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Evaluating the One-in-Five Statistic: Women's Risk of Sexual Assault While in College

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In 2014, U.S. president Barack Obama announced a White House Task Force to Protect Students From Sexual Assault, noting that “1 in 5 women on college campuses has been sexually assaulted during their time there.” Since then, this one-in-five statistic has permeated public discourse. It is frequently reported, but some commentators have criticized it as exaggerated. Here, we address the question, “What percentage of women are sexually assaulted while in college?” After discussing definitions of sexual assault, we systematically review available data, focusing on studies that used large, representative samples of female undergraduates and multiple behaviorally specific questions. We conclude that one in five is a reasonably accurate average across women and campuses. We also review studies that are inappropriately cited as either supporting or debunking the one-in-five statistic; we explain why they do not adequately address this question. We identify and evaluate several assumptions implicit in the public discourse (e.g., the assumption that college students are at greater risk than nonstudents). Given the empirical support for the one-in-five statistic, we suggest that the controversy occurs because of misunderstandings about studies’ methods and results and because this topic has implications for gender relations, power, and sexuality; this controversy is ultimately about values.

In 2014, President Barack Obama and Vice President Joe Biden created the White House Task Force to Protect Students From Sexual Assault (The White House, 2014). Announcing the task force, President Obama said that an estimated “1 in 5 women on college campuses has been sexually assaulted during their time there” (The White House, 2014). Likely in part because of this heightened political attention, media coverage of sexual assault among college students increased sharply in the past few years; a ProQuest search of newspaper and magazine articles in English whose titles included the terms *campus**, *college**, or *universit** and the term *rape**, *raping*, *sexually assault**, *sexual assault**,

*sex assault**, or *sexual violence* revealed 3,630 articles in 2014–2015 compared with only 638 in 2012–2013. Of these popular press articles in 2014–2015, the phrase “1 in 5” or “one in five” appeared in 709 of them. Clearly this statistic has permeated the popular discussion about sexual assault on college campuses.¹

This statistic has also influenced young women’s perceptions of the safety of college campuses. Recently a Youth Radio essayist shared her worry about attending college, saying that her excitement “has been tainted by the steady stream of news stories about college rape cases.” She worried, “I don’t know what I’m supposed to do to prepare myself for the fact that I might someday be among the 1 in 5 college women who are sexually assaulted each year” (Ablaza, 2016¹²). Aside from her misinterpretation that the one-in-five statistic refers to the

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number of women assaulted *each year* (rather than during their entire time in college), she also seemed to assume that her risk for sexual assault would rise sharply once she entered college. Other young women have similarly written about their fear of being sexually assaulted while in college (e.g., Nguyen-Okwu, 2016[†], Waack, 2016[†]). Likewise, a college admissions advisor wrote that campus rape statistics are “enough to give parents pause about sending their daughters on to higher education” (Berry, 2016[†]; also see Gordon, 2015[†]; Harrington, 2014[†]), implying that their daughters would be safer if they did not attend college. Indeed, journalist Gregg Jarrett (2014[†]) described feeling “gnawing apprehension” when he dropped his daughter off at college because, he wrote, “a woman who attends college is more likely to be assaulted than a woman who does not.”

Consistent with these fears, the sexual assault of college women has been labeled an “epidemic” in both academic articles (e.g., Carey, Durney, Shepardson, & Carey, 2015, p. 678) and the popular media (e.g., Uffalussy, 2016[†]; Valenti, 2015[†]). In public health, an epidemic is “an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area” (Centers for Disease Control and Prevention [CDC], 2012); applying this term to sexual assault implies there has been a sharp and sudden increase in the prevalence of sexual assault among college women.

Although it is often reported that one in five (e.g., Gilson, 2014[†]; New, 2016; The White House, 2014) or even one in four (e.g., Gorman, 2015[†]; Pérez-Peña, 2015[†]; Richinick, 2015[†]) women will be sexually assaulted during their time in college, some popular writers have contested these statistics as exaggerated. For example, Perry (2014[†]) accused The White House of “spreading false information about campus sexual assault” by citing the one-in-five statistic; Perry concluded that, at the University of Wisconsin, “only 5.1% [of] UW women (or about 1 in 20) would be sexually assaulted while in college.” Schow (2014[†]) argued that the percentage of female students who are raped or sexually assaulted is “(at most) 2.44 percent over the average four-year period (one in 41)”; similarly, Sommers (quoted in Berenson, 2014[†]) argued that “the real number is closer to one in forty.” The *Federalist* staff (2014[†]) concluded that “instead of 1-in-5, the real number is 0.03-in-5,” which is equivalent to about 1 in 167. In response to a *Washington Post* article about a campus survey supporting the one-in-five statistic (Anderson, Svrluga, & Clement, 2015[†]), Taylor (2015[†]) wrote that “such advocacy-laden surveys of campus sexual assault—and breathless media reports overstating their already exaggerated findings—have become the norm in this era of hysteria about the campus sexual assault problem.” Other columnists (e.g., Piper, 2015[†]; Ross, 2015[†]; Schow, 2016[†]) have accused politicians—including Joe Biden and Hillary Clinton, both of whom have cited the one-in-five statistic—of using a “debunked” statistic to promote a political agenda.

How prevalent is sexual assault among college women? Is the one-in-five statistic accurate? Has the problem gotten worse recently, as the term *epidemic* implies? Are women at greater risk of experiencing sexual assault in college than out of college? In other words, are young women and their

parents right to view college campuses as dangerous places for women? Due to the recent surge of interest in this topic, researchers, educators, and violence-prevention advocates may be called upon to speak to these questions. Yet the answers are not always readily apparent even to those of us who spend our careers studying sexual assault.

In this article we aim to address these questions by reviewing the best available studies assessing women’s risk of sexual assault during college. We also review studies cited by those who challenge the one-in-five statistic. Because any prevalence estimate depends on how sexual assault is defined, we begin by reviewing definitions of *sexual assault*, *sexual battery*, and *rape*.

Defining Sexual Assault: What Should Be Included?

Defining sexual assault requires deciding what sexual acts, obtained using what types of coercion, should be included. Should the definition include vaginal, oral, and anal penetration? Should it include nonpenetrative sexual contact (kissing and sexual touching)? What types of coercion should it include? Should it include physical force? Should it include incapacitation (sexual acts with someone who is asleep, unconscious, or incapacitated by alcohol or drugs)? Should it include verbal pressure (e.g., continual arguments or threats to leave the relationship)? Should it be defined broadly or narrowly? Should researchers’ definitions match legal definitions?

There are no absolute guidelines for deciding how to answer these questions. Any approach has advantages and disadvantages: Defining sexual assault broadly would decrease the likelihood of omitting incidents that some people experience as coercive; however, a broad definition could include incidents that many people regard as trivial and could make prevalence statistics seem exaggerated. Broad definitions could even obscure the effects of sexual assault (e.g., Mayall & Gold, 1995, found statistically significant negative outcomes related to sexual abuse when they used narrow definitions but not when they used broad definitions). Defining sexual assault narrowly could avoid these problems; however, a narrow definition could omit behaviors that many people regard as important and could imply that any behavior not covered by this narrow definition is acceptable.

Similarly, there are advantages and disadvantages to defining sexual assault based on legal definitions. Using a legal definition might facilitate communication if the public already understands the legal term. If critics denounce researchers’ definitions as too broad, researchers could justify their definitions by pointing out that their definitions match legal definitions, in effect giving their definitions a cultural imprimatur. On the other hand, laws—which are passed by legislators—generally represent the interests of dominant groups. Researchers need not be constrained by legal definitions (e.g., Russell regarded marital rape as harmful, so she included it in her groundbreaking study of rape—even though in 1978, when she collected the data, marital rape was not illegal in the state where she did the study; Russell, 1984, pp. 27, 34). One mechanism for social change is changing how words are understood.

Another difficulty with creating research definitions that match legal definitions is that laws vary from state to state. Some states do not use the term *sexual assault* in their legal codes, and among those that do, definitions vary. For example, some use the term *sexual assault* instead of *rape*; some use *rape* to refer to penetrative sexual acts and *sexual assault* to refer to nonpenetrative sexual acts; some use *rape* to refer to penetrative sexual acts, *sexual battery* to refer to nonpenetrative sexual acts, and *sexual assault* as a broader category referring to both penetrative and nonpenetrative sexual acts (Eileraas, 2011; Estrich, 1987; Palmer, 2011[†]).

Regarding what types of coercion make these acts illegal, various state laws mention force, lack of consent, or both (Estrich, 1987). In addition, generally it is illegal to engage in sexual behavior with someone who is incapacitated—that is, with someone who is “legally incapable of consenting due to mental illness, impairment, or intoxication” (Eileraas, 2011, p. 1). Verbal pressure, such as threatening to end a relationship, is generally not illegal.

Definitions used by researchers also vary, although some common themes emerge. In prevalence studies, *rape* is typically defined as vaginal, oral, or anal penetration obtained by force or incapacitation (e.g., Black et al., 2011, p. 17; Breiding et al., 2014, p. 3; Cantor et al., 2015, p. viii; Carey et al., 2015, p. 678; Krebs et al., 2016, p. ES-4). There are exceptions, however; for example, Marsil and McNamara (2016) included sexual penetration obtained by verbal pressure in their definition of *rape*.

Nonpenetrative sexual acts obtained by force or incapacitation have been referred to using several labels. Some researchers used the term *sexual battery* (e.g., Cantor et al., 2015; Krebs et al., 2016). Others used the term *sexual contact* (e.g., Koss et al., 2007) or *unwanted sexual contact* (e.g., Banyard et al., 2007; Edwards et al., 2015). However, some researchers have used *unwanted sexual contact* more broadly to include verbal pressure (e.g., Black et al., 2011; Breiding et al., 2014) and both penetrative and nonpenetrative acts (Palmer, McMahon, Rounsaville, & Ball, 2010).

The term *sexual assault* is often used to include penetrative and nonpenetrative sexual acts obtained by force or incapacitation (e.g., Cantor et al., 2015; Carey et al., 2015; Edwards et al., 2015; Krebs et al., 2016). Some researchers, however, have defined this term more broadly, including verbal pressure in addition to force and incapacitation (e.g., Mouilso, Fischer, & Calhoun, 2012).

In this review, we adopted the following working definitions: We use the term *sexual assault* to refer to two types of sexual acts—sexual penetration and sexual touching (i.e., nonpenetrative sexual contacts)—obtained by force (including threats of force) or incapacitation. We use the term *rape* to refer to sexual penetration obtained by force or incapacitation and *sexual battery* to refer to sexual touching obtained by force or incapacitation.

Our reasoning was as follows: Given the variety of terms and definitions used in the literature, it was important to establish our own working definitions. Relying on the terms used in each study could have resulted in sexual assault prevalence estimates varying radically from study to study solely

because the authors had used different definitions of sexual assault. Furthermore, some studies assessing these behaviors could have been excluded solely because the authors had used a different term to describe what they had studied.

We chose the term *sexual assault* because it is consistent with the terms used in many recent prevalence studies. This term is also widely used in public discourse, as in the terms *sexual assault nurse examiner* (SANE) and *sexual assault response team* (SART).

We decided to include nonpenetrative sexual acts (e.g., kissing or groping) obtained by force or incapacitation in our definition of sexual assault. Including such acts has been criticized by many commentators, but these acts are crimes according to state laws, and they are included in the U.S. Bureau of Justice Statistics (BJS) definitions of sexual assault.

We decided to exclude verbal pressure from our definition of sexual assault. We wanted to avoid the pitfalls associated with extremely broad definitions. If a woman gives in to unwanted sex because someone has threatened to end their relationship or criticized her sexuality or attractiveness, this is problematic, but it seems like a different type of problem than situations where she had no option about whether the sexual act occurred (for a discussion, see Muehlenhard, Humphreys, Jozkowski, & Peterson, 2016).

Another decision that researchers need to make is whether attempted acts should count. Many do count both completed and attempted acts (e.g., Black et al., 2011, p. 17; Cantor et al., 2015; Krebs, Barrick, et al., 2011; Krebs, Lindquist, Warner, Fisher, & Martin, 2007). There are precedents for doing so: The U.S. Federal Bureau of Investigation (FBI) counts both completed rapes and attempted rapes in the rape statistics reported in the Uniform Crime Reports (FBI, 2013, 2014), and the definitions of rape and sexual assault used by the BJS (2016) include both completed and attempted incidents.

When researchers ask about attempted sexual assault, they typically do not ask about all types of acts crossed with all types of coercion. Some researchers (e.g., Cantor et al., 2015; Krebs et al., 2007) have excluded attempted incapacitated sexual assault (probably because incapacitation is incompatible with being able to resist). Cantor et al. (2015) also excluded attempted sexual touching (perhaps because touching can be done quickly, before the individual has time to resist). Krebs et al. (2016) did not ask about any attempted acts “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” (p. 9).

What Is the Prevalence of the Sexual Assault of Women During College?

In this section we review studies that address the prevalence of sexual assault during women’s time in college. We identified relevant research in three ways: First, as researchers in the field, we each identified large-scale, influential (i.e.,

widely cited) studies that assessed rates of sexual assault among college women. Second, to ensure that we did not exclude any relevant studies, we conducted a SCOPUS literature search for articles with the following terms in their title, abstract, or keywords: (a) *sexual assault, rape, nonconsensual sex, sexual violence, unwanted sex, or forced sex*; and (b) *college, university, or undergraduate*; and (c) *prevalence, frequency, or incidence*. The search resulted in 473 matches. Most of these articles could be eliminated as irrelevant simply by reading the title or abstract, but 49 possible matches were reviewed in more depth to evaluate whether they met our inclusion criteria. Third, we identified studies that are frequently cited as either supporting or debunking the one-in-five statistic, including those that do not adequately address this question. We regarded understanding these studies—including understanding why they do not adequately address this question—as important for understanding this controversy.

We used the following criteria to identify studies that most directly assessed the prevalence of the sexual assault of college women:

1. We included only studies that used large, representative samples of female undergraduates. That is, we included studies in which either all students or a sample of female undergraduates at one or more schools were invited to participate, rather than data sets obtained from women who decided to report their experiences to authorities.
2. We included only studies that asked women multiple, behaviorally specific questions about their experiences with sexual assault (i.e., studies that asked separate questions about experiences with sexual penetration or sexual touching done by force, threat of force, or incapacitation) rather than asking about “rape” or “sexual assault” and relying on participants’ understandings of these terms or asking a few broad questions about forced or nonconsensual sexual experiences.
3. We included only studies that asked questions consistent with our working definition of sexual assault.
4. We included only studies that asked women about their experience since they started college. A study could have asked about a broader range of behaviors or other time frames, but to be included a study had to present prevalence statistics about incidents that met our working definition and that occurred since starting college.
5. Because this controversy focuses on the sexual assault of college women in the United States, we focused on studies of U.S. college students.

In this section, we first review the studies that met our inclusion criteria; we found only four such studies (see Table 1). Next, we discuss studies that did not meet our inclusion criteria. Some came close, meeting some but not

all of our inclusion criteria; others met few or none of our inclusion criteria, but we included them because they are cited frequently in the controversy about the one-in-five statistic (see Table 2). All of these studies are summarized in the tables in this article, but because prevalence estimates vary depending on a study’s methods, and because critics of the one-in-five statistic have blamed “unreliable methods” for “inflated” prevalence figures (Fox & Moran, 2014[†]), we also describe key studies in the text.

Prevalence Studies That Met Our Inclusion Criteria

Association of American Universities (AAU) Campus Climate Survey. The largest of the four prevalence studies that met our inclusion criteria was the AAU Campus Climate Survey (Cantor et al., 2015). During the late spring semester of 2015, data were collected online from 150,072 undergraduate, graduate, and professional students—including 56,420 female undergraduates—from 27 colleges and universities across the United States.

The AAU survey asked students about two types of sexual contact (sexual penetration and sexual touching) obtained by four tactics (force, incapacitation, coercion, and the absence of affirmative consent). The two that are relevant to sexual assault are physical force (described in the survey as someone’s “holding you down with his or her body weight, pinning your arms, hitting or kicking you, or using or threatening to use a weapon against you”) and incapacitation (being “unable to consent or stop what was happening because you were passed out, asleep or incapacitated due to drugs or alcohol”; p. viii). The incidents that correspond to our definition of sexual assault are those that Cantor et al. (2015) referred to as nonconsensual sexual contact involving physical force or incapacitation; these include penetration and attempted penetration by force or threat of force; penetration by incapacitation; and touching by force, threat of force, or incapacitation. These behaviors and tactics “generally violate criminal laws and would be considered either a rape (penetration) or sexual battery (sexual touching)” (p. 12).

Results showed that almost one-quarter (23.1%) of the undergraduate women reported having experienced such incidents since starting college (Cantor et al., 2015). Considering only women in their senior year, whose answers reflected almost their entire time in college, more than one in four (27.2%) had experienced sexual assault since enrolling. Undergraduates were at greater risk than graduate and professional students, and female and transgender/genderqueer students were at greater risk than male students.

Not all undergraduate women are at equal risk, however. The risk varied across campuses, ranging from 13% to 30% (Cantor et al., 2015, p. x). Bisexual women were at greater risk than heterosexual and lesbian women. Women reporting disabilities were at greater risk than other women. Asian American women were at lower risk than women of other

Table 1. *Studies Assessing the Prevalence of Sexual Assault of College Women Since Entering College*

Study and Authors	Brief Description	Prevalence of SA Since Entering College	
		All Undergraduate Women	Senior women
Association of American Universities (AAU) Campus Climate Survey (Cantor et al., 2015)	56,420 female undergraduates (total $N = 150,072$) from 27 U.S. public and private colleges/universities completed an online survey during the spring of 2015 Response rate for female undergraduates: 21.3% Assessed four coercive tactics, but only physical force and incapacitation count as SA	Completed or attempted SA: 23.1% Completed SA: 22.2%	Completed or attempted SA: 27.2% Completed SA: 26.1%
Campus Sexual Assault (CSA) Study (Krebs et al., 2007; Krebs et al., 2009)	5,466 women (and 1,375 men) from two U.S. universities in the South and Midwest completed an online survey Response rates for women: 42.2% and 42.8% at the two schools	Completed or attempted SA: 19.0% Completed SA: 13.7%	Completed or attempted SA: 26.3% Completed SA: 19.8%
Historically Black College and University Campus Sexual Assault (HBCU-CSA) Study (Krebs, Barrick, et al., 2011; Krebs, Lindquist, & Barrick, 2011)	3,951 undergraduate women from four HBCUs in the United States completed an online survey; method same as in Krebs et al. (2007, 2009) Response rate: 24.9%	Completed or attempted SA: 14.2% Completed SA: 9.6%	Completed or attempted SA: 16.1% Completed forced SA: 6.9% Completed incapacitated SA: 6.6 ^a
Campus Climate Survey Validation Study (CCSVS; Krebs et al., 2016)	14,989 undergraduate females (and 8,034 males) from 9 schools (varied by size, two- or four-year status, public/private status, and location) completed an online questionnaire Response rate for female respondents: 43% to 71% across schools Statistics for seniors came from four-year schools only	Completed SA: 20.5%	Completed SA: 25.1%

Notes. In these studies, *sexual assault* (SA) referred to sexual touching or penetration obtained by physical force or incapacitation. The AAU Survey included attempted forceful sexual penetration. The CSA and HBCU-CSA Studies included attempted forceful sexual touching and penetration. The CCSVS did not include attempted acts. *Sexual penetration* referred to vaginal or anal penetration by a penis, finger, or object and to oral–genital contact. *Sexual touching* referred to kissing or touching, grabbing, or fondling of sexual body parts or rubbing in a sexual way. *Physical force* referred to being held down, hit, kicked, or attacked with a weapon or being threatened with physical force. *Incapacitation* referred to being unable to consent or resist due to being passed out, unconscious, asleep, or incapacitated by alcohol or drugs (whether used voluntarily or administered surreptitiously). For the exact wording used in these surveys, see Cantor et al., 2015, pp. A5-23–A5-25; Krebs, Barrick, et al., 2011, pp. 3646–3648; Krebs et al., 2016, pp. B-4–B-17; Krebs et al., 2007, pp. A-1–A-3).

^aFor completed sexual assault among seniors, Krebs, Lindquist, & Barrick (2011) reported 6.9% for physically forced sexual assault and 6.6% for incapacitated sexual assault; we could not find a combined percentage.

racers, who did not differ significantly from each other (Cantor et al., 2015, pp. xx, 102). Risk also varied by year in school; the *cumulative* risk was highest for seniors, but the *annual* risk was highest for first-year students (16.9%) and decreased every year to a low of 11.1% for seniors (Cantor et al., 2015, pp. iv, ix).

Although the study was carefully designed and the sample was large, the response rate (21.3% for female undergraduates) was a concern. Cantor et al. (2015) wrote that although “a low response rate does not necessarily mean the survey estimates are biased in a particular direction,” their nonresponse bias analyses suggested that “non-responders tended to be less likely to report victimization. This implies that the survey estimates related to victimization ... may be biased upwards (i.e., somewhat too high)” (pp. vi–vii; also see Appendix 4, Non-response Bias Analysis, pp. A4-1–A4-31). In other words, they

concluded that the one-in-four estimate for senior women might be somewhat too high.

The AAU survey also asked students about sexual penetration and touching obtained by coercion (someone’s threatening to share damaging information about them, threatening a bad grade, or promising a good grade; p. A5-25) and absence of affirmative consent (such as someone’s “initiating sexual activity despite your refusal,” “ignoring your cues to stop or slow down,” p. xii). It also asked about various forms of sexual harassment (e.g., being “emailed, texted, tweeted, phoned, or instant messaged offensive sexual remarks, jokes, stories, pictures or videos to you that you didn’t want”; being asked repeatedly “to go out, get dinner, have drinks or have sex even though you said, ‘No,’” p. A5-10). Critics (†Kay, 2015; †Riley, 2015) have mocked these questions, implying that researchers counted these incidents as rape or sexual assault—which is untrue. However, it could be argued that behaviors

Table 2. *Examples of Studies That Did Not Fit Our Inclusion Criteria*

Study	Brief Description	Selected Results	Comments
Banyard et al. (2007)	<p><i>Participants:</i> 408 women (and 225 men) enrolled in undergraduate courses whose instructors gave up 30 minutes of class time for the students to complete the survey at a state university</p> <p><i>Time frame:</i> The past six months, September through February</p> <p><i>Target behaviors:</i> Sexual contact (excluding intercourse) that was unwanted: “you either communicated this in some way (e.g., you said no; you protested; you said you didn’t want to; you physically struggled; you cried) or you were intimidated or forced by someone or you were incapacitated (e.g., drunk, passed out, etc.)” (pp. 57–58)</p>	<p>19.6% of the women reported unwanted sexual contact during the past six months</p>	<p>Assessed limited target behaviors: nonpenetrative sexual acts but not sexual penetration</p> <p>Short time frame: Six months</p> <p>Assessed sexual acts obtained by force, incapacitation, and “intimidation,” which participants could have interpreted to include feeling “intimidated” by verbal pressure</p>
Carey et al. (2015), Women’s Health Project	<p><i>Participants:</i> 483 first-year college women, comprising 26% of the women in the entering class at a large, private university</p> <p><i>Time frame:</i> A one-year longitudinal study; women completed a health questionnaire when entering college and at the end of fall, spring, and summer semesters; 85% to 90% of baseline participants were retained</p> <p><i>Target behaviors:</i> Asked behaviorally specific questions about completed and attempted sexual penetration obtained by force (forcible rape [FR]) or incapacitation (incapacitated rape [IR])</p>	<p>18.6% reported completed or attempted rape during their first year of college (6.6% completed FR and 9.6% completed IR)</p>	<p>Assessed limited target behaviors: sexual penetration but not nonpenetrative sexual acts</p> <p>Short time frame: One year</p> <p>18.6% is close to 20% (1 in 5) despite assessing rape (not sexual battery) during only one year; one of the few longitudinal studies using multiple behaviorally specific questions</p>
Clery Act Reports [†]	<p><i>Participants:</i> Universities are required to disclose statistics for sex offenses and other crimes which occur on or near campus and which have been reported to university officials (e.g., resident advisors, athletic coaches, campus police, and local law enforcement)</p> <p><i>Time frame:</i> Reports are submitted annually covering the past year</p> <p><i>Target behaviors:</i> schools must report incidents of sexual assault, dating violence, domestic violence, and stalking</p>	<p>Most campuses report no rapes each year</p>	<p>Reports include only incidents reported to campus authorities; other studies show that most sexual assault is never reported to campus authorities. These data are extreme underestimates.</p> <p>In the public discourse, these data have been cited as the “actual” numbers of sexual assaults on campuses, as indicative of how safe campuses are, and as indicative of how supportive campus authorities are perceived to be. See text.</p>

<p>Conley et al. (2017)</p>	<p><i>Participants:</i> 4,417 female (and 2,797 male) undergraduates in three cohorts; from 2011 to 2013, all first-year students age 18 or older were invited to participate in a study on college behavioral health <i>Time frame:</i> Since beginning college, which ranged from one to three years <i>Target behaviors:</i> Used two questions to assess sexual assault (“rape, attempted rape, made to perform any type of sexual act through force or threat of harm”) and broad sexual assault, which included sexual assault (defined above) and “other unwanted or uncomfortable sexual experience” (p. 3)</p>	<p>6.7% of the women reported sexual assault (SA) experience 21.7%, other unwanted or uncomfortable sexual experience 23.0%, broad SA</p>	<p>SA was assessed with only one question on the Life Events Checklist, which assessed exposure to various traumatic events (physical assaults, SA, natural disasters, transportation accidents), thus framing SA as traumatic. The question about sexual assault included the terms “rape” and “attempted rape.” SA involving incapacitation was not included. Because only three cohorts had participated, none had been enrolled for four years. Broad SA was very broad, including any unwanted or uncomfortable sexual experience.</p>
<p>Edwards et al. (2015)</p>	<p><i>Participants:</i> 3,975 female (and 2,055 male) undergraduates, ages 18 to 24, from eight New England universities <i>Time frame:</i> During the past six months <i>Target behaviors:</i> Sexual contact or sexual penetration that was unwanted (using the same definition as Banyard et al., 2007).</p>	<p>16.4% of women (26.4% of sexual minority women and 13.7% of heterosexual women) reported sexual victimization in the past six months</p>	<p>Short time frame: Six months Assessed sexual acts obtained by force, incapacitation, and “intimidation,” which participants could have interpreted to include feeling “intimidated” by verbal pressure Found higher rates for sexual minority women than for heterosexual women</p>
<p>Fisher et al. (2000)*; National College Women Sexual Victimization (NCWSV) Study</p>	<p><i>Participants:</i> A nationally representative sample of 4,446 female undergraduates completed telephone interviews <i>Time frame:</i> Incidents during the 1996–1997 academic year (the previous 6.91 months) <i>Target behaviors:</i> Asked behaviorally specific questions about completed and attempted sexual penetration by force or threat of force (i.e., rape); did not assess incapacitated rape, but informed women that incidents could have occurred when they were asleep, drunk, etc. (pp. 6 and 8)</p>	<p>2.8% experienced completed or attempted rape, 1.7% had experienced completed rape, Another 1.1% reported attempted rape.</p>	<p>Assessed limited target behaviors: sexual penetration but not nonpenetrative sexual acts Short time frame: 6.91 months, on average The authors extrapolated from 6.91 months to 5 years (the average time in college), yielding a rate between 1 in 5 and 1 in 4; they acknowledged that this was based on problematic assumptions, which have been contradicted by subsequent studies. In the public discourse, some cite the extrapolated percentage to document the high rate of sexual assault during college. Others criticize the extrapolated percentage as flawed. See text.</p>
<p>Ford and Soto-Marquez (2016), Online College Social Life Survey</p>	<p><i>Participants:</i> 14,604 female (and 6,581 male) undergraduates, ages 18 to 24, from 21 colleges/universities, recruited primarily from sociology courses <i>Time frame:</i> Since they started college <i>Target behaviors:</i> Asked about “sexual intercourse” obtained by physical force or incapacitation and attempted sexual intercourse by physical force. Descriptions of the coercion were behaviorally specific. “Sexual intercourse” could have been interpreted as vaginal, oral, or anal sex or solely as penile–vaginal intercourse. Either interpretation would meet our definition of rape.</p>	<p>Among seniors, 37.8% of bisexual women, 24.7% of heterosexual women, and 11.4% of lesbian women reported such an experience since entering college.</p>	<p>The sample was drawn primarily from one type of course Assessed limited target behaviors: Did not assess nonpenetrative sexual acts; assessed “sexual intercourse,” which students could have interpreted as vaginal, oral, or anal sex or solely as penile–vaginal intercourse Despite the narrow definition, SA rates among seniors were about 1 in 4 for heterosexual women and higher than 1 in 3 for bisexual women</p>

(Continued)

Table 2. (Continued)

Study	Brief Description	Selected Results	Comments
Probable underestimates: Studies that used narrow criteria, probably underestimating the prevalence of sexual assault (SA) during college			
Kilpatrick et al. (2007); McCauley, Ruggiero, Resnick, Conoscenti, and Kilpatrick (2009) ; Zinzow et al. (2011); National Women's Study—Replication	<p><i>Participants:</i> A national sample of 2,000 female college students completed telephone interviews about substance use, mental and physical health, and rape</p> <p><i>Time frame:</i> During the past year</p> <p><i>Target behaviors:</i> Asked behaviorally specific questions about completed rape by force or incapacitation (McCauley et al., 2009, p. 460)</p>	<p>5.15% reported completed rape, 1.75% by force, and 3.58% by incapacitation, during the previous year</p>	<p>Assessed limited target behaviors: Sexual penetration but not nonpenetrative sexual acts</p> <p>Short time frame: 1 year</p> <p>Compared the 2,000 students with the 3,001 women in the general population who were also interviewed; college students reported a lower lifetime prevalence but a higher annual prevalence</p>
Sinozich & Langton, 2014 [†] ; National Crime Victimization Survey (NCVS)	<p><i>Participants:</i> People age 12 and older from 90,000 households</p> <p><i>Time frame:</i> Respondents are interviewed every six months for three years</p>	<p>For college students, ages 18 to 24, the NCVS found 2.0 completed forcible rapes, and 6.1 sexual assaults, per 1,000 women per year.</p> <p><i>Target behaviors:</i> Respondents are asked about “rape, attempted rape, or other type of sexual attack” and about other “forced or unwanted sexual acts” (see text for a discussion)</p>	<p>The National Research Council (2014) identified numerous problems with the NCVS as a survey of rape and sexual assault (see text)</p> <p>Prevalence statistics from this study have been cited in the public discourse as debunking the one-in-five statistic</p>
Uniform Crime Reports (UCR) [‡] ; U.S. Federal Bureau of Investigation (FBI)	<p><i>Participants:</i> Law enforcement agencies across the United States submit crime data to the FBI; the FBI compiles the data into the Uniform Crime Reports</p> <p><i>Time frame:</i> UCRs are published annually, reflecting data from the previous year</p> <p><i>Target behaviors:</i> “The UCR Program counts one offense for each victim of a rape, attempted rape, or assault with intent to rape”</p>	<p>In 2015, 38.6 rapes per 100,000 inhabitants (data are not presented specifically for college students)</p>	<p>Reports include only incidents reported to police; studies show that most sexual assaults are never reported to police</p> <p>These data vastly underestimate the prevalence of sexual assault among college students and among the general population</p> <p>In the public discourse, some have tried to debunk the one-in-five statistic by noting that it is higher than UCR crime statistics in Detroit. See text</p>
Probable overestimates: Studies that used broad criteria, probably overestimating the prevalence of sexual assault (SA) during college			
Forkle, Myers, Catalozzi, and Schwarz (2008)	<p><i>Participants:</i> 520 female (and 390 male) undergraduates, ages 17 to 22, from three diverse urban campuses; they completed the survey at the end of participating classes</p> <p><i>Time frame:</i> During college</p> <p><i>Target behaviors:</i> Sexual violence, defined as “being pressured, coerced, or forced into having sexual contact” (p. 635)</p>	<p>15.6% of the women reported experiencing sexual violence during college</p>	<p>Prevalence statistics included acts obtained by “being pressured,” which could refer to verbal coercion^a</p> <p>Incapacitation was not included</p>

<p>Gross, Winslett, Roberts, and Gohm (2006)</p> <p><i>Participants:</i> 903 female undergraduates, recruited from introductory psychology classes and sororities; only data from White and Black students were retained. <i>Target behaviors:</i> Included items from the SES; asked about vaginal intercourse (VI) by coercion, force, incapacitation, or physical threats; attempted (att) intercourse by threats; oral or anal sex by force or threats; kissing or petting by force</p>	<p>27% reported a sexual act obtained by any type of coercion; 13.3% kissing/petting by force; 2.9% att VI by force; 3.2% VI by force; 7.0% VI by incapacitation; 2.7% oral/anal sex by force</p>	<p>Reported statistics for specific incidents; did not report a combined statistic that included force and incapacitation but not verbal pressure^{a, b} The sample was drawn from one type of course and volunteers from sororities Excluded participants who were not Black or White</p>
<p>Koss et al. (1987)[†]; the Ms. Study</p> <p><i>Participants:</i> 3,187 women (and 2,972 men) from 32 institutions of higher education across the United States <i>Time frame:</i> Incidents since age 14 <i>Target behaviors:</i> Rape was defined as sexual intercourse obtained by physical force or by alcohol, or oral, anal, or vaginal penetration obtained by physical force; attempted rape was defined as attempted sexual intercourse by physical force or alcohol. The alcohol questions asked about unwanted intercourse "because a man gave you alcohol or drugs" (p. 167). Questions asked about verbal pressure and misuse of authority.</p>	<p>15.4% of the women reported rape, and another 12.1% reported attempted rape, for a total of 27.5% (greater than 1 in 4) since turning 14; 53.7% reported some form of sexual victimization</p>	<p>Prevalence rates describe experiences since turning 14, not while in college. Also asked about verbal coercion and misuse of authority, but these were not included in the prevalence statistics for rape or attempted rape In the public discourse, some have cited this study to document the high prevalence of sexual assault <i>during college</i> (a misinterpretation). Others have criticized this study as flawed (often based on misinformation from secondary sources). See text.</p>
<p>Marsil and McNamara (2016)</p> <p><i>Participants:</i> A convenience sample of 1,150 female (and 498 male) undergraduates at a large public university; could receive course/extra credit for participating; ~35% were 26 or older <i>Time frame:</i> Since enrolling in the university <i>Target behaviors:</i> Used questions from the 2007 SES that asked about "rape based on oral sex (Oral), vaginal penetration (Vaginal), and/or anal penetration (Anal) without consent" (p. 417)</p>	<p>11.1% of the female students reported experiences that met the researchers' definition of rape since enrolling in the university</p>	<p>Prevalence statistics included acts obtained by verbal coercion^{a, b} Did not include nonpenetrative contact The sample was drawn from classes offering course/extra credit</p>
<p>Mouilso et al. (2012)</p> <p><i>Participants:</i> 319 first-year college women at a large university participated in Time 1; Time 2, <i>n</i> = 250; Time 3, <i>n</i> = 139 <i>Time frame:</i> A prospective study over their first year <i>Target behaviors:</i> Used the SES (Koss et al., 1987)</p>	<p>19.3% reported sexual assault during their freshman year, if verbal pressure is included</p>	<p>Prevalence statistics included acts obtained by verbal coercion^{a, b} Women reporting "any form of victimization ... were classified as sexual assault victims" (p. 83)</p>
<p>Nasta et al. (2005)</p> <p><i>Participants:</i> 234 upperclass undergraduate women (sophomores, juniors, and seniors) <i>Time frame:</i> The previous academic year <i>Target behaviors:</i> Used a modified version of the SES; asked about unwanted oral, vaginal, or anal sex or manual stimulation; asked about types of coercion in the SES; also asked about inability to decline because of illness</p>	<p>38% reported at least one incident; 6% completed rape, 4% attempted rape, 32% completed sexual coercion, 12% attempted sexual contact by force, 2% illness, 15% by drug or alcohol use</p>	<p>Reported statistics for specific incidents; did not report a combined statistic that included force and incapacitation but not verbal pressure^{a, b} Assessed "attempted sexual contact with force" but apparently not "completed sexual contact with force" (pp. 93-94)</p>

(Continued)

Table 2. (Continued)

Study	Brief Description	Selected Results	Comments
Palmer et al. (2010)	<p><i>Probable underestimates: Studies that used narrow criteria, probably underestimating the prevalence of sexual assault (SA) during college</i></p> <p><i>Participants:</i> 195 female (and 175 male) undergraduates at a private university, recruited using flyers announcing a survey about alcohol, tobacco, and other risky behaviors</p> <p><i>Time frame:</i> The past year</p> <p><i>Target behaviors:</i> Used a modified SES; assessed sex acts ranging from touching to intercourse, because someone gave them alcohol, used physical force, or used verbal pressure</p>	<p>34% of women reported unwanted sexual contact</p>	<p>Prevalence statistics included acts obtained by verbal coercion^{a, b}</p> <p>Small sample</p>

Note. These studies were designed for other purposes and do not fit our inclusion criteria. Reasons for their exclusion are in the Comments column. Although we attempted to categorize studies based on whether they provided probable underestimates versus overestimates, sometimes this was not straightforward; some studies used definitions that were in some ways narrower than ours (e.g., excluding nonpenetrative acts) and in other ways broader than ours (e.g., including intercourse obtained through verbal coercion).

^aThis study did not present statistics for force and incapacitation separate from verbal coercion.

^bThis study used a version or modified version of the Sexual Experience Scale (SES; Koss et al., 2007; Koss et al., 1987; Koss & Oros, 1982). The SES asks about verbal pressure (e.g., threats to end the relationship, continual arguments, showing displeasure, or criticizing their sexuality or attractiveness). Studies using the SES could have met our criteria if they presented statistics for force/incapacitation separately from verbal pressure.

^cMarsil and McNamara (2016) wrote, “The current federal legal definition of rape, as noted in the FBI’s UCR Program, ... was summarized as ‘penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the consent of the victim.’ ... [SES items] directly map onto the current federal legal definition, which does not require the use of force and emphasizes ... [lack of] consent” (pp. 416–417). It is questionable to refer to the FBI’s definition as “the current federal legal definition” of rape; it is used in the FBI’s *UCR*, but “the new definition does not change federal or state criminal codes” (U.S. Department of Justice [DOJ], 2012). It is also questionable to say the SES directly maps onto this definition. The SES does ask about acts done “without my consent,” but it seems unlikely that threats to end a relationship or criticism of someone’s sexuality or attractiveness would fit the DOJ’s definition of rape.

[‡]This study has been frequently cited in the public discourse.

such as initiating sexual activity despite someone's refusal and ignoring cues to stop or slow down involve physical force and *should* have counted as sexual assault. If these types of experiences had been included, then prevalence statistics might have been even higher.

Campus Sexual Assault (CSA) Study. As previously noted, three other studies also met our inclusion criteria. The CSA Study (Krebs et al., 2007) was the source of President Obama's and the White House Task Force's one-in-five statistic (The White House, 2014; White House Task Force, 2014). In this widely cited study, 5,466 women and 1,375 men from two large public U.S. universities—one Southern and one Midwestern—completed a survey online. *Sexual assault* was defined as (a) rape (coerced oral, vaginal, or anal penetration) and sexual battery (coerced sexual touching without penetration) coerced by (b) physical force and incapacitation. The survey defined *force* as someone's holding them down, pinning their arms, hitting or kicking them, or using or threatening them with a weapon; *incapacitation* was defined as being unable to consent or stop the incident because they were "passed out, drugged, drunk, incapacitated, or asleep" (p. A-2). Attempts involving physical force were also included as sexual assault.

Results showed that almost one in five college women (19.0%) had been sexually assaulted since entering college (Krebs et al., 2007). Among college seniors, more than one in four (26.3%) women had been sexually assaulted during college (Krebs, Lindquist, Warner, Fisher, & Martin, 2009).

Historically Black College and University Campus Sexual Assault (HBCU-CSA) Study. In the HBCU-CSA Study, Krebs, Barrick, et al. (2011) used the same survey to study sexual assault at four historically Black colleges and universities (HBCUs). Of the 3,951 undergraduate women sampled, about one in seven (14.2%) had been sexually assaulted since entering college. Among college seniors, about one in six (16.1%) women had been sexually assaulted during college.

Using data from the CSA Study and the HBCU-CSA Study, the authors compared "traditional" students (i.e., undergraduates ages 18 to 25 enrolled at least half time) from non-HBCUs ($n = 4,994$) and HBCUs ($n = 3,364$; Krebs, Barrick, et al., 2011). Students at non-HBCUs were more likely than those at HBCUs to have experienced sexual assault since entering college. This difference was driven by differences in incapacitated sexual assault: Those at non-HBCUs were more likely than those at HBCUs to have experienced incapacitated sexual assault (11.1% versus 6.4%, respectively); there was no difference in physically forced sexual assault (4.7% and 4.7%).

Campus Climate Survey Validation Study (CCSVS). The most recent of these studies, the CCSVS, was conducted to develop and validate a new measure of sexual victimization (Krebs et al., 2016). The authors drew questions from existing surveys, making modifications based on

current knowledge about sexual victimization, best practices for survey research, and feedback from online crowdsourcing and in-person cognitive interviews. In the final survey, questions assessing sexual assault asked about unwanted, nonconsensual sexual touching and penetration obtained by someone's touching or grabbing their sexual body parts, using physical force, threatening to hurt them or someone close to them, or engaging in sexual acts with them when they were "incapacitated, passed out, unconscious, blacked out, or asleep" (p. B-5). The survey did not ask about attempted sexual assault.

This survey was completed by 14,989 female and 8,034 male undergraduates from nine schools across the United States. Results showed that one in five college women (20.5%) had been sexually assaulted since entering college. Among women in their senior year, one in four (25.1%) had been sexually assaulted during college (Krebs et al., 2016).

In summary, these four studies supported the one-in-five statistic as an accurate estimate of women's risk of sexual assault during college; among women in their senior year, this number was closer to one in four. Results varied across schools: It was lower at HBCUs (about one in seven for all undergraduate women and one in six for seniors; Krebs, Barrick, et al., 2011). Across campuses, rates ranged from 13% to 30% (roughly from one in eight to one in three; Cantor et al., 2015). These studies also found variability in the risk among undergraduates on the same campus. For example, all four studies found that the *cumulative* percentages were lowest for first- and second-year students and highest for seniors, but the *annual* rates were highest for first- and second-year students and lowest for seniors.

Prevalence Studies That Did Not Meet Our Inclusion Criteria

In this section, we review a number of studies that did not fully meet our inclusion criteria but are nonetheless relevant to this discussion (see Table 2). These studies were designed for purposes other than assessing the percentage of women who experienced sexual assault while in college. Some of these studies were identified in our search of the peer-reviewed literature, described earlier. Others have been frequently cited in the public discourse as either supporting or debunking the one-in-five statistic. These studies are important to understanding the controversy about the one-in-five statistic.

Table 2 summarizes each study, briefly describing the participants, time frame covered by the study, the target behaviors assessed, selected results, and the reasons why it did not meet our inclusion criteria. In Table 2, studies are grouped into two categories: those that seem likely to *underestimate* the prevalence of the women who are sexually assaulted during college, and those that seem likely to *overestimate* this prevalence.

The studies that we deemed likely to be underestimates vary widely. Some used a short time frame (e.g., one year;

six months) or assessed a narrow range of target behaviors (e.g., sexual penetration but not nonpenetrative sexual acts) or a narrow range of types of coercion (e.g., force but not incapacitation). One assessed sexual assault using only one question, which was presented in a list of traumatic events (e.g., assaults with weapons, captivity) and asked about having experienced “sexual assault” and “rape” (Conley et al., 2017, p. 3)—methods that are likely to prime respondents to think about extreme events and stereotypic rape scripts (National Research Council, 2014; Peterson & Muehlenhard, 2011). Other studies in this section are based on incidents reported to the police (Uniform Crime Reports, published annually by the FBI) or to campus authorities (Clery Act Reports, produced annually by all colleges and universities that receive federal funding).³

We classified other studies as likely to overestimate the percentage of women sexually assaulted while in college. There were two main reasons. One study—Koss, Gidycz, and Wisniewski (1987)—asked women about their experiences since age 14; some of these experiences could have occurred before college. The others presented statistics based on operational definitions that were broader than our working definition; they presented statistics in which sex acts obtained by force or incapacitation were not disaggregated from those obtained by verbal coercion.

In addition to the summaries in Table 2, below we present more detailed descriptions of several studies that are frequently cited in the debate about women’s risk of sexual assault during college. Two have been cited as evidence that the risk is at least one in five; the others have been cited as “debunking” the one-in-five statistic as exaggerated. Our intent is to help readers understand why these studies do not adequately address this question, despite their widespread use in the public discourse.

Koss’s Study of U.S. Students: The “Ms. Study”.

The *Ms. Study*, by Koss et al. (1987), differs from the others described in this section: It was a groundbreaking study designed specifically for college students, and it used state-of-the-art methodology to assess young women’s history of sexual assault. Our reasons for including it here are that (a) it is frequently cited as providing data about the prevalence of sexual assault on campus, but (b) the results pertain to women’s experiences *since turning 14* rather than *since entering college*. We included this study because it was the first study of sexual assault using a nationally representative sample of college students, because it had a reverberating impact on people’s thinking about sexual assault, and because it is still cited today, often in the context of evaluating the one-in-five statistic. Because it is often mischaracterized, we describe it in enough detail so that readers can understand why many of the claims about it are inaccurate.

In the 1980s, Koss et al. (1987) conducted a study with a large, nationally representative sample of 3,187 female and 2,972 male students from 32 institutions of higher education across the United States. This study is often referred to as the

“*Ms. Study*” because the *Ms.* Foundation for Education and Communication assisted with administering the study (Koss et al., 1987, p. 162). Although critics have described the study in ways that seem to cast doubt on its credibility—describing it as having been done for *Ms.* magazine (Chris, 2009[†]), commissioned by *Ms.* magazine (Mac Donald, 2008[†]), and published in *Ms.* magazine (Fleming, 2013[†]; Mac Donald, 2008[†])—it was in fact funded by the National Institute of Mental Health (Koss et al., 1987) and published in prestigious peer-reviewed journals (e.g., *Journal of Consulting and Clinical Psychology*; *Psychology of Women Quarterly*; *Annals of the New York Academy of Sciences*).

This survey was presented to students as a survey of relationships. Students completed questionnaires in classrooms; the participation rate was 98.5% (Koss et al., 1987, p. 164). Women were asked about having been coerced by men; men were asked about having coerced women. Rape was defined as unwanted sexual intercourse, anal or oral intercourse, or penetration with objects “because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you” and as sexual intercourse “when you didn’t want to because a man gave you alcohol or drugs” (p. 167).

Based on this definition, Koss et al. (1987) found that 15.4% of the women had been raped (9% reported forced sexual intercourse; 6% reported other types of forced penetration; 8% reported unwanted alcohol/drug-related sexual intercourse) since age 14. An additional 12.1% had experienced attempted rape since age 14. Thus, 27.5%—more than one in four—college women had experienced rape or attempted rape since they turned 14, though not necessarily while in college. This study was the original source of the one-in-four statistic, which has been cited frequently beginning in the 1980s. It is often misquoted as having found that one in four women experienced rape or attempted rape during college, when, in fact, the women could have been describing rapes that occurred before they entered college.

Koss et al. (1987) also asked about experiences during the previous academic year (September to September). Many women reported having experienced rape (2.0%, forced intercourse; 1.7%, forced oral/anal penetration; 2.9%, intercourse because of alcohol/drugs), attempted rape (5.6% involving force; 4.5% involving alcohol/drugs), and/or forced sexual contact (3.5%) during the previous academic year. Without additional information, however, we cannot draw firm conclusions about the cumulative percentage of women who had experienced rape, attempted rape, and/or forced sexual contact during their entire time in college.

The National College Women Sexual Victimization Study.

Fisher, Cullen, and Turner (2000) conducted a telephone survey with a nationally representative sample of 4,446 randomly selected female college students. Rape was assessed using behaviorally specific questions about “unwanted ... penetration by force or the threat of force. Penetration includes: penile–vaginal, mouth on your genitals, mouth on someone else’s genitals, penile–anal,

digital–vaginal, digital–anal, object–vaginal, and object–anal” (p. 8). They did not ask specifically about incapacitated rape, but the instructions informed participants that the incidents could have happened when they were drunk, asleep, and so on.

Results showed that “2.8 percent of the sample had experienced either a completed rape (1.7 percent) or an attempted rape incident (1.1 percent)” (p. 10) during the 1996–1997 academic year, which, at the time of the interviews, covered slightly less than 7 months. Fisher et al. (2000) commented that this percentage might seem low, but it was based on an average of just 6.91 months. The prevalence would increase over women’s college careers.

“Only” about 1 in 36 college women (2.8 percent) experience a completed rape or attempted rape in an academic year. . . . However, if the 2.8 percent victimization figure is calculated for a 1-year period, the data suggest that nearly 5 percent (4.9 percent) of college women are victimized in any given calendar year. Over the course of a college career—which now lasts an average of 5 years—the percentage of completed or attempted rape victimization among women in higher educational institutions might climb to between one-fifth and one-quarter. (p. 10)

They acknowledged that these assumptions were “problematic for a number of reasons, such as assuming that the risk of victimization is the same during summer months and remains stable over a person’s time in college” (p. 10). Results of subsequent studies have challenged these assumptions. For example, Krebs et al. (2007) found that the percentage of college women reporting sexual assault was highest in September, October, and November, and lowest in May, June, and July (Exhibit 5-7, pp. 5-16–5-17).

In general, it is difficult to extrapolate from annual prevalence statistics to four-year prevalence statistics. Some women are victimized multiple times during college (Daigle, Fisher, & Cullen, 2008). If some of the women who were sexually assaulted during one academic year had been sexually assaulted during a previous year, these additional incidents would not add to the cumulative percentage of women who have been sexually assaulted during their time at college. For example, in the AAU survey (Cantor et al., 2015), the percentage of undergraduate women who reported forced/incapacitated sexual contact during the *current school year* was 13.2%. If Cantor et al. (2015) had multiplied the current-year percentage by four years in college, the result would have been $13.2\% \times 4 = 52.8\%$. This would have substantially overestimated the 27.2% women in their senior year who actually reported this experience since entering college (see Table 3–10, p. 65). Likewise, Krebs et al. (2009) found that 7.5% of their respondents reported completed sexual assault during the past 12 months. If they had multiplied by four, the result would have been $7.5\% \times 4 = 30\%$; this would have overestimated the 19.8% of seniors who actually reported completed sexual assault since entering college (Krebs et al.,

2009; see Table 1, p. 644). Even a formula acknowledging that a student could be sexually assaulted during more than one year would overestimate the risk if it is based on the assumption of uniform risk across students and years.⁴

The National Crime Victimization Survey. The National Crime Victimization Survey (NCVS) is an ongoing survey of the incidence of crime victimization in the United States, even if these crimes have not been reported to the police.⁵ Data are collected by the U.S. Census Bureau for the BJS, part of the U.S. Department of Justice. Each year, interviewers collect data from a nationally representative sample of approximately 90,000 households, including group living quarters, such as college dormitories. Each household stays in the sample for three years. Every household member age 12 and older is interviewed every six months for three years. First interviews are generally conducted in person; subsequent interviews are conducted in person or by phone. The survey covers nonfatal personal crimes, such as rape or sexual assault and robbery, and household property crimes, such as burglary and motor vehicle theft (BJS, 2015; also see Sinozich & Langton, 2014).

For several reasons, there are concerns about the NCVS’s results related to rape and sexual assault; even the BJS has concerns about its own survey. In 2011, the BJS asked the National Research Council “to recommend the best methods for obtaining national statistics on rape and sexual assault on an ongoing basis for the noninstitutionalized population of the United States in conjunction with the BJS household surveys” (National Research Council, 2014, p. vii). National Research Council (2014) identified several concerns with the NCVS.

One concern is an inefficient sample design (National Research Council, 2014). Because sexual assault generally occurs less frequently than property crimes and many other violent crimes, and because the risk of sexual assault is not evenly distributed across the population, the NCVS sample is not large enough to accurately assess the frequency of sexual assault in the past six months. This problem could be addressed by using a much larger sample or by oversampling high-risk subpopulations, but these strategies would be inefficient for assessing other crimes.

Another concern is the context of the sexual assault questions. The survey is presented to respondents as a crime survey, and questions about rape and sexual assault are presented in the context of questions about other crimes. Many individuals who have been sexually assaulted do not think of their experience as a crime, especially if the perpetrator was an acquaintance. In addition, some respondents might fear that incidents they disclose will be reported to police (National Research Council, 2014).

A third concern is lack of privacy. The guidelines say that if non-household members are present, interviewers should ask respondents if they wish to be interviewed in private; however, if only family members are present, these

guidelines do not apply (National Research Council, 2014, p. 147). Even if respondents are interviewed in a separate room, they may be overheard, or they might worry that other household members will wonder why they requested privacy or why the interview is taking so long. Lack of privacy could be a concern for many reasons. The perpetrator might be a household member; teenagers might not want their parents to know; parents might not want their children to know; and so forth.

A fourth concern is the wording of the questions. Many studies (e.g., the CSA Study, the National Intimate Partner and Sexual Violence Survey [NISVS]) use multiple behaviorally specific questions. In contrast, the NCVS uses more general screener questions:

- (Other than any incidents already mentioned), has anyone attacked or threatened you in any of these ways: ... (e) any rape, attempted rape, or other type of sexual attack?
- Incidents involving forced or unwanted sexual acts are often difficult to talk about. (Other than any incidents already mentioned), have you been forced or coerced to engage in unwanted sexual activity by (a) someone you didn't know before, (b) a casual acquaintance? OR (c) someone you know well? (National Research Council, 2014; Sinozich & Langton, 2014, p. 15)

Interviewers follow up with more specific questions only if a respondent answers *Yes* to a screener question. These general screener questions are problematic: Some use the term *rape*, which can evoke images of violent attacks by strangers (Peterson & Muehlenhard, 2011); even individuals whose experiences meet their state's legal definition of rape often do not label their experience as rape. Respondents' interpretations of other terms, such as "forced or coerced" and "unwanted sexual activity" might also differ from what the BJS intended (National Research Council, 2014).

A fifth concern is that the NCVS does not cover incapacitated rape, even though this is now included in the FBI's definition of rape (U.S. Department of Justice, 2012). As discussed, this type of rape is prevalent among college students.

Fisher et al. (2000) compared the effects of using the NCVS questions versus behaviorally specific questions. In their primary study (the National College Women Sexual Victimization study, described earlier), Fisher et al. (2000) used behaviorally specific questions. In the comparison study, funded by the BJS, they used the same design but used questions based on the NCVS questions. They found that, for completed rape, behaviorally specific questions yielded prevalence rates almost 11 times higher than did the NCVS questions: 1.7% versus 0.16%, respectively (Fisher et al., 2000, pp. 13–14).

Ultimately, the National Research Council (2014) concluded "it is likely that the NCVS is undercounting rape and sexual assault victimization" (p. 4) and recommended that

the BJS develop a separate survey to assess the frequency of rape and sexual assault (p. 162). Their conclusion that the NCVS undercounts rape is important because some critics have described the NCVS as the "gold standard in crime research" (Sommers, 2014[†]) that "debunks" and "officially puts to bed the bogus statistic that one in five women on college campuses are victims of sexual assault" (*Federalist Staff*, 2014[†]).

Uniform Crime Reports. Occasionally, critics of survey results have compared survey statistics with Uniform Crime Report (UCR) statistics (e.g., Patton & Farley, 2014[†]). UCR data are based on crimes reported to the police. UCR statistics undercount the incidence of sexual assault. One reason relates to "the way in which law enforcement in certain jurisdictions handles both the victims and the police reports of those crimes" (National Research Council, 2014, p. 36), such as downgrading the incidents or classifying victims' complaints as unfounded.

A more important reason is that only a small percentage of sexual assaults are reported to law enforcement (e.g., Brennan & Taylor-Butts, 2008; Fisher et al., 2000; Wolitzky-Taylor et al., 2011). Furthermore, as we will discuss later, some sexual assaults are more likely than others to be reported to police, meaning that those reported to police are not a representative sample of all sexual assaults.

Understanding UCR data is important because some commentators have critiqued surveys of sexual assault among college students by pointing out discrepancies between the survey results and UCR data. Critics argue that if the national incidence rates of reported rape are so low, then the one-in-five number must be a distortion. For example, Patton and Farley (2014[†]) wrote for *The Baltimore Sun*:

You've heard the statistics: one in four women will be raped in college Or is it "sexually assaulted or almost sexually assaulted"? Or is it "nearly one in five"? Or "one in six"? ... Let's look at some facts. According to the FBI "[t]he rate of forcible rapes in 2012 was estimated at 52.9 per 100,000 female inhabitants." Assuming that all American women are uniformly at risk, this means the average American woman has a 0.0529 percent chance of being raped each year, or a 99.9471 percent chance of *not* being raped each year. That means the probability the average American woman is never raped over a 50-year period is 97.4 percent (0.999471 raised to the power 50). Over 4 years of college, it is 99.8 percent. Thus the probability that an American woman is raped in her lifetime is 2.6 percent and in college 0.2 percent—5 to 100 times less than the estimates broadcast by the media and public officials.

This argument does not make sense, however, because it involves comparing rates of rape reported to the police with rates of rape reported in anonymous scientific surveys. In addition, the definition of rape (which includes penetration only) is narrower than the definition of sexual assault (which includes a broader range of sexual acts).

Other commentators have also used UCR statistics to try to discredit survey results. Mac Donald (2008[†]) and Fleming (2013[†]) both tried to show the absurdity of research findings about the sexual assault of college women by comparing them with the crime rates in Detroit. For example, Fleming wrote:

To put it in perspective, in the nation's most violent city (Detroit), the total violent crime rate was 2.1 percent in 2012. That figure includes murder, rape, assault, and robbery. If the one in four figure shouted at feminist rallies is correct, the nation is willingly sending its daughters to places with a violent crime rate several times that of the most dangerous city in the country.

The 2.1% comes from the FBI's Uniform Crime Reports database. Thus, Fleming (2013) was comparing the sexual assaults reported on anonymous questionnaires covering a four-year period with crimes reported to police in one year.

Clery Act Reports. The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (the Clery Act), amended in 2013 by the Campus Sexual Violence Elimination Act (Campus SaVE Act), applies to all universities participating in U.S. federal student aid programs, which is almost all U.S. universities (Carter, 2015). Universities are required to create reports disclosing statistics for sex offenses and other crimes that occur on campus, near campus, and on certain noncampus properties; they are required to gather and publish statistics from numerous campus officials, including resident advisors, athletic coaches, campus police, and local law enforcement (Carter, 2015; also see Yung, 2015). In 2014, 91% of college campuses disclosed zero reported incidents of rape on the Clery Act Reports (Becker, 2015).

Some authors have criticized college prevalence surveys because they differ from Clery Act statistics. For example, Fleming (2013[†]) criticized Koss and colleagues' (1987) survey, arguing that

if one looks at the actual numbers for sexual assault on college campuses, her results seem almost laughable. Thanks to the Clery Act, universities in America make public all reported campus crimes. This allows anyone to look at every instance of reported crimes on the campus and, in particular, all incidents of sexual violence.

Based on the Clery Act statistics for Brown University, Fleming concluded that 0.28% of the female students had reported sexual violence each year; "the 'one in four' chant should be abandoned and replaced with the more appropriate, albeit less catchy, 1 in 400."

Clery Act Reports are subject to some of the same problems as Uniform Crime Report data. As noted, very few college students report their sexual assault experiences to campus police or other campus authorities (Fisher et al., 2000; Krebs et al., 2007; Wolitzky-Taylor et al., 2011). This

results in discrepancies between Clery Act Reports and data from anonymous self-report surveys (Gardella et al., 2015). Fisher et al. (2000) found that "in about two-thirds of the rape incidents ... the victim did tell another person," but "most often this person was a friend, *not a family member or college official*" (p. 23; italics added). Krebs et al. (2007) found that about two-thirds of the women who had been sexually assaulted told friends or family; roughly one in eight had contacted a victims crisis center or health care center, some of which were associated with the students' universities. However, counselors and therapists are not mandated to report incidents to university administration. Thus, even these incidents probably would not be included in Clery Act Reports.

Furthermore, it is unclear how to interpret larger versus smaller Clery Act Report numbers. Higher numbers could be interpreted to mean that a campus is unsafe (Yung, 2015). In contrast, higher numbers could be interpreted to mean that more victimized students are coming forward because they anticipate a supportive response from campus authorities (Kingkade, 2014[†]; Remy, cited in Leech & Smith, 2014[†]). The small percentages of sexual assaults reported to campus authorities—and the lack of clarity in how to interpret low or high numbers—make Clery Act Reports a problematic data source.

Studies that did not fit our inclusion criteria revealed several patterns. Data gathered from women's reports to police or campus authorities show very low prevalence rates (Clery Act Reports; Uniform Crime Reports). This is not surprising, given the small percentage of rape victims who report their experiences to authorities (Fisher et al., 2000; Krebs et al., 2007; Wolitzky-Taylor et al., 2011).

Studies that asked women about "rape" or "sexual assault" generally found low rates (e.g., Conley et al., 2017; Sinozich & Langton, 2014, using data from the NCVS). This is not surprising, given that even when individuals have an experience meeting legal definitions of "rape" or "sexual assault," many do not apply those labels to their own experience (e.g., Fisher et al., 2000; Peterson & Muehlenhard, 2011).

Three of these studies asked behaviorally specific questions covering at least one year of college. Of these, Kilpatrick, Resnick, Ruggiero, Conoscenti, and McCauley (2007) asked about the narrowest range of experiences; they found that 5.15% of college women had experienced *completed rape* during the previous year. Carey et al. (2015) found 18.6% of the women (almost one in five) had experienced *completed or attempted rape* during their first year in college. Ford and Soto-Marquez (2016) found that 37.8% of bisexual, 24.7% of heterosexual, and 11.4% of lesbian women in their senior year had experienced completed or attempted rape while in college. All of these results seem consistent with a one-in-five risk for completed or attempted sexual assault over four years.

Studies that included verbal pressure in their operational definitions likely overestimated the prevalence of sexual

assault, based on our working definition. These incidents seem to reflect problems with sex and gender in many young people's sexual relationships, but they do not fit most people's or most states' definition of sexual assault.

Questioning Some of the Assumptions Implicit in the Public Discourse About Sexual Assault

As we read articles in the public discourse about sexual assault and reviewed prevalence studies, we noted several assumptions that seemed implicit—and sometimes explicit—in the public discourse about sexual assault but which seemed inconsistent with the data. In the next sections, we evaluate four of these assumptions:

- The assumption that the risk for college women is higher now than in past decades.
- The assumption that the risk of sexual assault rises sharply when young women enter college.
- The assumption that the risk is higher for college students than for nonstudents.
- The assumption that attending college increases (i.e., has a causal effect on) young women's risk of sexual assault.

Has the Risk of Sexual Assault Among College Women Increased in Recent Years?

The sharp rise in media coverage of campus sexual assault and the characterization of this problem as an “epidemic” suggest that college women are at higher risk now than in previous decades. Is this the case?

Historian Nicholas Syrett (2009) traced the rise of campus sexual assault to changing ideas about masculinity during the 20th century. As women asserted greater autonomy, White men's notions of masculinity increasingly emphasized aggression and heterosexuality. Men evaluated each other “based on their ability to convince women to have sex with them” (Syrett, 2009, p. 261). After World War II, as premarital sexual norms for women became more permissive, White college men—who had previously had sex mostly with prostitutes and working-class women—more often sought sex with their female classmates. While the pressure to perform heterosexuality “undoubtedly led to fabrication of many sexual exploits, there is evidence that it also led to sexual aggression on campus” (p. 262).

During this post-WWII period, Kirkpatrick and Kanin (1957) surveyed college women about their experiences with men's sexually aggressive behavior during that academic year. An eight-page mimeographed survey was administered to female students in 22 varied classes after the male students had been dismissed. Data were collected from 291 women; the response rate was over 99%. The authors cautioned that freshmen, sophomores, and sorority members were overrepresented relative to their presence on campus. The survey asked women about their experiences with “five

degrees of erotic aggressiveness, namely attempts at ‘necking,’ ‘petting’ above the waist, ‘petting’ below the waist, sex intercourse, and attempts at sex intercourse with violence or threats of violence” (p. 53).

Results showed that more than half (55.7%) of the women reported at least one episode of “sex aggression” by a man during the 1954–1955 academic year (Kirkpatrick & Kanin, 1957); these incidents would fit our definition of sexual assault. Some of these incidents would fit definitions of attempted or completed rape; 6.2% of the offended women (3.5% of the entire sample) reported “aggressively forceful attempts at sex intercourse in the course of which menacing threats or coercive infliction of physical pain were employed” (p. 53), and an additional 20.9% (11.6% of the entire sample) reported having been “offended by forceful attempts at intercourse” during that year (Kanin, 1964, p. 26; Kirkpatrick & Kanin, 1957, p. 53). Thus, in the 1950s, 15.1% of the entire sample reported having experienced a forceful attempt at sexual intercourse during one academic year.

In a related study, Kanin (1957) found that many college women had experienced sexual aggression before entering college. In a sample of 262 first-semester college women, 62.2% reported having experienced male sexual aggression during their senior year of high school or the summer before entering college (i.e., 1955–1956); 5.3% ($n = 14$) reported an attempt at sexual intercourse accompanied by “menacing threats or coercive infliction of physical pain” (p. 197) during their senior year of high school or the summer before entering college.

Kanin (1964, 1967) also studied college men's self-reports about perpetrating sexual aggression during the 1961–1962 academic year (Kanin, 1964, p. 170). One-quarter (25.5%) of the 254 men in his sample reported that, since entering college, they had engaged in “sexual aggression”—defined as having “made a forceful attempt for intercourse” to which the woman responded “with offended reactions, e.g., fighting, crying, screaming, pleading, etc.” (Kanin, 1967, p. 429). The men's sexual aggression was not isolated to college; many reported also having been sexually aggressive in high school.

In summary, even in the 1950s, more than half of the college women sampled reported an incident of sexual aggression, and one in five reported a forceful attempt at sexual intercourse during the 1954–1955 academic year. Consistent with the high rates reported by women, one in four college men reported having made a forceful attempt for intercourse. Also, as described, in the 1980s Koss et al. (1987) found that many college women had experienced high rates of sexual assault during the previous academic year. Given these data, it seems unlikely that the risk in the 1950s, 1960s, or 1980s was substantially lower than it is now.

Does the Risk of Sexual Assault Rise Sharply When Women Enter College?

Young women's worries about being sexually assaulted once they enter college (Ablaza, 2016[†]; Nguyen-Okwu,

2016[†], Waack, 2016[†]) reflect the assumption that this risk rises sharply when they enter college. Is this assumption consistent with available data?

Several of the studies reviewed assessed the experiences of college women both before and after they entered college. In the CSA Study, Krebs et al. (2007) found that nearly 16% had experienced sexual assault before entering college, compared with 19% since entering college (pp. xii–xiii). In the HBCU-CSA Study, Krebs, Barrick et al. (2011) found that 14.9% of the female undergraduates had been sexually assaulted before entering college, compared with 14.2% since entering college. In the Women's Health Project, Carey et al. (2015) found that 28% of the students had experienced completed or attempted rape before college (28%), compared with 18.6% during their first year of college.

Studies of women in the general population indicate that the risk of sexual assault is highest among adolescent girls and young women in their early 20s (Black et al., 2011; Breiding et al., 2014; Tjaden & Thoennes, 2000). Three large studies of women ages 18 to 80+ found that among women who had been raped, about half (40% to 54%) had been raped when they were age 17 or younger; the modal age range for the first rape victimization was between 11 or 12 and 17 (Black et al., 2011; Breiding et al., 2014; Tjaden & Thoennes, 2000). Tjaden and Thoennes (2000) concluded that “rape should be viewed as a crime committed against youths as well as adults” (p. 59).

It is difficult to make precise comparisons between the risk during women's college years (which last about four or five years) and their precollege years (which last about 17 or 18 years, although the highest risk of rape begins during adolescence, making the duration of their high-risk precollege time more similar to their time in college). It is clear, however, that the age range at which young women are at highest risk of sexual assault begins long before college, and that many college women have already been sexually assaulted before entering college (Carey et al., 2015; Krebs, Barrick, et al., 2011; Krebs et al., 2007).

Are College Students at Greater Risk Than Nonstudents?

Implicit in the public discourse about sexual assault is the assumption that college students are at greater risk of sexual assault than nonstudents. Journalist and father Gregg Jarrett (2014[†]) explicitly stated that “a woman who attends college is more likely to be assaulted than a woman who does not.” Do data support this assumption?

As stated in the previous section, adolescents and young women are more likely than older women to experience rape and other forms of sexual assault. Adolescents and young women are also more likely than older women to be students. These facts can result in a spurious correlation between student status and sexual assault. For example, a study of 33,127 Canadians, ages 15 and older, showed that those who identified as students (high school, college, or

university) reported much more sexual assault victimization during the past year than those who identified as employed (Perreault, 2015, p. 33; Perreault & Brennan, 2010, p. 23). At first glance, this could seem to be evidence that being a student is risky. However, young people (ages 15 to 24) reported much more sexual assault victimization during the past year than people over age 24 (Perreault, 2015, p. 33), and young people are more likely to be students than people over 24. As Perreault (2015) noted, “being a student may not be associated with a higher risk of violent victimization when other factors are controlled for, mainly age” (p. 11).

So, to avoid such confounds, assessing the relationship between student status and sexual assault requires controlling for age group. Are women in college at greater risk than nonstudents in the same age group? We found only three studies that addressed this question.

The Michigan Study of Adolescent Life Transitions.

In 1983, sixth graders were recruited to participate in a longitudinal study (Zweig, Barber, & Eccles, 1997). By 1992–1993, they were 19 to 22 years old; 450 of the 872 young women were full-time college students, allowing for comparisons of students and nonstudents. Rape, sexual abuse, and sexual assault were assessed by *Yes/No* questions (e.g., “Have you ever been raped?”; p. 297). Results showed that nonstudents were significantly more likely than students to report having experienced rape (16% of nonstudents versus 10% of students) and sexual abuse (19% versus 11%, respectively; pp. 298–299). There were no significant differences for sexual assault and pressured sex.

Several caveats are warranted. Questions such as “Have you ever been raped?” are problematic. Many individuals do not label their experiences with nonconsensual sex as *rape*, even if their experiences fit researchers' operational definitions and legal definitions of rape (Koss, 2011; Peterson & Muehlenhard, 2011; Wilson, 2015). The same phenomenon has been found for *sexual assault* (Cleere & Lynn, 2013) and *sexual abuse* (Artime, McCallum, & Peterson, 2014). It is likely that Zweig et al.'s (1997) numbers underestimated the prevalence of rape, but because students and nonstudents were asked the same questions, the student–nonstudent comparisons might be meaningful. Also, these questions asked about lifetime experiences, not just experiences since high school or during the past year. The prevalence of sexual assault might have been higher for nonstudents than for students even before any of them entered college.

The Women 2000 Study. Buddie and Testa (2005) analyzed data from a community sample of women living in and around Buffalo, New York. They compared two groups of 18- to 22-year-olds: college students ($n = 250$) and nonstudents who were no longer in high school but had never attended college ($n = 80$). Experiences with sexual aggression were assessed using a slightly modified version of the Sexual Experiences Survey (SES; Koss et al., 1987; Koss & Oros, 1982). Buddie and Testa (2005) presented

data about rape and/or attempted rape (sexual penetration obtained by physical force or incapacitation) and sexual aggression (nonpenetrative sexual contact and penetration obtained by verbal pressure) during the past year.

Results showed no significant differences between groups for rape (5% of each group) or sexual aggression (12% of nonstudents and 11% of students, based on calculations from Table 1, p. 719). Buddie and Testa (2005) concluded that their “results do not provide evidence that college is a uniquely risky environment for experiencing sexual aggression” (p. 713).

The National Crime Victimization Survey. Sinozich and Langton (2014) compared nonstudents and students using NCVS data. They compiled sexual assault statistics from 1995 to 2013 for women ages 18 to 24. Results showed that the risk of sexual assault and forcible rape was higher for nonstudents than for students. For any form of sexual assault, the annual rate was 1.2 times higher for nonstudents than for students (7.6 versus 6.1 victimizations per 1,000 women, respectively; p. 1). For completed forcible rape, the annual rate was 1.5 times higher for nonstudents than for students (3.1 versus 2.0 per 1,000; p. 4). The NCVS does not measure incapacitated rape.

In summary, of the three studies we found that compared the students and nonstudents in the same age group, two found higher rates of sexual assault among nonstudents than students, and the other found no significant differences. In brief, we could find no evidence that students are at greater risk than nonstudents, once age is controlled for. Young women not in college are at least as vulnerable to sexual assault as young women in college.

Does Attending College Increase Young Women’s Risk of Sexual Assault?

Statements that campus rape statistics are “enough to give parents pause about sending their daughters on to higher education” (Berry, 2016[†]) imply that attending college actually increases young women’s risk of sexual assault. Do the data support the assumption that attending college increases—that is, has a *causal* effect on—women’s risk of sexual assault?

As discussed, evidence does not support the assumption that college students experience more sexual assault than nonstudents. However, regardless of how the prevalence of sexual assault compares for students and nonstudents, existing studies could not prove that attending college influences the risk of sexual assault. Correlation does not prove causation. Young people are not randomly assigned to attend college or not; college students and nonstudents differ in numerous ways even before the students begin college. Compared with nonstudents, college students are more likely to be White or Asian, are more likely to report higher family incomes and to have attended wealthier high schools, and are more likely to have highly involved parents (Bidwell, 2014[†]; Buddie & Testa, 2005; National Center

for Education Statistics, 2015; Sandefur, Meier, & Campbell, 2006). These variables are confounded with college attendance and might also influence the risk of sexual assault. Furthermore, students who drop out of college differ from those who remain in college. For example, Duncan (2000) found that college students with histories of childhood sexual abuse (CSA) were more likely to drop out than students without CSA histories. VanPutten (2011) found that dropping out of college was associated with precollege attention-deficit/hyperactivity disorder (ADHD) diagnosis.

Any differences between college students and nonstudents in sexual assault rates could have numerous possible explanations:

1. Attending college might influence the risk of being sexually assaulted. That is, attending college might have a causal effect on the likelihood of being sexually assaulted, either increasing or decreasing the likelihood.
2. Having been sexually assaulted might influence the likelihood of attending college. That is, having been sexually assaulted as a child or adolescent could have aftereffects that might, in turn, affect the likelihood of enrolling in—and staying in—college. This could result in differences in lifetime sexual assault prevalence rates between students versus nonstudents. Furthermore, because individuals with sexual assault histories are at greater risk than others for subsequent sexual victimization (Black et al., 2011; Classen, Paresh, & Aggarwal, 2005; Muehlenhard, Highby, Lee, Bryan, & Dodrill, 1998; Tjaden & Thoennes, 2000), this could also result in differences in sexual assault rates during the years that students are in college.
3. A third, common-causal variable (e.g., adolescents’ personal characteristics or family situation) might influence both the likelihood of attending college and the risk of sexual assault. For example, adolescents who have serious drinking problems are probably less likely to attend college and more vulnerable to sexual assault. This could result in a relationship between attending college and sexual assault, even if neither one had a causal influence on the other.

Discussion

Many women are sexually assaulted while in college. Based on a review of the studies that most directly addressed this question, one in five (20%) is a reasonable estimate of the percentage of undergraduate women sexually assaulted while in college. Among college seniors, whose responses reflect almost their entire time in college, one in four (25%) might be a better estimate for many campuses (Cantor et al., 2015; Krebs et al., 2016; Krebs et al., 2007, 2009). These statistics are averages across women, however; the risk varies depending on campus, year in school, sexual

orientation, gender identity, race, and disability status. For example, a study of four HBCUs found that one in seven undergraduate women had been sexually assaulted since entering college (Krebs, Barrick, et al., 2011). Two studies of 27 and 9 campuses, respectively, found averages between one in five and one in four, but a range from one in eight to more than one in three across campuses (Cantor et al., 2015; Krebs et al., 2016; see Table 1).

Based on the public discourse, one might infer that college is riskier for young women than it was in past generations and that college women are uniquely at risk for sexual assault. The data, however, do not support these assumptions. The few studies available from the 1950s and 1960s suggest that sexual assault among college students was at least as prevalent then as now (Kanin, 1964; Kirkpatrick & Kanin, 1957), although it got little attention at the time. Recent studies of college students and women in the general population indicate that the prevalence of sexual assault before entering college or turning 18 is not substantially different from the prevalence since entering college or turning 18 (Black et al., 2011; Breiding et al., 2014; Carey et al., 2015; Krebs, Barrick, et al., 2011; Krebs et al., 2007; Tjaden & Thoennes, 2000). Studies comparing college students and nonstudents in the same age group have found either no difference between the two groups or higher rates of sexual assault among nonstudents than among students (Buddie & Testa, 2005; Sinozich & Langton, 2014; Zweig et al., 1997).

These conclusions do not mean that the sexual assault of college women is not an important problem. It is important; indeed, the one-in-five statistic has likely received so much attention because it is a shockingly high number. These conclusions *do* mean that the problem of sexual assault is not unique to college women and that it is important to address sexual assault among high school students and among young women who do not attend college. The topic of sexual assault and sexual consent among high school students has received some attention (e.g., Chemaly, 2014[†]; Smith, 2016[†]), though much less attention than among college students. Sexual assault is a larger social issue that affects students and nonstudents.

If college students are not at higher risk than other young women, why has so much attention been focused on sexual assault among college students? One reason could be that we know more about sexual assault among college students than among other populations. Studying college students is relatively convenient; student rosters can be used as sampling frames, making students easy to contact. Women are at highest risk of sexual assault when they are in their teens and early 20s (Black et al., 2011; Tjaden & Thoennes, 2000), and most college students are in this age range. In contrast to high school students, most college students are at least 18 years old and thus are old enough to participate in research without parental consent.

Second, recent government policy decisions have brought attention to sexual assault among college students. Some U.S. college students who had been sexually victimized subsequently felt revictimized by university judicial proceedings (Center for Public Integrity, 2010). The Obama

administration brought changes in how the U.S. Department of Education's Office for Civil Rights (OCR) handled such complaints (Sander & Schmidt, 2010). In 2011, the OCR issued a "Dear Colleague Letter," defining "sexual violence [as] a form of sex discrimination prohibited by Title IX" (OCR, 2011, p. 1). This "now notorious" letter "[exhorted] colleges to investigate and resolve students' reports of sexual misconduct and protect them along the way" (Lipka, 2015). These policy changes gave students a way to call attention to sexual assault. If students report to university officials that they have been sexually assaulted by another student or a university employee, the university must investigate. Because the criminal justice system is often ineffective in prosecuting sexual assault, especially sexual assault between acquaintances (Lonsway & Archambault, 2012), some students might attempt to use university policies and procedures to punish perpetrators. If the complaining student is not satisfied with the university's investigation, the student can file a complaint with the OCR, and the OCR must then investigate the university. These events have generated public attention to college sexual assault. There is no parallel process for nonstudents.

There could be other reasons as well. There might be a tendency to see the type of women (i.e., predominantly White and middle or upper-middle class) who attend college (especially traditional, residential, flagship public and private institutions where most of the research takes place) as more vulnerable and in need of protection than the more economically disadvantaged and more racially diverse group of young women who do not attend college. College students and their families are more likely than nonstudents to have the means to voice their concerns. Many people think of college as a "bubble" (e.g., Ablaza, 2016[†]; Canon, 2015[†]) separate from the "real world"; the sexual assault of college students is incongruent with this image. To the extent that universities function in pseudoparental roles, administrators are seen as having a responsibility to protect students (e.g., Dixon, 2015[†]); there is no equivalent pseudoparental institution for young nonstudents.

What Accounts for the Contentious Disagreements About These Statistics in the Public Discourse?

Popular accounts of the prevalence of women who are sexually assaulted during college vary dramatically, ranging from one in four (Pérez-Peña, 2015[†]) to one in 167 (*Federalist* Staff, 2014[†]), or even one in 400 (Fleming, 2013[†]). Different commentators have drawn very different conclusions from the same studies. Many have not only critiqued these studies; they have criticized them harshly, using language that seems hostile and dismissive. What accounts for these disagreements and the emotions underlying them? In the following sections we suggest that there are two general categories of reasons: reasons related to misunderstandings about the research methods or findings (e.g., confusion about a study's research questions,

operational definitions, or results) and reasons related to perceived implications of the studies (e.g., the implicit values inherent in defining sexual assault and the perceived implications of the findings).

Reasons Related to Misunderstandings About Research Methods or Findings. Some of the disagreements about these statistics come from the complexity of the research. Different studies involve different samples, different definitions of sexual assault, and different methodological decisions. Sometimes seemingly minor methodological decisions can dramatically affect the prevalence rates (for reviews, see Fisher, Cullen, & Daigle, 2005; Koss, 1993). These complexities could account for some of the mischaracterizations and disagreements, especially when commentators rely on secondary sources for their information about the studies that they critique. For example, Glover (2015) critiqued “Mary Koss’ infamous *Ms.* magazine study” (p. 36) but never cited Koss et al. (1987); instead he cited “Christina Hoff Sommers’ expert dismantling of this study” (p. 29). He also critiqued the Campus Sexual Assault Study, concluding that “the study is poor” (p. 27), but he never cited Krebs et al. (2007, 2009); instead, he cited Fox and Moran’s (2014[†]) “breakdown of the study” (p. 27).

Mischaracterizations of How Sexual Assault Was Defined or Assessed. Some critics who argue that survey results are exaggerated or meaningless seem to have misunderstood how sexual assault had been operationally defined in the surveys. For example, Riley (2015[†]) quoted a question from the AAU Survey (Cantor et al., 2015) asking if anyone associated with the university had “continued to ask you to go out, get dinner, have drinks or have sex even though you said no?” If so,” Riley wrote, “you may be a victim of sexual misconduct or sexual assault or sexual harassment.” She described the study as a “wacky” survey that would result in “bad data” about campus sexual assault. “The ‘one in four’ and ‘one in five’ statistics about women being sexually assaulted on campuses that are trotted out so regularly are simply the results of survey administrators failing to distinguish exactly what is sexual assault” (Riley, 2015[†]). In fact, as discussed, the AAU Survey did include this question, but it was considered an example of sexual harassment; it was not considered sexual assault (Cantor et al., 2015, pp. xvi, 29, 84, 87).

Some critics have confused operational definitions of *sexual assault* and *rape*. As discussed, the term *rape* is generally used to refer to nonconsensual sexual penetration; the term *sexual assault* is generally used to refer to a broader range of nonconsensual behaviors. Confusion can result if these terms are used interchangeably. For example, Glover (2015), writing about the Campus Sexual Assault Study, wrote, “Suddenly unwanted touching is equated with forcible and unwanted penetration. Much like currency becoming inflated, the word *rape* begins to become meaningless” (p. 27; emphasis added). In fact, Krebs et al. (2007) did not equate unwanted touching with forcible and

unwanted penetration and did not define unwanted touching as rape. Likewise, in an editorial in the *Los Angeles Times*, Tavis (2015[†]) suggested that surveys like the AAU Survey (Cantor et al., 2015) have defined rape too broadly. She reported that the AAU Survey had asked about “unwanted acts such as ‘forced kissing,’ ‘fondling’ and ‘rubbing up against you in a sexual way, even if it is over your clothes,’” and she implied that these behaviors had been labeled as rape. In fact, the AAU Survey labeled coercive touching and kissing as examples of “nonconsensual sexual contact involving physical force or incapacitation”—not as rape.

Confusion About the Time Frames and Locations Covered by Studies. Some mischaracterizations relate to the time frames covered by studies. The one-in-five statistic reflects the percentage of college women who experience sexual assault *during their entire time as undergraduates* (Cantor et al., 2015; Krebs et al., 2009). This can be misunderstood, as with the young woman cited previously who worried that she “might someday be among the 1 in 5 college women who are sexually assaulted *each year*” (Ablaza, 2016[†]; emphasis added).

In other cases, college women’s reports of their sexual assault histories have been misinterpreted as sexual assault experienced during college or on campus, even though the incidents could have occurred before college. Many authors have made this mistake about Koss et al.’s (1987) study, which found that one in four college women had experienced completed or attempted rape since age 14. For example, Chris (2009[†]) described Koss et al.’s (1987) study as “a study of sexual assault *on campuses*” (emphasis added). Kingkade (2016[†]) described it as a study of “sexual assault *in college*” (emphasis added). A university counseling center website cited Koss et al.’s (1987) study, saying, “Approximately one in four college aged women is date raped or experiences an attempted date rape *during her college years* (Koss et al., 1987)” (Student Counseling Services, 2016; emphasis added).

Some studies that asked students about their experiences with sexual assault since they enrolled in college (Cantor et al., 2015; Krebs et al., 2007) have been described as reflecting sexual assault “on campus” (e.g., “1 in 4 Women Experience Sex Assault on Campus,” Pérez-Peña, 2015[†]). However, these experiences did not necessarily happen on or near campus. They could have occurred away from campus when school was not in session. Some campuses are commuter campuses, meaning that many or all of the students commute to campus from their primary residences (e.g., with their parents or in off-campus apartments) rather than living in on-campus residence halls. These students might live 30 or more minutes from campus. If they are sexually assaulted, it likely does not occur on campus.

Assumptions About a Uniform Reporting Rate. Some critics have used (a) the number of sexual assaults reported to police and (b) data about the percentage of sexual assaults

that are reported to police to calculate (c) the actual number of sexual assaults (e.g., Perry, 2014[†]). It is problematic, however, to assume a uniform reporting rate. There is evidence that sexual assault is more likely to be reported to the police when the perpetrator was a stranger rather than an acquaintance (Koss, Dinero, Seibel, & Cox, 1988); when it involved physical force rather than incapacitation (Krebs et al., 2007, p. 5–22; Wolitzky-Taylor et al., 2011); and when it involved forced sexual penetration rather than forced nonpenetrative contact (Fisher et al., 2000, p. 24).

Confusion About “Reporting” Rape or Sexual Assault. Some misunderstandings result from discrepant interpretations of the word *report*. Researchers often describe how many participants “reported” rape or sexual assault on self-report surveys. Members of the public, however, often assume that “reported” means reported to the police. Some have assumed that the prevalence rates found by researchers are underestimates because most sexual assault is not reported to the police. For example, Jarrett (2014[†]) wrote, “Nearly 20% of female college students have been sexually assaulted, according to a White House task force. I suspect the true number is significantly higher. Many young women are reluctant to report it. They keep it secret for fear of embarrassment, shame, retribution, and the trauma of reliving the nightmare during legal or disciplinary proceedings.” His mention of embarrassment or retribution suggests that he is thinking about reporting sexual assault to authorities, not reporting it on an anonymous survey.

Reasons Related to Perceived Implications of the Results. If we consider the question “What percentage of college women are sexually assaulted during college?” solely as a factual question, we can say that, yes, it is complicated, but it should not be that controversial. Research could be summarized by saying that a survey, using a particular operational definition of sexual assault, surveying a particular group of respondents, found that $X\%$ of the women answered in a way that met the researchers’ operational definition of sexual assault. Despite the methodological misinterpretations summarized here, confusion about research methods seems unlikely to account for the emotion attached to this question. We speculate that the strong emotions arise because answering this question involves making decisions based on values about issues people feel strongly about: sexuality, power, and gender.

Criticisms of How Sexual Assault Was Defined. Labeling a behavior as sexual assault marks it as unacceptable. Decisions about where to draw the line between acceptable and unacceptable behaviors can be contentious: Such decisions can advantage some people and disadvantage others; they reflect beliefs about sexuality, power and influence, and gender. It is understandable, then, that researchers’ definitions of sexual assault have been a target of criticism.

Many critics of the one-in-five statistic have argued that researchers’ definitions of sexual assault were too broad, including trivial experiences. A common argument is that

sexual assault is a serious, traumatic experience; therefore, any definition of sexual assault that includes nontraumatic experiences is too broad (e.g., Berenson, 2014[†]; Glover, 2015; Kay, 2015[†]; Sommers, 2014[†]; Tavis, 2015[†], 2016[†]; Taylor, 2015[†]). For example, Sommers (2014[†]) argued that any study finding high levels of sexual violence against college students or other American women has almost certainly defined sexual violence too broadly; she argued that this “trivializes the horrific pain and suffering of survivors, and it sends scarce resources in the wrong direction. Sexual violence is too serious a matter for antics, for politically motivated posturing.” Tavis (2015[†]), criticizing the AAU Survey (Cantor et al., 2015), wrote that rape is “serious and can have devastating consequences” but that “labeling all forms of sexual misconduct, including unwanted touches and sloppy kisses, as rape is alarmist and unhelpful.” She questioned whether young women should “be encouraged to believe that a clumsy act of fondling or kissing is the same thing, emotionally or physically, as forced penetration” and recommended that “we need to draw distinctions between behavior that is criminal, behavior that is stupid and behavior that results from the dance of ambiguity.” Fox and Moran (2014[†]) criticized Krebs et al.’s (2007) Campus Sexual Assault Study, writing,

The definition of sexual assault used in this and other studies was too broad, including unwanted touching and sexual encounters while intoxicated. A small percentage actually rose to the level of forcible rape. By lumping uninvited advances and alcohol/drug-influenced encounters together with forcible rape, the problem can appear more severe than it really is, creating alarm when cool heads are required.

Comments such as these imply that unwanted sexual touching and sexual encounters while intoxicated are not serious and that researchers should focus on behavior that is criminal. This stance is problematic for several reasons. First, nonconsensual touching or fondling *is* criminal. For example, in Kansas, engaging in nonconsensual touching “with the intent to arouse or satisfy the sexual desires of the offender or another” is *sexual battery*; if this occurs “when the victim is incapable of giving consent . . . because of the effect of any alcoholic liquor, narcotic, drug or other substance, which condition was known by, or was reasonably apparent to, the offender,” it is *aggravated sexual battery*, which is a felony (Kansas Statute 21-5505).

Second, laws define sexual assault, sexual battery, and related terms based on behaviors, not outcomes. Someone who experiences nonconsensual sexual contact does not need to be psychologically devastated for the incident to be classified as sexual assault or sexual battery—just as someone who experiences nonconsensual taking of their property does not need to be financially or emotionally devastated for the incident to be classified as theft (e.g., Kansas Statute 21-5505; Kansas Statute 21-5801).

Third, the effects of nonconsensual nonpenetrative sexual contact are not necessarily less severe than the effects of nonconsensual sexual penetration. In a review of the effects

of sexual harassment, Fitzgerald, Swan, and Magley (1997) concluded that “severity does not inhere solely or even primarily in the stimulus situation” (p. 19); instead, the severity of an incident depends on numerous stimulus factors (e.g., the perpetrator, the behavior involved), contextual factors (e.g., how others react, how supported the individual feels), and individual factors (e.g., victimization history, available resources, the individual’s attributions about the event; Fitzgerald et al., 1997, pp. 15–20).

In another type of criticism, some commentators have criticized researchers for asking behaviorally specific questions rather than asking participants if they had been “raped” or “sexually assaulted.” Riley (2015[†]), criticizing the AAU Survey (Cantor et al., 2015), wrote, “Oddly, nowhere in the whole document does the word ‘rape’ appear. Perhaps that’s because rape is a word that respondents might be a little more careful about using.” Sommers (2014[†]) criticized the “defective CDC methodology” used in the NISVS (Black et al., 2011) because “no one interviewed was asked if they had been raped or sexually assaulted. Instead of such straightforward questions, the CDC determined whether the responses indicated sexual violation.” Mac Donald (2008[†]) criticized the “serious flaws” in the Koss et al. (1987) study, writing that “rather than asking female students about rape per se, Koss asked them if they had experienced actions that she then classified as rape.” Similarly, Fleming (2013[†]) criticized Koss et al.’s (1987) “poor survey methodology” because, among other things, “when determining whether the female was a victim of rape, Koss did not explicitly ask if she had been raped; rather, Koss used her own criteria,” which yielded “almost laughable” statistics.

The consensus among researchers is that it is more precise to ask respondents about specific sexual behaviors obtained in specific ways. Asking questions about “rape” or “sexual assault” would make results dependent on respondents’ stereotypic images of rape or sexual assault. Stereotypic rape scripts generally involve violent attacks by disreputable strangers (Kahn, Mathie, & Torgler, 1994; Peterson & Muehlenhard, 2004, 2011). Women are less likely to label an incident as rape or sexual assault if the perpetrator was a boyfriend or dating partner, if it involved incapacitation, if it involved low levels of force, or if they did not resist as strongly as they thought they should have (Cleere & Lynn, 2013; Peterson & Muehlenhard, 2011). Thus, an argument that prevalence studies should ask women if they have been “raped” or “sexually assaulted” is, in effect, an argument that researchers should use a narrow, stereotypic definition of rape or sexual assault.

In a 1974 essay, Reynolds wrote about cases of rape in which perpetrators did “not rape *appropriately*” (p. 63; emphasis in original). She used the jarring phrase “rape *appropriately*” to refer to rapes that society considered “justifiable” (p. 64) or not serious enough to prosecute—such as a man’s raping his wife, a prostitute, or a woman who violated “traditional female role expectations” (p. 65).

Inappropriate rapes involving strangers, multiple perpetrators, or extreme violence are more likely to be taken seriously in the criminal justice system (Reynolds, 1974). Applying Reynolds’s concept to survey research, asking women if they have been “raped” would probably identify incidents in which the perpetrator did “not rape *appropriately*” but would probably undercount incidents in which the perpetrator did “rape *appropriately*” (p. 63).

Mac Donald (2008[†]) was explicit about what she considered to count as an “actual” rape:

Just as a reality check, consider an actual student-related rape: in 2006, Labrente Robinson and Jacoby Robinson broke into the Philadelphia home of a Temple University student and a Temple graduate, and anally, vaginally, and orally penetrated the women, including with a gun.

This incident—a stranger rape involving multiple perpetrators, home invasion, and a gun—fits a narrow, stereotypic rape script. Using such a narrow rape script would leave other incidents—incidents in which perpetrators raped “appropriately”—uncounted and unchallenged.

Criticism Related to the Conceptualization of Gender.

Many of the recent prevalence surveys have been gender neutral. They were administered to both women and men, and respondents could report sexual assault by anyone, regardless of gender (e.g., Black et al., 2011; Cantor et al., 2015; Tjaden & Thoennes, 2000). Nevertheless, sexual assault is not a gender-neutral phenomenon. Many more women than men report having been sexually assaulted (Black et al., 2011; Cantor et al., 2015; Tjaden & Thoennes, 2000). Most sexual assaults against women are done by men (Black et al., 2011, p. 24).

Because sexual assault is (de facto) gendered, some of the criticisms of recent prevalence research have involved gender. Some commentators discuss the negative implications for women if they are encouraged to feel victimized by minor incidents (e.g., Tavis, 2015[†]). Some discuss the negative implications for men unfairly accused of sexual assault (e.g., Fleming, 2013[†]). Some suggest that the statistics from these overly broad definitions could make “the adjustment to college scarier than it needs to be, and [could make] women fearful of any guy’s intentions. These absurd statistics make every man a potential rapist” (e.g., Fleming, 2013[†]).

Tavis (2016[†]) addressed the complexity of this issue by acknowledging the gender-related arguments of people on both sides of this issue: those who accept the one-in-five statistic and those who do not. She characterized the argument of those who do accept this statistic:

Look, they say, at how commonly women are described as hos, bitches, and cunts in our culture. “Slut shaming” has become so ubiquitous that it’s a term in gender studies. The culture today encourages men to feel sexually entitled to take advantage of women who are inebriated, or otherwise

unable to consent—look how casually they post videos of themselves doing just that; look at those frat guys chanting “no means yes.”

Tavris also expressed concern that defining sexual assault broadly will have negative implications for gender equality. Characterizing the arguments of those who think that the accurate percentage is 1% to 3%, she wrote,

Don't today's young women, cheerfully claiming their rights to power and autonomy—including the right to get drunk—see that this attitude is a modern incarnation of the old days when women were thought to be the helpless, weaker sex who needed protection from their own lascivious impulses?

Mac Donald (2008[†]) expressed a similar point, writing that the “campus rape ideology holds that inebriation strips women of responsibility for their actions but preserves male responsibility not only for their own actions but for their partners’ as well. Thus do men again become the guardians of female well-being.”

Indeed, there is evidence that sometimes men are being expected to be responsible in ways that women are not. For example, Krebs et al. (2007) recommended that sexual assault prevention programs “inform men that they are ultimately responsible for determining (1) whether or not a woman has consented to sexual contact, and (2) whether or not a woman is capable of providing consent” (p. xix); they did not make a parallel recommendation that women be held responsible for determining whether a man has consented or is capable of providing consent. Perhaps, because most sexual assault is perpetrated by men, they deemed it unnecessary to make a parallel recommendation about women’s responsibility. Still, a message that men are responsible for obtaining women’s consent but not vice versa could send the message of a double standard in which men are more responsible than women. There have been reports of incidents in which a sexual encounter seemed to have been mutually initiated by both a woman and a man, both of whom were extremely intoxicated, but only the man was held responsible and expelled (Hess, 2015[†]).

If a woman and man, both heavily intoxicated, have a mutually initiated sexual encounter with each other, what are the implications of construing this as the man sexually assaulting the woman? Does it mean, as Tavris (2016[†]) wrote, that society advocates treating women as “the helpless, weaker sex who needed protection from their own lascivious impulses”? Would this result in reinstating other protections for women? The rationale of “protecting” women has long been used as a justification for limiting women’s options in employment, education, and athletics (Deckard, 1983; Gibson, 2014[†]; Łobodzińska, 2000). Protecting women has also been used as a rationale to justify lynching (Davis, 1981), racial segregation (Wade, 2015[†]), and discrimination against transgender individuals (Andrews, 2016[†]; for an example, see Scharl, 2016[†]).

Neither a gender-neutral nor a gendered conceptualization of sexual assault is inherent in these studies or in the one-in-five statistic. These studies define sexual behaviors obtained by force or incapacitation as sexual assault, regardless of whether it is done to or by women or men. Nevertheless, the perceived implications related to gender are one reason for criticism of the one-in-five statistic.

In summary, arguments about the prevalence of sexual assault are not purely a matter of statistics. Conclusions about the prevalence of sexual assault have implications for standards of acceptable behavior and for prevention. Concluding that sexual assault is rare requires counting only the most extreme incidents (e.g., those involving extreme violence); less violent incidents (e.g., kissing a woman without waiting for her consent signals or grabbing her genitals) would be excluded. Low prevalence rates suggest that the problem is just a few deviant individuals and might best be handled by law enforcement and incarceration; higher prevalence rates suggest the need for broader social change.

Problems With Fixating on a Single Prevalence Statistic

Although we conclude that the one-in-five statistic reasonably summarizes studies of women’s risk of sexual assault during college, there is an argument to be made for *not* fixating on a single number. Summarizing this risk with one number has advantages; it is a concise way to quickly convey the extent of the problem. It also has disadvantages; it can be misleading because the risk is not uniform for all college women. Using one summary statistic elides the complexity and variability described here. Still, any summary statistic (e.g., the risk of heart disease among various groups; the average temperature in Chicago in March) omits details but might still be useful.

When someone refers to the one-in-five sexual assault statistic without explaining how sexual assault was defined, this could be misleading. People could picture stereotypic, violent assaults by strangers or groups of perpetrators, which could make some people frightened and could make others skeptical. Referring to this statistic without explaining it could also reify sexual assault, implying that there is a single, true definition of sexual assault. This single true definition is likely to coincide with people’s existing scripts about what sexual assault is like.

In addition, summarizing the risk of sexual assault in one statistic implies that there is a sharp delineation between what behaviors do and do not count as sexual assault. This could send the message that some experiences—those that count as sexual assault—are traumatic, whereas other coercive experiences are normal or invisible. Some theorists have suggested construing sexual violence and coercion as a multidimensional continuum. Sexually coercive experiences can involve different sexual acts (e.g., noncontact acts such as flashing, obscene phone calls, or unwelcome sexually explicit text messages; nonpenetrative sexual contact such as groping; penetrative

sexual acts such as penile–vaginal penetration), different types of coercion (e.g., verbal coercion, incapacitation, physical force), completed acts and attempted acts, one-time acts and repeated acts, and so forth (Bart & O’Brien, 1985, p. 56; Black et al., 2011; Fahs, 2016; Kelly, 1987; Wagman et al., 2009; Wood, 2005). Some of these forms of sexual coercion are experienced by large percentages of women (Black et al., 2011; Kelly, 1987). If sexually coercive behavior is conceptualized as a continuum, the idea of trying to find one statistic reflecting the prevalence of sexual assault becomes less meaningful.

Conclusion

There is empirical support for the claim that, on average, one in five women experience sexual assault while they are in college. This number, however, should not be treated as “the actual” statistic that summarizes the risk across all college women; the risk is not uniform for all college women or for all campuses. Furthermore, the risk of sexual assault is not limited to college students: Many high school students have already experienced sexual assault, and many young women who do not attend college experience sexual assault. Efforts to prevent sexual assault have focused largely on college students, but it is important to extend such efforts to younger students and to the community more broadly.

Focusing on a prevalence number implies that there is a clear distinction between sexual assault, which is often assumed to be traumatic, devastating, and life-changing, and other experiences, which are often assumed to be trivial or acceptable and are left unexamined. It seems important to focus attention not only on preventing sexual assault but also on encouraging an environment in which individuals can make informed choices about sexuality.

Notes

1. We use the word *college* broadly to refer to any institution of higher education for undergraduates—that is, for students who have completed high school but who have not yet earned a bachelor’s degree.
2. We use a dagger (†) to identify articles from the popular media.
3. Some of these sources might more accurately be described as data compilations rather than studies.
4. Even acknowledging that someone could be sexually assaulted more than once, a formula assuming uniform risk across students and years would overestimate the prevalence: If $prob_SA$ = the probability of being sexually assaulted during one year, and $prob_NoSA$ = the probability of not being sexually assaulted during one year, then $prob_NoSA = 1 - prob_SA$. The probability of not being sexually assaulted over four years = $prob_NoSA^4$ (i.e., $prob_NoSA$ to the 4th power, which = $prob_NoSA \times prob_NoSA \times prob_NoSA \times prob_NoSA$), and the probability of being sexually assaulted over four years = $1 - prob_NoSA^4$. The AAU Survey (Cantor et al., 2015) found a risk of 13.2% for the current school year; assuming uniform risk would have resulted in a four-year risk estimate of $1 - (1 - 13.2\%)^4 = 1 - (0.868)^4 = 1 - 0.568 = 43.2\%$, which is much higher than the 27.2% of seniors who actually reported this experience since entering college. The Campus Sexual Assault Study (Krebs et al., 2009) found an annual risk of 7.5% for completed sexual assault;

assuming uniform risk would have resulted in a four-year risk estimate of $1 - (1 - 7.5\%)^4 = 1 - (0.925)^4 = 1 - 0.732 = 26.8\%$, which is much higher than the 19.8% of seniors who actually reported this experience since entering college.

5. Most of the studies that we review assessed *prevalence*, “the number of unique persons in the population who experienced one or more victimizations in a given period”; in contrast, the NCVS assesses *incidence*, “the number of victimizations experienced by persons in the population during a given period” (Sinozich & Langton, 2014, p. 2).

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