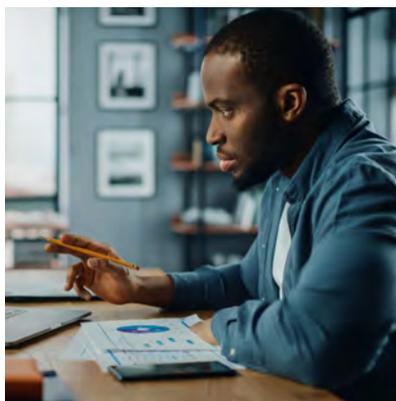# Examination of Data Representativeness and Factors Contributing to Observed Increases in Estimates of Violence Victimization in the Presence of Low Response Rates

NISVS
The National Intimate Partner and Sexual Violence Survey

2016/2017 Data Assessment Report

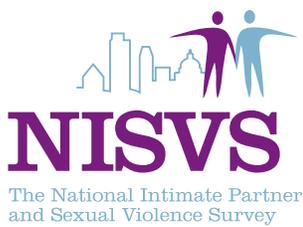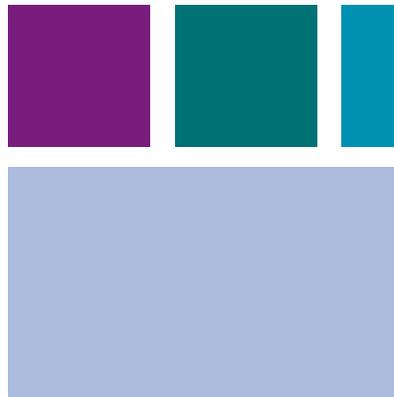# NISVS 2016/2017 Data Assessment Report: Examination of Data Representativeness and Factors Contributing to Observed Increases in Estimates of Violence Victimization in the Presence of Low Response Rates

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Abstract

The National Intimate Partner and Sexual Violence Survey (NISVS) has seen a substantial decline in response rates in recent years, like other random-digit-dial (RDD) surveys. The response rate declined considerably in 2016/2017 after remaining relatively stable during 2010-2012 and 2015. Additionally, although some prevalence estimates for sexual violence (SV) have been increasing since 2010, preliminary analyses of 2016/2017 data showed significant increases in prevalence estimates for selected forms of SV, stalking, and intimate partner violence (IPV) relative to earlier survey periods. These findings, in combination with the low response rate, raised concerns about the accuracy of the 2016/2017 data. This report describes the efforts taken to assess the representativeness of the 2016/2017 data and to understand the elevated prevalence estimates. The results suggest that increased NISVS estimates were likely due to (1) enhancements to the survey (e.g., additional stalking items), (2) changes in the instrument (e.g., moving the physical violence section to later in the interview), or (3) cultural shifts at the national level, such as increases in the public's ability to recognize SV or increased willingness to disclose their experiences. In exploring alternative explanations, we did not find reason to suspect that the increases in the NISVS victimization estimates were due to the demographic distribution of the sample, the proportion of the sampling frame devoted to cell phones, survey respondents' personal interest in the topic of the survey, or changes in the weighting methodology or the contractor that collected the data over time. The analyses indicated that our estimate for SV was consistent with the most appropriate external benchmark from a nationally representative, in-person survey with a much higher response rate than NISVS. These analyses seemingly lend credence to the NISVS prevalence estimates. In conclusion, some evidence supports the representativeness of the 2016/2017 NISVS data, despite the marked decline in response rates during this survey period. The report's findings support the use of the 2016/2017 data by CDC and external researchers in the fields of IPV and SV prevention. However, CDC encourages data users to include a clear description of the limitations of the 2016/2017 data and strongly cautions against comparing estimates from these data to those from earlier years, given changes made to the survey over time.

Background

The National Intimate Partner and Sexual Violence Survey (NISVS) is an ongoing, national random-digit-dial (RDD) telephone survey on sexual violence (SV), stalking, and intimate partner violence (IPV) victimization. The sample is drawn to be representative of the non-institutionalized English- and Spanish-speaking U.S. population age 18 years or older, and survey data are collected using a dual frame sampling strategy that includes landlines and cell phones in all 50 states and the District of Columbia. NISVS is designed to provide national and state-level prevalence estimates of these types of violence.

NISVS data collection began in 2010. The survey remained relatively consistent during the first three years of data collection (2010-2012). Changes to the survey instrument were piloted in 2013 before the survey was revised and administered again in 2015. More recently, changes were made to streamline the survey and simplify the resulting dataset structure, and the revised survey was administered twice between September 2016 and May 2017 (i.e., the 2016/2017 period). While response rates from the 2010-2012 survey period American Association for Public Opinion Research (AAPOR) weighted response rate formula RR4 ranged from 27.5%-33.6%)] declined somewhat compared to the 2015 survey period (AAPOR weighted RR4=26.4%), a much sharper decline in the response rate occurred in the most recent 2016/2017 survey period (AAPOR weighted RR4=7.6%). This decline in response rate for the 2016/2017 data collection was accompanied by a decline in weighted cooperation rates from about 80% in earlier years to approximately 59% in 2016/2017 (AAPOR weighted COOP4). The declines are largely attributable to potential respondents not answering their phones or opting not to participate and ending the interview prior to being told about the violence-related content. Nonetheless, this low response rate along with the decline in cooperation rate raises concerns about the representativeness of the 2016/2017 data. Analyses showed significant increases in prevalence estimates for selected forms of SV, stalking, and IPV in 2016/2017 relative to the earlier survey periods. These findings, in combination with the low response rate, raise concerns regarding the credibility of the data.

The purpose of this report is to

> I. Assess the representativeness of the 2016/2017 data relative to the target population it was selected to reflect,
>
> II. Describe the increases in prevalence estimates observed over time,
>
> III. Examine potential explanations for these increases, and
>
> IV. Consider the usefulness of the 2016/2017 data.

Factors that could have impacted the increases in prevalence estimates include

- differences in the demographic distribution of the samples,
- changes in the weighting methodology implemented,

- nonresponse bias,

- changes in the organization administering the survey,

- changes to the survey instrument administered over time, and

- respondents' increased willingness to disclose information on the sensitive topics measured by NISVS.

Methods

The representativeness of the 2016/2017 data was examined by comparing the distribution of the sample, after adjusting for selection probabilities, nonresponse, and post-stratifying to selected population controls, to that of the U.S. adult population. Next, we examined selected NISVS outcome estimates over time to identify significant differences (increases) in estimated lifetime prevalence overall and by selected demographic characteristics (age group, racial/ethnic group, education, and marital status), as well as past 12-month prevalence estimates overall. Data collection periods for comparison included NISVS 2010-2012 combined, NISVS 2015, and the surveys conducted from September 2016 through May 2017 (NISVS 2016/2017) combined. Violence victimization types examined included stalking (which required endorsement of any fear OR concern for ones' safety – Appendix A1), physical violence by an intimate partner (Appendix A2), and contact sexual violence (CSV) and its components: unwanted sexual contact, sexual coercion, completed or attempted rape, and completed or attempted experiences of being made to penetrate someone else (MTP) (Appendix A3). We also examined the health conditions diagnosed by a doctor, nurse or other health professional, including asthma, irritable bowel syndrome, diabetes, and high blood pressure, as well as respondent reports of (current) frequent headaches, chronic pain, and difficulty sleeping. These conditions were chosen as a benchmark because the population prevalence estimates are not expected to change substantially over time. Estimates were considered statistically significant ($p < 0.05$) if 95% confidence intervals did not overlap.

I. Representativeness of the Sample

One immediate concern given the low response rate for the most recent survey administration is whether the 2016/2017 sample is reflective of the study population it was chosen to represent. If the sample is skewed with respect to certain segments of the population that are less likely to participate in surveys, the resulting sample might not be representative of the target population. Further, if the characteristics of the sample differ from those of the population, then it is important to assure that adjustment for these differences through weighting is sufficient to avoid biasing prevalence estimates.

The contractor employed several measures to ensure that the resulting samples are reflective of the target populations they are intended to represent. These measures included drawing samples from both a landline and

a cell phone frame, using probability methods to select telephone numbers to be contacted in each frame, weighting the resulting data to account for unequal selection probabilities and nonresponse during various stages of respondent selection, and then calibrating the sample to the target population it is intended to represent.

We examined the demographic distributions of the sample after adjusting for differing selection probabilities and nonresponse (prior to calibrating to the population) by sample frame (landline vs cell) and respondent sex. For both women and men, respondents from the landline frame tended to be older, while those in the cell phone frame were more likely to self-identify as being a member of a racial/ethnic minority group than respondents from the landline frame (data not shown). Selecting respondents from both frames helps to ensure that the sample is representative of the population.

Table 1 shows the unweighted and weighted sample distributions for the 2016/2017 NISVS sample along with the distribution of the adult population age 18 years or older for 2015 (the most recent data year available at the time weights were being developed) for those demographic characteristics used to calibrate the data. While there were some differences between the unweighted sample and the combined male and female population data (females, older adults, and those more highly educated were overrepresented; respondents either of Hispanic ethnicity or Asian/Pacific Islanders were under-represented), weighting to adjust for selection probabilities and nonresponse bias and then calibrating to the population distribution of sex, age group, racial/ethnic group, education, and marital status allowed us to align the distribution of the sample to that of the U.S. population with respect to these characteristics. By virtue of the weighting process, the sample is representative of the target population on these demographic characteristics. Household income (not used in weighting) was also examined. When compared to the U.S. population, the weighted sample had a higher percentage of respondents with household incomes ranging from $15,000 - $24,999 (16.7% and 10.2% for the sample and the U.S. population, respectively) and a lower percentage of respondents in the highest income levels ($50,000 - $74,000: 12.7% for the sample, 17.8% for the U.S. population); and $75,000+: 28.8% for the sample, 37.1% for the U.S. population) (data not shown).

II. Increases Observed

Table 2 shows prevalence estimates for selected forms of violence victimization across the three periods studied. Patterns of increases by demographic characteristics (age group, racial/ethnic group, education, and marital status) were also assessed and are summarized below.

Stalking

While lifetime and past 12-month estimates of stalking remained relatively stable for both women and men from 2010-2012 to 2015, estimates increased for both sexes from 2015 to 2016/2017 (Table 2). Estimates of lifetime stalking increased approximately 10 percentage points (absolute difference) among women from 21.6% in 2015 to 32.1% in 2016/2017, and doubled for men (from 7.8% in 2015 to 16.1% in 2016/2017). Significant increases were seen from 2015 to 2016/2017 for all demographic subgroups (where numbers were not too small to assess) for both women and men (data not shown). Past 12-month estimates for women increased from 4.6% in 2015 to 6.9% in 2016/2017, while estimates for males increased from 2.3% in 2015 to 4.1% in 2016/2017 (Table 2).

Physical Violence by an Intimate Partner

While lifetime and past 12-month estimates of physical violence (PV) by an intimate partner remained relatively stable for both women and men from 2010-2012 to 2015, lifetime and past 12-month estimates of this type of victimization increased for both sexes from 2015 to 2016/2017 (Table 2). Increases in estimates of lifetime PV by an IP were seen for both women and men, from approximately 30% from 2010-2012 to 2015 to approximately 42% from 2015 to 2016/2017. Significant Increases were seen from 2015 to 2016/2017 for most demographic subgroups (where numbers were not too small to assess) for both women and men (data not shown). Past 12-month estimates for females increased from 2.9% in 2015 to 4.5% in 2016/2017, while estimates for men increased from 3.8% in 2015 to 5.5% in 2016/2017 (Table 2).

Contact Sexual Violence and Its Components

Contact sexual violence (CSV) has been increasing over time. Estimates of lifetime CSV increased from 2010-2012 to 2015 and again from 2015 to 2016/2017 for both women and men (Table 2). Among women, estimates of CSV increased from 36.3% to 46.3% to 54.3% from 2010-2012 to 2015 to 2016/2017, respectively; while estimates for men increased from 17.1% to 24.8% to 30.7% across the same time periods. Significant increases in estimates of CSV were identified from 2010-2012 to 2015 and from 2015 to 2016/2017 for many of the demographic subgroups studied (where numbers were not too small to assess) for both women and men (data not shown). A look at the components that comprise CSV showed increases across the three time periods for rape, sexual coercion, and unwanted sexual contact for women (Table 2). Being made to penetrate was not asked of women in 2016/2017 and was not assessed for women in 2010-2012 and 2015 due to small numbers. Among men, increases across the three time periods were seen for two of the four components of CSV: rape and unwanted sexual contact (Table 2). Increases in estimates of sexual coercion were seen only from 2010-2012 to 2015, while increases in estimates of MTP were seen only from 2015 to 2016/2017.

Among women, estimates of past 12-month CSV increased from 4.7% in 2015 to 7.6% in 2016/2017 overall, and for all of the components studied. No significant increases were observed for past 12-month CSV or its components from 2010-2012 to 2015. Among men, no increases in past 12-month estimates of CSV or its components were identified across adjacent study periods, although counts for past 12-month rape were too small to assess.

III. Factors that Might Have Contributed to the Increases Observed

Below, we examine several potential factors that might have contributed to the increases in prevalence estimates observed: differences in the demographic distribution of the samples, changes in the proportion of the sampling frame devoted to cell phones vs landlines, changes in the weighting methodology implemented, nonresponse bias, changes in the organization administering the survey, changes to the survey instrument administered over time, and respondents' increased willingness to disclose information about the sensitive topics measured by NISVS.

Differences in the Demographic Distribution over Time

If the population distributions across the three survey periods differed over time, and the characteristics they differed on were associated with the outcomes of interest, these differences could impact the prevalence estimates. Further, if the populations over time *were* similar, but the distribution across survey samples was not (i.e., a given sample was not representative of its intended target population), and characteristics that were over- or under-represented in the sample were associated with the outcomes of interest, then this phenomenon could also have impacted prevalence estimates.

The population demographic distribution was stable across the three study periods indicating that no shifts in population demographics contributed to the increases in prevalence estimates observed (data not shown). Like data from 2016/2017, data from the earlier survey years were weighted to account for selection probabilities, nonresponse bias, and population controls (sex, age group and race/ethnicity for 2010-2012 and 2015, and education and marital status for 2015). The demographic distribution for the three survey periods is presented in Table 3. With regard to the unweighted samples, the distributions were similar (within a couple of percentage points of one another) over the three study periods with just a few exceptions. Respondents in 2016/2017 tended to be older (25.9% age 65+) than those from 2010-2012 and 2015 (approximately 20%), and the racial/ethnic distribution varied slightly across all three periods. However, after weighting the data, differences in the distribution of age group and racial/ethnic group across the three survey periods were no longer present. The weighting procedures removed the risk that differences in the samples with respect to these characteristics could contribute to increased prevalence estimates. The distribution of sex also aligned. However, after

weighting, respondents in the 2015 and 2016/2017 samples tended to have less education than those in 2010-2012 (36.4% with a college education in 2010-2012 vs. approximately 28% in the later periods). In addition, the percentage of the sample that reported being married increased from approximately 45% in 2010-2012 and 2015 to 50.6% in 2016/2017. The final stage of weighting used demographic controls to post-stratify the sample to the demographic distribution of the target population it represents. We used respondent gender, age group and racial/ethnic group to calibrate the 2010-2012 sample to the population. This process was refined in 2015 and 2016/2017 to include both education and marital status as calibration variables in the weighting process. Because the weighting process in both 2015 and 2016/2017 used the same population controls to calibrate the samples, this change in the weighting approach does not explain the increases in violence victimization estimates seen from 2015 to 2016/2017. Thus, marital status and education, added to the population control totals used in the weighting process beginning in 2015, may have contributed to these differences in the weighted sample distribution and, to the extent that marital status and education are associated with NISVS outcomes, to the increases in prevalence estimates observed from 2010-2012 to 2015, but not to those seen from 2015 to 2016/2017.

Changes in the Make-up of the Sampling Frame over Time
While the proportion of the sampling frame devoted to cell phones did increase over time to keep in-step with increases in cell phone ownership, increases were moderate, with 55% to 60% of the frame devoted to cell phones in 2010-2012 to 67% in 2015 to 71% in 2016/2017. Given that the greatest increases in reports of victimization were observed between 2015 to 2016/17, the change in the percentage of the frame devoted to cell phones is an unlikely explanation for the increases in victimization prevalence observed.

Impact of Changes in the Weighting Methodology
The final stage of weighting uses demographic controls to post-stratify the sample to the demographic distribution of the target population it represents. We used respondent sex, age group, and racial/ethnic group to calibrate the 2010-2012 sample to the population. This process was refined in 2015 and 2016/2017 to include both education and marital status as calibration variables in the weighting process. Because the weighting process in both 2015 and 2016/2017 used the same population controls to calibrate the samples, this change in the weighting approach does not explain the increases in violence victimization estimates seen from 2015 to 2016/2017.

Nonresponse Bias
Like any surveillance system that relies on RDD survey data, NISVS 2016/2017 faced a serious threat from nonresponse and nonresponse bias. As suggested by the leverage-saliency theory (Groves, Singer, & Corning,

2000), a survey topic may exert different potential "leverage" on the cooperation decision for different individuals, tipping the scale on a sampled individual's decision to either accept or decline a survey request. Thus, a critical question to consider when investigating the usability of the NISVS 2016/2017 data is whether individuals who chose not to participate in the NISVS survey may differ in important ways from NISVS respondents. Some differences are ignorable. For example, differences in the demographic characteristics of the unweighted NISVS samples within a data collection period with respect to the target population represent ignorable nonresponse bias because these sample imbalances were adjusted for by weighting the data. Some other important differences, such as those introduced by a sample individual's predisposition to the survey topic, may not be corrected through weighting. One concern was whether the NISVS 2016/2017 sample included an unusually high proportion of adults who were particularly interested in the violence topics or who had experienced some forms of violence examined in NISVS. In the administration of NISVS, all sampled individuals were invited to participate in a survey about "health and injuries they may have experienced." Information about the violence topics was not provided as part of the initial consent. NISVS implemented a graduated consent process, through which the general health and violence-specific questions were disclosed only to individuals who were determined to be eligible and who had already agreed to take part in the survey. Although the cooperation rate was lower in 2016/2017 than in other survey years (59% in 2016/2017 vs 80% for earlier periods), the majority of persons whom interviewers made contact with and determined to be eligible agreed to participate in the survey in 2016/2017. Nearly all (approximately 96.3%) of the eligible respondents who ended the survey prematurely did so before being read the introduction to the victimization questions. Therefore, no evidence supports that survey content on violence served as a reason for participating or deciding not to participate in the survey. Further, the observed elevated prevalence estimates do not seem to be attributable to a particularly high proportion of victims agreeing to participate in the 2016/2017 survey.

Given that the increase in NISVS violence victimization prevalence estimates co-occurs with a decline in survey response rates and cooperation rates, concerns about differences in characteristics other than demographics in the 2016/2017 sample relative to the general population need to be considered. Three "benchmarking" approaches were taken to examine nonresponse. First, we examined NISVS data across the three survey periods, specifically identifying selected health conditions that are generally thought to remain relatively stable over time to understand whether such outcomes also increased. Next, we examined sources external to the NISVS survey, comparing NISVS estimates from 2016/2017 with those from in-person national surveys with higher response rates that ask similar questions on health conditions and violence victimization to those included in NISVS. Finally, we examined trends in nonvictimization prevalence estimates that we would expect

to remain stable over time from two other RDD surveys conducted during the same time period as the NISVS surveys that experienced similarly declining response rates.

Benchmarks Internal to NISVS

Looking within the NISVS surveys, we examined four health conditions diagnosed by a doctor, nurse, or other health professional (asthma, irritable bowel syndrome, diabetes, and high blood pressure) and three current health conditions (frequent headaches, chronic pain, and difficulty sleeping). No significant increases in medically diagnosed conditions occurred from 2010-2012 to 2015 or from 2015 to 2016/2017 (Table 4). Similarly, no increases were seen in frequent headaches across the three survey periods for women or men. Significant increases were seen for both women and men from 2010-2012 to 2015 for chronic pain and difficultly sleeping, and among women from 2015 to 2016/2017 for chronic pain, but increases were far less in magnitude than those seen for violence victimization. In summary, we found few increases in the health conditions studied, and the increases observed were small relative to the increases seen for violence. These findings suggest that there was not a general increase in health risks in the 2016/2017 sample.

External Benchmarks with In-person National Surveys

Next, we identified three surveys external to NISVS with which to make comparisons. The National Health and Nutrition Examination Survey (NHANES, https://www.cdc.gov/nchs/nhanes/index.htm), the National Health Interview Survey (NHIS, https://www.cdc.gov/nchs/nhis/index.htm), and the Medical Expenditure Survey (MEPS) household component (https://meps.ahrq.gov/survey_comp/household.jsp) are all in-person national surveys, which tend to have higher coverage and response rates (Range: 46.0% - 65.3%) than RDD telephone surveys, which have generally experienced declines in response rates in recent years (Blumberg & Luke, 2018). We identified three specific health conditions that could serve as benchmarks: asthma, diabetes, and hypertension. The weighted estimates for these health conditions across the four surveys appear in Table 5. The NISVS estimate for hypertension (30.0%) fell within the range of estimates provided by the other surveys (NHIS: 24.5% to MEPS: 33.6%). While NISVS 2016/2017 estimates of hypertension, asthma, and diabetes were not significantly different than those from NHANES, estimates of asthma and diabetes were higher than those from the two other surveys examined while estimates of hypertension were higher in NISVS 2016/2017 than one survey and lower than the other. However, given that significant differences in estimates for these health conditions were observed even within the three in-person surveys with response rates higher than NISVS, we recognize these results should be considered with caution as they may not be the best measures with which to benchmark NISVS.

For NISVS, a key outcome of interest includes SV victimization. The National Survey of Family Growth (NSFG) collects data on nonvoluntary sexual intercourse for both women and men, and nonvoluntary oral and/or anal sex among men, although limited to those who are 18 to 49 years of age. The weighted response rate for the NSFG for data collected between July 2015 and June 2017 was 65.3% (National Center for Health Statistics, 2018). NSFG is an in-person survey, but the questions on sexual victimization are asked in a part of the interview that is self-administered—audio computer assisted self-interviewing—with the interviewer turning over the laptop to the respondent and providing headphones. Two questions are used to create the estimate for unwanted vaginal intercourse for women: whether the first intercourse was unwanted and, if it was wanted, whether any intercourse was unwanted. Men are asked only whether any intercourse was unwanted. These composite measures correspond to two questions asked in NISVS: (1) asking about unwanted vaginal intercourse that was alcohol- or drug-facilitated, or (2) that occurred with physical force or threat. We computed estimates of these forms of violence victimization from both surveys, restricting the age range for NISVS to 18-49 years. Estimates appear in Table 6. The estimate of forced vaginal intercourse among women age 18-49 years from the 2016/2017 NISVS (20.1%, 95% CI: 18.5%-21.7%) was not significantly different from the most recent estimate of forced vaginal intercourse for women from the NSFG 2015-2017 continuous data collection (18.8%, 95% CI: 17.0%-20.6%) (ref: https://www.cdc.gov/nchs/nsfg/key_statistics/f_2015-2017.htm#forced). Similarly, no significant differences were seen between the two surveys for men being forced to have vaginal intercourse with a woman: 6.0% (95% CI: 5.0%-7.1%) from NISVS vs. 4.3% (95% CI: 3.6%-5.0%) from the NSFG. A single question in the NSFG survey is used to collect information on unwanted oral or anal sex for men: whether the male respondent has, at any time in his life, ever been forced by a man to have oral or anal sex against his will. This topic corresponds to eight questions asked in NISVS; four questions asked about situations that were alcohol- or drug-facilitated and involving a male perpetrator and the same four questions asked under conditions of physical force or threats of physical harm: put his mouth on your penis, put his penis in your mouth, put his penis in your anus, and made you put your penis in his anus. The estimate for unwanted oral/anal sex for males for NISVS 2016/2017, 3.5% (95% CI: 2.8%-4.3%), was not significantly different from the 2.3% (95% CI: 1.5%-3.1%) estimated from the NSFG. The consistency between the NISVS estimates and those from the NSFG provides some external support for the accuracy of the 2016/2017 NISVS estimates.

External Benchmarks with Other RDD Surveys

Declining response rates are not unique to NISVS. We examined non-victimization prevalence estimates and the evaluation of trends found in two other RDD surveys conducted during the same time period as the NISVS surveys that experienced similarly declining response rates: the Ohio Medicaid Assessment Survey (OMAS) 2010-2017 data (n.d.), and the California Health Interview Survey (CHIS) 2009-2016 data (2019). Response rates for adult participation in the CHIS declined from 15.0% in 2013-2014 to 6.7% in 2017

(http://healthpolicy.ucla.edu/chis/design/Pages/methodology.aspx), and the OMAS response rate declined from 36.3% in 2010 to 21.3% in 2017 (http://grc.osu.edu/OMAS). Estimates for high blood pressure, heart disease, and diabetes remained almost identical over time in OMAS, and estimates of self-reported health status, past 12-month psychological distress, and voluntary sexual activity (more than one partner, and number of partners in the past 12 months) in CHIS remained relatively stable, indicating the decline in response rate does not necessarily result in nonresponse bias (data not shown).

Changes in the Organization Administering the Survey

The NISVS surveys were conducted during three different periods, with the data collection contract going out for bid before the start of each new period. As a result, the survey was conducted by the same survey organization for the 2010-2012 and the 2016/2017 periods, but by a different organization in 2015. Survey organizations vary in how they collect data in ways that cannot be evaluated without special experimental designs. Such variations in data collection include recruitment methods for interviewers; interviewer training, monitoring and feedback; and call scheduling algorithms, among others. In fact, even though the 2010-2012 and 2016/2017 surveys were administered by the same organization, variations in administration could have occurred. New interviewers were brought on over the course of these two periods, but recruitment and selection strategies remained constant. Similarly, changes in training were made over the course of the study, but those changes were minor (e.g., additional hands-on practice prior to live calling, debriefing, and support from quality experts). Some evidence suggests that interviewers less experienced with administering a specific survey may better solicit disclosures of sensitive behaviors (Chromy, Eyerman, Odom, McNeeley, & Hughes, 2005). However, if interviewer experience level was a major reason for the higher estimates in 2015 and 2016/2017, estimates should have also been higher in 2010, when the study first started, compared to 2011 and 2012, when many of the interviewers were no longer new to NISVS (interviewers from 2010 were retained for 2011 and 2012 as data collection was continuous over the three years) — yet this did not occur (results not presented). Given that changes in estimates were observed over time even when using the same survey organization, the observed prevalence increases are unlikely to be explained by changes in survey organizations.

Changes in Survey Instruments across Survey Periods

While increases were seen across all three survey periods for most forms of lifetime SV victimization among both women and men, increases in estimates of lifetime stalking and physical violence by an intimate partner were seen only from 2015 to 2016/2017. This next section explores changes in the survey instrument over time that may have contributed to these increases. These include both changes to the survey questions themselves as well as the order in which the questions on specific topics were asked. Question order might be important for

two reasons. First, answering questions about one form of violence victimization may remind respondents of other forms of violence victimization experienced. Second, administering certain questions later in the survey may have allowed the interviewer to build a rapport with the respondent, which may make respondents more willing to disclose information on those sensitive topics that are asked later in the survey. For all three study periods, demographic information was collected first, and the health conditions questions were administered before the victimization questions.

Sexual Violence Victimization. The SV questions were asked as the third victimization section in 2010-2012 and 2015and the second in 2016/2017. This changecould have allowed less time for interviewers to build rapport with respondents and fewer non-SV victimization questions would have been asked first, potentially allowing less time for the respondent to recall SV experiences or less opportunity for non-SV questions to evoke memories of SV experiences. In addition, there were no differences in the SV behaviors asked across the three survey periods with one exception: made to penetrate for female victims, which had limited reporting in 2010-2012 and 2015, was removed from the survey in 2016/2017. Further, fewer items were included in the composite measure of CSV in 2016/2017 than in earlier years. However, if these factors had any impact at all, they theoretically would have resulted in underreporting or a lower prevalence rate of CSV in 2016/2017. Therefore, it does not seem appropriate to attribute the increases in SV estimates observed from 2010-2012 to 2015 and from 2015 to 2016/2017 to changes in question order or survey questions over time.

Stalking Victimization. Like SV, the section of questions on stalking was asked earlier in the NISVS 2016/2017 survey (first violence victimization module) relative to the prior survey years (third module). We do not believe that this change in question order contributed to the increased reporting because, if anything, the change resulted in less time for interviewers to build rapport with respondents.

There were no differences in the stalking tactics asked from 2010-2012 to 2015 (the time period during which no increases were seen in disclosure). However, two main differences in the way stalking tactics were asked in 2016/2017 might have contributed to the increases (from 2015) observed for stalking estimates. First, the single item which asks about being watched or followed from a distance, or spied on with a listening device, camera. or GPS in 2010-2012 and 2015 was split into 3 separate questions in 2016/2017: (1) followed you around and watched you when you did not want them to, (2) used GPS technology or equipment to monitor or track your location when you did not want them to, and (3) used technology such as a hidden camera, recorder. or computer software to spy on you from a distance. While 5.3% of women reported the single item – watched or followed you from a distance, or spied on you with a listening device, camera, or GPS - in 2015, 25.2% reported

the comparable items combined in 2016/2017, with the majority (18.7%) reporting the tactic followed you around or watched you when you did not want them to (data not shown). The pattern was similar among men with 1.1% endorsing the single item in 2015, and 13.5% endorsing the comparable combined items in 2016/2017. These findings suggest that asking multiple behaviorally specific questions to assess stalking victimization as opposed to one broad question could have contributed to increases in stalking victimization.

Second, in response to feedback from experts in the field, the criteria for coding a person as a stalking victim was expanded in the 2016/2017 administration. First, the questions that assessed levels of fear (i.e., a little fearful, somewhat fearful, very fearful) were removed. Consequently, respondents who reported any fear were counted as a stalking victim. This revision automatically increased the pool of respondents coded as potential stalking victims. Next, threats were added to the stalking victimization criteria, specifically including those who felt threatened or received threats of physical harm. Additionally, while information was collected regarding threats of physical harm for all three survey periods, text was added to the follow-up questions in 2016/2017 to encourage respondents to include threats of physical harm even if they did not take them seriously, as follows: "Please include ALL people … EVEN if you did not take the threat seriously or did not feel threatened or concerned for your safety or the safety of others." This change was made in part because some individuals experience stalking that includes a threat of physical harm, but the victim might feel that the perpetrator is unlikely to act on the threat. This clarification of the criteria likely resulted in increased disclosure of experiences involving threats of physical harm. Among women, reports of threats of physical harm nearly doubled from 12.7% in 2015 to 21.3% in 2016/2017, while estimates in 2016/2017 (12.8%) were more than 2.5 times those of 2015 for men (4.9%) (data not shown).

A look at individual stalking tactics where there was no change in wording across survey years showed little change in the percentage of female or male respondents reporting any given tactic from 2015 to 2016/2017. However, reports of fear or concern for one's safety or the safety of others increased from 21.6% to 28.3% among women and from 7.8% to 11.3% among men across the two time periods (data not shown). The changes to the stalking section described above, along with increased reporting of fear to a lesser degree, all contributed to the increases in stalking estimates observed from 2015 to 2016/2017 for both men and women.

Physical Violence by an Intimate Partner. There were no differences in the types of behaviors used to assess physical violence by an intimate partner across the three survey periods. There were differences in the order of the survey questions across the three periods. While physical violence by an intimate partner was the first violence victimization section asked in the 2010-2012 and 2015 surveys, it was one of the last sections

administered in 2016/2017. The relocation of these questions to the end of the survey could have resulted in respondents being primed to recall incidents of physical violence after answering the questions preceding that section. In addition, administering the physical violence questions later in the survey could have allowed interviewers to build rapport with respondents, which may have resulted in respondents' feeling more willing to report these situations in the 2016/2017 survey administration than in earlier survey periods. A look at individual physical violence behaviors shows significant increases from 2015 to 2016/2017 for both women and men, with the largest absolute increase among women (11.9%) and men (13.9%) in being pushed or shoved. In addition, reports of being slammed against something increased by almost 10 percentage points (absolute difference) from 2015 to 2016/2017 (data not shown).

Increased Willingness to Disclose Victimization

Major events related to rape and other SV victimization that became public at the conclusion of the 2010-2012 data collection and again during and after the 2015 data collection resulted in increased interest in these topics online. Specifically, these events led to online interest measures being twice as high compared to the levels in the few years preceding (and during most of) the 2010-2012 data collection. For instance, Figure 1 shows the Google Trends for interest in the terms "rape" and "sexual assault" relative to the highest point in the 2004-2018 period. The most notable peaks for "rape" were in the second half of 2012 following reports of an assault by high school athletes in a Midwestern town, which remained in the news through the sentencing in March 2013, and a gang rape in India in December 2012. Additional peaks occurred in late 2014 following a reported gang rape on a university campus and in 2016 following the sexual assault of an unconscious woman by a university athlete, as well as highly publicized discussions of potential incidents of politicians' SV perpetration. Relevant to the 2016/2017 data collection, a number of major events included mention of SV prevention. For example, the 2015 Grammy Awards aired a video of then-President Obama highlighting sexual assault prevention and the *It's On Us* campaign; then-Vice President Biden spoke about SV at a 2016 televised awards ceremony that reached approximately 10% of the nation's population (Academy of Motion Picture Arts and Sciences, 2016); the disclosure of decades of allegations of sexual harassment against an entertainment mogul that began in October 2017 and the ensuing allegations against many men in positions of power all likely contributed to greater awareness of the different types of SV and the consequences. This could have potentially influenced willingness to disclose victimization experiences. Indeed, some activities during this time, such as the #MeToo movement, provided support for disclosure. These events are by no means exhaustive, but this partial list highlights the types of high-profile stories that received considerable media coverage and may provide context for how society was being affected.
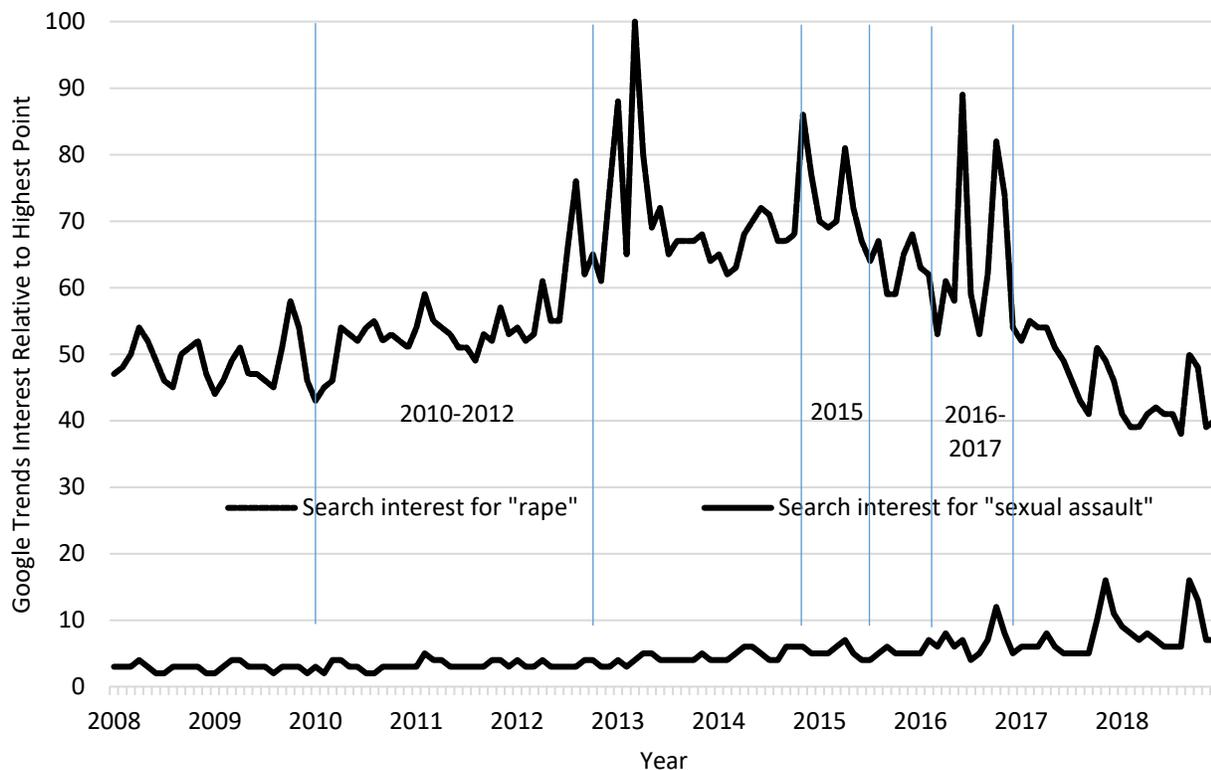
Figure 1. Google trends interest measures for "rape" and "sexual assault" in the United States, from January 2008 to December 2018.

The increased attention on SV surrounding these events occurred mostly after the 2010-2012 data collection, and the effect of these events may not be instantaneous and may be cumulative. These events often led to protracted investigations and although they may not present as new events being searched online, they may continue to receive media coverage that can gradually contribute to a shift in perceptions in society that can change awareness about what SV is and willingness to disclose victimization. Indeed, a study examining differences in media coverage of SV-related news articles by region and year (from 2014-2017) found significantly more media coverage of sexual harassment and inclusion of the words "sex scandal", "scandal", "accuser" and "accused" in 2017 compared to 2014-2016, whereas it found significantly less coverage of rape and sex trafficking in 2017 compared to earlier periods (Egen, et al., 2020). This study's findings may indeed reflect greater attention in 2017 on allegations of sexual harassment and exploitation involving well-known public figures.

IV. Summary

NISVS was designed to produce a nationally representative sample. During the 2016/2017 data years, the NISVS survey was completed by over 27,500 individuals across the United States. However, NISVS response and cooperation rates declined considerably during this administration compared to prior survey periods. Further, preliminary analyses of the 2016/2017 data demonstrated higher prevalence estimates for selected forms of IPV, SV, and stalking relative to that of earlier survey periods. The declines in both response and cooperation rates are largely attributed to potential respondents not answering their phones or opting not to participate in the survey without knowing about the violence content in the interview. However, these low rates combined with the observed increases in prevalence estimates relative to prior surveys raise concerns about the representativeness and accuracy of the most recent data. Thus, analyses were conducted to examine several factors that could have accounted for the increases observed.

Findings related to our research on these issues are briefly provided below. Ultimately, little evidence from these analyses suggests that the increased prevalence rates observed are completely explained by the factors we examined but rather may have been related to respondents' increased willingness to disclose victimization – perhaps in light of increased media attention on SV in recent years.

Sample Demographics and Characteristics:

- Although some differences between the sample and the population distributions existed with respect to the demographic characteristics studied, the weighting process aligned the sample with the target population with respect to sex, age group, race/ethnicity, marital status, and education. Thus, variations in these sample demographics should not account for the differences observed in prevalence estimates.

- The sample and the U.S. population differed with respect to household income, even after weights were applied. Thus, estimates may reflect some nonresponse bias to the degree that household income, as well as other unmeasured characteristics that differ between the sample and the population, may be associated with violence victimization (e.g., to the extent that lower household income is associated with violence victimization).

- The proportion of the sampling frame devoted to cell phones increased over the course of the study to keep in-step with the increases in cell phone ownership, but increases were moderate, making this an unlikely explanation for the magnitude of increases in reported violence victimization observed from 2015 to 2016/2017.

- A similar weighting process was used for each survey period, aligning samples with their respective target populations (sex, age group and race/ethnicity for 2010-2012 and 2015, and education and marital status for 2015) and adjusting for over- or under-representation of particular demographic groups within the samples. Population distributions on which weighting alignment was based remained fairly stable over time, and adjusting for over- or under-representation of demographic groups ruled out differences in the demographic make-up of the samples as a possible explanation for the increases in violence victimization observed.

Assessing Potential Nonresponse Bias and External Benchmarks for NISVS Prevalence Estimates:

- Prevalence estimates for several health conditions across three different in-person surveys with response rates higher than NISVS were examined to assess nonresponse bias. While NISVS estimates for some of these outcomes were significantly different than those from other surveys, so too were estimates for these health conditions among the three in-person surveys, each with a different design; thus, these results should be considered with caution as they may not be the best measures with which to benchmark NISVS.

- NISVS 2016/2017 estimates of forced vaginal intercourse for both female and male victims and forced oral/anal sex for male victims (with male perpetrators) among those age 18-49 were compared with those from the 2015-2017 NSFG (in-person interview with a response rate 65.3%). The NISVS 2016/2017 estimates of forced vaginal intercourse for female and male victims and those for male unwanted oral/anal were not significantly different from those from the NSFG.

- Few violence victimization estimates exist with which to compare NISVS outcomes; however, comparisons conducted for this study provide some assurance that NISVS estimates for SV are comparable to relevant external benchmarks with higher response rates. Importantly, NISVS is the only nationally representative survey in the field to measure intimate partner violence, SV, and stalking with behaviorally specific items. Thus, identifying relevant benchmarks for many outcomes is difficult. Further, comparing NISVS prevalence estimates to estimates generated by some other surveys, including crime-related surveys, should be carefully considered and is not always appropriate because of important measurement and methodological differences.

- Interest or disinterest in the content of the survey could contribute to nonresponse bias. However, the violence victimization survey focus is not disclosed until several minutes into the survey after demographics and health questions are asked, and there is no indication that respondents drop off upon

introduction of the violence victimization questions. Thus, it does not seem that nonresponse is influenced by respondents' desire (or lack thereof) to discuss violence issues.

Changes in the Organization Administering the Survey and in the Survey Instrument:

- The NISVS 2015 survey was administered by a different organization than the surveys for 2010-2012 and NISVS 2016/2017. Survey organizations vary in how they implement data collection in ways that cannot be evaluated without special experimental designs. While the impact of such variations cannot be assessed using NISVS data, differences in implementation are unlikely to explain the differences in estimates across the survey years.

- The NISVS instrument changed between survey administrations with respect to order of survey questions, the number of questions comprising a composite measure, and question wording. Such changes could affect disclosure in specific ways. Inclusion of more specific questions comprising a composite stalking measure could have contributed to observed stalking prevalence increases, particularly given that increases in stalking estimates were only seen from 2015 to 2016/2017 when the changes to the survey instrument were implemented. Additionally, relocation of the physical violence questions from the beginning to the end of the survey could have resulted in a context effect in which respondents were reminded of victimization experiences after answering other questions that preceded the physical violence section. Moreover, moving these questions to later in the survey could have facilitated rapport-building with respondents, potentially resulting in solicitation of more honest responses to these questions in the 2016/2017 survey administration. Still, while these changes could have contributed to increases in specific outcomes of interest, they likely do not fully explain all of the increases observed.

Increased Willingness to Disclose Victimization Experiences:

- Several major events related to rape and other SV victimization gained publicity during and after the conclusion of the 2010-2012 data collection that likely contributed to increased awareness about SV. The effect of these events may not have been instantaneous and could have accumulated over time. Events reported in the media often led to protracted investigations that received extensive media coverage. Such visibility may have contributed to a shift in societal perceptions that could have affected ability to recognize SV and increased willingness to disclose past experiences of SV victimization, resulting in the increased prevalence rates observed between NISVS survey administration periods. Moreover, this increased disclosure could have potentially resulted in improved assessment of multiple forms victimization measured by NISVS.

Limitations:

At least two general limitations should be considered when interpreting these results. First, data were unavailable for nonrespondents. While a nonresponse follow-up phase (i.e., Phase-2) – in which a random sample of nonrespondents from the regular interview period were recontacted with an offer of a higher incentive to participate in the survey – was implemented as a means to temper the impact of nonresponse bias by collecting data from respondents who would have been otherwise missed, we cannot determine the degree of similarity between respondents in both phases and nonrespondents with respect to their demographic, health, and other characteristics including their victimization experiences. Larger incentives and more experienced interviewers can elicit participation from those who are more like the remaining nonrespondents. To the degree that late respondents differ from early respondents, and to the degree that non-respondents resemble late respondents, inclusion of Phase-2 will have served to reduce to some degree any biases in the data that may have resulted had they not been included. However, by weighting the data to adjust for selection probabilities and nonresponse bias, and then calibrating to the population distribution of sex, age group, racial/ethnic group, education, and marital status we were able to align the distribution of the sample to that of the U.S. population and reduce the possibility that differences in these demographic characteristics of the sample are a possible source of bias.

Second, few surveys exist that ask behaviorally specific questions in a health context with which to compare NISVS prevalence estimates, and those that do exist use different data collection methods. Although we were able to compare the violence victimization experiences of our study respondents to those based on a survey with a higher response rate, this comparison could only be accomplished for a subset of respondents in our sample (ages 18-49) and for a very limited number of violence victimization behaviors.

Conclusion:

In sum, some evidence supports the representativeness of the 2016/2017 NISVS data, despite the marked decline in response rates during this survey period. Other RDD telephone surveys conducted during the same time period as the NISVS surveys and with declining response rates showed consistency in medically diagnosed health conditions and self-reported health status, psychological distress and sexual activity estimates over time, providing further evidence that a decline in response rates does not necessarily result in nonresponse bias (data not shown). While response rate is an important indicator of survey quality, studies have shown that there is not necessarily a direct proportional relationship between a survey's response rate and the accuracy of survey results (Curtin, Presser, & Singer, 2000; Keeter, Kennedy, Dimock, Best, & Craighill, 2006; Seon Choung et al., 2013). Further, a growing body of literature underscores that response rates are not a reliable indicator of

response bias (e.g., Keeter, Hatley, Kennedy, & Lau, 2017; Groves & Peytcheva, 2008). Specifically, Groves & Peytcheva (2008) suggest that nonresponse bias is most likely to occur when the reasons respondents participate in the survey are highly correlated with survey variables. Thus, the fact that NISVS respondents learn later in the survey about the violence content should help buffer against nonresponse bias.

In exploring alternative explanations for increases in NISVS victimization estimates, we did not find reason to suspect that they are due to nonresponse, changes in survey organizations, or weighting methodology. Changes in question order (physical violence by an intimate partner) and survey questions (stalking), as well as differences in the sample (e.g., household income and other unmeasured characteristics) may have contributed to some, but not all, of the increases observed. However, our results suggest that asking multiple behaviorally specific questions as opposed to one broad question about a type of victimization may help improve disclosure and thus be an important contribution to the field of IPV and SV surveillance and prevention, as these improvements can result in generation of more accurate and valid prevalence estimates.

The analyses described herein cannot provide a definitive answer as to whether the public's willingness to report IPV, SV, and stalking victimization increased between NISVS survey administrations. However, to the extent that no evidence was found in strong support of any of the alternative explanations (with the exception of changes to survey questions and the order in which they were asked), increased willingness to disclose victimization experiences appears to be a plausible explanation for the increases in estimates of IPV, SV, and stalking outcomes as measured by NISVS. Given the magnitude of the changes from 2015 to 2016/2017 and the fact that the increases observed were not limited to recent (past 12 month) victimization but are also seen in reports of lifetime victimization, increases in victimization in the population are unlikely. An increase in willingness to disclose victimization experiences would be consistent with increases in both lifetime and past 12-month estimates of violence victimization. Although the impact of increased willingness to disclose is undesirable for tracking change over time in that it can result in substantial increases from one year to the next, this change would be advantageous for NISVS as it implies reduced underreporting—i.e., less measurement error.

Sociocultural events regarding reports of SV victimization that occurred during the data collection period could have influenced disclosure of SV and IPV, both as a function of reducing stigma associated with underreporting of victimization and increasing respondents' understanding of what constitutes SV victimization. Still, given the significant increases in both recent and lifetime victimization estimates, it is unwise to completely dismiss the possibility that population-level victimization truly did increase, particularly as a recent report of NCVS data

suggests that self-reported rape or sexual assault increased significantly in 2018 from rates in 2014-2017 (Morgan & Oudekerk, 2019). Thus, continued monitoring of these outcomes is warranted. Furthermore, obtaining data about whether respondents' understanding of the behaviors that constitute SV victimization has changed over time could provide context to improve our understanding of patterns observed in NISVS data over time.

Caution is advised when interpreting changes in these estimates over time, as important methodological changes that could have contributed to changes in prevalence estimates (e.g., changes to survey questions and question order) have been made to the survey over time and an increased willingness to disclose victimization over time – potentially related to current sociopolitical events – could result in a misinterpretation of abrupt and unexplainable increases in victimization between survey periods. The analyses presented in this report provide support for use of the 2016/2017 data with important limitations and caveats described above, including an inability to fully assess nonresponse bias and a description of factors that could have contributed to increases in prevalence estimates observed over time. We recommend clearly reporting the limitations of these data and strongly advise against comparing prevalence estimates to earlier data collection periods (2010-2012, 2015) due to the marked increases in disclosed victimization coupled with the aforementioned limitations.

Addendum:

NISVS data collected from April 6 through October 5, 2018, became available after completion of this report. Like 2016/2017, the 2018 collection was a national RDD telephone survey designed to be representative of the non-institutionalized English- and Spanish-speaking U.S. population age 18 years or older. Survey data were collected in all 50 states and the District of Columbia using a dual frame sampling strategy that included both landlines and cell phones. While the response rate for this data collection (8.5%) was similar to that from 2016/2017 (8.2%), the cooperation rate was much lower (59% in 2016/2017 vs 26.5% in 2018). Examination of final call dispositions showed that a higher percentage were classified as refusals (which impacts the cooperation rate) in 2018 (16.8%) relative to the earlier period (3.7%), offset by a lower percentage classified as interviews of unknown eligibility, specifically no contact/no answering machine (20.9% in 2016/2017 vs. 13.0% in 2018). In addition, a much higher percentage of those selected for the non-response follow-up period of data collection (i.e., Phase 2) were coded as refusals in 2018 (5.8%) than in 2016/2017 (<1%).

While a low cooperation rate is not necessarily an indicator of lack of representativeness of the sample, it adds to the unfavorable survey quality measures, calling into question whether the intended probabilistic survey sampling design was interrupted beyond correction through weighting. Given that we have no way of knowing how the low percentage of those who agreed to participate in 2018 differed from the approximately 60% that agreed to participate in 2016/2017 on factors we did not measure that may be associated with our outcomes, we chose to err on the side of caution and exclude the 2018 data year from future analysis.

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Table 1. Demographic Characteristics of the NISVS 2016/2017 sample (N=27,571 completed interviews) and the U.S. Population, Adults Aged 18+ years

Demographic Characteristics	Females (%) Sample N = 15,152			Males (%) Sample N = 12,419			Total (%) Sample N = 27,571		
	NISVS		U.S.	NISVS		U.S.	NISVS		U.S.
	Unweighted Sample	Combined Samples, Post-stratified	2015 Popula-tion[1]	Unwtd Sample	Combined Samples, Post-stratified	2015 Popula-tion[1]	Unwtd Sample	Combined Samples, Post-stratified	2015 Popula-tion[1]
Characteristics Used to Weight the Data									
Sex									
Female	100.0	100.0	100.0	0.0	0.0	0.0	55.0	51.4	51.4
Male	0.0	0.0	0.0	100.0	100.0	100.0	45.0	48.6	48.6
Age									
18-24	6.8	12.3	12.0	9.8	13.6	13.3	8.2	12.9	12.6
25-29	6.3	8.2	8.6	7.4	8.8	9.4	6.8	8.5	9.0
30-44	20.5	25.2	24.6	21.3	26.7	25.8	20.9	25.8	25.2
45-64	39.3	34.2	33.8	37.1	34.4	34.0	38.3	32.3	33.9
65+	27.1	20.1	21.0	24.5	16.5	17.5	25.9	18.4	19.3
Race/Ethnicity[2]									
Hispanic	9.3	14.5	15.0	9.2	15.6	16.0	9.2	15.0	15.5
White, Non-Hispanic	72.9	65.2	64.2	73.1	65.6	64.7	73.0	65.4	64.5
Black, Non-Hispanic	10.9	12.3	12.4	9.5	11.4	11.5	10.3	11.8	12.0
Asian or Pacific Islander, Non-Hispanic	2.0	5.6	5.9	3.2	5.2	5.4	2.5	5.4	5.7
American Indian or Alaska Native, Non-Hispanic	1.4	0.6	0.6	1.5	0.6	0.6	1.4	0.6	0.6
Multiracial, Non-Hispanic	3.6	1.7	1.8	3.6	1.7	1.8	3.6	1.7	1.8
Education[2]									
Didn't graduate from high school	6.6	10.8	12.1	6.7	10.3	13.8	6.7	10.8	12.9
High School Graduate	19.5	24.8	26.9	21.9	27.9	29.0	20.5	26.3	27.9
Technical school / college	20.4	25.5	23.7	18.6	23.5	22.8	19.6	24.0	23.3
Associate's Degree	10.9	12.1	8.7	8.9	11.4	6.9	10.0	11.8	7.8
Four year college graduate	22.8	15.4	18.3	23.8	14.7	17.3	23.3	15.0	17.8
Postgraduate	19.7	12.2	10.4	20.1	12.0	10.1	19.9	12.1	10.2
Marital Status[2,3]									
Married	46.8	48.7	48.1	49.8	52.6	51.8	48.1	50.6	49.9
Divorced	15.5	12.7	12.9	12.3	9.9	10.2	14.0	11.3	11.6
Separated	2.6	2.7	2.5	2.1	2.2	1.8	2.4	2.5	2.1
Widowed	11.9	9.5	9.4	4.4	2.7	2.7	8.5	6.2	6.1
Never married	17.1	19.6	27.2	24.9	26.5	33.4	20.6	23.0	30.2
Not married, living with partner	5.9	6.3	▓	6.2	5.8	▓	6.0	6.1	▓

1 Source: U.S. Census Bureau, 2015 American Community Survey (ACS) 1-Year Estimates and 2015 ACS 1-year PUMS estimates. Available from: https://www.census.gov/programs-surveys/acs/data/summary-file.2015.html.

2 Estimates in NISVS data may not add up to 100% due to missing data, responses of don't know, refusals, and those "Other-Specify" responses which were not classifiable.

3 The category 'Never Married; in the ACS includes those not married but living with a partner

Note: Cells in grey indicate data that were not assessed.

Table 2. Comparison of Selected Estimates of Violence Victimization across Survey Periods

Sexual Violence	Lifetime			Past 12 Months		
Type or Subtype	2010-2012	2015	2016/2017	2010-2012	2015	2016/2017
	Pct (95% CI)	Pct (95% CI)	Pct (95% CI)	Pct (95% CI)	Pct (95% CI)	Pct (95% CI)
Females						
Contact Sexual Violence[1]	36.3 (35.3-37.2)	**46.3 (41.9-45.2)**	**54.3 (52.9-55.7)**	4.0 (3.6-4.4)	4.7 (4.0-5.4)	**7.6 (6.9-8.4)**
Rape	19.1 (18.3-19.9)	**21.3 (20.0-22.7)**	**26.8 (25.6-28.1)**	1.2 (1.0-1.5)	1.2 (0.9-1.7)	**2.3 (1.9-2.8)**
Sexual Coercion	13.2 (12.5-13.9)	**16.0 (14.9-17.3)**	**23.6 (22.4-24.8)**	2.0 (1.7-2.3)	2.4 (1.9-3.0)	**3.7 (3.2-4.3)**
Unwanted Contact	27.5 (26.7-28.4)	**37.0 (35.5-38.6)**	**47.6 (46.2-49.0)**	2.1 (1.8-2.4)	2.7 (2.2-3.3)	**5.3 (4.7-5.9)**
Stalking (Previous criteria)[2]	22.0 (21.2-22.8)	21.6 (20.2-22.9)		5.9 (5.4-6.5)	4.6 (3.9-5.4)	
Stalking (Expanded criteria)[2]			**32.1 (29.9-32.5)**			**6.9 (6.2-7.7)**
Physical Violence, Intimate	32.4 (31.5-33.4)	30.6 (29.1-32.2)	**42.0 (40.6-43.4)**	3.9 (3.5-4.4)	2.9 (2.3-3.5)	**4.5 (3.9-5.2)**
Males						
Contact Sexual Violence[3]	17.1 (16.3-17.9)	**24.8 (23.2-26.5)**	**30.7 (29.3-32.1)**	3.7 (3.3-4.2)	3.5 (2.9-4.3)	4.6 (4.0-5.3)
Rape	1.5 (1.3-1.7)	**2.6 (2.0-3.2)**	**3.8 (3.3-4.4)**	0.2 (0.1-0.3)	--[a]	0.3 (0.2-0.5)
Made to Penetrate	5.9 (4.4-6.5)	**7.1 (6.2-8.1)**	**10.7 (9.8-11.7)**	1.5 (1.2-1.8)	0.7 (0.5-1.1)	1.3 (1.0-1.7)
Sexual Coercion	5.8 (5.3-6.3)	**9.6 (8.5-10.7)**	10.9 (10.0-11.9)	1.4 (1.1-1.7)	1.6 (1.2-2.1)	1.9 (1.6-2.4)
Unwanted Contact	11.0 (10.3-11.7)	**17.9 (16.5-19.4)**	**23.3 (22.0-24.6)**	1.7 (1.4-2.0)	2.0 (1.5-2.5)	3.0 (2.5-3.6)
Stalking (Previous criteria)[2]	7.5 (7.0-8.2)	7.8 (6.9-8.9)		2.4 (2.1-2.8)	2.3 (1.8-3.0)	
Stalking (Expanded criteria)[2]			**16.1 (15.0-17.2)**			**4.1 (3.6-4.7)**
Physical Violence, Intimate	28.3 (27.3-29.3)	31.0 (29.2-32.7)	**42.3 (40.8-43.8)**	4.7 (4.2-5.2)	3.8 (3.2-4.6)	**5.5 (4.8-6.2)**

Estimates in bold significantly different from the survey period before as determined by non-overlapping confidence intervals.

[1] Includes rape, being made to penetrate (MTP), sexual coercion, and unwanted sexual contact. MTP was not asked of females in 2016/ 2017. Because MTP is rare among females (e.g., 0.5% in 2010-2012), it is not presented as an individual subcomponent for other years.

[2] Estimates for stalking in 2016/2017 are presented separately due to changes in the criteria, stalking tactics, and in the measure for threats of physical harm. See report section "Differences in Survey Instruments Across Survey Periods for details regarding these changes.

[3] Includes rape, being made to penetrate, sexual coercion, and unwanted sexual contact.

[a] Estimates statistically unstable, not reported; relative standard error > 30% or cell size $\leq$ 20.

Note: Cells in grey indicate data that were not assessed.

Table 3. Percent Distribution of Demographic Characteristics in the NISVS Sample across Survey Periods

Trait	2010-2012		2015		2016/2017	
	Unweighted	Weighted[1]	Unwtd	Wtd[2]	Unwtd	Wtd[2]
Respondent Sex						
Male	45.1	48.6	42.9	48.2	45.0	48.6
Female	54.9	51.4	57.1	51.8	55.0	51.4
Age Group						
18-24 yrs	9.7	13.1	9.8	10.6	8.2	12.9
25-34 yrs	15.9	17.7	15.5	18.0	13.9	17.6
35-44 yrs	14.8	17.5	15.2	17.4	13.7	16.8
45-64 yrs	39.5	34.6	38.8	35.4	38.3	34.3
65+ yrs	19.6	16.6	20.7	18.7	25.9	18.4
Race/Ethnicity						
Hispanic	7.7	13.9	11.5	14.9	9.2	15.0
White NH	76.5	66.9	70.2	66.2	73.0	65.4
Black NH	8.6	11.7	11.6	11.5	10.3	11.8
Asian/PI NH	2.3	4.7	2.7	5.4	2.5	5.4
AI/AN NH	1.3	0.7	0.9	0.5	1.4	0.6
Other NH	3.4	2.0	2.5	1.2	3.6	2.7
Education						
LT HS	7.3	10.0	7.0	10.9	6.7	10.6
HS Grad	24.7	24.9	22.3	29.5	20.5	26.3
Technical/Some College	25.4	24.2	23.2	24.3	19.6	24.0
Assoc Degree	4.3	4.4	6.8	7.0	10.0	11.8
College Graduate (4 yrs)	21.2	20.9	23.8	16.5	23.3	15.0
Post-Graduate	16.7	15.5	16.8	11.7	19.9	12.1
Marital Status						
Married	51.6	46.2	48.6	44.8	48.1	50.6
Divorced	13.2	12.5	12.4	11.0	14.0	11.2
Separated	2.2	2.7	2.8	3.2	2.4	2.5
Widowed	7.7	6.3	7.7	6.2	8.5	6.2
Never Marry	22.7	29.1	22.1	26.9	20.6	23.0
Living w/partner	0.1	0.1	6.2	7.7	6.0	6.1
Household Income						
< $25K	26.5	31.2	24.8	30.8	25.0	30.1
$25-LT$50K	22.1	21.1	19.5	20.0	19.9	20.4
$50-LT$75K	15.1	12.9	13.9	12.7	14.2	12.7
$75K+	28.5	25.9	32.9	26.2	33.7	28.8

Percentages may not sum to 100 due to missing data, responses of don't know, refusals, and those other specify responses which were not classifiable.

[1] Includes age, race/ethnicity and sex as control totals for post-stratification.

[2] Includes age, race/ethnicity, sex, education and marital status as control totals for post-stratification.

Table 4. Comparison of NISVS 2016/2017 Weighted Estimates with those from NISVS 2010-2012

Health Condition	NISVS 2010-2012		NISVS 2015		NISVS 2016/2017	
	Weighted %	(95% CI)	Wtd %	(95% CI)	Wtd %	(95% CI)
Females						
Ever told by a doctor, nurse or other health professional that you had …						
Asthma	18.4	(17.7-19.2)	19.7	(18.4-21.0)	20.3	(19.2-21.4)
Irritable Bowel Syndrome	8.8	(8.3-9.3)	9.7	(8.8-10.7)	10.4	(9.6-11.2)
Diabetes	11.0	(10.4-11.6)	12.4	(11.4-13.6)	13.0	(12.1-13.9)
High Blood Pressure	28.7	(27.8-29.6)	30.3	(28.8-31.8)	29.7	(28.4-30.9)
Current: Do you have …						
Frequent Headaches	21.5	(20.7-22.4)	21.3	(20.0-22.8)	20.8	(19.6-22.0)
Chronic Pain	21.9	(21.1-22.7)	**24.2**	**(22.8-25.7)**	**28.0**	**(26.7-29.2)**
Difficulty Sleeping	28.7	(27.8-29.6)	**32.8**	**(31.3-34.4)**	33.6	(32.3-35.0)
Males						
Ever told by a doctor, nurse or other health professional that you had …						
Asthma	13.5	(12.7-14.3)	14.5	(13.2-15.9)	15.5	(14.4-16.6)
Irritable Bowel Syndrome	3.5	(3.1 - 3.9)	4.2	(3.4-5.0)	3.7	(3.2- 4.3)
Diabetes	9.8	(9.2-10.4)	11.3	(10.2-12.6)	12.3	(11.4-13.2)
High Blood Pressure	29.4	(28.4-30.4)	30.1	(28.5-31.9)	30.3	(29.0-31.7)
Current: Do you have …						
Frequent Headaches	10.6	(10.0-11.3)	9.8	(8.7-10.9)	10.6	(9.7-11.6)
Chronic Pain	16.5	(15.7-17.3)	**20.6**	**(19.1-22.1)**	22.7	(21.5-24.0)
Difficulty Sleeping	23.8	(22.9-24.8)	**26.8**	**(25.2-28.5)**	27.0	(25.6-28.3)

Estimates in bold significantly different from the survey period before as determined by non-overlapping confidence intervals.

Table 5. Weighted estimates of hypertension, asthma, and diabetes from NISVS, NHIS, MEPS, and NHANES.

Health Condition	NISVS (2016/2017)		NHIS 2017		MEPS 2016		NHANES (2015-2016)	
	Percent	(95% CI)	Percent	(95% CI)	Percent	(95% CI)	Percent	(S.E.)
Hypertension	30.0	(29.0-31.0)	24.5	(24.0-25.1)	33.6	(32.8-34.4)	31.5	(29.9-33.9)
Asthma	17.9	(17.1-18.7)	13.6	(13.1-14.1)	9.2	(8.7-9.7)	16.0	(14.7-17.3)
Diabetes	12.6	(12.0-13.2)	8.8	(8.4-9.2)	9.9	(9.5-10.4)	10.9	(9.9-12.0)

NHIS: The National Health Interview Survey.
MEPS: The Medical Expenditure Survey.
NHANES: The National Health and Nutrition Examination Survey.

Table 6. Weighted estimates of selected types of violence victimization among respondents aged 18-49, NISVS 2016/2017 and NSFG 2015-2017.

Violence Victimization	NISVS (2016/2017)		NSFG (2015-2017)	
	Percent	(95% CI)	Percent	(95% CI)
Female unwanted sexual intercourse with a male	20.1	(18.5-21.7)	18.5	(16.8-20.2)
Male unwanted sexual intercourse with a female	6.0	(5.0-7.1)	4.3	(3.6-5.0)
Male unwanted oral/anal sex with a male	3.5	(2.8-4.3)	2.3	(1.5-3.1)

NSFG: National Survey of Family Growth.

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