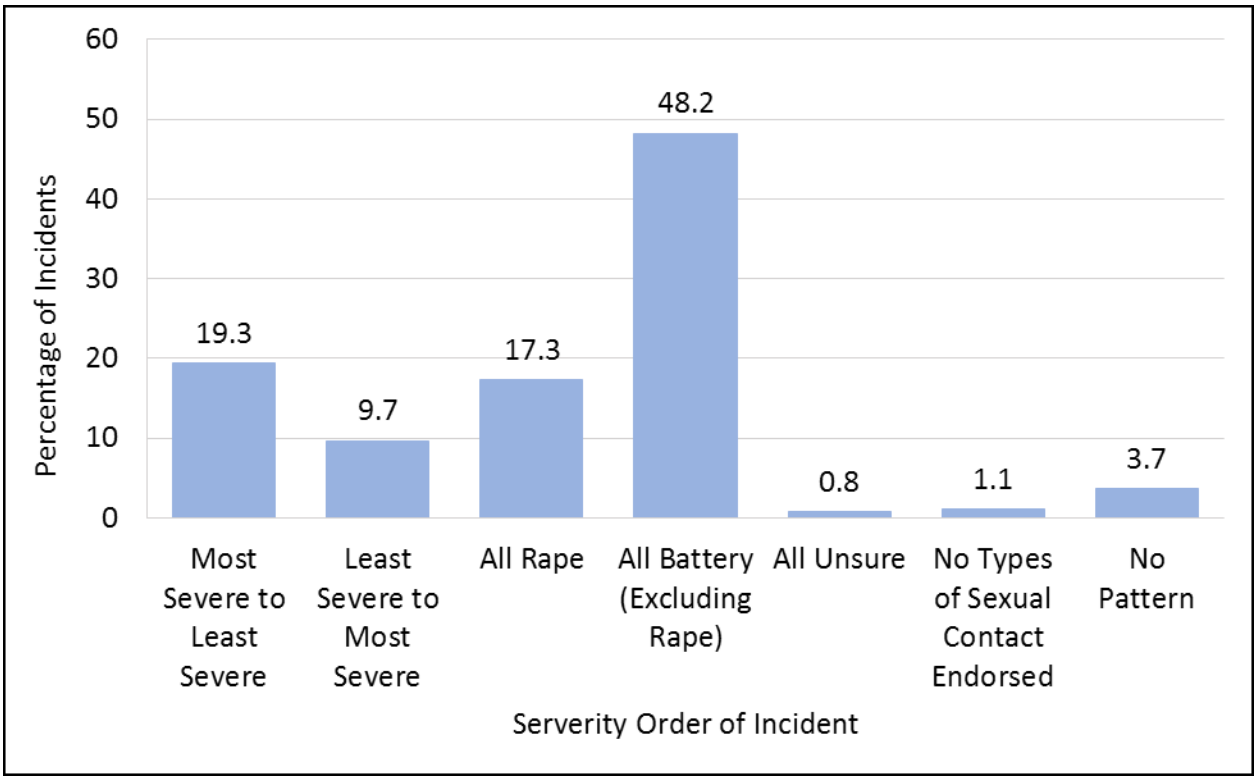
Figure 35. Order in which incidents are listed by undergraduate males and females with two or three unwanted sexual contact incidents, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

In terms of the severity of the incidents reported, the majority of students with more than one incident (66%) reported the same type of sexual contact for each (i.e., all incidents were rape or sexual battery only), which means that it is not possible to learn anything about severity ordering from these respondents (**Figure 36**). However, when the type of incidents differed in severity, most students ordered the incidents from most severe to least severe (19%, which is approximately two-thirds of students whose incidents varied in terms of severity; see **Appendix E-64**).

Figure 36. Order in which incidents are listed by undergraduate males and females with two or three unwanted sexual contact incidents, by severity, 2014–2015 academic year



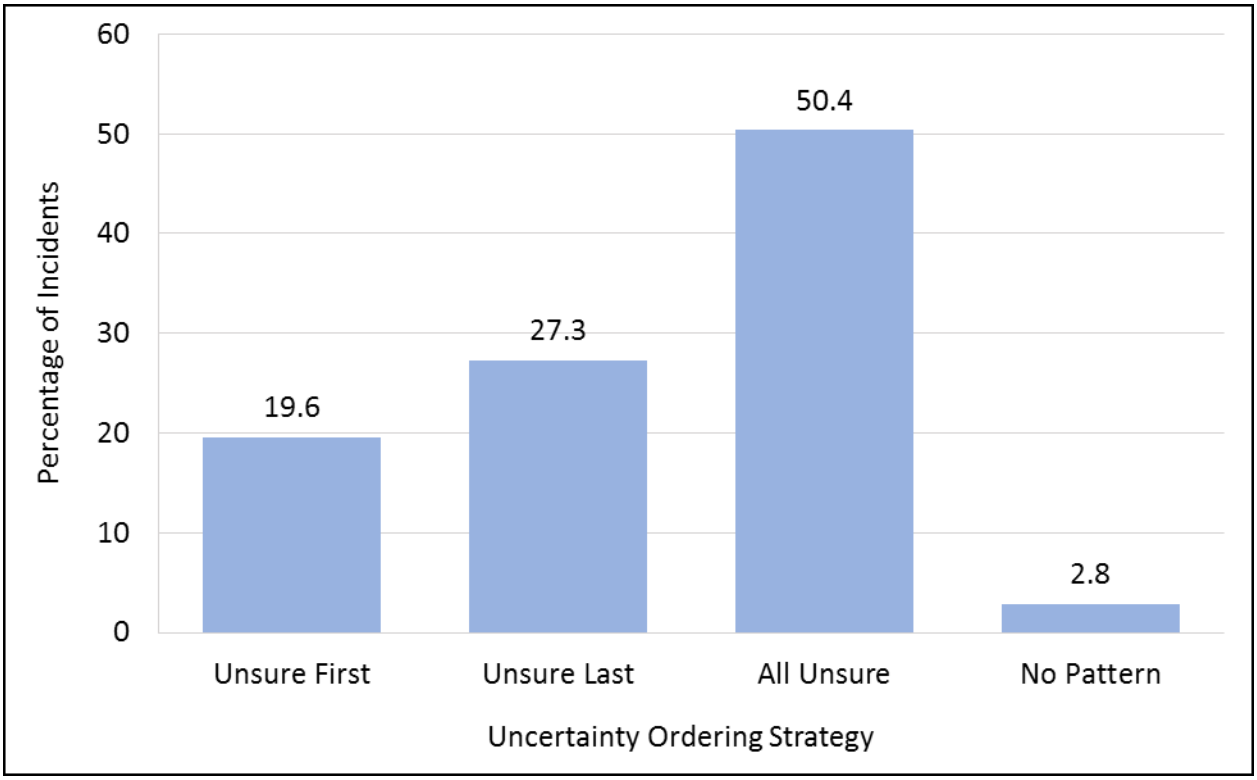
Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Severity ordering was assessed based on the following hierarchy (from most to least serious): rape, sexual battery, unsure, no type of sexual contact endorsed, and missing.

As discussed previously, a relatively high number of victims did not specify the month in which the incident occurred. The majority of students (50%) who had at least one incident for which they were unsure of the month, indicated that they were unsure of the month for **all** reported victimizations (**Figure 37**). When the student provided the month for some victimizations but was unsure for others, the student was more likely to report the unsure incidents last (27% reported unsure incidents last vs. 20% who reported unsure incidents first).

Based on these analyses, it appears that students may be systematically ordering their incidents, either chronologically or in terms of severity. However, this potential bias would primarily impact the approximately 6% of victims who reported experiencing four or more incidents of unwanted sexual contact—those for whom incident-level details were not captured for all incidents. For these students, incidents that occurred later in the academic year or that did not involve penetration may be underrepresented. In addition, this potential bias may affect the responses of students who experienced three incidents and skipped questions in the second or third incident follow-up loop (see **Section 4.2.1**). For these students, incomplete information may have been provided for incidents that occurred later in the academic year or that did not involve penetration.

Figure 37. Order in which incidents are listed by undergraduate males and females with two or three unwanted sexual contact incidents, by when "unsure" was listed for month, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Respondents Who Backed Out Incidents

Respondents' answers to *Survey Item P2* (the number of incidents of unwanted sexual contact students had experienced during the 2014–2015 academic year) drove the number of incident reports, or rounds of detailed sexual assault incident follow-up questions, they received. Upon indicating one or more incidents in *Survey Item P2*, respondents were asked to provide the month in which each incident occurred and were then asked detailed questions about each incident (for up to three incidents). The data cleaning procedures revealed that some respondents, upon entering the incident loop, went back and revised their answers to *Survey Item P2*, thus reducing the number of incident loops they received and removing incidents corresponding with the original value of *Survey Item P2*, which no longer applied. Respondents could have removed incidents for a number of reasons. Some respondents might have become fatigued or found the additional incident-specific questions too upsetting, whereas others might have realized upon entering the loop that the questions were not actually relevant to their incident. For example, if a student experienced coerced sexual contact, but not sexual assault, she/he might have decided to go back and change her/his answer to *Survey Item P2* to a lower number or to zero. As described previously, respondents who changed their answer to zero were classified as non-victims. However, the survey data

for these incidents removed by respondents were retained and reviewed to assess what types of unwanted sexual contact incidents had been removed, and the number of victimizations that were removed (and thus the potential impact on survey estimates).

A total of 201 incidents reported by females (7.1% of the total number of incidents reported by females) and 64 incidents reported by males (13.5% of the total number of incidents reported by males) were removed by respondents following their initial responses to *Survey Item P2* (**Table 27** and **Table 28**). These 265 incidents were associated with 172 unique respondents (0.7% of all respondents), 152 of whom ended up having their classification switched from sexual assault victims to non-victims as a result of removing their incidents (7.8% of victims).

As shown in the tables, most incidents removed by respondents corresponded to incident one, as the number of removed incidents was lower for incidents two and three. Thus, respondents who completed their first incident report were unlikely to backtrack through the survey and remove incidents two and/or three, but a sizeable number of respondents did reduce the number of incidents of unwanted sexual contact to zero prior to completing their first incident report. Respondents provided limited information about the removed incidents prior to backtracking and modifying their *Survey Item P2* responses, with item nonresponse rates increasing as the survey progressed. For a high proportion of removed incidents, respondents specified that they were unsure of the month in which the incident occurred (31% for females and 39% for males). Removed incidents had high missing data rates for the type of unwanted sexual contact (68% for females and 73% for males) and the tactics used (72% for females and 77% for males).

Upon being asked the detailed follow-up questions, 7.1% of the potential sexual assault incidents against females and 13.5% of potential sexual assault incidents against males were backed out by respondents. Respondent fatigue and sensitivity to the burden associated with being asked to answer detailed follow-up questions about each incident could lead to suppression of incidents once respondents realize that follow-up questions will be asked about each incident. The detailed follow-up questions could also trigger respondents' recognition of a prior incorrect response. Regardless, the incident loop provides valuable data that allows better classifications of the type of sexual contact and documents important characteristics associated with each sexual assault incident.

Table 27. Distribution of incidents removed by undergraduate females, by month, type of victimization and tactic, 2014–2015 academic year

	Overall		Incident 1		Incident 2		Incident 3	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Overall	201	100.0 %	115	100.0 %	53	100.0 %	33	100.0 %
Month (*Survey Item ILF1*)								
Specified Valid Month	139	69.2 %	82	71.3 %	35	66.0 %	22	66.7 %
Specified Unknown Month	62	30.8	33	28.7	18	34.0	11	33.3
Missing	0	0.0	0	0.0	0	0.0	0	0.0
Type of Victimization (*Survey Item ILF2*)								
Rape	18	9.0 %	15	13.0 %	3	5.7 %	0	0.0 %
Sexual Battery	32	15.9	32	27.8	0	0.0	0	0.0
Unsure	4	2.0	4	3.5	0	0.0	0	0.0
All No	11	5.5	11	9.6	0	0.0	0	0.0
All Missing	136	67.7	53	46.1	50	94.3	33	100.0
Tactic (*Survey Item ILF3*)								
Specified One or More Tactics	41	20.4 %	39	33.9 %	2	3.8 %	0	0.0 %
Unsure/No Tactics	15	7.5	14	12.2	1	1.9	0	0.0
Missing All Tactics	145	72.1	62	53.9	50	94.3	33	100.0

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Table 28. Distribution of incidents removed by undergraduate males, by month, type of victimization and tactic, 2014–2015 academic year

	Overall		Incident 1		Incident 2		Incident 3	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Overall	64	100.0 %	37	100.0 %	16	100.0 %	11	100.0 %
Month (Survey Item ILF1)								
Specified Valid Month	39	60.9 %	24	64.9 %	8	50.0 %	7	63.6 %
Specified Unknown Month	25	39.1	13	35.1	8	50.0	4	36.4
Missing	0	0.0	0	0.0	0	0.0	0	0.0
Type of Victimization (Survey Item ILF2)								
Rape	3	4.7 %	3	8.1 %	0	0.0 %	0	0.0 %
Sexual Battery	10	15.6	10	27.0	0	0.0	0	0.0
Unsure	2	3.1	2	5.4	0	0.0	0	0.0
All No	2	3.1	2	5.4	0	0.0	0	0.0
All Missing	47	73.4	20	54.1	16	100.0	11	100.0
Tactic (Survey Item ILF3)								
Specified One or More Tactics	10	15.6 %	10	27.0 %	0	0.0 %	0	0.0 %
Unsure/No Tactics	5	7.8	5	13.5	0	0.0	0	0.0
Missing All Tactics	49	76.6	22	59.5	16	100.0	11	100.0

Source: Campus Climate Survey Validation Study (CCSVS), 2015

These results and the assessment of item nonresponse (see **Section 4.2.1**) suggest that the number of sexual assault incidents about which detailed follow-up questions are asked should potentially be limited to improve data quality and completeness. The CCSVS Pilot Test capped the number of incidents about which details were asked at three, which was generally effective.

5.5.3 Latent Class Analysis Results

To help further validate the CCSVS Pilot Test results, the CCSVS included latent class analysis (LCA) in its design and implementation. LCA is a model-based technique that uses embedded replication (i.e., multiple survey items asking about a latent construct) to measure the accuracy of the reported estimates and produce unbiased estimates of the latent construct of interest (Biemer, 2011). In the case of the CCSVS, the latent construct is experiencing unwanted sexual contact since the beginning of the 2014–2015 academic year. Rather than using a gold standard or known truth, neither of which exists, to estimate the measurement error, LCA uses these embedded replicates to estimate the measurement error. For categorical constructs, like sexual assault in the CCSVS Pilot Test, classification error is the type of measurement error of interest. Classification error includes the *false positive rate* and *false negative rate* for a survey item trying to measure a latent construct. The false positive rate is the probability that a respondent indicates that the latent construct did occur when the respondent's true status is that it did not. The false negative rate is the probability that a respondent indicates that the latent construct did not occur when the respondent's true status is that it did occur. In web-based surveys such as the CCSVS, classification error may occur because (1) the respondent did not understand the question (e.g., misinterpreted the meaning of the latent construct or misunderstood the questions of interest), or (2) the respondent did not want to provide a truthful answer. By asking about the latent construct in different ways, through the embedded replicates, LCA attempts to measure a respondent's true latent status.

For sensitive events such as sexual assault, the false positive rate is usually near zero whereas the false negative rate is non-negligible (Berzofsky, Biemer, & Kalsbeek, 2014). In other words, it is unlikely for a respondent to indicate that a sensitive event occurred when it did not, but it is more likely for a respondent to indicate a sensitive event did not occur when it truly did. Because of this phenomenon, the analysis will review the false positive rates, but focus primarily on the false negative rates.

For the CCSVS Pilot Test, four indicators of the latent construct were embedded in the survey instrument. These indicators are—

A. any unwanted sexual contact since the beginning of the academic year (*Survey Item P1*).
B. the number of separate incidents of unwanted sexual contact experienced since the beginning of the academic year (*Survey Item P2*).
C. whether each of 4 (males) or 5 (females) types of unwanted sexual contact happened since the beginning of the academic year (*Survey Item LCA2*).
D. the most recent experience of unwanted sexual contact (*Survey Item LCA3*).

For the specific wording of these items, see **Section 5.1**.

For each indicator, a respondent's response was dichotomized to either experiencing unwanted sexual contact or not experiencing unwanted sexual contact since the beginning of the 2014–2015 academic year. *Indicator A* is a dichotomous question where a "yes" response indicates the student experienced unwanted sexual contact since the beginning of the academic year. *Indicator B* is dichotomized by assigning a response of one or more unwanted sexual contacts since the beginning of the academic year as a "yes" for the LCA. *Indicator C* is based on a series of questions regarding specific types of unwanted sexual contact since the beginning of the academic year; if the respondent indicated that any of these occurred then she/he is assigned to a "yes" for experiencing unwanted sexual contact since the beginning of the academic year. *Indicator D* is dichotomized by assigning respondents who indicated that their last unwanted sexual contact occurred during the 2014–2015 academic year as a student who experienced unwanted sexual contact during the 2014–2015 academic year.

LCA uses the responses across each set of indicators conditioned on a set of grouping variables (i.e., characteristics that are associated with classification error) to estimate the classification error and unbiased estimates of the latent construct.[57] Overall, 93.2% of respondents provided consistent answers to all four indicators; however, 6.8% of respondents provided inconsistent responses (**Table 29**). This is an indication that some of the respondents interpreted the indicators differently and that measurement error may exist.

Table 29. Comparisons of LCA variable consistency for complete undergraduate female cases, 2014–2015 academic year

LCA Variable Consistency	Number of Females	Percent
Consistent indication of unwanted sexual contact	13,573	93.2 %
Unwanted sexual contact indicated in all four measures	930	6.4
No unwanted sexual contact indicated in all four measures	12,643	86.8
Inconsistent indication of unwanted sexual contact	998	6.8

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: The counts and percentages presented in this table are based on cases that responded to all indicators. Because of the small amount of missing data, the conclusions drawn from this table are not impacted by excluding the cases with some missing data.

[57] Through a system of equations, for a latent construct with fixed levels (e.g., experienced unwanted sexual contact or did not experience unwanted sexual contact), the model estimates the classification error rates for the indicators simultaneously using those rates in the estimation of the unbiased estimates.

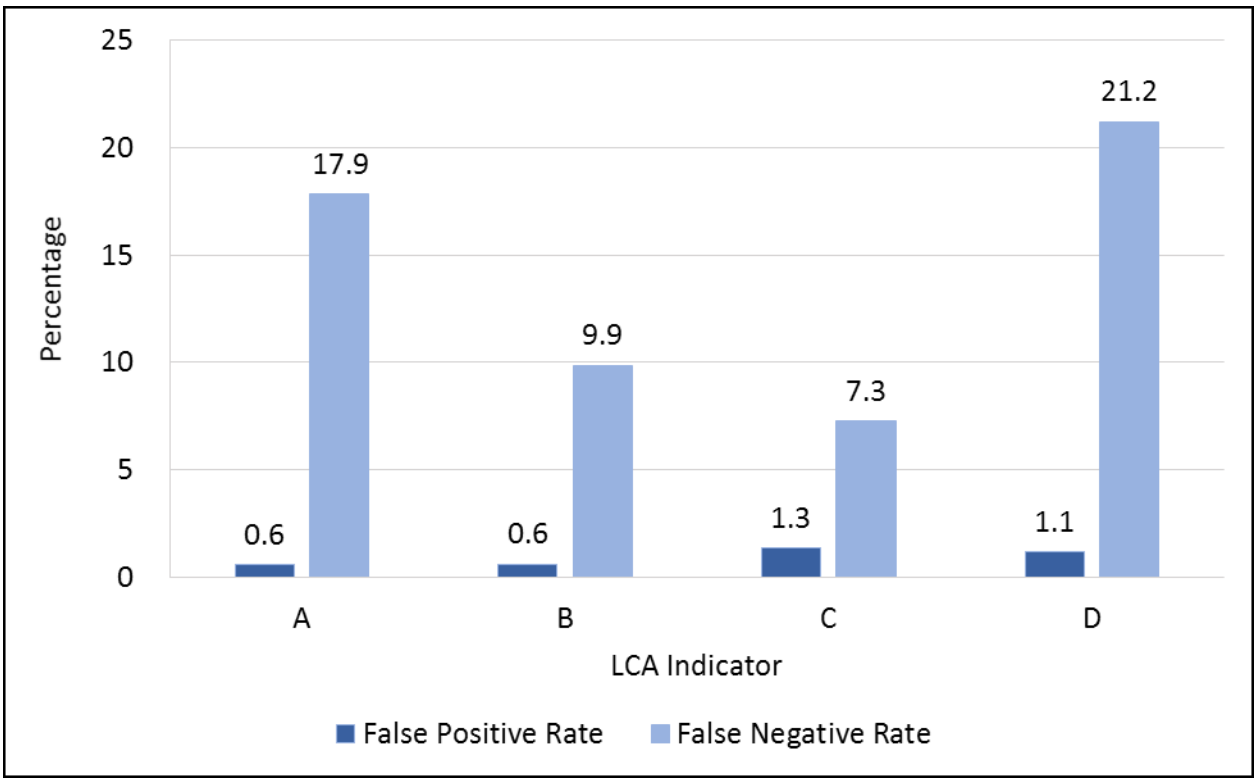
In order to conduct the LCA and ensure that all necessary model assumptions were met, the process developed by Berzofsky, Biemer, and Kalsbeek (2014) was followed.[58] In addition, although most respondents answered all the LCA items, there was some missing data. Using the approach developed by Edwards, Berzofsky, and Biemer (2015), the analysis assessed the data to determine the missing data mechanism (missing at random or missing not at random) and used Full Information Maximum Likelihood (FIML) to include all respondents in the LCA.[59] Furthermore, it was of interest to compare the unbiased estimates to the reported estimates based on *Survey Item P2* (Indicator B in the LCA) for key student characteristics. Therefore, indicators for school, year of study, and sexual orientation were included in the structural component of the model.

Examination of the female false positive and false negative rates for each indicator showed that the false positive rates were relatively small, the largest being 1.3% for Indicator C (**Figure 38**). Even with all the false positive rates being small, the false positive rates for Indicator A and Indicator B were significantly smaller than the false positive rate for Indicator C and Indicator D. Furthermore, the false negative rates were larger than the false positive rates. The false negative rates for Indicator B and Indicator C were significantly less than the false negative rates for Indicator A and Indicator D. The reason for the difference in the false negative rates may be due to the wording of the indicators. Berzofsky, Biemer, and Kalsbeek (2014) found that behaviorally specific questions like Indicator C produce smaller false negative rates; whereas more pointed questions like Indicator A produce higher rates. Indicator B requires the respondent to think about a specific number of times unwanted sexual contact occurred which may have helped its accuracy (protecting against both the false positive and false negative bias). Indicator D appeared to be the most problematic indicator (i.e., higher false positive and false negative rate). It had the largest amount of missing responses (1.8% of respondents). Perhaps requiring respondents to enter a specific month and year was difficult on some device types (e.g., smartphones), perhaps respondents had difficulty placing the incidents of unwanted sexual contact within a specific calendar month, or perhaps respondents thought this question was referring to any **additional** events because they had already indicated the month of each incident previously in the survey.

[58]Latent Gold software was used for the LCA, which allows for the complex survey design and unequal weights to be taken into account.

[59]The assessment of missing data found that a missing-at-random assumption was valid.

Figure 38. False positive and false negative rates based on LCA among undergraduate females, by indicator, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

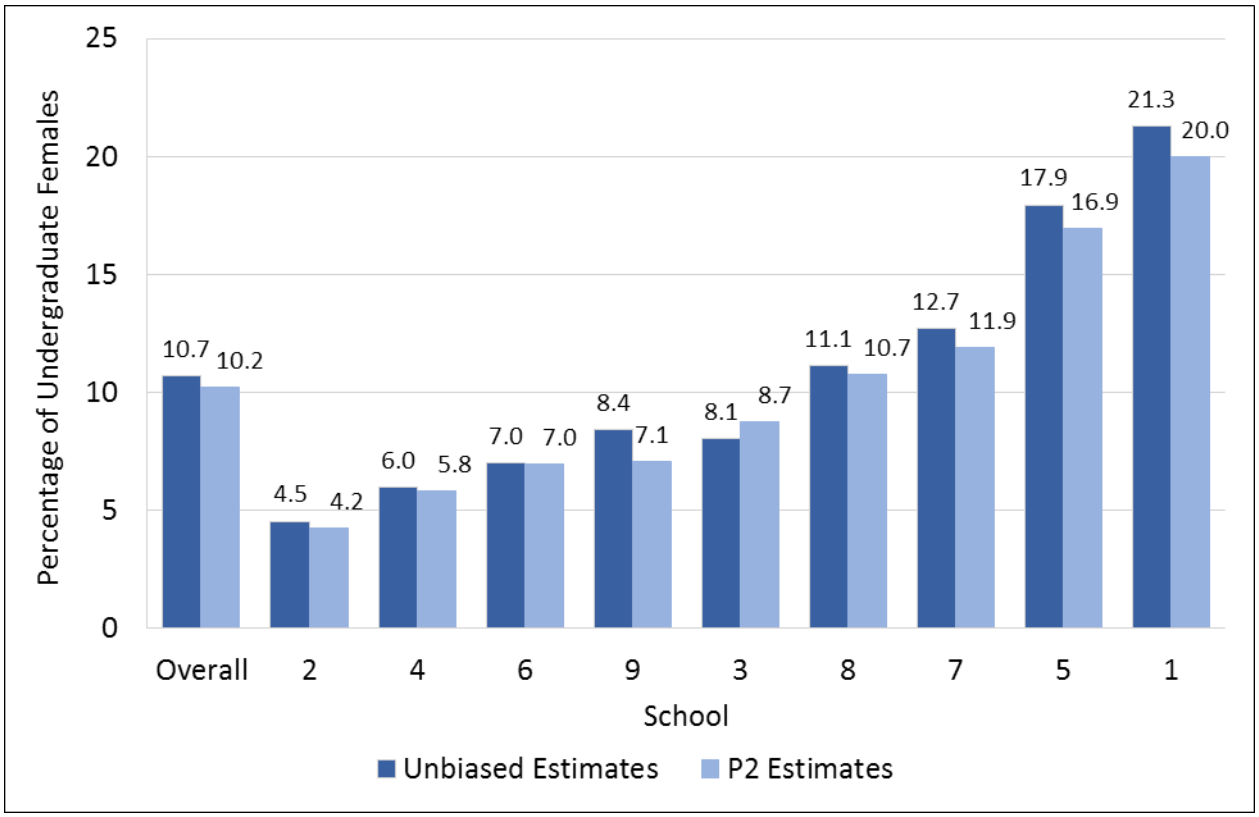
Note: False positive rate refers to the estimated percentage of respondents who indicated that they were a victim given their true status as a non-victim. False negative rate refers to the estimated percentage of respondents who indicated that they were a non-victim given their true status as a victim.

Given these classification error rates, unbiased estimates of unwanted sexual contact since the beginning of the academic year were produced across all respondents and by school (**Figure 39**), by year of study (**Figure 40**), and by sexual orientation (**Figure 41**). (For additional details, see **Appendix E-65** through **68**). Overall, after taking classification error into account, the unbiased sexual assault prevalence estimate increased 0.5% over the reported (*Survey Item P2*) estimate (10.7% vs. 10.2%).[60] The fact that the unbiased estimate is larger than the reported estimate indicates that the influence of the false negative rate is greater than the influence of the false positive rate (i.e., the number of reported "no" responses that are true "yes" values is greater than the number of "yes" responses that are true "no" values). However, this finding was not consistent across all schools. For example, some schools had larger differences between the unbiased and reported percentages (e.g., School 9 had a 1.3% difference), whereas other schools had a lower unbiased percentage than the reported percentage (e.g., School 3 had a −0.6% difference). For the nine schools combined, by year of study, all years had an unbiased estimate that was larger than the reported estimated; however, the difference was larger for freshmen and sophomores than juniors and

[60]The overall reported rate used in this analysis (10.2%) is different from the overall reported rate used earlier in the report (10.3%) because the method used was altered to match how the latent class software (Latent Gold) produced overall estimates.

seniors. This indicates that underclassmen were more likely than upperclassmen to report a false negative response than a false positive response. By sexual orientation, both heterosexuals and nonheterosexuals had an unbiased estimate that was greater than the reported estimate. The difference in the estimates was greater for lesbians, gays, bisexuals, or other nonheterosexuals than hetrosexuals (an increase of 2.5% for nonheterosexuals compared to 0.5% for heterosexuals). It should be noted that statistical tests to determine if these differences were significantly different were not conducted because the correlation between the unbiased estimate and the reported estimate is unknown. Furthermore, the basic trend in the findings remains unchanged (e.g., the order of schools from lowest to highest is the same), and the magnitude was not dramatically different.

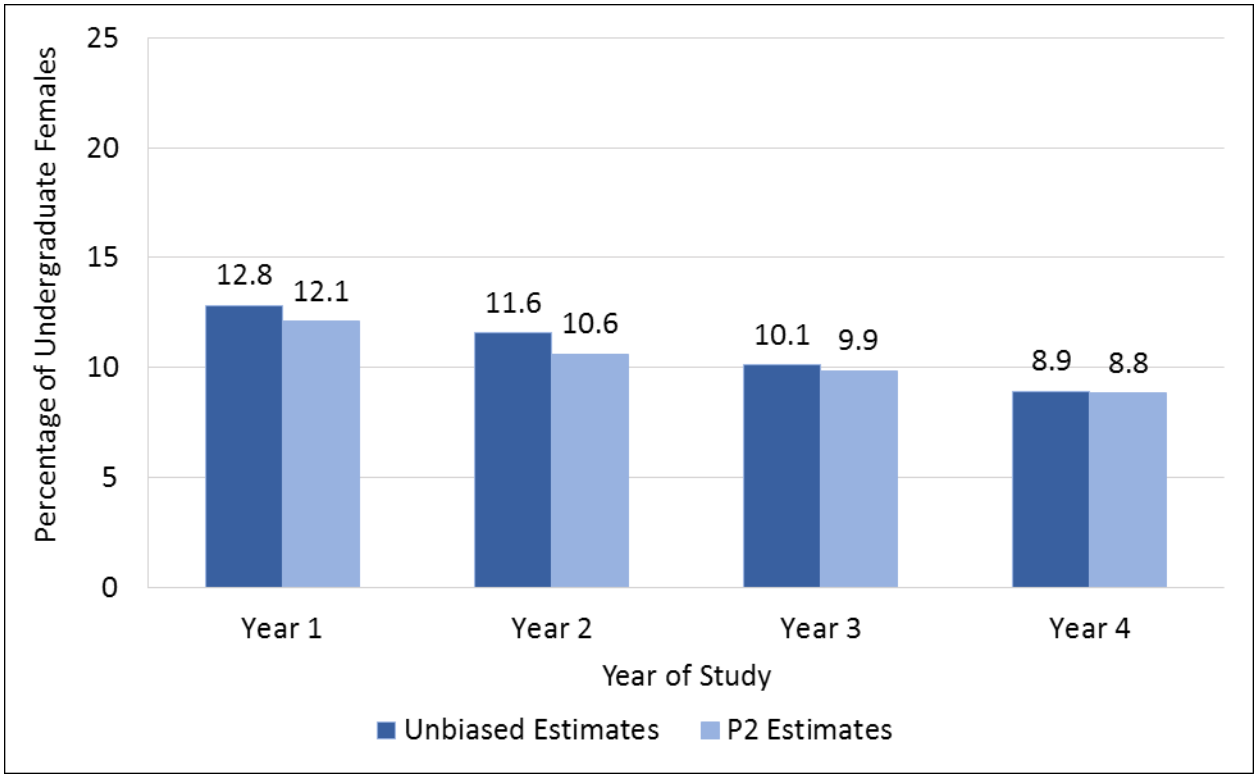
Figure 39. Unbiased LCA and primary estimates of sexual assault for undergraduate females, 2014–2015 academic year, by school



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: P2 estimate is the primary estimate in the survey.

Figure 40. Unbiased LCA and primary estimates of sexual assault for undergraduate females, by year of study, 2014–2015 academic year

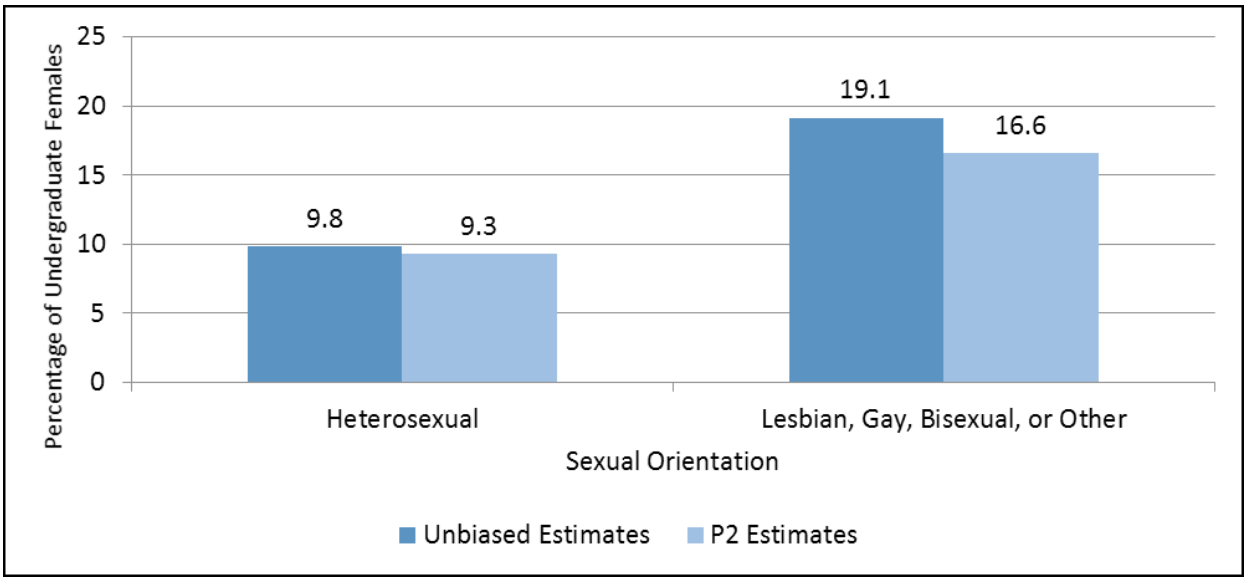


Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: P2 estimate is the primary estimate in the survey.

The LCA findings suggest that (1) the indicator used for estimating the prevalence of sexual assault (Indicator B) did a good job at minimizing the levels of both types of classification error; (2) as found in previous studies, an indicator based on a behaviorally specific screener (Indicator C) provided the lowest false negative rate, but, in this case, a relatively high false positive rate; (3) overall, the unbiased estimate of unwanted sexual contact during the 2014–2015 academic year was larger than the primary estimate (*Survey Item P2*); (4) the rate of change within a characteristic (e.g., school, year of study, sexual orientation) does vary indicating that classification error is not constant within a characteristic; (5) the unbiased estimates for individual point estimates by school and some student characteristics were not substantively different from the primary estimates (i.e., the basic conclusions drawn from the primary estimates are unchanged after accounting for the classification error); and (6) trends across levels within a characteristic remain unchanged. Based on these findings, the primary sexual assault estimates based on *Survey Item P2* appear to be valid.

Figure 41. Unbiased LCA and primary estimates of sexual assault for undergraduate females, by sexual orientation, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: P2 estimate is the primary estimate in the survey.

6. Sexual Harassment and Coercion

In addition to sexual assault, sexual harassment and coerced sexual contact were also measured in the CCSVS Pilot Test. This section describes the measurement strategy and prevalence estimates for these two outcomes.

6.1 Measurement

Sexual harassment and coerced sexual contact were covered early in the survey instrument (*Survey Section 2*), before the topic of unwanted/nonconsensual sexual contact was covered (*Survey Section 3*). This was done to ensure that respondents did not include experiences with harassment and/or coercion when they answered the critical gate questions about unwanted/nonconsensual sexual contact.[61] In other words, it was desired that respondents who had experienced sexual harassment and/or coerced sexual contact would report these experiences early in the survey and then focus only on experiences fitting within the definition of sexual assault used for the remainder of the survey (i.e., sexual contact that they did not consent to and did not want to happen).

The specific wording of the questions that were used to measure sexual harassment victimization in the CCSVS is shown below.

SH1. **Since the beginning of the current academic year in [FILL: August/September], 2014,** has anyone done the following to you either in person or by phone, text message, e-mail, or social media? Please include things regardless of where they happened.

	Yes	No
a. Made sexual advances, gestures, comments, or jokes **that were unwelcome to you**	o	o
b. Flashed or exposed themselves to you **without your consent**	o	o
c. Showed or sent you sexual pictures, photos, or videos **that you didn't want to see**	o	o
d. Showed or sent sexual photos/videos of you or spread sexual rumors about you **that you didn't want shared**	o	o
e. Watched or took photos/videos of you when you were nude or having sex, **without your consent**	o	o

[61] In the CCSVS, coerced sexual contact was defined as sexual misconduct, in which verbal pressure is used to achieve sexual contact with another person (e.g., threatening to spread rumors, constant verbal pressure after the person said no). Coerced sexual contact was measured separate from sexual assault, which was defined as sexual contact that the victim did not want to happen *and did not consent to*.

To measure coerced sexual contact, the following language was used:

EC1. **Since the beginning of the current academic year in [FILL: August/September], 2014,** has anyone had **sexual contact** with you by threatening to tell lies, end your relationship, or spread rumors about you; making promises you knew or discovered were untrue; or continually verbally pressuring you after you said you didn't want to?

Sexual contact includes:

- touching of a sexual nature (kissing, touching of private parts, grabbing, fondling, rubbing up against you in a sexual way, even if it is over your clothes)
- oral sex (someone's mouth or tongue making contact with your genitals or your mouth or tongue making contact with someone else's genitals)
- anal sex (someone putting their penis in your anus)
- sexual intercourse (someone's penis being put in [IF D3=MALE, FILL "someone's", ELSE FILL "your" vagina)
- sexual penetration with a finger or object (someone putting their finger or an object like a bottle or a candle in your [IF D3 NE MALE, FILL: "vagina or"] anus.

  - Yes
  - No

6.2 Prevalence Estimates

Students who answered "yes" to any item in *Survey Item SH1* were classified as having experienced sexual harassment since the beginning of the 2014–2015 academic year. Students who answered "yes" to *Survey Item EC1* were classified as having experienced coerced sexual contact since the beginning of the 2014–2015 academic year. Neither sexual harassment nor sexual coercion experiences were included in any estimates of sexual assault. The prevalence estimates for sexual harassment and coercion were calculated separately by dividing the weighted number of victims (i.e., those who answered "yes" to any item in *Survey Item SH1* or *Survey Item EC1*) by the total population (i.e., weighted number of survey respondents). Estimates were calculated separately for females (overall and for each school) and males (overall and for each school).

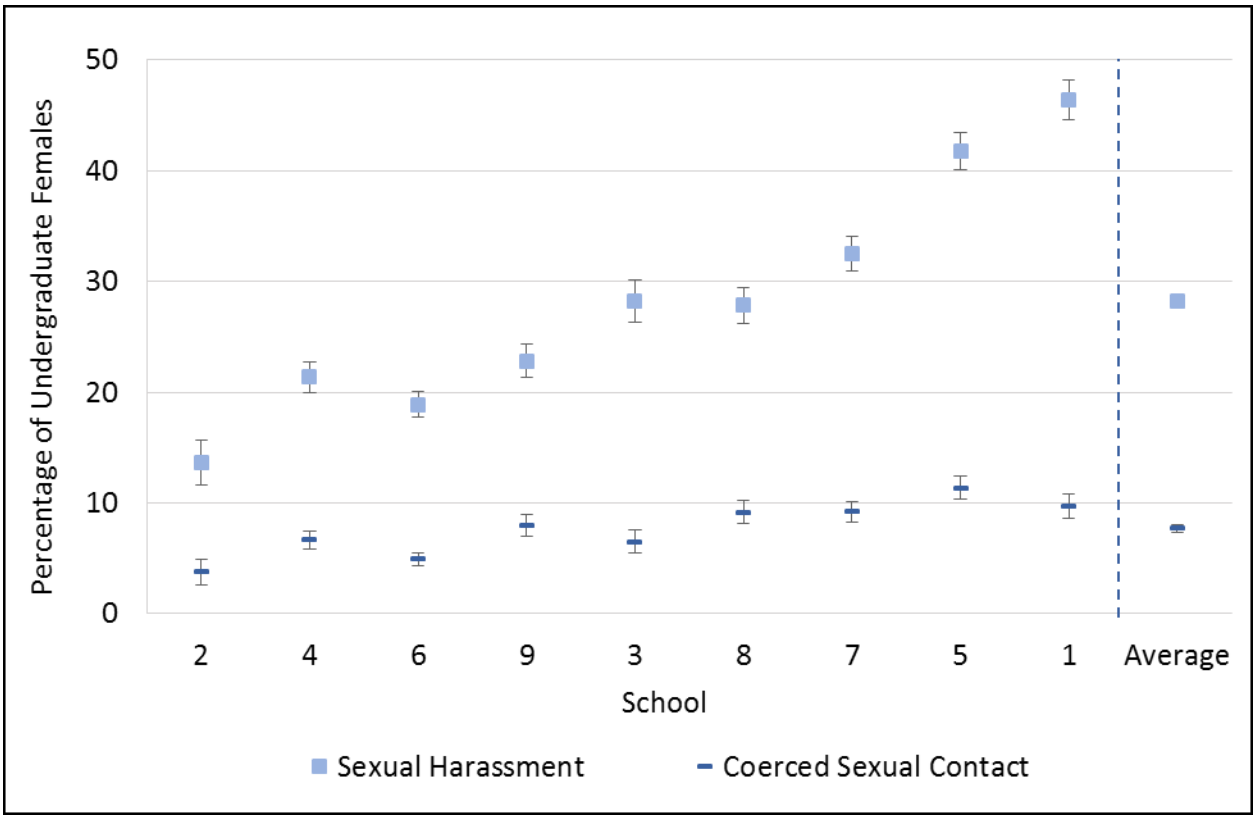
6.2.1 Female Estimates

The percentage of female undergraduates who experienced sexual harassment during the 2014–2015 academic year ranged from 14% at School 2 to 46% at School 1, with a combined percentage of 28% for all nine schools (**Figure 42**). The percentage who experienced coerced sexual contact ranged from 3.8% at School 2 to 11.4% at School 5, with a combined percentage of 7.7% across all nine schools.

While the study design did not power the sample size based on estimates of sexual harassment, across the nine schools, the relative standard errors (RSEs) for sexual harassment were low. The RSEs were below 4.0% for all schools except School 2 which had an RSE of 7.5%. The RSEs for coerced sexual contact

were higher than those for sexual harassment, but still relatively low, with RSEs below 9.0% for all schools except School 2 (15.2%). (All estimates, standard errors, and RSEs are shown in **Appendix F-1** through **3**.) Thus, given the sample sizes obtained at each school based on the design of the CCSVS Pilot Test, stable estimates were produced.

Figure 42. Percentage of undergraduate females reporting sexual harassment and coerced sexual contact, by school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

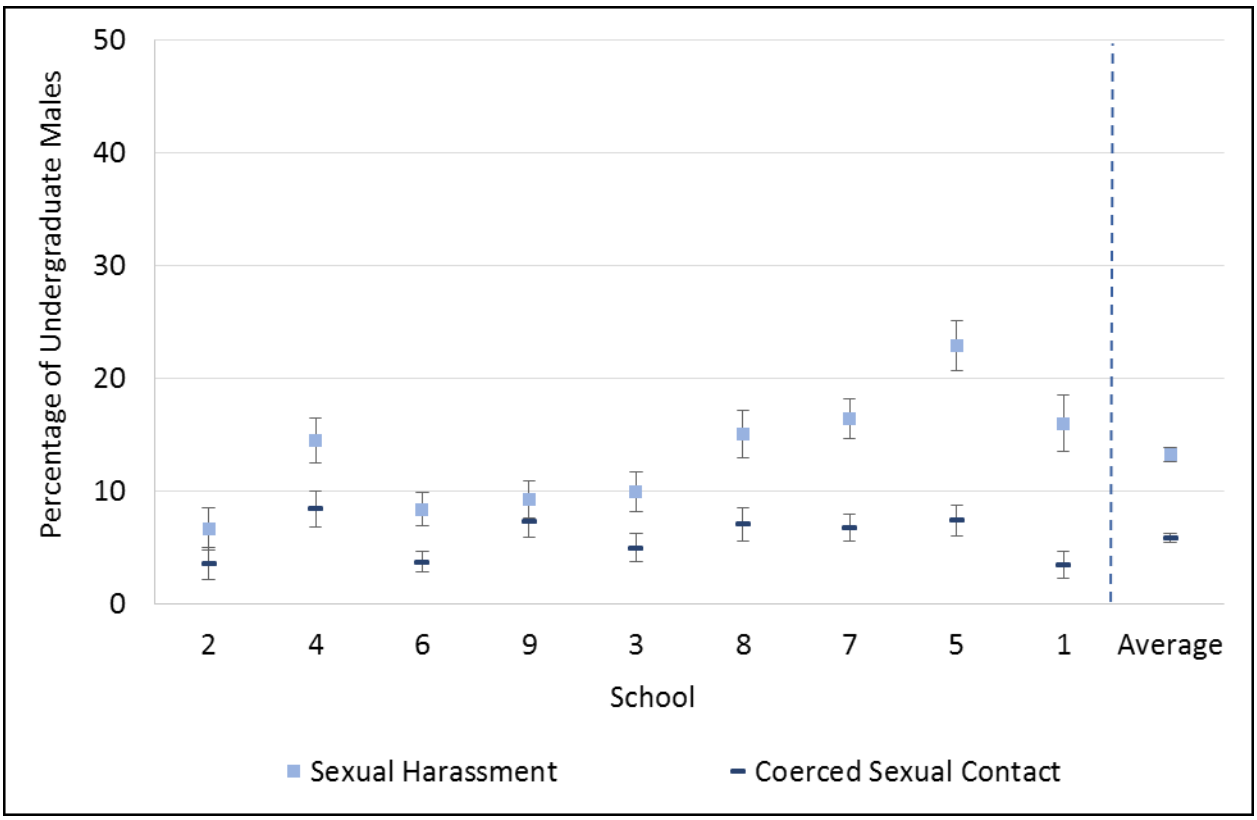
The estimates for several schools were statistically distinguishable from one another. For example, among the schools participating in the CCSVS Pilot Test, the sexual harassment estimate for School 4 was significantly different from that of every school except Schools 6 and 9, and the prevalence of sexual harassment at School 2 was significantly different, and lower, than for all other schools. Sexual harassment appeared to track with sexual assault, in that schools with the highest rates of sexual harassment also tended to have the highest rates of sexual assault, sexual battery, and rape (see **Figure 5**).

School-level estimates of the prevalence of coerced sexual contact varied less than the estimates of sexual harassment and few of the school-specific estimates were statistically distinguishable from one another. For the CCSVS Pilot Test schools, coerced sexual contact did not appear to track with sexual harassment, in that the highest rates of sexual harassment were not associated the highest rates of coerced sexual contact.

6.2.2 Male Estimates

For males, the prevalence of sexual harassment victimization ranged from 6.7% (School 2) to 22.9% (School 5), with a cross-school average of 13.2%. The prevalence of coerced sexual contact ranged from 3.4% (School 1) to 8.4% (School 4), with a cross-school average of 5.8% (**Figure 43**). By design, the RSEs for males were higher for both sexual harassment and coerced sexual contact than those for females. For sexual harassment, at the school level, the RSEs ranged from 4.9% (School 5) to 14.5% (School 2). For coerced sexual contact, at the school level, the RSEs ranged from 9.0% (School 7) to 20.6% (School 2). (All estimates, standard errors, and RSEs for male rates are shown in **Appendix F-4** through **F-6**.)

Figure 43. Percentage of undergraduate males reporting sexual harassment and coerced sexual contact, by school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Due to the relatively large standard errors, many of the school-specific estimates of male sexual harassment and coerced sexual contact are not statistically different. The variability in the estimates across schools was also narrower for males (6.7% to 22.9%) than females (13.7% to 46.4%). However, at these schools, male sexual harassment tended to track with female rates in that schools with the highest (and lowest) rates for females also had the highest (and lowest) rates for males. As with females, coerced sexual

contact did not appear to track with sexual harassment victimization, in that schools with the highest rates of male sexual harassment victimization did not necessarily also have the highest rates of coerced sexual contact. At all schools, the rates of sexual harassment victimization were significantly lower for males than females. At five of the nine schools, the rates of coerced sexual contact were significantly lower for males than females (see **Appendix E-7**).

6.3 Methodological Assessments

6.3.1 Type of Tactic

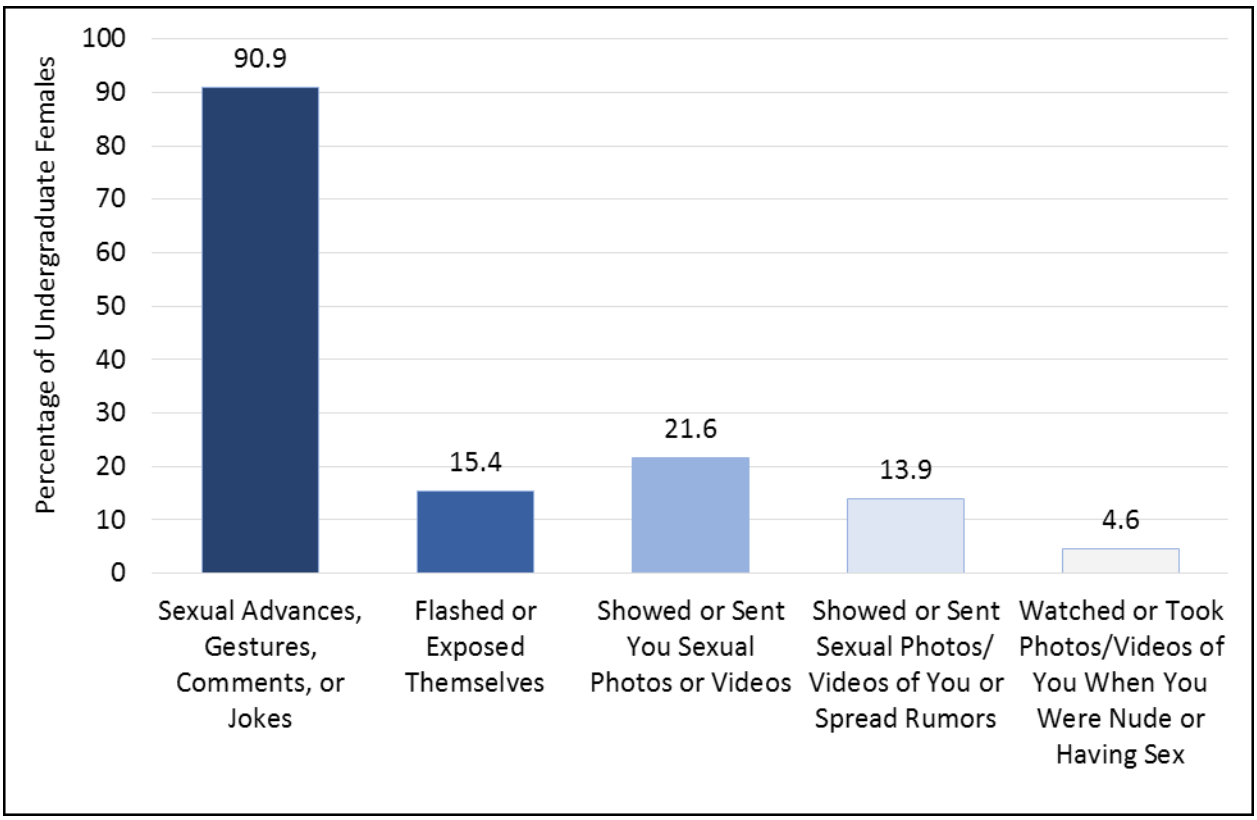
To be identified as a victim of sexual harassment, a student had to endorse one or more of the five tactics that constitute sexual harassment. The five tactics presented in the CCSVS instrument (*Survey Item SH1*, with question wording shown in **Section 6.1**) were (1) made sexual advances, gestures, comments, or jokes that were unwelcome to you; (2) flashed or exposed themselves to you without your consent; (3) showed or sent you sexual pictures, photos, or videos that you didn't want to see; (4) showed or sent sexual photos/videos of you, or spread sexual rumors about you, that you didn't want shared; and (5) watched or took photos/videos of you when you were nude or having sex, without your consent.

Among female sexual harassment victims at the nine schools, the most frequently specified tactic was experiencing sexual advances, gestures, comments, or jokes that were unwelcome (90.9%; **Figure 44**).[62] After unwelcome sexual advances, gestures, comments, or jokes, 21.6% of female sexual harassment victims indicated they were shown or sent sexual photos or videos, 13.9% indicated that sexual photos or videos of them or sexual rumors about them were spread/shared, 15.4% indicated being flashed or exposed by someone, and 4.6% indicated being watched or having photos or videos taken of them while nude.

The school-level distributions for the type of sexual harassment experienced were generally consistent with the average distributions for all nine schools combined (see **Appendix F-7** and **8** for school-level distributions and standard errors). Sexual advances, gestures, comments, or jokes were the most commonly endorsed tactics in each of the school samples. At all schools except School 5, being shown or sent sexual photos or videos was the second most endorsed tactic. At each school except School 5, being flashed, having photos or videos of them, or having sexual rumors spread about them had similar levels of endorsement. Being watched or having photos or videos taken of them while nude was consistently the least endorsed tactic at each school.

[62] For all tactics of sexual harassment, the amount of item nonresponse was 0.1% or less.

Figure 44. Distribution of tactics used by offenders reported by female sexual harassment victims, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

6.3.2 Field Period Assessment

Although these outcomes were of secondary interest, it is still of interest to know if the estimates for sexual harassment and coerced sexual contact would be substantively different or if the precision would be appreciably worse if the field period were shorter. Using the same methodology as for sexual assault to produce representative analysis weights for respondents at 28 days and 21 days in the field, respectively (see **Section 5.5.1**), the difference in the estimates and RSEs was compared.

Sexual Harassment

Regardless of the length of the field period, the difference in the estimates for sexual harassment was less than 3% (**Table 30**). Given the larger estimates for sexual harassment, none of the differences were substantively different. In terms of precision, at all field period lengths, for all schools, the RSE was less than 10%. Based on these findings, field period length did not appreciably impact the estimates or precision of sexual harassment.

Table 30. Weighted estimates and relative standard errors for sexual harassment prevalence among undergraduate females, by field period length and school, 2014–2015 academic year

	Full Period		28-Day Period		21-Day Period	
School	Estimate	RSE	Estimate	RSE	Estimate	RSE
Average	28.2 %	1.0 %	28.6 %	1.2 %	28.9 %	1.3 %
1	46.4	2.0	43.8	2.6	44.1	2.9
2	13.7	7.5	14.3	8.2	14.5	9.1
3	28.3	3.4	28.7	3.7	29.1	3.7
4	21.4	3.3	23.0	4.3	23.7	5.1
5	41.8	2.0	42.4	2.3	43.0	2.8
6	18.9	3.1	19.5	3.5	19.4	3.9
7	32.5	2.4	33.4	2.6	33.2	2.8
8	27.8	2.9	28.9	3.4	29.1	3.6
9	22.8	3.4	23.6	3.9	23.8	4.3

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: RSE = relative standard error.

Coerced Sexual Contact

The difference in the estimates for coerced sexual contact between the full data collection period and the abbreviated field periods was consistently less than 1% (**Table 31**). Given the magnitude of change for coerced sexual contact, changes in the field period would not result in substantively different estimates. In terms of precision, at a 28-day field period, except for School 2, all RSEs remain below 10%. At a 21-day field period, all RSEs are below 10% except for School 2 (18.2%) and School 4 (10.5%). Based on these findings, field period length does not appreciably impact the estimates or precision of coerced sexual contact.

Table 31. Weighted estimates and relative standard errors for coerced sexual contact prevalence among undergraduate females, by field period length and school, 2014–2015 academic year

	Full Period		28-Day Period		21-Day Period	
School	Estimate	RSE	Estimate	RSE	Estimate	RSE
Average	7.7 %	2.2 %	7.7 %	2.5 %	7.6 %	2.8 %
1	9.7	5.8	9.3	6.9	9.0	8.0
2	3.8	15.3	3.9	16.0	3.9	18.2
3	6.5	8.1	6.6	9.0	6.7	9.0
4	6.7	6.1	6.5	8.5	5.9	10.5
5	11.4	4.7	11.5	5.5	11.6	6.6
6	4.9	6.1	5.0	7.2	4.7	8.1
7	9.2	5.1	9.6	5.6	9.2	6.1
8	9.2	5.8	8.9	7.0	8.8	7.5
9	8.0	6.4	8.6	7.0	9.0	7.7

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: RSE = relative standard error.

7. Intimate Partner Violence Victimization

This section describes the measurement strategy and prevalence estimates for intimate partner violence (IPV) victimization.

7.1 Measurement

IPV was covered in *Survey Section 4*, after sexual assault victimization was covered. The specific wording of the questions that were used to measure intimate partner violence in the CCSVS is shown below.

This section asks more questions about your experiences since the beginning of the current academic year. These questions asks about things that **an intimate partner** may have done to you. An intimate partner might be a boyfriend, girlfriend, spouse, or anyone you were in an intimate relationship with or hooked up with, including exes and current partners. As you answer the questions, please do not include times you knew they were joking around.

IPV1. **Since the beginning of the current academic year in [FILL: August/September], 2014**, has an intimate partner…

	Yes	No
a. threatened to hurt you and you thought you might really get hurt?	o	o
b. pushed, grabbed, or shook you?	o	o
c. hit you, kicked you, slapped you, or beat you up?	o	o

7.2 Prevalence of Intimate Partner Violence

Students who answered "yes" to any item in *Survey Item IPV1* were classified as having experienced IPV since the beginning of the 2014–2015 academic year. An additional measure of IPV (IPV Including Sexual Assault) also counts respondents who were classified as sexual assault victims and who reported that the offender was a current or ex dating partner or spouse. IPV victimization prevalence rates were calculated by dividing the weighted number of IPV victims by the total number of students in the population (i.e., weighted number of respondents) and were calculated separately for females (overall and for each school) and males (overall and for each school).

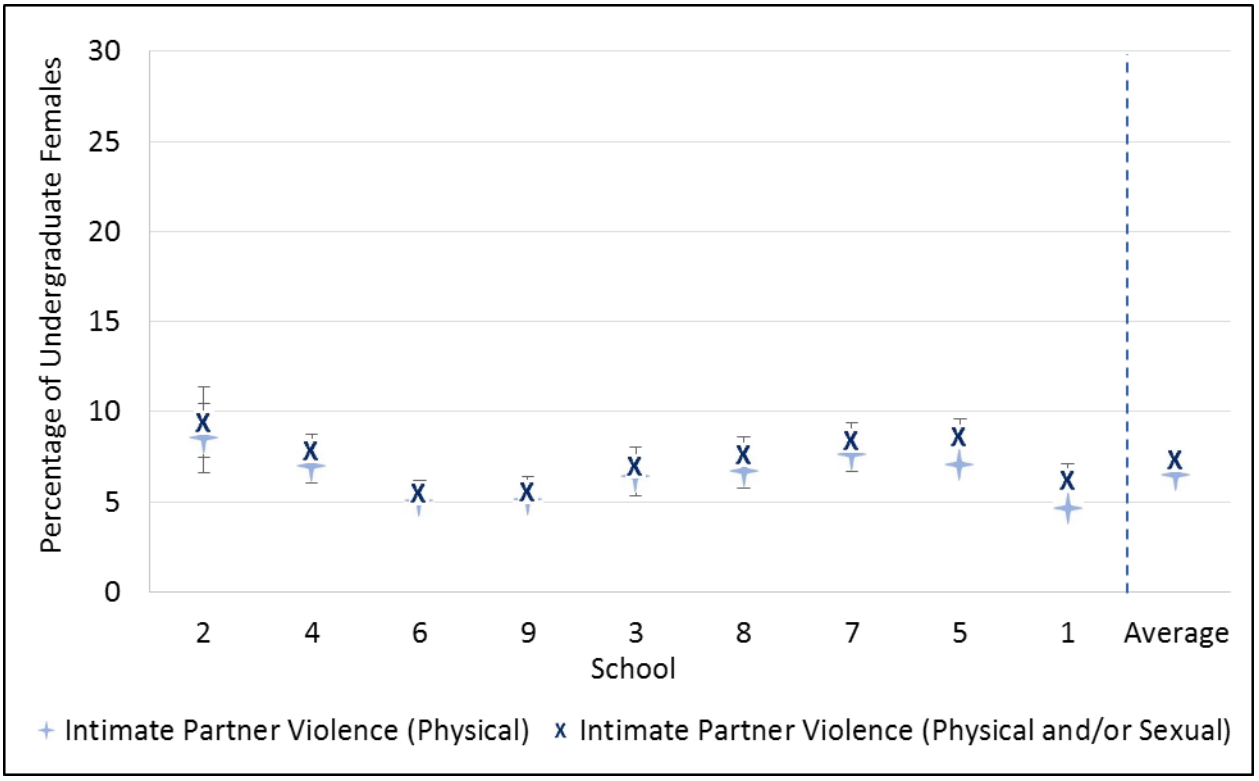
7.2.1 Female Estimates

The range of IPV (physical abuse) prevalence during the 2014–2015 academic year for undergraduate females was 4.6% (School 1) to 8.5% (School 2), with a cross-school average of 6.4% (**Figure 45**). The range of IPV (including physical abuse and/or sexual assault) prevalence during the 2014–2015 academic year was 5.5% (School 6) to 9.4% (School 2), with a cross-school average of 7.4%. A high amount of overlap was observed between physical abuse and sexual assault by an intimate partner

among victims of either type of IPV. Across all schools, 20% of victims of physical abuse and/or sexual assault by an intimate partner were victims of both physical abuse and sexual assault, 60% were victims of physical abuse but not sexual assault, and 11% were victims of sexual assault but not of nonsexual physical abuse. At the school level, the precision for IPV estimates was reasonable, with RSEs ranging from 6.0% to 11.4%. This indicates that while IPV was not a primary outcome, the design and resulting sample sizes achieved in the CCSVS Pilot Test resulted in good precision for IPV estimates for undergraduate females. Appendix G-1 through 3 show estimates, standard errors, and RSEs for female IPV estimates.

For the nine schools in the CCSVS Pilot Test, IPV did not appear to track with sexual assault (see **Figure 5**) or sexual harassment (see **Figure 42**). In other words, although there was some variation across schools with regard to IPV victimization rates (as shown by non-overlapping error bars), schools with relatively high rates of IPV (e.g., School 2) were not necessarily the same ones that had high rates of sexual assault and/or sexual harassment (e.g., School 1). However, in general, the range for IPV was fairly narrow and many of the estimates are not statistically distinguishable from one another.

Figure 45. Percentage of undergraduate females reporting intimate partner violence, by school, 2014–2015 academic year

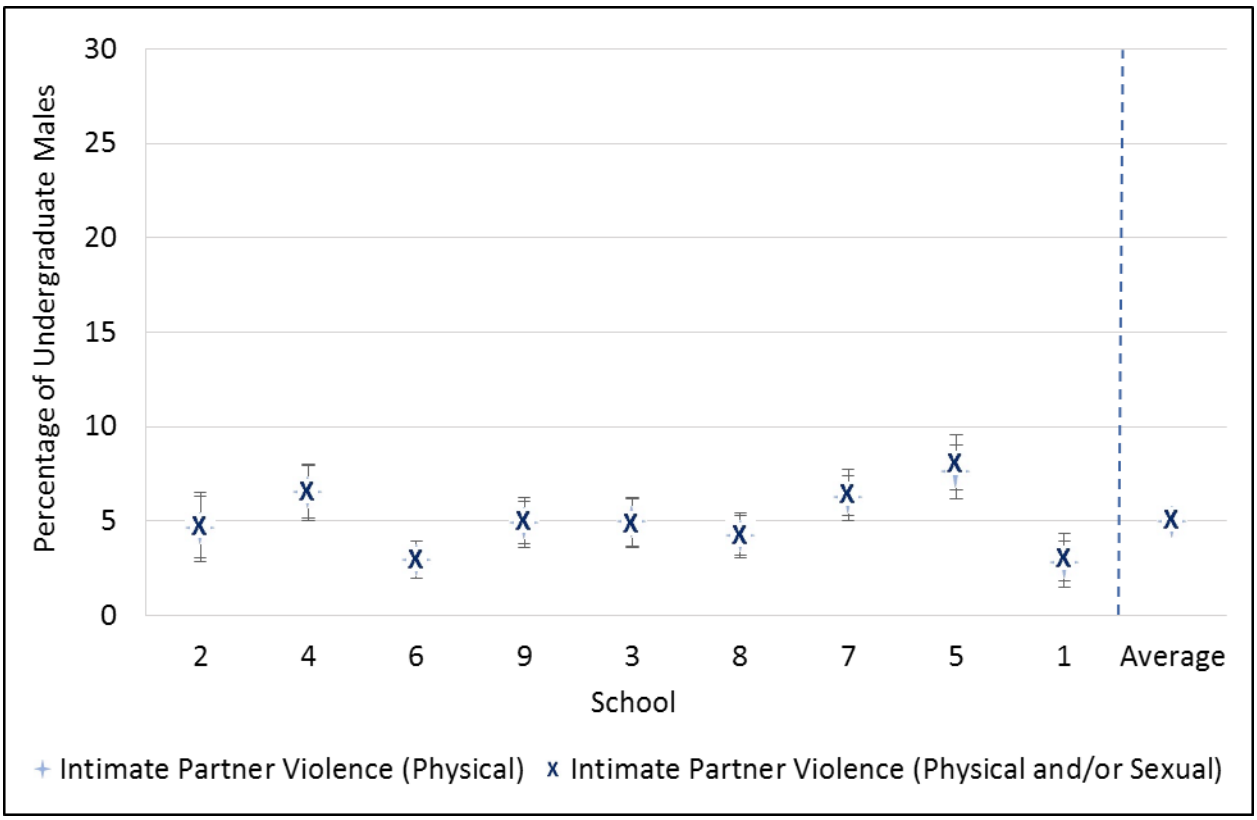


Source: Campus Climate Survey Validation Study (CCSVS), 2015

7.2.2 Male Estimates

For males, the prevalence rate for IPV (physical abuse) during the 2014–2015 academic year ranged from 2.7% (School 1) to 7.6% (School 5), with a cross-school average of 4.9% (**Figure 46**). When sexual assault perpetrated by an intimate partner is included, the prevalence rate ranged from 3.0% (School 6) to 8.1% (School 5), with a cross-school average of 5.1%. At the school-level, the RSEs for the estimates of IPV (physical) ranged from 9.7% to 22.8%. Given the imprecision of the estimates, none of the IPV estimates were statistically distinguishable between any schools (see **Appendix G-3** through **6** for male estimates, standard errors, and RSEs). As with the pattern observed for females, IPV did not appear to track closely with sexual assault at the school level.

Figure 46. Percentage of undergraduate males reporting intimate partner violence, by school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

8. Sexual Harassment and Sexual Assault Perpetration

Perpetration of sexual harassment and sexual assault was covered in the CCSVS Pilot Test. This section presents the measurement strategy and estimates for these outcomes.

8.1 Measurement

Sexual harassment perpetration and sexual assault perpetration were covered in *Survey Section 5*. The specific wording of the questions is shown below. Note that respondents were asked about perpetrating the same forms of sexual harassment as were covered in the victimization question (*Survey Item SH1*), with parallel wording for these questions.

This section of the survey asks about things **you** may have done to **other people**.

SHP1. **Since the beginning of the current academic year in [FILL: August/September], 2014**, have you done the following to anyone either in person or by phone, text message, e-mail, or social media…

	Yes	No
a. Made sexual advances, gestures, comments, or jokes to someone **that were unwelcome to them**	o	o
b. Flashed or exposed yourself to someone **without their consent**	o	o
c. Showed or sent someone sexual pictures, photos, or videos **that they didn't want to see**	o	o
d. Showed or sent sexual photos/videos of someone or spread sexual rumors about someone **that they didn't want shared**	o	o
e. Watched or took photos/videos of someone when they were nude or having sex, **without their consent**	o	o

After answering the sexual harassment perpetration questions, students were asked about sexual assault perpetration. The lead text that preceded these questions generally paralleled the text that introduced sexual assault victimization in that the respondents were asked about times they may have had sexual contact with someone without the person's consent and that they did not want to happen, and that the context in which this behavior can take place was noted. In addition, the lead text asked students to answer the questions honestly and reminded them that their answers would not be linked to any identifying information about them.

Then, students were asked to indicate the number of times they had unwanted sexual contact with someone since the beginning of the 2014–2015 academic year using each of four tactics (touching/grabbing, threats, physical force, and incapacitation).

The final questions in this section ask about times when **you** may have had **sexual contact** with someone **without their consent and that they did not want to happen**. Sometimes this happens with a stranger or with someone you know, such as a friend or someone you were dating or hanging out with. It often happens when people have been drinking, but it can also happen when people are sober.

Please answer these questions honestly. Your answers will **not** be linked to any identifying information about you and will remain completely confidential.

Remember that sexual contact includes touching of someone's sexual body parts, oral sex, anal sex, sexual intercourse, and penetration of their vagina or anus with a finger or object.

SAP1. **Since the beginning of the current academic year in [FILL: August/September], 2014**, how many times have you had unwanted sexual contact with someone (i.e., sexual contact without their consent and that they did not want to happen)…

	0 Times	1 Time	2 Times	3 Times	4 Times	5 or More Times
a. By touching or grabbing the person's sexual body parts (e.g., their butt, breasts, or crotch)	o	o	o	o	o	o
b. by threatening to hurt the person or someone they cared about?	o	o	o	o	o	o
c. by using physical force against the person, such as holding them down with your body weight, pinning their arms, hitting or kicking them?	o	o	o	o	o	o
d. when the person was incapacitated, passed out, unconscious, blacked out, or asleep and unable to provide consent?	o	o	o	o	o	o

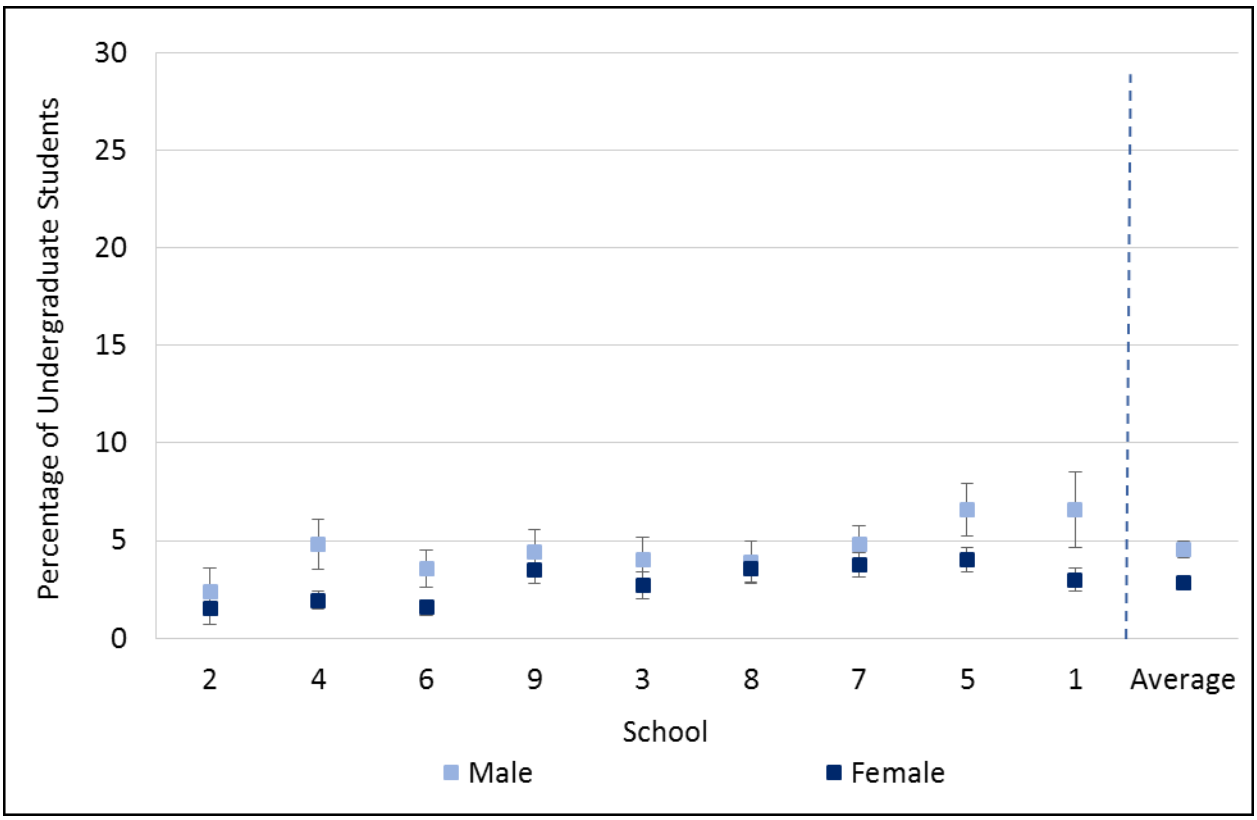
8.2 Sexual Harassment Perpetration Prevalence Estimates

Students who answered "yes" to any item in *Survey Item SHP1* were considered to have perpetrated sexual harassment during the 2014–2015 academic year. Sexual harassment perpetration prevalence rates were calculated by dividing the weighted number of sexual harassment perpetrators by the total number of students in the population (i.e., the weighted number of respondents) and were calculated separately for females (overall[63] and for each school) and males (overall and for each school).

Overall, 2.9% of females and 4.4% of males reported perpetrating at least one type of behavior considered to be sexual harassment during the 2014–2015 academic year (**Figure 47**, with the estimates and standard errors shown in **Appendix H-1** and **2**).

[63] Overall estimates for females and males were based on the weighted average across schools rather than the cross-school average.

Figure 47. Percentage of undergraduate males and females reporting any sexual harassment perpetration, by school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

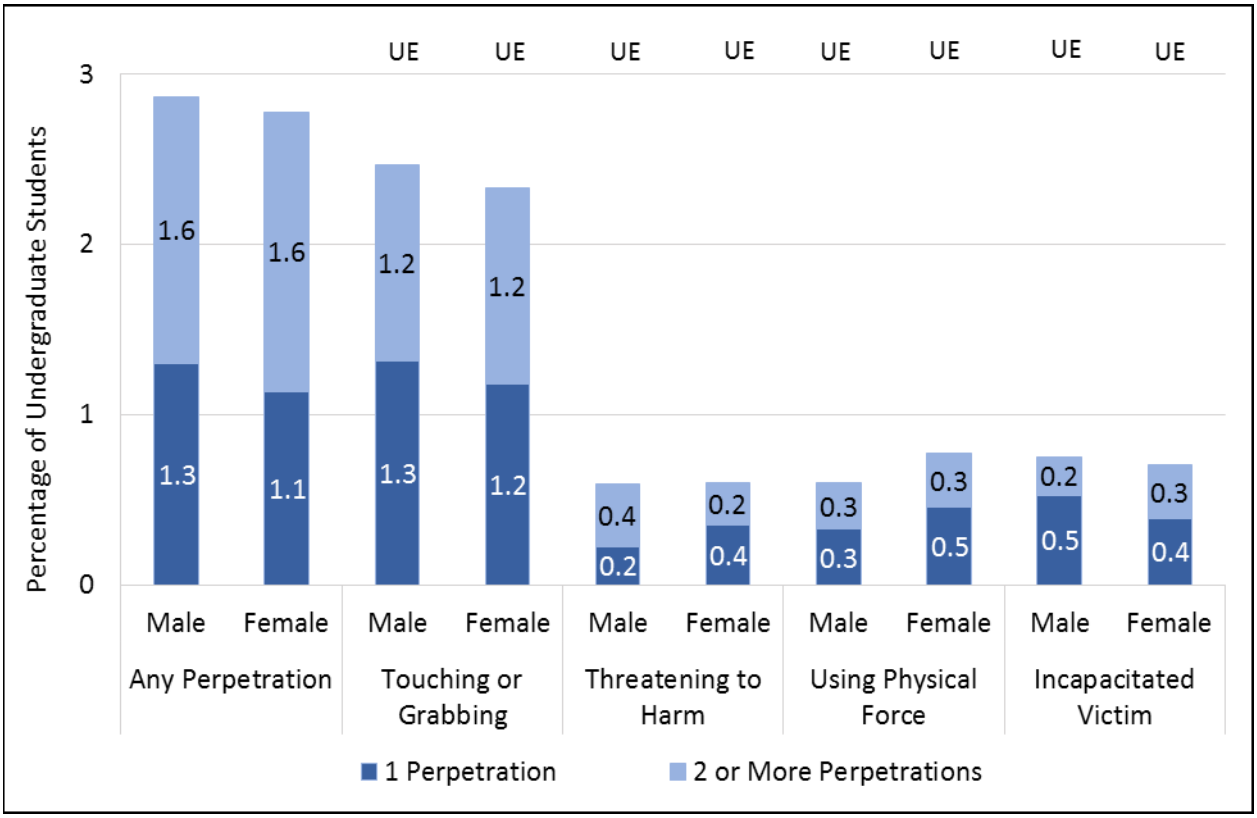
8.3 Sexual Assault Perpetration Prevalence Estimates

Students who reported using any tactic one or more times in *Survey Item SAP1* were considered to have perpetrated sexual assault during the 2014–2015 academic year. Sexual assault perpetration prevalence rates were calculated by dividing the weighted number of sexual assault perpetrators by the total number of students in the population (i.e., weighted number of respondents) and were calculated separately for females (overall and for each school) and males (overall and for each school). In addition to the "any perpetration" prevalence estimates, prevalence estimates reflecting the weighted percentage of students who reported one perpetration and the percentage of students who reported two or more perpetrations were also created. These estimates were created for "any perpetration" as well as for specific tactics (e.g., touching or grabbing, threatening to harm, using physical force, and sexual contact when the victim was incapacitated).

Few males or females reported having unwanted/nonconsensual sexual contact with someone during the 2014–2015 academic year using any of the tactics included in the survey question (**Figure 48**, with additional details shown in **Appendix H-3** and **4**). Overall, 2.8% of females and 2.9% of males reported engaging in unwanted sexual contact without the other person's consent at least one time using

at least one tactic during the 2014–2015 academic year.[64] Of the few students who indicated they had unwanted/nonconsensual sexual contact with someone one or more times, the most commonly reported tactic for males and females was touching or grabbing the person's sexual body parts. In addition, most students who indicated they had unwanted/nonconsensual sexual contact with someone indicated that they only used the tactic one time.

Figure 48. Percentage of undergraduate males and females reporting various forms of sexual assault perpetration, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Unreliable estimates (UE) refer to the estimates that have a relative standard error of greater than 50% or have an estimate based on 10 or fewer respondents.

[64] The range of this estimate across schools is not presented because many of the school-specific estimates are unreliable.

9. School Connectedness and Campus Climate

The final set of estimates that were developed in the CCSVS Pilot Test pertain to campus climate, including school connectedness; general perceptions of university leadership; perceptions of leadership around sexual assault prevention and response; student norms related to sexual conduct; and attitudes about sexual assault. This section describes the approach that was used to measure various aspects of campus climate, the scales that were developed from the survey items, estimates of campus climate scores, and the association between campus climate and sexual misconduct.

9.1 Measurement

The CCSVS Pilot Test included numerous items intended to capture students' perceptions of campus climate related to sexual harassment and sexual assault. *Survey Section 1* included items pertaining to general school connectedness and general perceptions of campus police, faculty, and leadership staff. These items were placed at the beginning of the survey to help develop some rapport with respondents and to avoid asking students to answer sensitive questions right away. Importantly, none of these questions referred to sexual behavior, sexual assault, or sexual harassment. The preference of the study team was to avoid mentioning these concepts or defining these terms until after students had completed the key victimization and perpetration modules (*Survey Sections 2-5)* due to concerns that being asked to think about sexual assault prior to being asked the behaviorally specific questions about sexual victimization and perpetration experiences might prime respondents and affect how they answered. Therefore, only general perceptions (unrelated to sexual harassment or sexual assault) were covered in *Survey Section 1*. The specific questions are shown below. The gray headings were not visible to survey respondents.

School Connectedness

SC2. Please indicate how much you agree or disagree with each of the following statements. Please provide an answer that best reflects how you feel.

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. I feel valued as an individual at this school	o	o	o	o
b. I feel close to people at this school	o	o	o	o
c. I feel like I am a part of this school	o	o	o	o
d. I am happy to be a student at this school	o	o	o	o
e. I feel safe when I am on this school's campus	o	o	o	o
f. I believe there is a clear sense of appropriate and inappropriate behavior among students at this school	o	o	o	o
g. I believe alcohol abuse is a big problem at this school	o	o	o	o
h. I believe this school is trying hard to protect the rights of **all** students	o	o	o	o
i. I believe this school is trying hard to make sure that **all** students are treated equally and fairly	o	o	o	o
j. I believe this school is trying hard to make sure that **all** students are safe	o	o	o	o
k. I believe that students at this school trust one another	o	o	o	o
l. I believe that students at this school respect one another	o	o	o	o

General Perceptions of Campus Police

The next questions ask your views about three groups at this school: 1) Campus police/security, 2) Faculty, and 3) School Leadership. Please indicate how much you agree with each of the following statements, and answer as best as you can.

GC1. **Overall, the campus police/security at this school…**

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Are genuinely concerned about my well-being	o	o	o	o
b. Are doing all they can to protect students from harm	o	o	o	o
c. Treat students fairly	o	o	o	o
d. Are more interested in protecting the reputation of this school than the students they serve	o	o	o	o

General Perceptions of Faculty

GC2. **Overall, the faculty at this school…**

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Are genuinely concerned about my well-being	o	o	o	o
b. Are doing all they can to protect students from harm	o	o	o	o
c. Treat students fairly	o	o	o	o
d. Are more interested in protecting the reputation of this school than the students they serve	o	o	o	o

General Perceptions of Leadership Staff

GC3. **Overall, the President/Chancellor, Deans, and other leadership staff at this school…**

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Are genuinely concerned about my well-being	o	o	o	o
b. Are doing all they can to protect students from harm	o	o	o	o
c. Treat students fairly	o	o	o	o
d. Are more interested in protecting the reputation of this school than the students they serve	o	o	o	o

After answering the sexual victimization and perpetration modules, the bulk of the climate measures—which were specific to sexual harassment and sexual assault—were covered in the final section of the survey (*Survey Section 6*). The specific questions are shown below. As is evident from the question wording, some of the items measure students' perceptions of the school's leadership efforts related to sexual misconduct whereas others measure students' perceptions of the campus culture or climate among students (e.g., student norms). Finally, some questions measure students' *own* attitudes toward sexual misconduct and the use of bystander intervention behaviors.

Perceptions of School Leadership Climate for Sexual Misconduct Prevention and Response

SAC1. Please indicate how much you agree or disagree with each of the following statements. Please answer as best as you can when thinking about your school.

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Sexual harassment is not tolerated at this school	o	o	o	o
b. This school takes training in sexual assault prevention seriously	o	o	o	o
c. This school is doing a good job of educating students about sexual assault (e.g., what consent means, how to define sexual assault, how to look out for one another)	o	o	o	o
d. This school is doing a good job of trying to prevent sexual assault from happening	o	o	o	o
e. This school is doing a good job of providing needed services to victims of sexual assault	o	o	o	o
f. This school is doing a good job of investigating incidents of sexual assault	o	o	o	o
g. This school is doing a good job of holding people accountable for committing sexual assault	o	o	o	o

Awareness and Perceived Fairness of School Sexual Assault Policy and Resources

SAC3. Please indicate how much you agree or disagree with each of the following statements, answering as best as you can when thinking about your school.

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. I am aware of and understand this school's procedures for dealing with reported incidents of sexual assault	o	o	o	o
b. I know what services are available for people who experience sexual assault	o	o	o	o
c. If a friend of mine were sexually assaulted, I know where to take my friend to get help	o	o	o	o
d. At this school, students who are accused of perpetrating a sexual assault are treated fairly	o	o	o	o
e. At this school, when it is determined that sexual assault has happened, the perpetrator gets punished appropriately	o	o	o	o

Perception of School Leadership Climate for Treatment of Sexual Assault Victims

SAC4. If I were sexually assaulted I believe this school would…

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Take my case seriously	o	o	o	o
b. Protect my privacy	o	o	o	o
c. Treat me with dignity and respect	o	o	o	o
d. Enable me to continue my education without having to interact with the person who assaulted me	o	o	o	o

Likelihood of Bystander Behavior to Prevent Sexual Misconduct

SAC6-7. Please indicate how likely or unlikely you are to do each of the following things. Please think about the situation and answer as best as you can.

	Very likely	Likely	Not likely	Not at all likely
a. If your friends are sending sexual pictures, web pages, or messages to someone who didn't ask for them, how likely are you to say something to try to get them to stop?	o	o	o	o
b. If people you don't know very well are making unwanted sexual comments, jokes, or gestures, how likely are you to say something to try to get them to stop?	o	o	o	o
c. If you see one of your friends leading someone who is obviously drunk away to have sex with them, how likely are you to say or do something to get them to stop?	o	o	o	o
d. If you suspect that one of your friends might be in an abusive relationship, how likely are you to ask them if they are being mistreated?	o	o	o	o
e. If someone tells you that they had sex with someone who was passed out, how likely are you to report the incident to a campus administrator or police?	o	o	o	o
f. If you see someone you don't know who looks uncomfortable and is being touched, grabbed, or pinched in a sexual way, how likely are you to speak up or help in some other way?	o	o	o	o
g. When you go out with your friends, how likely are you to come up with a plan for checking in with one another throughout the evening?	o	o	o	o

Perceptions of Student Norms Related to Sexual Misconduct

SAC8-9. Please indicate how much you agree or disagree with each of the following statements. As you consider these statements, please think about the overall population of students at this school and try to answer as best as you can.

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. At this school, it is common for students to spread sexual comments, photos, or videos that people don't want shared, either in person or by text, e-mail, or social media	o	o	o	o
b. At this school, it is common for students to call people who are gay or lesbian a negative name	o	o	o	o
c. At this school, when students make sexual comments, jokes, or gestures , other students stand up to them	o	o	o	o
d. A lot of sexual assault happens among students at this school when students are unable to provide consent because they are incapacitated, passed out, unconscious, blacked out, or asleep	o	o	o	o
e. Many students at this school initiate or lead campus efforts to raise awareness about sexual assault	o	o	o	o
f. Most students at this school are knowledgeable about the topic of sexual assault, including how it is defined, how often it occurs, and what the legal consequences are	o	o	o	o
g. At this school, it is common for students to make jokes about sexual assault or rape	o	o	o	o
h. At this school, if students see someone trying to have unwanted sexual contact with someone, they will try to stop them	o	o	o	o

Personal Acceptance of Sexual Misconduct

SAC10-11. Please indicate how much you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. People get too offended by sexual comments, jokes, or gestures	o	o	o	o
b. It doesn't really hurt anyone to post sexual comments or photos of people without their consent through e-mail, text, or social media	o	o	o	o
c. A person who is sexually assaulted while he/she is drunk is at least somewhat responsible for putting themselves in that position	o	o	o	o
d. If one of your friends told you that someone had unwanted sexual contact with them, you would encourage him/her to report the incident to campus or local police	o	o	o	o
e. It is not necessary to get consent before sexual activity if you are in a relationship with that person	o	o	o	o
f. Accusations of sexual assault are often used by one person as a way to get back at the other	o	o	o	o
g. A lot of times, what people say is rape is actually consensual sex that they regretted afterwards	o	o	o	o

9.2 Creation of Scales

Students' responses to the climate measures above were assessed for reliability. This allowed for an assessment of whether the items that were grouped together (as "sets") in the survey tended to generate similar types of responses (i.e., whether students tended to provide consistent responses to the items in each set and thus the items described the same construct). The reliability assessment involved recoding all negatively worded items (labeled with an asterisk above) such that higher scores would consistently reflect more positive attitudes about the climate. Then, for each set of items, the distribution of scores based on the full sample of respondents (i.e., males and females combined across all schools) was examined. The Cronbach's alpha reflecting the internal consistency of the set of items was reviewed to see if the reliability was acceptable and whether it could be improved substantially by dropping particular items from the set. These diagnostics revealed that high reliability was achieved with the full set of items for five sets of items, suggesting that all items in the set could be retained to create scales. To create these scales, each respondent's responses (strongly agree = 3, agree = 2, disagree = 1, strongly disagree = 0, with reverse coding used for negatively worded questions) to each item in the scale were simply summed (**Table 32**).

Table 32. Reliability of campus climate scales (scales with no items dropped)

Scale	Items	Cronbach's Alpha
General School Connectedness (0–36)	SC2a-l	0.86
Perceptions of School Leadership Climate for Sexual Misconduct Prevention and Response (0–21)	SAC1a-g	0.92
Awareness and Perceived Fairness of School Sexual Assault Policy and Resources (0–15)	SAC3a-e	0.88
Perceptions of School Leadership Climate for Treatment of Sexual Assault Victims (0–12)	SAC4a-d	0.92
Likelihood of Personal Bystander Behavior to Prevent Sexual Misconduct (0–21)	SAC6-7a-g	0.84

Source: Campus Climate Survey Validation Study (CCSVS), 2015

For the remaining sets of items, the reliability assessment results suggested that modifications would substantially improve reliability. In most cases, this meant dropping one item that did not seem to generate responses that were consistent with the other responses in the set. However, for one set of items (Perceptions of Student Norms Related to Sexual Misconduct), it appeared that creating two separate scales would be the appropriate solution, one related to student misconduct and the other related to student bystander behavior and involvement (**Table 33**).

Table 33. Reliability of campus climate scales (scales in which some items were dropped)

Scale	Items	Cronbach's Alpha
General Perceptions of Campus Police (0–9)	GC1a–c (item d dropped)	0.86
General Perceptions of Faculty (0–9)	GC2a–c (item d dropped)	0.85
General Perceptions of Leadership Staff (0–9)	GC2a–c (item d dropped)	0.90
Perceptions of Student Norms Related to Sexual Misconduct: Student Misconduct (0–12)	SAC8-9a, b, d, and g (remaining items included in "Student Bystander Behavior and Involvement" scale)	0.80
Perceptions of Student Norms Related to Sexual Misconduct: Student Bystander Behavior and Involvement (0–12)	SAC8-9c, e, f, and h	0.75
Personal Acceptance of Sexual Misconduct (0–18)	SAC10-11a–c, e–g (item d dropped)	0.80

Source: Campus Climate Survey Validation Study (CCSVS), 2015

For both males and females, the average scores on most of the campus climate scales were fairly high (relative to the upper limit of the scales) and there was little variability in the average scores across the schools (**Table 34** and **Table 35**). Climate ratings tended to be similar, on average, for undergraduate males and females, although females appeared to perceive the school leadership climate slightly less positively than males. For example, the average score on the Perceptions of School Leadership Climate for Prevention and Response was 15 for males and 14 for females. Females (17) also scored slightly higher than males (15) on climate measures reflecting personal likelihood of bystander-intervention behavior. Additionally, females (13) had higher average scores compared to males (12) on the Personal Acceptance of Sexual Misconduct scale, meaning that females were less likely to endorse rape myths (e.g., students who are sexually assaulted after drinking are at least partially responsible for the incident). School-specific estimates and standard errors are shown in **Appendix I-1** through **4**.

Additional Climate Measures: Participation in Training

In addition to student attitudes about their school's leadership related to sexual misconduct, students were asked whether they had participated in any type of training that covered each of seven topics (e.g., the definition of consent, the school's policy on sexual assault, how to intervene as a bystander). After summing the students' scores for each school, it is evident that there was substantial variability across schools, ranging from an average of 1.7 to 4.9 topics for females and 1.8 to 5.3 topics for males. The topics that were most commonly reported as being covered in training by males and females in nearly all schools were 1) the legal definition of consent and how to obtain it from a sexual partner, and 2) how to report sexual assault.

Although several attempts were made, it was determined that the limited variability in the average climate scores across schools hindered the examination of the relationship between campus climate and sexual assault victimization rates. Therefore, an alternative coding strategy was explored. The alternative approach was intended to differentiate schools based on the proportion of students who provided extremely negative responses to the climate questions, rather than the average responses among the entire student body. To create these scores, the distribution of weighted student scores pooled across males and females across all schools was examined for each scale. Percentiles for the responses were calculated, using the bottom 25th percentile score as the cut point for defining poor climate for each scale. All students whose scores fell below that cut point were then classified as giving a poor climate rating for that scale. For each school, the percentage of students who gave poor climate ratings was calculated, by sex, for each scale. This strategy allowed for the examination of whether the students who provided the worst scores among the whole sample tended to cluster in particular schools.

Table 34. Mean campus climate scale scores for undergraduate females, by school, 2014–2015 academic year

Scale	Cross-School Average	School 2	School 4	School 6	School 9	School 3	School 8	School 7	School 5	School 1
General school connectedness (0–36)	24.6	26.7	25.1	24.9	25.1	22.1	24.9	24.7	25.0	23.0
General perceptions of campus police (0–9)	6.4	6.5	6.4	6.2	6.7	5.9	6.3	6.5	6.7	6.4
General perceptions of faculty (0–9)	6.5	6.9	6.5	6.7	6.3	6.0	6.5	6.6	7.0	6.4
General perceptions of leadership staff (0–9)	6.1	6.5	6.4	6.1	6.2	5.2	6.6	6.2	5.7	5.9
Perceptions of school leadership climate for sexual misconduct prevention and response (0–21)	14.1	14.9	14.8	14.5	15.3	13.2	14.7	13.9	14.1	11.2
Awareness and perceived fairness of school sexual assault policy and resources (0–15)	9.2	8.9	9.6	9.0	10.1	8.3	9.1	8.7	10.2	9.0
Perception of school leadership climate for treatment of sexual assault victims (0–12)	8.8	9.4	9.0	9.0	9.4	8.3	9.1	8.8	8.9	7.3
Likelihood of bystander behavior to prevent sexual misconduct (0–21)	16.8	17.4	17.4	16.3	17.0	16.5	16.7	16.8	17.2	15.6
Perceptions of student norms related to sexual misconduct: student misconduct (0–12)	7.4	9.1	7.1	7.9	8.0	7.2	6.9	6.8	7.1	6.4
Perceptions of student norms related to sexual misconduct: student bystander behavior and involvement (0–12)	6.8	6.8	6.7	6.7	7.2	6.5	6.8	6.5	7.4	6.9
Personal acceptance of sexual misconduct (0–18)	13.4	13.5	12.6	13.6	13.4	13.2	13.4	13.3	13.8	14.3

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Table 35. Mean campus climate scale scores for undergraduate males, by school, 2014–2015 academic year

Scale	Cross-School Average	School 2	School 4	School 6	School 9	School 3	School 8	School 7	School 5	School 1
General school connectedness (0–36)	24.9	25.9	24.5	25.4	24.9	23.1	25.1	25.2	24.9	24.9
General perceptions of campus police (0–9)	6.3	6.3	6.0	6.0	6.7	6.1	6.1	6.3	6.3	6.8
General perceptions of faculty (0–9)	6.5	6.7	6.3	6.8	6.3	6.3	6.6	6.6	6.7	6.6
General perceptions of leadership staff (0–9)	6.0	6.2	6.1	6.1	6.1	5.4	6.5	6.3	5.7	6.0
Perceptions of school leadership climate for sexual misconduct prevention and response (0–21)	15.1	15.0	15.3	15.2	15.9	14.4	15.5	15.1	15.2	14.1
Awareness and perceived fairness of school sexual assault policy and resources (0–15)	9.8	9.4	9.9	9.4	10.4	9.1	9.7	9.7	10.4	10.1
Perception of school leadership climate for treatment of sexual assault victims (0–12)	9.1	9.3	9.0	9.4	9.5	8.7	9.4	9.2	9.0	8.4
Likelihood of bystander behavior to prevent sexual misconduct (0–21)	15.3	15.8	15.8	15.1	15.3	15.0	15.3	15.5	15.7	14.5
Perceptions of student norms related to sexual misconduct: student misconduct (0–12)	7.6	8.8	7.0	8.1	8.0	7.6	7.2	7.2	7.6	7.3
Perceptions of student norms related to sexual misconduct: student bystander behavior and involvement (0–12)	7.0	6.8	6.8	6.8	6.9	6.8	6.9	7.0	7.4	7.3
Personal acceptance of sexual misconduct(0–18)	11.5	11.9	10.8	12.0	11.5	11.6	11.5	11.3	11.0	12.0

Source: Campus Climate Survey Validation Study (CCSVS), 2015

This approach generated greater variability among schools, for both female and male climate ratings (**Table 36** and **Table 37**). For example, the percent of females providing extremely negative responses to the General School Connectedness scale items ranged from 11% at School 2 to 41% at School 3. For males, this range was 15% at School 2 to 32% at School 3. (School-specific estimates and standard errors are shown in **Appendix I-5** through **8**.) In general, poor ratings on several dimensions of campus climate tended to cluster together such that the schools with the lowest proportions of females providing extremely negative climate ratings for one scale also tended to have the lowest proportion of females with extremely negative climate ratings for the other scales, with a similar pattern observed for schools with the highest proportion of females that provided extremely negative climate ratings. However, this was not the case for Awareness and Perceived Fairness of School Sexual Assault Policy and Resources scales, Perceptions of Student Norms Related to Sexual Misconduct: Student Bystander Behavior and Involvement, or Personal Acceptance of Sexual Misconduct. This is not surprising given that the CCSVS Pilot Test measured several distinct aspects of campus climate, including students' own attitudes and involvement, perceptions of the student culture on campus, and campus leadership efforts related to prevention and response.

Also of interest in the exhibits are some apparent gender differences similar to the patterns observed for the average climate scores. For several dimensions of climate, including General School Connectedness, Perceptions of School Leadership Climate for Sexual Misconduct Prevention and Response, Awareness and Perceived Fairness of School Sexual Assault Policy and Resources, Perceptions of School Leadership Climate for Treatment of Sexual Assault Victims, and Perceptions of Student Norms for Sexual Misconduct (both subscales), higher proportions of females than males were classified as having extremely negative climate scores. For example, 25% of females but only 16% of males were classified as having extremely negative climate scores for Perceptions of School Leadership climate for Sexual Misconduct Prevention and Response. However, for other dimensions of climate, including General Perceptions of Campus Police, Likelihood of Personal Bystander Behavior to Prevent Sexual Misconduct, and Personal Acceptance of Sexual Misconduct, higher proportions of males than females were classified as having extremely negative climate scores. The biggest differential was observed for Personal Acceptance of Sexual Misconduct, for which 34% of males and 14% of females were classified as having extremely negative climate scores.

Table 36. Percentage of undergraduate females with low climate scores, by school, 2014–2015 academic year

Scale	Cross-School Average	School 2	School 4	School 6	School 9	School 3	School 8	School 7	School 5	School 1
General school connectedness (0–36)	23.9 %	10.9 %	22.6 %	19.7 %	20.5 %	40.8 %	20.7 %	24.0 %	21.7 %	34.4 %
General perceptions of campus police (0–9)	19.9	13.3	20.0	23.1	16.9	28.4	20.8	16.1	19.2	21.5
General perceptions of faculty (0–9)	17.3	10.2	17.7	12.8	20.5	25.3	17.9	16.2	13.2	21.7
General perceptions of leadership staff (0–9)	23.6	11.1	17.5	19.7	19.9	41.2	15.5	21.0	33.8	32.7
Perceptions of school leadership climate for sexual misconduct prevention and response (0–21)	24.8	14.1	19.9	18.3	15.3	30.1	20.4	25.6	26.4	53.1
Awareness and perceived fairness of school sexual assault policy and resources (0–15)	17.8	20.5	16.7	16.6	12.3	26.2	20.0	23.1	11.9	13.3
Perception of school leadership climate for treatment of sexual assault victims (0–12)	22.6	10.4	18.8	17.8	15.0	27.2	16.4	20.2	24.8	53.1
Likelihood of bystander behavior to prevent sexual misconduct (0–21)	15.6	10.6	11.1	19.7	15.4	15.8	15.3	15.2	12.0	25.4
Perceptions of student norms related to sexual misconduct: student misconduct (0–12)	20.0	4.2	23.8	10.9	12.8	20.5	25.6	27.0	25.1	29.8
Perceptions of student norms related to sexual misconduct: student bystander behavior and involvement (0–12)	24.6	22.9	27.8	24.7	21.4	29.5	24.3	30.1	19.2	21.5
Personal acceptance of sexual misconduct (0–18)	14.3	13.3	22.2	11.3	15.5	16.3	13.5	14.5	13.1	8.7

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Low scores are defined as those below the overall 25th percentile for all students.

Table 37. Percentage of undergraduate males with low climate scores, by school, 2014–2015 academic year

Scale	Cross-School Average	School 2	School 4	School 6	School 9	School 3	School 8	School 7	School 5	School 1
General school connectedness (0–36)	21.9 %	14.8 %	25.9 %	16.5 %	22.2 %	31.5 %	20.0 %	20.2 %	24.3 %	21.7 %
General perceptions of campus police (0–9)	22.8	18.6	29.9	28.1	18.6	23.3	25.4	21.7	24.6	15.0
General perceptions of faculty (0–9)	17.5	12.0	21.5	13.5	20.6	20.8	17.7	16.2	15.2	20.4
General perceptions of leadership staff (0–9)	25.1	17.3	24.0	21.4	22.3	37.3	16.7	22.2	34.6	30.4
Perceptions of school leadership climate for sexual misconduct prevention and response (0–21)	15.6	11.6	16.0	12.3	10.7	19.2	13.8	14.4	16.5	26.2
Awareness and perceived fairness of school sexual assault policy and resources (0–15)	13.1	11.6	14.1	13.8	9.4	17.9	15.5	14.0	12.0	9.5
Perception of school leadership climate for treatment of sexual assault victims (0–12)	18.0	10.0	20.8	13.2	14.3	21.1	14.2	14.2	23.7	30.2
Likelihood of bystander behavior to prevent sexual misconduct (0–21)	28.8	22.9	24.5	31.3	30.9	31.8	27.9	27.0	24.7	38.2
Perceptions of student norms related to sexual misconduct: student misconduct (0–12)	18.1	7.3	28.1	10.5	16.4	18.2	21.5	20.7	19.8	20.2
Perceptions of student norms related to sexual misconduct: student bystander behavior and involvement (0–12)	23.1	24.1	25.3	24.1	23.7	26.5	23.3	22.6	20.8	17.6
Personal acceptance of sexual misconduct (0–18)	34.0	27.6	43.9	27.9	35.5	32.6	35.3	35.4	40.4	27.6

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Low scores are defined as those below the overall 25th percentile for all students.

9.3 Association between Campus Climate and Sexual Assault Victimization

Several strategies were employed to assess the relationship between the various measures of campus climate assessed in the CCSVS Pilot Test survey and sexual harassment and sexual assault. An implicit assumption behind the calls for measuring campus climate is that climate is related to sexual assault rates, such that schools with worse climates are likely to have higher rates of sexual harassment and sexual assault. It is thought that by identifying areas in which the climate can be improved and making positive changes through interventions targeting the student population (e.g., sexual assault education, bystander intervention), victimization and perpetration rates on college campuses could be decreased.

In the CCSVS Pilot Test, the association between school-level climate and sexual harassment and sexual assault was explored. Both sexual harassment and sexual assault victimization were assessed because these two types of victimization track together at the school level, which suggests they are similarly influenced by some dimensions of campus environment, culture, or climate. It was hypothesized that there would be an inverse relationship between climate and sexual assault/sexual harassment, such that schools with the worst climates (i.e., the highest proportion of students providing negative climate ratings) would have higher rates of sexual harassment and sexual assault. For most of the climate scales, particularly those that focus on student norms or culture related to sexual harassment and sexual assault, this hypothesis is logical. Because many incidents of sexual harassment and sexual assault experienced by students at a given campus are likely to be perpetrated by other students on that campus, one would expect to see a relationship between climate related to student norms and sexual harassment and sexual assault. However, given the cross-sectional nature of the study, the possibility that for scales measuring school leadership climate (e.g., efforts to prevent or address sexual harassment and sexual assault), the relationship between climate and sexual harassment/assault could go in either direction was also recognized. On the one hand, schools that are not doing much to address sexual harassment and sexual assault (i.e., have poor leadership climate related to sexual harassment and sexual assault) could have higher levels of victimization because they do not have such policies and practices in place. But it could also be the case that schools that do have a lot of such efforts in place have implemented them specifically because they recognize that sexual assault/harassment is a significant problem on their campuses, in which case higher victimization rates could actually be related to a *more positive leadership climate* in this area. Therefore, the analyses of school-level climate and sexual harassment/assault was considered to be exploratory in nature.

Several strategies for assessing the relationship between the various measures of campus climate and sexual harassment and assault were employed. First, schools' poor climate estimates (i.e., the percentage of students providing climate ratings that were in the bottom 25th percentile overall) were compared with their sexual assault and sexual harassment prevalence estimates to see if schools with a larger proportion of students providing poor climate ratings were also those with high sexual harassment and sexual assault victimization rates. It appeared that some climate measures were indeed associated with sexual victimization. Therefore, the correlations between low climate estimates (looking separately

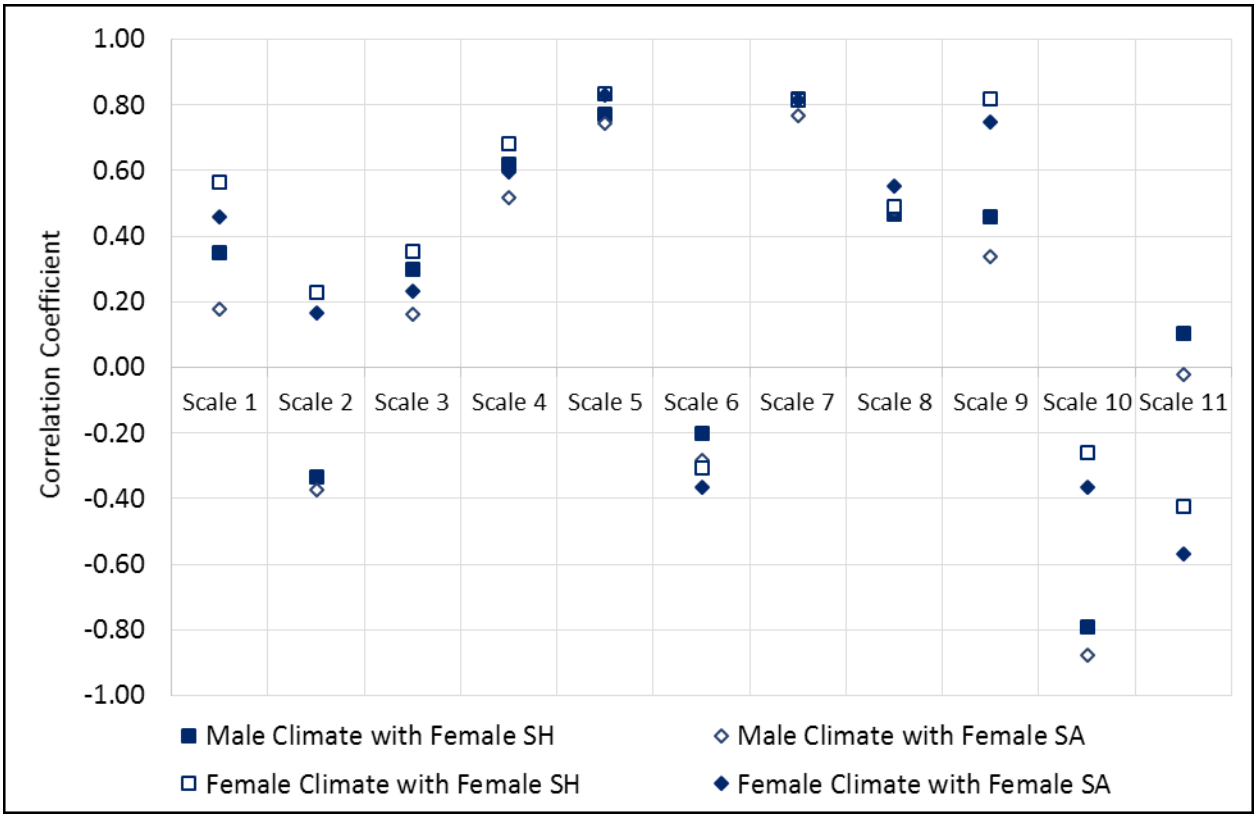
at climate estimates provided by males and females) and female sexual harassment and sexual assault victimization rates at the school level were estimated (**Figure 49,** with all correlations presented in **Appendix I-9**).

The Perceptions of School Leadership Climate for Sexual Misconduct Prevention and Response, Perception of School Leadership Climate for Treatment of Sexual Assault Victims, and General Perceptions of Leadership Staff scales had fairly high positive correlations, with both male and female climate ratings associated with higher rates of sexual harassment and sexual assault victimization for females at the school. For these scales, schools with higher proportions of students providing extremely low climate ratings (i.e., worse climate) had higher rates of female sexual harassment and sexual assault victimization. Female (but not male) climate ratings for Perceptions of Student Norms Related to Sexual Misconduct: Student Misconduct were also highly correlated with female sexual harassment and sexual assault victimization rates.

Some negative correlations were also observed. Schools with a higher percentage of males reporting extremely low scores on the Perceptions of Student Norms Related to Sexual Misconduct: Student Bystander Behavior and Involvement scale had *lower* rates of female sexual harassment and sexual assault victimization.

Multivariate models exploring whether a student's likelihood of experiencing sexual assault during the 2014–2015 academic year was associated with the school's climate score (i.e., the proportion of students who reported climate ratings that were in the bottom 25th percentile) were estimated for each climate scale. However, these models were significantly underpowered because treating climate as a school-level variable requires a larger sample of schools.

Figure 49. Correlation between low school-level male and female climate ratings and female sexual harassment and sexual assault victimization rates, 2014–2015 academic year



Scale	
1	General School Connectedness
2	General Perceptions of Campus Police
3	General Perceptions of Faculty
4	General Perceptions of Leadership Staff
5	Perceptions of School Leadership Climate for Sexual Misconduct Prevention and Response
6	Awareness and Perceived Fairness of School Sexual Assault Policy and Resources
7	Perceptions of School Leadership Climate for Treatment of Sexual Assault Victims
8	Likelihood of Personal Bystander Behavior to Prevent Sexual Misconduct
9	Perceptions of Student Norms Related to Sexual Misconduct: Student Misconduct
10	Perceptions of Student Norms Related to Sexual Misconduct: Student Bystander Behavior and Involvement
11	Personal Acceptance of Sexual Misconduct

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: SH = Sexual Harassment; SA = Sexual Assault.

Finally, student characteristics that were associated with low climate ratings were explored. For each climate scale at each school, the percentage of male and female students who provided extremely low climate ratings based on the following student characteristics were estimated: age, year of study, race/ethnicity, sexual orientation, and sexual assault victimization status. The most consistent findings were that the following student characteristics were associated with providing extremely low climate ratings:

- In general, **higher proportions of sexual assault victims than non-victims gave low climate ratings**. This pattern was evident for both males and females across most schools and for most dimensions of campus climate.
- In general, **higher proportions of lesbian, gay, bisexual, or other nonheterosexual students than heterosexual students gave low climate ratings**. This pattern was evident for both males and females across most schools and for most dimensions of campus climate.

No sizeable or consistent differences in climate ratings by age, year of study, or race/ethnicity were found. An illustration of the relationship between student characteristic and school climate is shown for the Perceptions of School Leadership Climate for Sexual Misconduct Prevention and Response scale for females (**Table 38**) and males (**Table 39**) below. Standard errors for these estimates are shown in **Appendix I-10** through **13**.

Table 38. Percentage of undergraduate females reporting low climate scores for "perceptions of school leadership climate for sexual misconduct prevention and response" by student characteristics and school, 2014–2015 academic year

	Cross-School Average	School 2	School 4	School 6	School 9	School 3	School 8	School 7	School 5	School 1
Overall	24.8 %	14.1 %	19.9 %	18.3 %	15.3 %	30.1 %	20.4 %	25.6 %	26.4 %	53.1 %
Year of Study										
1st/2nd Year	21.3 %	13.8 %	17.4 %	16.9 %	11.3	24.2 %	17.5 %	22.5 %	24.2 %	44.2 %
3rd/4th Year	28.0	16.0	21.7	19.2	21.4	32.5	22.2	28.2	28.9	61.9
Sexual Assault Victimization Status										
Victims	40.7 %	28.1 %	44.2 %	30.9 %	32.9 %	45.7 %	38.3 %	40.2 %	45.1 %	60.7 %
Non-Victims	23.1	13.6	18.4	17.4	14.0	28.7	18.3	23.6	22.6	51.2
Race/Ethnicity										
Non-Hispanic White	24.7 %	12.5 %	21.2 %	18.3 %	15.6 %	27.6 %	20.3 %	25.8 %	28.7 %	52.9 %
Other	24.9	22.6	15.4	19.2	15.5	30.6	21.4	25.5	21.3	53.0
Sexual Orientation										
Heterosexual	23.7 %	14.2 %	18.9 %	17.5 %	14.1 %	28.8 %	19.9 %	24.9 %	23.7 %	51.5 %
Lesbian, gay, bixsexual, or other	36.0	12.6	34.8	26.8	31.6	43.5	26.1	33.9	41.1	73.9
Age										
18–21	24.4 %	15.1 %	21.0 %	18.3 %	14.6 %	28.9 %	19.9 %	25.5 %	25.0 %	51.0 %
22+	27.4	13.4	18.3	18.4	19.9	31.4	21.2	25.7	34.2	63.8

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Low scores are defined as those below the overall 25th percentile for all students.

Table 39. Percentage of undergraduate males reporting low climate scores for "perceptions of school leadership climate for sexual misconduct prevention and response" by student characteristics and school, 2014–2015 academic year

	Overall	School 2	School 4	School 6	School 9	School 3	School 8	School 7	School 5	School 1
Overall	15.6 %	11.6 %	16.0 %	12.3 %	10.7 %	19.2 %	13.8 %	14.4 %	16.5 %	26.2 %
Year of Study										
1st/2nd Year	12.6	11.0	11.6	10.2	9.2	16.4	10.0	13.3	13.1	18.8
3rd/4th Year	18.4	16.1	19.4	13.4	12.5	20.3	15.8	15.1	19.5	33.6
Sexual Assault Victimization Status										
Victims	31.6	53.5 !	39.6	32.2	37.5	21.0	26.5	20.3	22.8	31.0
Non-Victims	15.2	11.0	15.5	12.0	9.8	19.1	13.4	14.1	16.1	25.9
Race/Ethnicity										
Non-Hispanic White	14.9	11.2	16.1	10.6	12.9	19.3	12.8	11.7	17.0	22.7
Other	18.1	14.0	14.1	20.6	9.2	19.2	16.9	22.5	16.2	30.1
Sexual Orientation										
Heterosexual	14.8	11.6	15.2	11.8	9.9	18.7	12.2	13.5	15.5	24.9
Lesbian, gay, bisexual, or other	24.8	13.6	19.0	18.1	25.0	27.1	30.2	22.8	27.6	40.0
Age										
18-21	15.5	13.5	16.6	12.8	11.4	17.2	12.1	12.8	17.0	26.4
22+	15.2	10.3	15.1	11.6	7.6	20.9	15.2	16.3	14.7	25.2

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Low scores are defined as those below the overall 25th percentile for all students

10. Experiments

Because one of the goals of the CCSVS Pilot Test was to develop a valid and reliable methodology for campus climate surveys, the study design incorporated experiments intended to guide recommendations regarding incentives and recruitment messages for future efforts. Two experiments were included in the CCSVS Pilot Test: an incentive experiment comparing $10, $25, and $40 promised incentives and a greeting experiment comparing personalized and generic greetings in emails to students inviting them to participate in the survey. Each experiment had several goals but ultimately the interest was to determine the impact of the conditions on survey response rates and sexual assault victimization rates.

The incentive experiment was also designed to inform the discussion about whether unbiased data can be collected on rape and sexual assault and other sensitive behaviors without taking a full census of the entire student population at a school. Understanding the effect of incentives of different amounts on response rates and rates of victimization can inform future studies on rape and sexual assault at the university-specific level because it is also the single biggest factor that influences the cost of administering a climate survey. If cost-effectiveness can be maximized such that the money spent on research and data collection ensures high response rates within the sample drawn, with minimal observed effect on variability within those responses, then it is important for schools and future researchers to understand the interplay between a monetary incentive at different levels and how reliably data can be collected at relatively low cost.

Each participating school was included in one of the two experiments. Because school context is likely to influence the manner in which a given condition (e.g., a $40 incentive) performs, it was necessary to vary the conditions within each of the participating schools to rule out the possibility of school characteristics being responsible for any observed variability in the conditions. Therefore, rather than assigning all sampled students in a given school to receive one condition and then comparing this against the other condition at another school, the experimental conditions were varied within each participating school. The incentive experiment was conducted at four schools and the greeting experiment was conducted with the five remaining schools.

10.1 Greeting Experiment

10.1.1 Methodology

The greeting experiment was implemented so the impact of personalization on response rates and survey estimates could be evaluated. Evidence suggests that personalized invitations (e.g., “Dear John”) tend to increase response rates in web surveys (Cook et al., 2000). However, personalization may have an unintended impact on survey estimates. There is some evidence that personalization may reduce self-disclosure on sensitive items (Joinson, Woodley, & Reips, 2004) or increase socially desirable responding (Heerwegh et al., 2005), but other studies have been unable to replicate these findings (e.g., Heerwegh,

2005; Heerwegh & Loosveldt, 2006). Based on the limited previous literature available, it was hypothesized that a personalized greeting would result in a higher response rate than a generic greeting but would result in lower rates of self-reported sexual assault victimization compared to a generic greeting. This is predicated on the assumption that sample members receiving the personalized greeting would perceive the survey as less anonymous, making victims less likely to participate (or less likely to report their victimization experiences if they did participate).

To implement the greeting experiment, sample members at five schools were randomly assigned to receive either a personalized greeting ("Dear John") or a generic greeting ("Dear [Fill: School Name] Student") in their survey invitation and reminders. (In the remaining schools, the personalized greeting was used for all students.) Because analysis would be conducted separately for males and females, at each school random assignments were made to balance the number of students of each sex receiving each experimental condition. As shown in the table, the experiment was powered to detect small differences in both participation (3.03% or less) and victimization (2.18% or less) rates (**Table 40**).

Following data collection, tests were conducted to determine whether or not observed differences in survey participation rates and sexual assault victimization rates were statistically significant. In addition, logistic regression models were fit to assess differences in rates controlling for demographic characteristics of students and to assess differences across schools. All estimates took into account the stratified random sampling design and were calculated using unweighted data. Tests were conducted using unweighted data because these experiments were testing differences among respondents rather than trying to make inference about the entire student population. The sections below contain detailed results of these analyses for the greeting and incentive experiments, respectively.

Table 40. Minimum detectable differences in participation and sexual assault rates for the greeting experiment, by sex

	Females		Males	
	N	Minimum Detectable Difference	N	Minimum Detectable Difference
Participation Rates	11,823	2.54 %	8,479	3.03 %
Sexual Assault Rates	6,971	2.18	3,828	1.50

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Detectable difference calculations assume a two-sided Pearson's chi-squared test with alpha = 0.05 and 80% power. Observed sample sizes, participation rates, and victimization rates were used in the calculations, and detectable differences shown are in the direction of the observed difference.

10.1.2 Results of Bivariate Analysis

The personalized greeting led to significantly higher survey participation rates for both males and females (**Table 41**). For both sexes, survey participation rates were about 3.5 percentage points higher for students who were randomized to receive the personalized greeting than the generic greeting. As expected, victimization rates were significantly, though only slightly, lower for females who received the personalized greeting, but there was no significant difference for males.

Table 41. Comparison of participation and sexual assault rates, by greeting assignment and sex, 2014–2015 academic year

	Generic[a]			Personalized		
	Number	Percent	SE	Number	Percent	SE
Participation						
Males	1,819	43.3 %	0.3 %	2,009	46.9 %*	0.3 %
Females	3,382	57.2	0.1	3,589	60.7 *	0.1
Victimization						
Males	65	3.6	0.1	68	3.4	0.1
Females	443	13.1	0.1	441	12.3 *	0.1

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: SE = standard error.

[a]Reference group.

* Personalized rate is significantly different than generic rate at the alpha = 0.05 level.

10.1.3 Results of Model-Based Analysis

To ensure that these differences were due to the experimental treatments rather than differences in the populations, two logistic regression models were fit for each sex: a participation model and a victimization model that controlled for the school and other student characteristics.

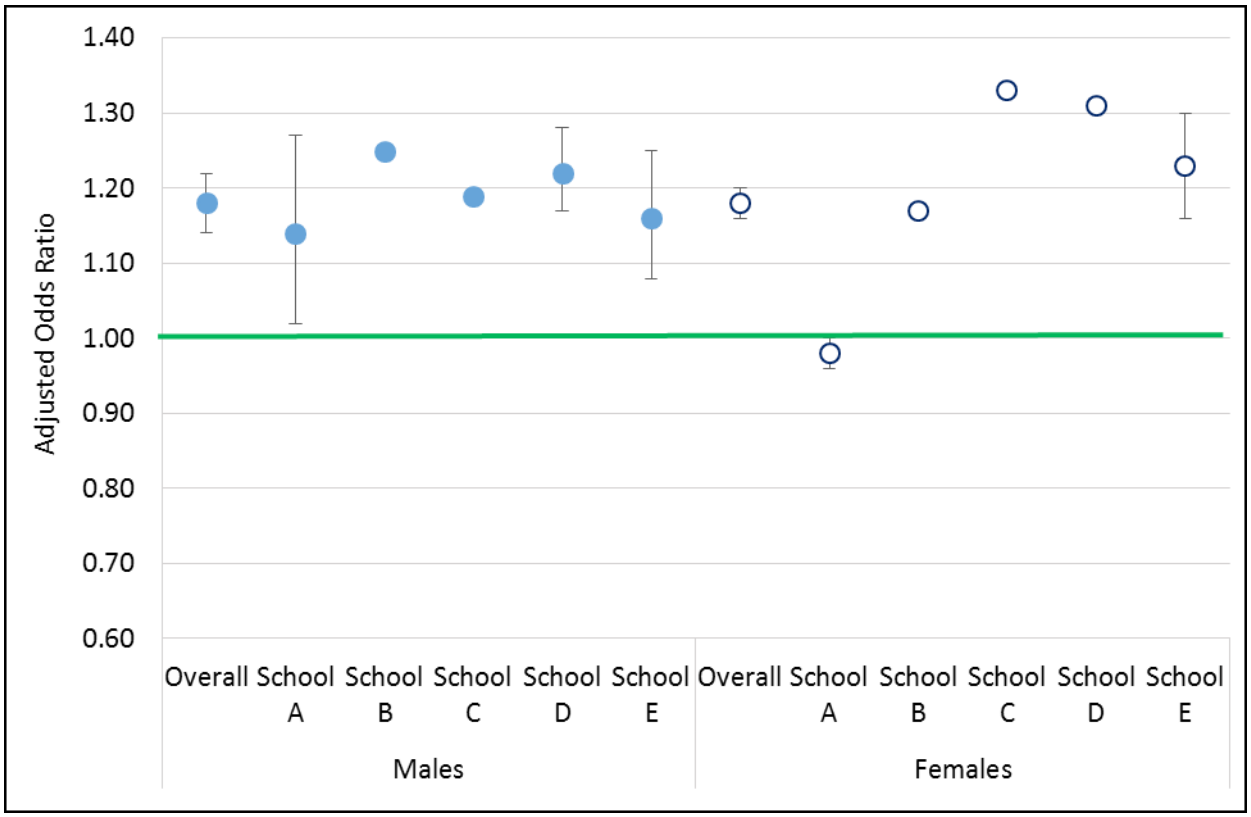
Participation Model

In the participation model, the odds of participating in the CCSVS Pilot Test for both the generic and the personalized conditions were assessed, controlling for the students' age, whether they were full time or part time, whether they resided on or off campus, and which school they attended.[65] In addition, the school-by-greeting interaction was included to allow for different results across schools.

[65]Characteristics controlled for in the model were those that were obtained on the rosters for all schools participating in the greeting experiment.

The overall (pooled) estimates for both males and females are well above the horizontal line designating an odds ratio of one, as the odds that students who received the personalized greeting would participate were 1.18 times higher (95 percent confidence intervals (CI) of 1.14 to 1.22 for males and 1.16 to 1.20 for females) than those who received the generic greeting, when controlling for the demographic characteristics of the students (**Figure 50**). Although the odds ratios varied by school, the personalized greeting produced higher participation rates at all schools except for one, where the trend was reversed for females (School A). For males, the largest increase in participation rates due to the personalized greeting was at School B with an odds ratio of 1.25 (95 percent CI of 1.25 to 1.25), and the smallest increase was at School A with an odds ratio of 1.14 (95 percent CI of 1.02 to 1.27). For females, the largest increase in participation rates was at School C with an odds ratio of 1.33 (95 percent CI of 1.33 to 1.34), and the largest decrease was at School B with an odds ratio of 0.98 (95 percent CI of 0.96 to 1.00). Although most of the confidence intervals for males are overlapping, some differences can be detected between schools (e.g., Schools B and C). For females, almost all school-level effects are significantly different (e.g., Schools A–D are all significantly different). The odds ratios and upper and lower bounds for the greeting experiment are shown in **Appendix J-1** and **J-2**.

Figure 50. Adjusted odds ratio of survey participation for the greeting experiment (generic vs. personalized), by sex and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Generic greeting is the reference group; no mapping between school numbers and school letters is implied.

Victimization Model

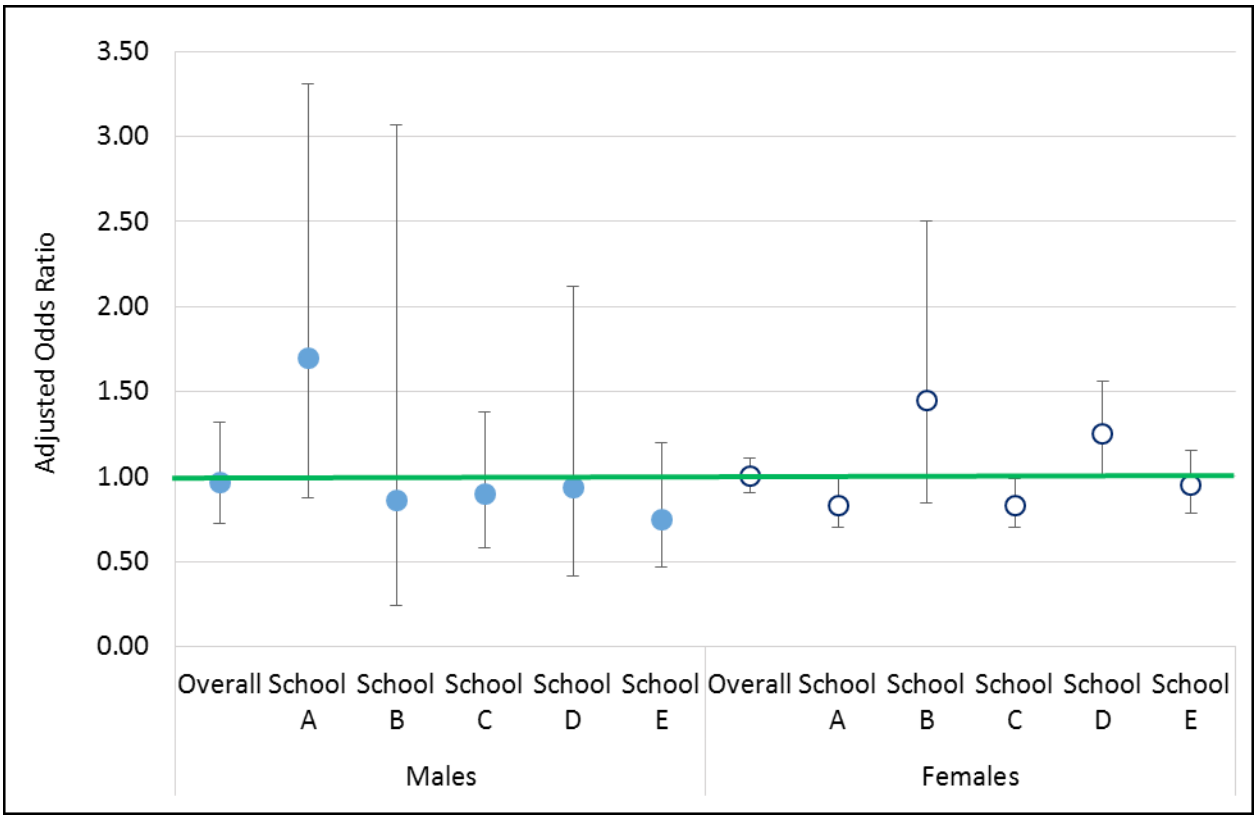
For the victimization model, the odds of indicating a sexual assault victimization for both the generic and the personalized conditions were assessed, controlling for each student's year of study, race/ethnicity, gender identity, sexual orientation, age, full- or part-time status, whether she/he resided on or off campus, and school attended. The interaction of school and type of greeting was also included to allow for different results across schools. The generic greeting was the reference group, and the odds of experiencing sexual assault for the personalized greeting relative to the generic greeting are shown. Odds ratios of more than one indicate that more students self-identified as experiencing sexual assault in the personalized condition, whereas odds ratios of less than one indicate that more students self-identified as experiencing sexual assault in the generic greeting.

The overall (pooled) estimates are right at one (0.97 for males with a 95 percent CI of 0.72 to 1.32 and 1.00 for females with a 95 percent CI of 0.90 to 1.11), indicating no significant difference in sexual assault victimization between the two conditions when controlling for student characteristics (**Figure 51**). Thus, there was no significant difference in terms of experiencing sexual assault for the two experimental groups when taking into account student characteristics at the overall level. Although the statistical testing presented in **Table 41** found a significant difference between the sexual assault victimization rates for females in the generic and personalized conditions, this difference was not significant in a modeling context when controlling for student characteristics.

Although estimated odds ratios across schools ranged from 0.75 to 1.70 for males, all confidence bounds overlap and no differences in the school-level effects of the greeting experiment on sexual assault victimization rates can be detected. For females, odds ratios ranged from 0.83 at Schools A and C (both 95 percent CIs of 0.70 to 0.99) to 1.45 at School B (95 percent CI of 0.84 to 2.50) for females. The only schools with non-overlapping confidence intervals for females are Schools A and C vs. D (School D has an odds ratio of 1.25 with 95 percent CIs of 1.01 to 1.56), so some school-level differences are detected.

Because the personalized email greetings led to significantly higher survey participation rates and no substantive differences in victimization rates when taking into account the characteristics of students, one methodological lesson for future studies similar in scope is that the use of a personalized greeting when recruiting students to participate in the survey is preferable over a generic greeting.

Figure 51. Adjusted odds ratio of sexual assault rates for the greeting experiment (generic vs. personalized), by sex and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Generic greeting is the reference group; no mapping between school numbers and school letters is implied.

10.2 Incentive Experiment

10.2.1 Methodology

The incentive experiment was implemented to determine the impact of various incentive amounts on response rates and sexual assault victimization rates. Although larger incentives have been found to lead to higher response rates, the returns are diminishing (Cantor, O'Hare, & O'Connor, 2008). Additionally, the impact of a particular incentive amount depends on characteristics of the survey and sample, so an incentive amount that is effective for one survey may not be equally effective for another survey.

The experiment aimed to determine the optimal dollar amount for increasing response rates while balancing the costs of survey administration, which led to the decision to test three amounts: $10, $25, and $40. These amounts are similar to those used successfully in other federally funded surveys of college students, such as the Beginning Postsecondary Students Longitudinal Study (Wine et al., 2011) and the

National Postsecondary Student Aid Study (Wine et al., 2013). Students at two schools were randomized to receive either a $10 or $25 gift card, and students at two other schools were randomized to receive either a $25 or $40 gift card. At the five remaining schools, students were offered a $25 gift card as incentive for completing the survey.[66]

Both experiments were powered to detect small differences in participation (3.65% or less) and victimization (2.64% or less) rates (**Table 42**).

Table 42. Minimum detectable differences in survey participation and sexual assault rates for the incentive experiment

	Females		Males	
	N	Minimum Detectable Difference	N	Minimum Detectable Difference
Participation Rates				
$25 vs. $10	9,898	2.80 %	7,277	3.04 %
$25 vs. $40	7,118	3.32	5,535	3.65
Victimization Rates				
$25 vs. $10	4,395	2.41	2,176	1.71
$25 vs. $40	3,623	2.64	2,030	1.79

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: Detectable difference calculations assume a two-sided Pearson's chi-squared test with alpha=0.05 and 80% power. Observed sample sizes, participation rates, and victimization rates were used in the calculations, and detectable differences shown are in the direction of the observed difference.

10.2.2 Results of Bivariate Analysis

The $25 incentive led to significantly higher survey participation rates than the $10 incentive for both males and females (**Table 43**). For both sexes, participation rates were more than 5 percentage points higher for students who were randomized to the $25 incentive than the $10 incentive condition. For females, victimization rates were significantly higher for students who received the $10 incentive (observed difference of 1.7 percentage points), whereas no significant differences were found for males.

[66] As described earlier, study contact materials informed sample members that if they completed the survey, they would be able to choose among nine online and in-store gift card options as a token of appreciation. The nine gift cards they could choose from were Amazon.com, Chili's, CVS, Domino's Pizza, Dunkin' Donuts, Panera Bread, Staples, Starbucks, and Walmart. Gift cards were sent to respondents electronically within two business days of completing the survey.

Table 43. Comparison of participation and sexual assault rates, by incentive amount ($25 vs $10), 2014–2015 academic year

	$25[a]			$10		
	Number	Percent	SE	Number	Percent	SE
Participation						
Males	1,186	32.6 %	0.4 %	990	27.2 %*	0.3 %
Females	2,325	47.0	0.3	2,070	41.8 *	0.3
Victimization						
Males	34	2.9	0.3	25	2.5	0.2
Females	179	7.7	0.3	195	9.4 *	0.3

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: SE = standard error.

[a]Reference group.

* Rate for $10 incentive is significantly different from rate for $25 incentive at the alpha=0.05 level.

When evaluating the effects of the $40 incentive vs. the $25 incentive, there were no statistically significant differences in survey participation rates for males or females when pooling across the two schools (see **Table 44**). For females, sexual assault victimization prevalence rates were significantly higher for students who received the $40 incentive than for those who received the $25 incentive, whereas no significant differences were found for males.

Table 44. Comparison of survey participation and sexual assault rates, by incentive amount ($25 vs $40), 2014–2015 academic year

	$25[a]			$40		
	Number	Percent	SE	Number	Percent	SE
Participation						
Males	991	36.0 %	0.7 %	1,039	37.3 %	0.7 %
Females	1,769	50.3	0.6	1,854	51.5	0.6
Victimization						
Males	30	3.0	0.4	27	2.6	0.3
Females	133	7.5	0.4	163	8.8 *	0.5

Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: SE = standard error.

[a]Reference group.

* Rate for $40 incentive is significantly different from rate for $25 incentive at the alpha=0.05 level.

10.2.3 Results of Model-Based Analysis

As with the greeting experiment, two logistic regression models were fit for each sex for each incentive experiment to determine if controlling for student characteristics altered the bivariate findings: a participation model and a victimization model.

Participation Models

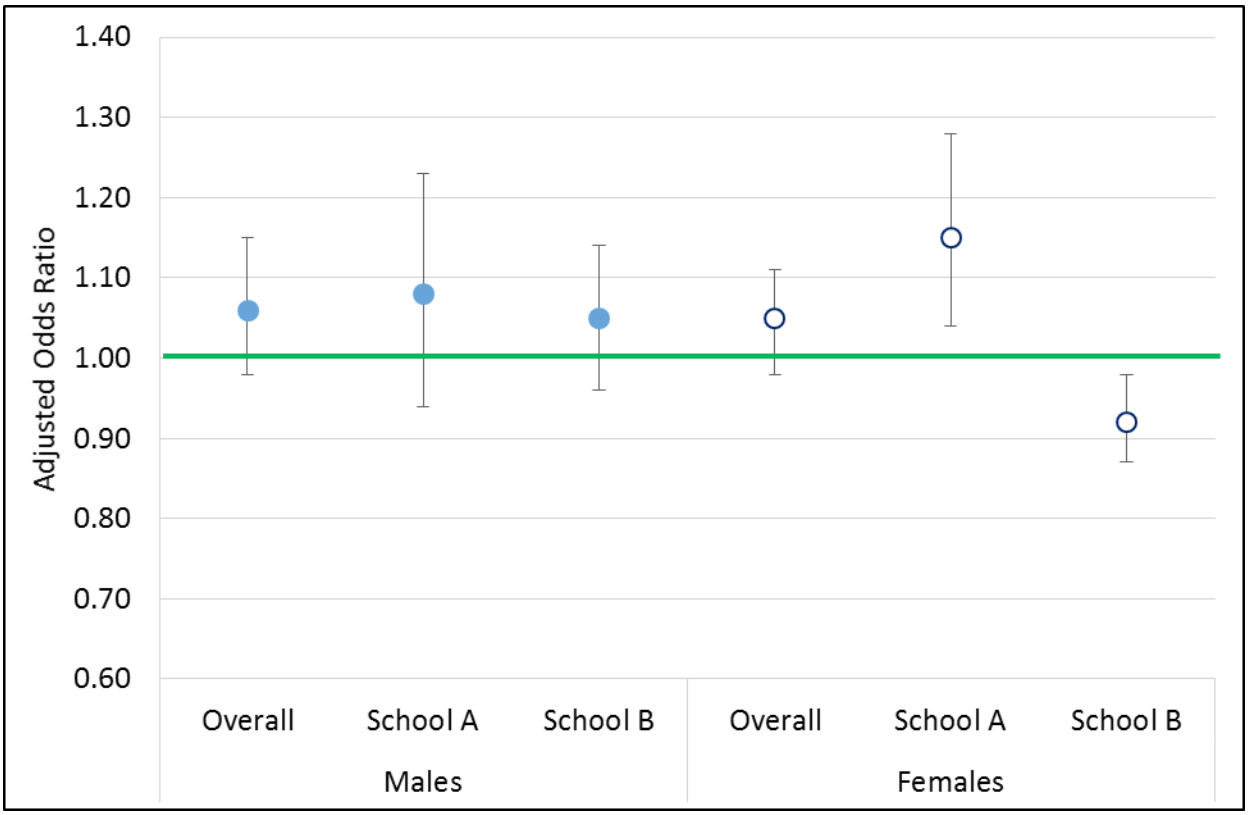
In the participation models, the odds of participating in the survey were assessed for both incentive conditions. Due to differences in student characteristics provided by schools on their rosters, different control variables were used in each model. For the $25 vs. $10 experiment, odds ratios were adjusted based on each student's age, year of study, full- or part-time status, race/ethnicity, and school attended. For the $25 vs. $40 experiment, odds ratios were adjusted based on each student's age, year of study, and school attended. The school-by-incentive amount interaction was included in all models to allow for different results between the incentive experiment schools.

Adjusted odds ratios of survey participation for the $25 vs. $10 and $25 vs. $40 experiments, respectively, by school[67] and sex were generated (**Figure 52** and **Figure 53**). In both figures, the $25 incentive is the reference group and the odds of participating in the CCSVS Pilot Test for the $10 or $40 incentive group relative to the $25 incentive group are shown. Thus, odds ratios of more than one (horizontal line) indicate that the alternative incentive amount ($10 or $40) resulted in a higher likelihood of survey participation, whereas odds ratios of less than one indicate that the $25 incentive resulted in a higher likelihood of survey participation.

The overall (pooled) estimates for both males and females are well below the line, as the odds that students who received the $10 incentive would participate were about 0.8 times (odds ratio of 0.77 with a 95 percent CI of 0.74 to 0.81 for males and 0.81 with a 95 percent CI of 0.78 to 0.84 for females) those who received the $25 incentive when controlling for student characteristics (**Figure 52**). For males, the odds ratios for School A and School B were not significantly different. For females, the odds ratios for School A and School B were significantly different, but the effects were relatively small and in the same direction (odds ratio of 0.86 with a 95 percent CI of 0.86 to 0.87 for females at School A and 0.76 with a 95 percent CI of 0.71 to 0.81 for females at School B).

[67] The two schools in each figure are denoted by School A and School B, but these represent different schools in each figure and no mapping to Schools 1-9 is implied for these four schools.

Figure 52. Adjusted odds ratio of survey participation for Incentive Experiment 1 ($25 vs. $10), by sex and school, 2014–2015 academic year

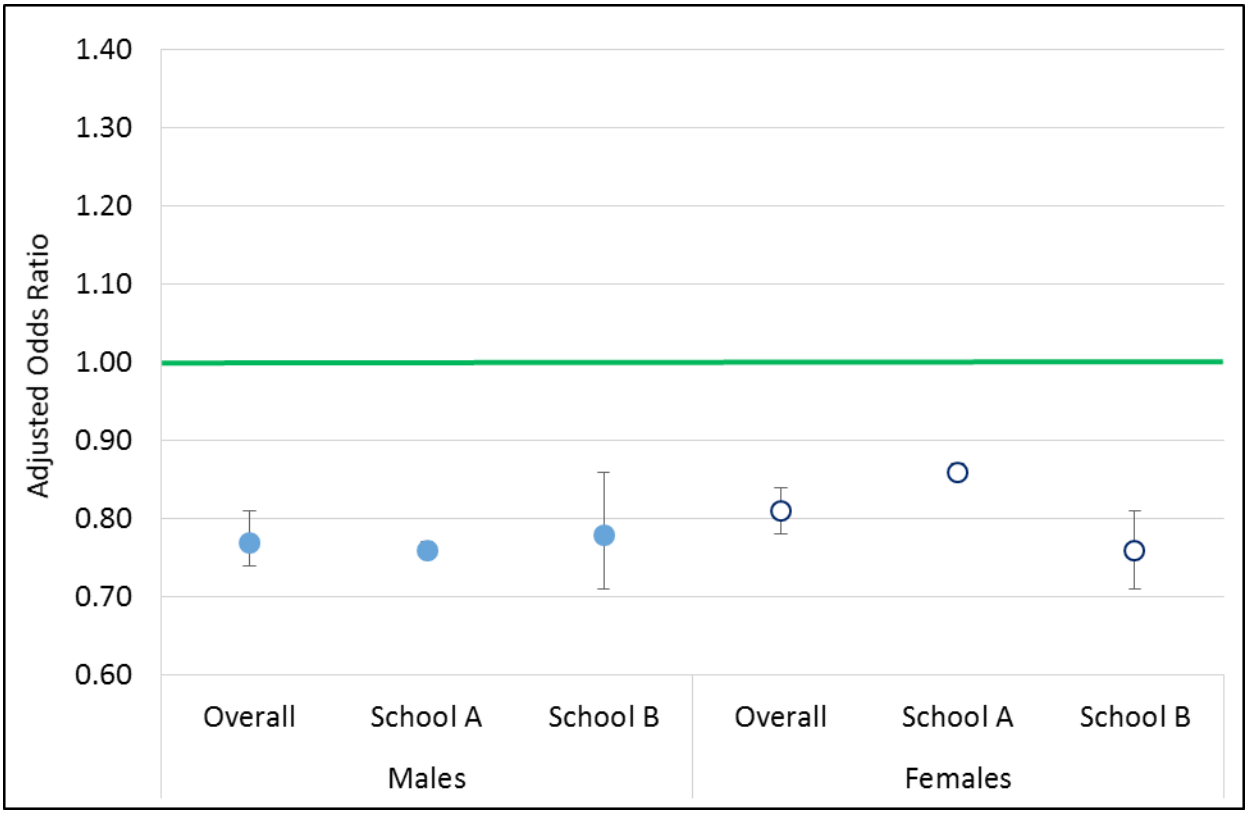


Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: $25 incentive is the reference group; no mapping between school numbers and school letters is implied.

The overall (pooled) odds ratios for Incentive Experiment 2 ($25 vs. $40) are slightly more than one (odds ratios of 1.06 for males and 1.05 for females), but the 95 percent confidence bands include one (95 percent CI of 0.98 to 1.15 for males and 0.98 to 1.11 for females) (**Figure 53**). Thus, the odds of participation in the survey for the two incentive amounts are the same when controlling for student characteristics. However, when examining the odds ratios at the school level, it is evident that opposite trends were observed for females. At School A, significantly higher survey participation rates were observed for the $40 incentive group (odds ratio of 1.15 with 95 percent CI of 1.04 to 1.28), whereas at school B significantly higher participation rates were observed for the $25 incentive group (odds ratio of 0.92 with 95 percent CI of 0.87 to 0.98). Because the effects were in opposite directions, the pooled effects cancelled out, leading to no detectable differences in the impact of different incentive amounts on survey participation.

Figure 53. Adjusted odds ratio of participation for Incentive Experiment 2 ($25 vs. $40), by sex and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: $25 incentive is the reference group; no mapping between school numbers and school letters is implied.

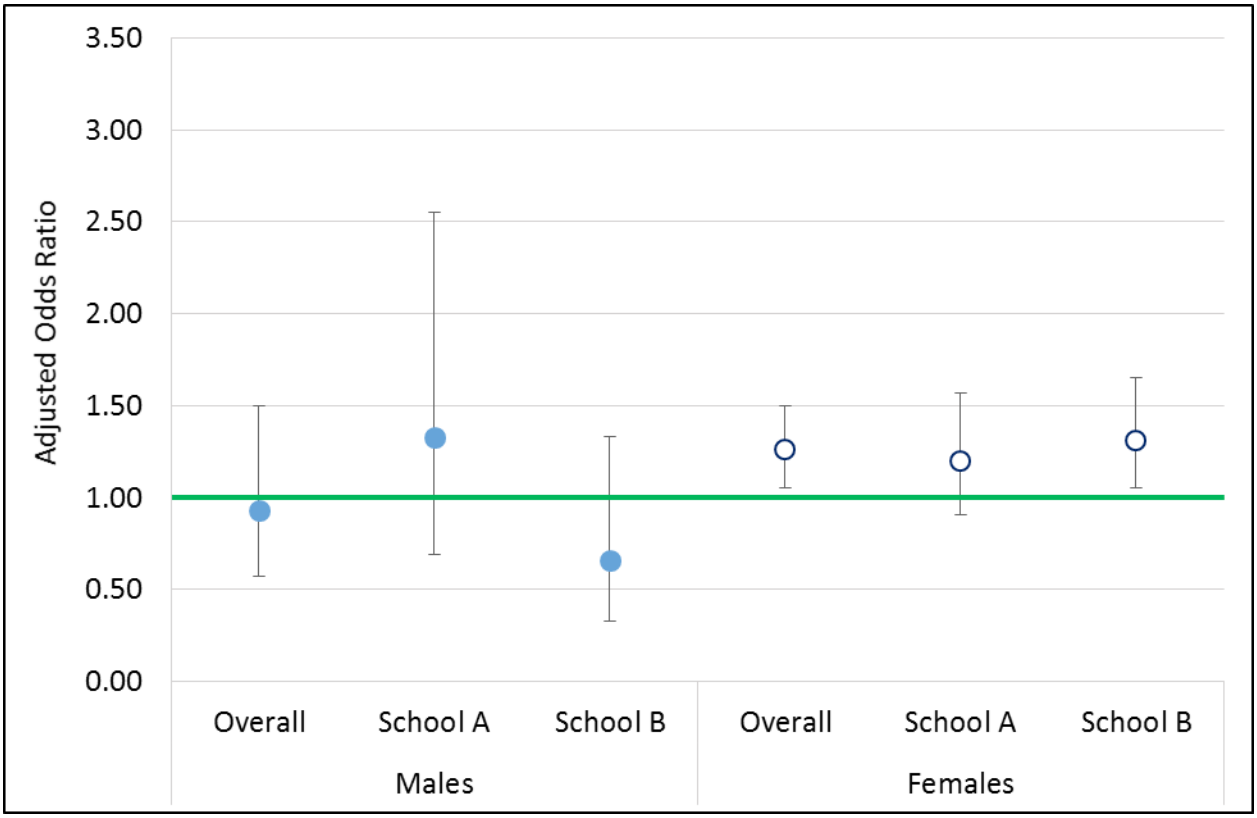
Victimization Models

For the victimization models, the odds of experiencing sexual assault for the different incentive amounts were assessed, controlling for characteristics of the students. For Experiment 1 ($25 vs. $10), the models controlled for each student's year of study, race/ethnicity, gender identity, sexual orientation, age, full- or part-time status, and school attended. For Experiment 2 ($25 vs. $40), the models controlled for each student's year of study, race/ethnicity, gender identity, sexual orientation, age, and school attended. The school-by-greeting interaction was also included to allow for different results between schools. As with the participation graphic, the $25 incentive is the reference group and the odds of identifying as experiencing sexual assault for the alternative incentives ($10 or $40) relative to the $25 incentive are shown. Odds ratios of more than one indicate that more students indicated that they experienced sexual assault in the alternative incentive group, whereas odds ratios of less than one indicate that more students identified as experiencing sexual assault with the $25 incentive group.

For males, the adjusted odds ratio overall and for both schools in Incentive Experiment 1 are very close to one, and the 95 percent confidence intervals include one. The odds ratios were 0.93 (95 percent CI of 0.57 to 1.50), 1.33 (95 percent CI of 0.69 to 2.55), and 0.66 (95 percent CI of 0.33 to 1.33)

for overall, School A, and School B, respectively (see **Figure 54**). This indicates no significant difference in sexual assault victimization rates between the $25 and $10 conditions when controlling for student characteristics. However, for females the overall and school-level estimates are more than one, indicating that students in the $10 incentive group were more likely to identify as experiencing sexual assault than students in the $25 incentive group. The odds ratios were 1.26 (95 percent CI of 1.05 to 1.50), 1.20 (95 percent CI of 0.91 to 1.57), and 1.31 (95 percent CI of 1.05 to 1.65) for overall, School A, and School B, respectively.

Figure 54. Adjusted odds ratio of sexual assault rates for Incentive Experiment 1 ($25 vs. $10), by sex and school, 2014–2015 academic year

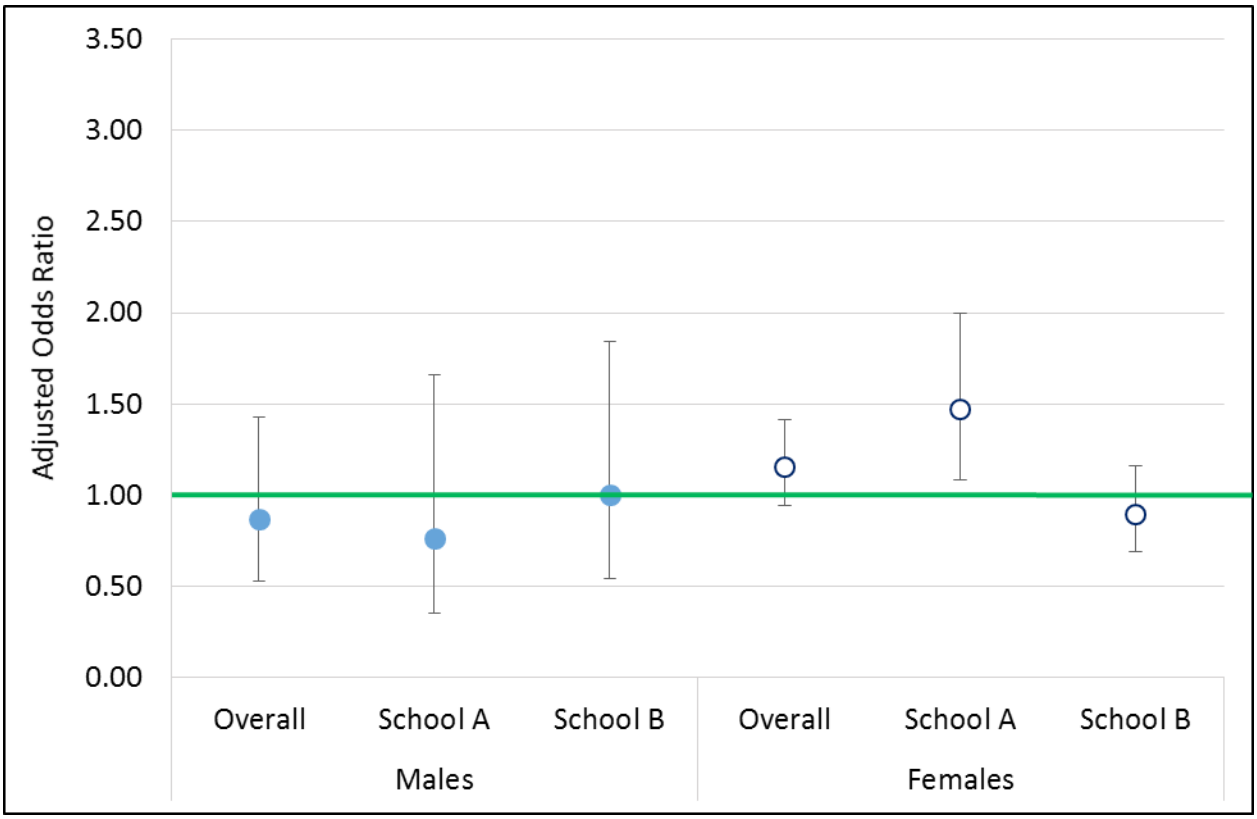


Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: $25 incentive is the reference group; no mapping between school numbers and school letters is implied.

For the second incentive experiment ($25 vs. $40), there are no detectable differences in the sexual assault victimization rates for males when controlling for characteristics of the students (see **Figure 55**). The odds ratios were 0.87 (95 percent CI of 0.53 to 1.43), 0.76 (95 percent CI of 0.35 to 1.66), and 1.00 (95 percent CI of 0.54 to 1.84) for overall, School A, and School B, respectively. For females, after controlling for student characteristics, the overall effect is no longer significant (odds ratio of 1.15 with 95 percent CI of 0.94 to 1.41), but it is still significant for one of the schools. For School A, sexual assault victimization rates are higher in the $40 group than the $25 group (odds ratio of 1.47 with a 95 percent CI of 1.08 to 2.00). All odds ratios and upper and lower bounds for the incentive experiments are shown in **Appendix J-3** through **6**.

Figure 55. Adjusted odds ratio of sexual assault rates for Incentive Experiment 2 ($25 vs. $40), by sex and school, 2014–2015 academic year



Source: Campus Climate Survey Validation Study (CCSVS), 2015

Note: $25 incentive is the reference group; no mapping between school numbers and school letters is implied.

Overall, the incentive experiments showed that survey participation rates are significantly higher for both males and females when a $25 incentive is offered rather than a $10 incentive. When comparing a $25 and a $40 incentive, the results are less clear. For males, no significant differences were found in survey participation rates. However, for females, participation rates were significantly different, but the direction of the effect differed between the two schools in the experiment.

Not only does the incentive amount affect the rate of survey participation, but it also appears to affect the composition of the sample regarding the key survey outcome (sexual assault victimization prevalence). For females, the $10 incentive group had a higher prevalence of sexual assault than the $25 group, even when controlling for student characteristics in a modeling context. This provides some evidence that sexual assault victims may have been more likely to participate in the CCSVS Pilot Test even when a lower incentive amount was offered, and that the higher incentive amount brought in more non-victims. Again, the results of the $25 vs. $40 experiment were less clear. Although the overall difference in sexual assault victimization prevalence rates for females was no longer significant when controlling for student characteristics in a modeling context, there was a significant difference at one school, with students who received the $40 incentive having a significantly higher rate of sexual assault victimization than

students who received the $25 incentive. It is unclear why the higher incentive amount, at least in some schools, would lead to lower survey participation, or be more likely to attract sampled members who were victims of sexual assault.

The selection of the appropriate incentive amount for future studies similar in scope must consider the impact on both survey participation rates and sexual assault victimization rates. It is clear that the $25 incentive provides survey participation gains over the $10 incentive, and likely results in a significantly larger and more representative sample. It is less clear, however, whether moving to a $40 incentive offers any advantage. Thus, it is recommended that incentives be in the $20 to $30 range for future studies of this kind.

11. Summary and Conclusions

Based on the experiences of the CCSVS Pilot Test, the methodology and survey instrument that were used appear to be effective at efficiently collecting valid school-level data on campus climate and sexual victimization. Each of the major goals of the CCSVS Pilot Test was achieved.

In the **development of the survey instrument (Goal 1)**, the CCSVS Pilot Test used a collection of techniques including a web-based platform, behaviorally specific language, and incident collection forms to efficiently and confidentially collect valid data from undergraduate students about their sexual victimization experiences and perceptions of campus climate related to sexual harassment and sexual assault. Refined based on an extensive cognitive testing process, the final survey instrument that was fielded used behaviorally specific screener questions to identify sexual assault victims and employed detailed incident-level follow-up questions to capture information about up to three individual sexual assault incidents.

The data collection methodology yielded **relatively high response rates and high quality data (Goal 2)**. Surveys were completed by more than 23,000 undergraduate students (approximately 15,000 females and 8,000 males). The average response rate across all nine schools was 54% for females and 40% for males. For females, the expected response rate of 40% was exceeded in all schools. For males, expected response rates (35%) were achieved or exceeded in five of the nine schools. Nonresponse bias analyses were conducted at the school level using detailed student roster data provided by the schools. Minimal bias was detected (i.e., differences in characteristics of respondents and the population of eligible students) and survey data were adjusted or weighted to compensate accordingly. The survey data were thoroughly reviewed for quality and completeness. Only about 2% of respondents started but did not finish the survey, and the level of missing data (i.e., the proportion of survey items not answered by survey respondents) was also relatively low for most items. In addition, the CCSVS used representative samples of students at eight of the nine schools to obtain female **prevalence estimates of sexual assault within the desired level of precision (Goal 2)**. In other words, the precision for the prevalence estimates for sexual assault experienced during the 2014–2015 academic year exceeded the design goal of a 9% RSE at all schools except one. The better than expected RSE was due to (1) a larger than expected number of respondents due to higher response rates than assumed in the design and (2) a higher prevalence rate of sexual assault at most schools compared to the prevalence rate assumed for design purposes. For small schools, however, it may be necessary to field a census to get enough completed surveys to achieve reasonable levels of precision for key estimates.

The CCSVS also **implemented a methodology in a standardized manner that allows for cross-school comparisons and produces results in which schools have confidence (Goal 3).** The standardized methodology implemented in the CCSVS Pilot Test allowed prevalence and incident rates for key outcomes to be compared across schools. The school-level estimates presented in this report are comparable because the same sampling, instrument, data collection, and estimation procedures were used at each school. Numerous methodological assessments were conducted in an effort to assess the quality

and validity of the data collected for the CCSVS Pilot Test; based on the results of the latent class analysis assessment, the primary victimization estimates appeared to be valid (i.e., did not appear to be impacted by false-positive or false-negative bias).

The CCSVS Pilot Test produced data that can potentially be used to **inform decisions related to the ongoing NCVS redesign effort**. Specifically, by analyzing data collected from NCVS respondents who are similar demographically to the CCSVS Pilot Test respondents (e.g., college students who are mostly 18 to 24 years of age), differences between sexual victimization rates can be attributed, at least in part, to the different approaches used to measuring rape and sexual assault. The adoption of various data collection techniques showcased in the CCSVS project can lead to more reliable and valid estimates of rape and sexual assault for the nation.

11.1 What Worked

Several factors are at least partially responsible for the success of the CCSVS Pilot Test in meeting its stated goals. First, **the use of survey incentives** likely contributed to the high response rates and minimal nonresponse bias among the sample. Incentives are typically the single biggest factor that influence the cost of administering a climate survey and it is critical to maximize cost-effectiveness such that the money spent on research and data collection ensures high response rates among the students who are invited to participate, minimizing nonresponse bias to the extent possible and allowing for adequate statistical precision. It is important for schools and future researchers to understand the interplay between a monetary incentive at different levels and how reliable data can be collected at relatively low cost, particularly when a representative sample of students is selected for participation (rather than inviting the entire student population to participate). Based on the results of the experiment conducted in four of the CCSVS Pilot Test schools, a $25 incentive provides survey participation gains over a $10 incentive and likely results in a significantly larger and more representative sample. It is less clear, however, whether moving to a $40 incentive offers any advantage. Thus, $20-$30 appears to be an ideal range for maximizing participation.

Second, the fact that the **survey was short, easy to take on a range of devices, and appeared to be acceptable from a content perspective** likely made participation acceptable to students who were selected to participate. Across the nine schools, the average survey length was 16 minutes for females and 15 minutes for males. Although the survey took longer for sexual assault victims to complete (about 8 minutes longer for female victims and 5 minutes longer for male victims, compared to non-victims) because of the detailed incident-level follow-up questions that were asked, the study team attempted to streamline this question series and make the follow-up loop as simple as possible (e.g., a display tool[68] was used for students who had experienced multiple victimizations, simple grids were used for questions of

[68]The display tool was a header that appeared on each web page during the incident-level follow-up questions. It listed the number of incidents about which victims would be asked (up to 3), and the month and date of each. As students completed the loop for one incident, that incident appeared in bold in the header.

a similar type, and skip/fill patterns further simplified and tailored the follow-up questions). The survey used a question structure and onscreen design features that appeared to be clear and readily intuitive to respondents. The extensive cognitive testing of the draft survey undoubtedly helped improve the content of the survey, such that it used terminology that was clear, understandable, and conveyed the intended meaning of questions to a wide variety of college students. Many students (about 30%) took advantage of the survey being accessible on handheld devices, and very few students started but did not finish the survey. This suggests that the survey length and accessibility were generally acceptable to students in the participating schools, relative to the incentive amount they were offered. Although data were not collected on students' reactions to the content of the survey, the survey also appears to have been acceptable from a content perspective. No participants who emailed the CCSVS Pilot Test team (an email address was provided in all recruitment materials) or who provided open-ended responses in the survey (as described previously, the survey included a few places for students to write in open-ended responses) indicated that the survey content was upsetting or objectionable. In addition, during the in-person cognitive interviews, no participants indicated that the survey was upsetting to them. Approximately 15% of CCSVS Pilot Test respondents who took the survey viewed the information made available on school-specific, local, and national resources related to sexual violence, but it cannot be determined whether the survey directly caused distress for these (or other) respondents.

Third, **the timing of the survey administration, fairly lengthy field period, and use of multiple follow-up reminders to nonrespondents** likely helped increase participation and reduced the likelihood of bias. In most schools, the survey was fielded shortly after spring break and was kept open until right before final exam week, which was a 57-day field period, on average. This timing minimized students' competing demands during spring break and finals. In addition, it allowed time for repeated follow-up reminders with nonrespondents (up to five reminders were sent), which appeared to be effective given that bumps in response rates were observed each time a follow-up was sent. As discussed in the report, the field period simulations that were conducted for the CCSVS Pilot Test indicate that a shorter field period (e.g., 28 days) can be used to achieve adequate precision for school-level prevalence estimates of sexual assault victimization (provided that the overall study design, including incentives and recruitment procedures, achieves the targeted sample sizes within this period and that no nonresponse bias exists with the shorter field period). However, keeping the survey open for 57 days helps with the precision of subgroup estimates (e.g., victimization by year of study, sexual orientation) because more completed interviews can be obtained. Another advantage of the 57-day field period was that it allowed the study team to incorporate a "hold sample" into the design to account for uncertainty in the response rate and minimize the number of students sampled. Response rates were monitored daily and the pre-selected hold samples for males and females were only released if response rates were below a certain threshold after 2 weeks of data collection. This strategy helped ensure that sample size targets were met.

11.2 Potential Modifications to Consider

The results of the CCSVS Pilot Test also identify several aspects of the data collection methodology and survey instrument that could be improved.

11.2.1 Data Collection Methodology

First, given that participation in the study was much lower for men than women, future studies should consider **tailoring recruitment materials for men**. Although the CCSVS Pilot Test survey was marketed with the general term "College Experiences Survey," it was necessary to list the topics to be covered in the survey on the informed consent screens and it is possible that some men did not feel that a survey about experiences with unwanted sexual contact was relevant to them. The inclusion of specific statements in recruitment materials about why it is important that men, in particular, take the survey is a strategy that should be considered by future studies.

Second, to facilitate the nonresponse bias analysis, it is recommended that **as many auxiliary variables as possible be used in the nonresponse bias analyses conducted at the school level** to assess the potential for bias. The CCSVS Pilot Test requested an extensive list of data elements on the student population from all participating schools for this purpose and included all variables that were provided by the participating schools in the nonresponse bias analysis. However, the data elements were limited in a few schools, which reduced the rigor of the nonresponse bias analysis in those schools. Even though the weighting did not significantly alter the estimates for the nine schools in the CCSVS Pilot Test, obtaining and adjusting for as many student characteristics as possible may further reduce the potential for bias for future studies similar in scope. More research can be done to understand which characteristics are most strongly associated with key estimates. Researchers can then prioritize the collection of these variables in future studies in an effort to minimize nonresponse bias and respondent burden.

Finally, based on the results of the greeting experiment conducted in five of the CCSVS Pilot Test Schools, **future climate surveys similar in scope should use a personalized, as opposed to generic, greeting when recruiting students** to participate in the survey. The personalized email greetings led to significantly higher survey participation rates and no substantive differences in victimization rates when taking into account the characteristics of participating students.

11.2.2 Survey Instrument

Although the CCSVS Pilot Test instrument appeared to work well and seemingly produced high quality, valid data, the study team's detailed review of survey responses suggests that several improvements to the survey instrument could be made. Many of these improvements pertain to the incident-specific follow-up questions that were asked of sexual assault victims. First, it is clear that **the number of sexual assault incidents about which detailed follow-up questions can credibly be asked—and the number**

of questions in each follow-up loop—should be limited. The survey items that were most often not answered by students were in the sexual assault incident follow-up question series for the second and third incidents, which indicates respondent fatigue

In addition, **further survey development work may be needed to accurately document the victims' perspectives on the tactic that was used by the offender** to execute a particular incident of sexual assault. When presented with the close-ended response options for type of tactic in the CCSVS Pilot Test, a number of victims did not endorse any of the tactics. When reviewing the open-ended responses these victims provided (*Survey Item ILF3)*, it was evident that some assaults appeared to have occurred due to physical force on the part of the offender, such as not stopping with the unwanted sexual contact when the victim told them to or that the victim could not stop the offender from achieving unwanted sexual contact, yet these victims did not endorse the response option that was intended to represent such incidents. It is possible that the language used in the CCSVS Pilot Test instrument ("someone uses force against you, such as holding you down with his or her body weight, pinning your arms, hitting or kicking you") may have been too strong or raised the bar too high. Therefore, refinement of the wording of this response option may be needed (e.g., "you could not stop them or get them to stop, or they used force against you, such as holding you down with their body weight, pinning your arms, hitting or kicking you"). In addition, the review of open-ended responses pertaining to the tactic used to achieve the sexual assault also suggested that some respondents may have reported incidents involving coerced sexual contact or sexual harassment as unwanted/nonconsensual sexual assault, even though (1) coerced sexual contact and sexual harassment were covered earlier in the survey in an attempt to avoid this and (2) extensive definitions of unwanted/nonconsensual sexual contact were provided. Therefore, another approach to consider is to add specific language when defining unwanted/nonconsensual sexual contact that asks respondents **not** to count experiences with coerced sexual contact or sexual harassment.

Similar to the issue with lack of reporting the tactic used during the incident, **not all victims indicated the type of unwanted sexual contact that took place during the incident.** This particular item was critically important in the CCSVS because it was used to classify a sexual assault incident as rape and/or sexual battery. Therefore, edit checks could be added to the instrument to encourage respondents to enter a type of unwanted sexual contact for each victimization incident. Some victims, particularly those who were incapacitated during the incident, may not be certain about the type of sexual contact that occurred. This consideration is what led to the inclusion of "unsure" as a response option in the CCSVS Pilot Test instrument. However, if a victim answers "unsure" or "no" for each type of sexual contact (or leaves the entire question blank), it may be helpful to build in an edit check to confirm that the victim cannot provide additional information.

Another modification that should be considered is the **refinement of the questions used to document the reasons that victims did not report incidents to officials**. The CCSVS instrument asked about six reasons for not reporting, with the most commonly-endorsed reason being "You did not need assistance, did not think the incident was serious enough to report, or did not want any action taken." With hindsight, separating "did not think the incident was serious enough to report" from the other two

response options would likely result in a better understanding of the various reasons that many sexual assault victims do not report their experiences to officials. Because there was very little variation in the reasons that victims did not report to the *various types* of officials (e.g., the reasons for not reporting to campus police were the same as the reasons for not reporting to school administrators) among the CCSVS Pilot Test Schools, the set of questions could be streamlined by covering reasons for not reporting overall—but using finer categories for the reasons—rather than attempting to document reasons for each specific type of official.

As described in **Section 5.4.4**, the assessment of potential telescoping indicated that **some students, particularly seniors, may have included some incidents of sexual assault within the primary reference period (since the beginning of the 2014–2015 academic year) even though the incident actually happened outside of the reference period.** This suggests that it might be a good idea to include months as response options that are outside of the reference period, in the item that asks victims when an incident happened, to better detect telescoping. This would allow respondents who want to report an incident a chance to respond accurately, but enable the researchers to potentially detect telescoping (and facilitate the exclusion of any out-of-range cases).

In addition, **the use of the open-ended item asking victims whether they want to provide any other information about the incident should be carefully evaluated**, given the tradeoff between survey length and data quality. Very few victims took the opportunity to provide additional information, with item missingness ranging from 85 to 90%. On the one hand, including qualitative opportunities like this can inform researchers' understanding of sexual victimization incidents, enable improvements to the classification of incidents, and provide a richness and a context to the data that are sometimes missing when only quantitative data are captured. However, if very few students take the time to respond to this (fairly burdensome) question, the resulting data will not be representative. The tradeoff is particularly important given the labor-intensive and complex nature of reviewing and coding open-ended responses.

Finally, based on the sexual assault perpetration estimates generated from the CCSVS Pilot Test, **further survey development work is needed for measuring perpetration**. The efforts of the CCSVS Pilot Test to measure self-reported sexual assault perpetration do not appear to have been successful. The very low prevalence estimates for perpetration (relative to the victimization estimates) and the fact that estimates were comparable for males and females (both in terms of reporting any perpetration and the specific tactics and number of incidents of perpetration endorsed) raise serious doubts about the validity of the perpetration data that were collected for the CCSVS Pilot Test. Although useful data about perpetrators was captured directly from victims in the incident-specific follow-up questions, estimates of the percent of students who perpetrated sexual assault during the reference period were of limited utility.

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