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Sara Kern

University of Missouri-St. Louis, sgkyq5@mail.umsl.edu

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**Psychological Correlates of Diverse Coerced Sexual Experiences:
Clarifying Classes and Severity Continuums of Sexual Act and Coercive
Tactic**

Sara G. Kern

M.A., Clinical Psychology, University of Missouri-St. Louis, 2016
B.A., Psychology, Butler University, 2014
B.A., Gender, Women, & Sexuality Studies, Butler University, 2014

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Advisory Committee

Emily Gerstein, Ph.D.
Chairperson

Zoë Peterson, Ph.D.

Rachel Wamser-Nanney, Ph.D.

Kristen Jozkowski, Ph.D.

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ABSTRACT

Although different coerced sexual experiences have been associated with different psychological symptoms (e.g., Davis et al., 2014), many limitations have plagued previous classification systems and severity continuums of coerced sexual experiences. The present study aimed to uncover meaningful differences across classes of coerced sexual experiences for the dimensions of sexual act and coercive tactic to inform future classification systems and severity continuums. Participants with a history of coerced sexual experiences (N = 402) completed an online survey about their worst or only coerced sexual experience, identifying the worst (or only) sexual act and the worst (or only) coercive tactic that occurred. They completed a battery of measures addressing psychological correlates of the experience. Coerced experiences were grouped into classes derived from the SES-SFV according to the worst (or only) reported sexual act and coercive tactic. Psychological correlates were compared across classes to examine between-group differences. The results of the present study demonstrated a pattern of severity for sexual act that is partially consistent with previous research, such that the class comprised of fondling, kissing, and clothes removal was associated with fewer psychological symptoms than other classes. Results also demonstrated that the coercive tactic classes of anger/criticism and physical force were associated with more psychological symptoms, and not having a chance to say “no” was associated with fewer psychological symptoms compared to other classes of coercive tactics. Furthermore, more sexual acts and more coercive tactics during a single coerced sexual experience was positively associated with psychological symptoms. The results of this study have many implications. Given that the pattern of severity for coercive tactics differed from what is

suggested by existing measures of severity, current measures may require revision. Further research is needed utilizing larger diverse samples to establish a more accurate measure. Moreover, sexual assault prevention curriculum focused on “affirmative consent” may ignore some types of coerced sexual experiences, and programs may need to expand the range of coerced sexual experiences addressed. Furthermore, results suggest that mental health clinicians are likely to see individuals with coerced sexual experiences that do not qualify as “rape” presenting for mental health treatment.

Introduction

Sexual experiences with unwilling victims have been linked to a variety of negative consequences for the victims, including posttraumatic stress disorder, depression, psychological distress, and negative health consequences (Zweig, Barber, & Eccles, 1997; Broach & Petretic, 2006; de Visser, Risse, Richters, & Smith, 2007). Because of their association with negative outcomes, sexual experiences with unwilling victims, like sexual assault, rape, and coerced sex, have received significant research attention. Unfortunately, this body of research is often confusing because it includes different terminology for sexual experiences with unwilling victims. Although definitions vary, *sexual assault* is often used to refer to sexual experiences in which one party legally did not consent to some sexual act (e.g., said “no,” was physically forced, or was incapacitated), with the term *rape* being used to refer to a specific type of sexual assault, generally involving the act of penetration (e.g., Kilpatrick, 2000). *Coerced sex* is often used to refer to sexual experiences in which one party legally consented (disqualifying the experience as sexual assault or rape), although the consenting individual was not fully willing to participate, and the consent followed some type of pressure or manipulation by the other person involved (e.g., Hirst, 2013). To eliminate confusion, the term *coerced sexual experience* will be used throughout this paper to broadly encompass all sexual experiences with unwilling victims, including those that are sometimes labeled as sexual assault, rape, and sexual coercion.

Research definitions of coerced sexual experiences have included different sexual acts, perpetrator genders, coercive tactics, and other characteristics, thus creating diverse definitions of coerced sexual experiences across studies (Peterson, Voller, Polusny, &

Murdoch, 2011). The variability in definitions has led to a wide array of prevalence estimates, ranging from 2-78% for women and 0.2-73% for men depending on the narrowness or breadth of the operational definition (Peterson et al., 2011; Koss, 1993; Struckman-Johnson, Struckman-Johnson, & Anderson, 2003). Although different definitions result in very different prevalence rates, when defined broadly, sexual coercion is typically found to be quite prevalent.

Because sexual coercion—as defined in this paper—is a very broad concept, encompassing many different types of nonconsensual sexual experiences, researchers have attempted to obtain a better understanding of coerced sexual experiences by dividing sexual coercion into more precise classes of experiences based on relevant differences, and they have then tried to examine differences between classes in terms of their impact on victims (e.g., Brown, Testa, & Messman-Moore, 2009), the characteristics of perpetrators (e.g., Gross, Winslett, Roberts, & Gohm, 2006), and the contexts under which they occur (e.g., Boeringer, Shehan, & Akers, 1991).

Unfortunately, classification of sexual coercion across studies has been highly inconsistent, leading to little understanding of meaningful differences across classes. Because of inconsistencies in classification, at present, it is unclear which coerced sexual experiences are meaningfully different from one another, thus leading to many questions about which experiences are associated with worse victim outcomes. By examining differences in classes of sexual act and coercive tactic in coerced sexual experiences, this study aimed to examine meaningful differences across classes of coerced sexual experiences to inform a severity continuum of psychological correlates following these experiences.

Overview of Coerced Sexual Experiences

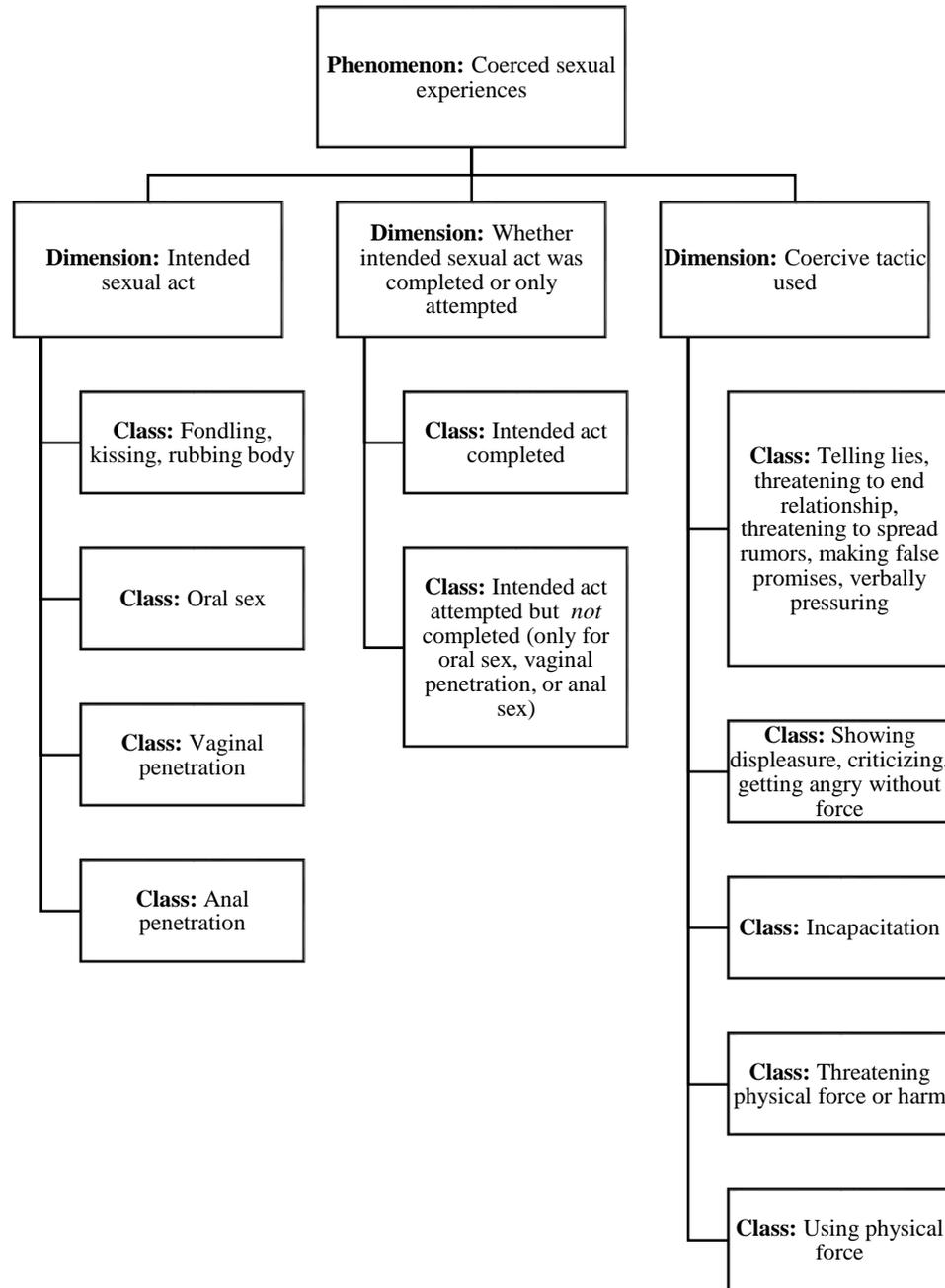
The term coercion means “to compel to an act or choice” or “to achieve by force or threat” (“Coercion,” 2016). Although definitions of *coerced sexual experiences* have varied across studies, I will use Brousseau, Bergeron, Hébert, and McDuff’s (2011) definition, which is similar to other research definitions (e.g., Struckman-Johnson & Struckman-Johnson, 1994_a; Adams-Curtis & Forbes, 2004). Brousseau and colleagues (2011) defined coerced sexual experiences as those in which one person “[makes] another person engage in sexual activity despite his or her unwillingness to do so” (e.g., by using verbal pressure or physical force; p. 363). A wide range of experiences meet the definition of coerced sexual experiences used in this paper. For example, coerced sexual experiences include instances in which diverse coercive tactics (e.g., manipulation, verbal pressure, physical force, physical violence, violence with a weapon, threat of physical force or violence, drug or alcohol administration to incapacitate a victim, taking advantage of incapacitation from voluntarily-consumed drugs or alcohol) are used in an attempt to achieve a variety of different sexual acts (e.g., fondling, genital touching, oral sex, vaginal sex, anal sex) with an unwilling victim (Muehlenhard & Linton, 1987; Abbey, BeShears, Clinton-Sherrod, & McAuslan, 2004; Struckman-Johnson et al., 2003; Strang, Peterson, Hill, & Heiman, 2013).

Purpose of Classifying Coerced Sexual Experiences

The act of classification occurs when a larger complex phenomenon is broken down into smaller groups based on some characteristic or trait of the phenomenon that varies. In this paper, these variable characteristics and traits are referred to as *dimensions*. The smaller groups that the phenomenon is broken down into based on variability of a

dimension are referred to as *classes*. For example, one dimension of coerced sexual experiences that varies is “coercive tactic,” such that individuals who have had coerced sexual experiences may have experienced different coercive tactics during their experiences. Because coerced sexual experiences involve variable coercive tactics, the phenomenon of coerced sexual experiences can be broken down into specific classes based on which coercive tactic occurred.

Figure 1 depicts an illustrative example of the hierarchical organization of phenomena, dimensions, and classes as they are organized within a commonly-used self-report measure of sexual coercion experiences, the Sexual Experiences Survey-Short Form Victimization (SES-SFV; Koss et al., 2007). The SES-SFV is often considered the “gold standard” or instrument of choice when studying coerced sexual experiences (Anderson, Cahill, & Delahanty, 2018; Kolivas & Gross, 2007; Davis et al., 2014), and it is therefore used in the present study. The SES-SFV measures three dimensions of the overall phenomenon of coerced sexual experiences: intended sexual act, whether the intended sexual act was completed, and coercive tactic. Within the dimension of intended sexual act, the SES-SFV measures the following classes: (1) fondling, kissing, rubbing, removing clothes without consent, (2) oral sex, (3) vaginal penetration, and (4) anal penetration. Within the dimension of whether the intended sexual act was completed, the SES-SFV measures the following classes: (1) intended act completed and (2) intended act attempted but not completed. Within the dimension of coercive tactic, the SES-SFV measures the following classes: (1) verbal tactics characterized by pressure, lies, or false promises, (2) verbal tactics characterized by anger or criticism, (3) victim incapacitation, (4) threat of physical force, and (5) use of physical force or a weapon.



- FIGURE 1.** Classification diagram example using Koss et al.'s (2007) Sexual Experiences Survey – Short Form Victimization Measure (SES-SFV) items as an illustration. Although the tactics and acts in the measure all fit the definition of “sexual coercion” used in this paper, Koss et al. suggested a scoring strategy in which (1) *sexual contact* includes completed fondling, kissing, or rubbing obtained through incapacitation, threat of physical force/harm, or use of physical force; (2) *sexual coercion* includes attempted or completed oral sex, vaginal penetration, or anal penetration obtained by telling lies, threatening to end relationship, threatening to spread rumors, making false promises, verbally

pressuring or by showing displeasure, criticizing, getting angry without force; (3) *attempted rape* includes attempted (but not completed) oral sex, vaginal penetration, or anal penetration obtained through incapacitation, threat of physical force/harm, or use of physical force; and (4) *rape* includes completed oral sex, vaginal penetration, or anal penetration obtained through incapacitation, threat of physical force/harm, or use of physical force.

The rationale for classification of any phenomenon is that it allows researchers to investigate the impact of variability of a dimension. This in turn allows statistical conclusions to be drawn about the variability of that dimension of the phenomenon as it relates to other variables. For example, in the case of sexual coercion, one might be interested in how experiencing different classes of coercive tactics is associated with different psychological outcomes or different likelihoods of seeking social support or mental health treatment following the experience. Furthermore, classification is necessary to make data manageable (Zigler & Phillips, 1961), especially when dealing with complex constructs like coerced sexual experiences. This is why classification is so prevalent throughout research on coerced sexual experiences (e.g., Koss et al., 2007; Koss & Oros, 1982; Messman-Moore, Coates, Gaffey, & Johnson, 2008; Struckman-Johnson & Struckman-Johnson 1994_a).

Some researchers have gone beyond merely dividing coerced sexual experiences into classes by organizing the classes along a continuum of severity, such that some classes of coerced sexual experiences are considered worse than others in some way (e.g., Garcia, Milano, & Quijano, 1989; Waldner-Haugrud & Gratch, 1997; Struckman-Johnson & Struckman-Johnson, 1994_a, Gidycz, Hanson & Layman, 1995; Brown et al., 2009). Severity refers to the degree to which something is “very bad, serious, or unpleasant” (“Severity,” 2016). Given this definition of severity, theoretically, severity

could be conceptualized in many ways. For example, for research focusing on perpetrators, severity of coerced sexual experiences could be organized according to how severe the perpetrator's coercive behavior was based on criminal code or social acceptability. For research focusing on victims, like the present study, severity could be organized according to what produces a more negative outcome—on average—for victims. The present study evaluated severity of different classes of coerced sexual experiences based on victims' self-reported psychological symptoms.

Organization of classes of coerced sexual experiences as falling along a continuum of severity has, in part, grown out of feminist literature arguing for broader conceptualizations of coercion, rape, and sexual assault. These arguments have focused on the idea that sexual experiences with unwilling victims occur that do not meet the legal threshold for rape or sexual assault (e.g., Whisnant, 2013). Such arguments suggest that there are some coerced sexual experiences that might not be illegal yet might be unacceptable or distressing to victims because the victims were not fully willing to participate. When considering severity based on legality or social acceptability, a continuum of severity allows such experiences to be differentiated from both fully consensual sexual experiences and experiences that legally qualify as sexual assault or rape, which helps to discourage the perception of all experiences that are technically legal as being “okay,” not harmful, or socially acceptable. It should also be noted that just because a sexual experience is illegal, it does not mean that it is punishable. For example, coerced sexual experiences achieved through incapacitation and physical force are both illegal, yet coerced sexual experiences involving weapons or physical injury are more likely to result in conviction than sexual experiences obtained when a victim is

incapacitated from alcohol (Frazier & Haney, 1996). Thus, even among illegal sexual coercion, prosecuting attorneys, judges, and juries may perceive differences in severity.

Although classification of phenomena is an integral part of conducting research, there are limitations and problems that arise when classification is imprecise. One significant limitation is that imprecise classification renders irrelevant any meaningful differences between phenomena grouped within the same class (Zigler & Phillips, 1961). Not only does imprecise classification cause difficulties in drawing meaningful conclusions about differences between classes, but it also causes limitations when creating severity continuums, such that continuums with imprecise classes may not accurately reflect differences in severity. Specific limits in the classification of coerced sexual experiences will be further discussed in the following sections of the paper.

Dimensions Upon Which Coerced Sexual Experiences Have been Classified

As mentioned previously, classification requires the subdivision of a phenomenon based upon variability of characteristics of the phenomenon. Sometimes, when multiple dimensions of a phenomenon exist, it is imperative for classification systems to consider these multiple dimensions in order to avoid oversimplifying the phenomenon (Fitzgerald & Hesson-McInnis, 1989). As previously noted, the phenomenon of coerced sexual experiences has multiple dimensions upon which it can be classified.

Of the dimensions of coerced sexual experiences, three reoccurring dimensions are frequently identified in classification systems throughout the research literature. Consistent with the SES-SFV, these dimensions include intended sexual act of the coerced sexual experience, whether the intended sexual act was completed or merely attempted, and the coercive tactic used in an attempt to achieve the intended sexual act,

although other dimensions could potentially exist (see e.g., Muehlenhard, Peterson, Humphreys, & Jozkowski, 2017). The first dimension, the intended sexual act, could be one of a variety of sexual acts, like kissing or making out, fondling, or sexual intercourse (Kirkpatrick & Kanin, 1957). The second dimension, whether the intended sexual act was completed, suggests that the coercive attempt may or may not successfully result in a sexual act. That is why some classification systems include attempted rape and completed rape as separate classes of coerced sexual experiences (e.g., Koss et al., 2007). The third dimension, coercive tactic used in attempt to achieve the intended sexual act, could be one of a number of tactics, including various types of verbal pressure and physical force.

The previous section noted that imprecise classification impacts the ability to draw meaningful conclusions from research. Luckily, distinctions within some dimensions of coerced sexual experiences appear relatively clear, which has resulted in clear classification systems (although not necessarily clear severity continuums, which are discussed more below). First, distinctions between intended sexual acts are relatively clear. Consistent distinctions appear throughout the research literature for this dimension, such that acts like kissing, fondling above the waist, fondling below the waist, oral sex, vaginal sex, and anal sex are consistently differentiated, although different classification systems may include and exclude different classes of acts. Some classification systems, however, intentionally group distinct sexual acts (e.g., Koss et al., 2007). Second, distinctions between whether or not the intended act was completed also appear to be relatively clear, such that researchers seem able to consistently differentiate between coerced sexual experiences in which the intended act was or was not completed. Although these distinctions are generally clear, it has been demonstrated that individuals

sometimes perceive forced non-penetrative sexual acts that are completed as penetration that was not completed (i.e., they believe that because they were only forced into oral sex, they thwarted a more serious experience of forced intercourse; Bart & O'Brien, 1985). Despite these exceptions, research conclusions drawn about variability in these dimensions are generally clearer and more useful, as classification of these dimensions is generally clear and consistent.

Despite the clarity and utility of research conclusions about the first two dimensions, two major limitations still emerge in the classification of coerced sexual experiences. First, classification of coerced sexual experiences based on the third dimension, coercive tactic, has not been consistent and precise throughout previous research, thus limiting the utility of research addressing variability in this dimension. Second, many classification systems of coerced sexual experiences that include more than one dimension have not been systematic or complete, further muddling our understanding of research conclusions about coerced sexual experiences. These two limitations are addressed in the following sections.

Classification of the Dimension of Coercive Tactic

Before addressing the specific limitations associated with classification of the dimension of coercive tactic, it is important to provide an overview of previous classification of this dimension. Despite inconsistencies in the classification of the dimension of coercive tactic, one noteworthy trend emerges in the classification literature of this dimension. Classification systems of coerced sexual experiences based on the dimension of coercive tactic differentiate tactics that are physically coercive and verbally coercive. Physically coercive tactics are physical behaviors used in attempt to coerce an

unwilling person into having sex (e.g., pushing the other person into a horizontal position, using a weapon, using drugs or alcohol to render a victim physically incapacitated; Struckman-Johnson & Struckman-Johnson, 1994b; Russell & Oswald, 2002). Verbally coercive tactics are verbal behaviors used in attempt to coerce an unwilling person into having sex (e.g., saying things that are not true, making false promises, talking the other person into the act; Craig, Kalichman, & Follingstad, 1989). Although the coercive tactic of threatening to use physical violence against someone is an inherently verbal behavior, threatening violence can have similar traumatic effects to the actual use of violence, so many classification systems classify threat of physical violence as a physically coercive tactic (Campbell & Lewandowski, 1997; Emmers-Sommers & Allen, 1999; Roberts, 1993; Messman-Moore et al., 2008; Griffin & Read, 2012). The classes of physically coercive tactics and verbally coercive tactics have been used in dichotomous classification systems that classify *all* coerced sexual experiences into one of two categories: (1) coerced sexual experiences involving physical coercion and (2) coerced sexual experiences involving verbal coercion (e.g., Lalumiere & Quinsey, 1996; Russell & Oswald, 2001; Emmers-Sommers & Allen, 1999; DeGue & DiLillo, 2005; Hines, 2007; Messman-Moore et al., 2008; Strang & Peterson, 2013; Stephens & Eaton, 2014; Kern & Peterson, 2018).

Although many researchers have classified coercive tactics in this dichotomous fashion, it is important to note that other researchers have subdivided the larger classes of physical coercion and verbal coercion into a broader number of more specific classes. For example, in their classification of coercive tactics, Spitzberg and Rhea (1999) included two classes of physically coercive tactics: (1) physical restraint and (2) physical force and

injury. They also included two classes of verbally coercive tactics: (3) pressure and persistence and (4) deception. Furthermore, these authors included a fifth class: (5) threat. As mentioned before, this class could be either physically or verbally coercive depending on the content of the threat. This illustrates the possibility of further nuance within the classes of physically and verbally coercive tactics.

Because physical coercion and verbal coercion can be subdivided into more nuanced classes, other unique classification systems appear throughout the research literature. The SES-SFV, for example, measures five classes of coercive tactic: (1) verbal tactics characterized by pressure, lies, or false promises, (2) verbal tactics characterized by anger or criticism, (3) victim incapacitation, (4) threat of physical force, (5) and use of physical force or a weapon; however, in their scoring instructions the authors suggest combining class 1 and 2 tactics and combining 3, 4, and 5 tactics, essentially reducing participant reports on the scale to two classes of tactics (Koss et al., 2007). Weis and Borges (1973) included three classes: (1) verbal coercion, (2) threat of physical force, and (3) use of physical force. Rather than subsuming threat of physical force under the class of physical coercion like other researchers (e.g., Emmers-Sommers & Allen, 1999), these authors separated it out as its own class of coercive tactic. Another example of a unique classification system includes four classes of coercive tactics: (1) sexual arousal (i.e., persistent touching and kissing to change an unwilling party's mind), (2) emotional manipulation and lies, (3) intoxication, and (4) physical force (Struckman-Johnson et al., 2003). Numerous other unique classification systems of coercive tactics exist (e.g., Struckman-Johnson & Struckman-Johnson, 1991; Brown et al., 2009). Recent research by the author also suggests that, in narrative descriptions of coerced sexual experiences,

participants report a number of coercive tactics that have not been captured by classes commonly included in classification systems (i.e., victim not having the opportunity to say no; perpetrator ignoring victim's direct refusal; perpetrator initiating sex while victim is asleep but not incapacitated; Kern & Peterson, 2019). Given this notable variability, it is clear that researchers have not unanimously agreed upon how to meaningfully group coercive tactics.

It is important to note that, although coercive tactics can and have been grouped into distinct classes, a single coerced sexual experience may include multiple tactics from distinct classes. In a study of rape victims, Cleveland, Koss, and Lyons (1999) demonstrated that incidents of rape can include multiple coercive tactics. For example, an incident of rape could include both a verbal threat of a negative consequence and the use of physical force. Furthermore, Russel and Oswald (2002) included participants in their study that had experienced both verbal and physical coercion, and these authors did not specify that these coercive tactics had to occur during distinct sexual experiences. Therefore, although it complicates research regarding coercive tactics, it is important to acknowledge that isolated coerced sexual experiences can include more than one class of tactic.

Overall, researchers have not come to a consensus on how to classify the dimension of coercive tactic. This lack of consensus makes it challenging to synthesize findings across studies. Therefore, researchers have difficulty drawing meaningful conclusions about coerced sexual experiences based on variability of coercive tactic because researchers have not yet clearly determined which coercive tactics are meaningfully different from one another.

Classification Systems Including Multiple Dimensions

Although many classification systems of coerced sexual experiences are based on a single dimension of the phenomenon, other classification systems have included more than one dimension of coerced sexual experiences. The inclusion of multiple dimensions could benefit research literature when classes of the included dimensions are systematically and completely crossed; however, the degree to which classification systems are systematic and complete varies throughout the literature. Those that are not systematic and complete create challenges when interpreting research results.

Systematic and complete classification systems with multiple dimensions of coerced sexual experiences would ideally include every combination of the classes of the included dimensions (e.g., Struckman-Johnson & Struckman-Johnson 1994_a; DeGue & DiLillo, 2005). For example, if a researcher created a classification system including two dimensions, intended sexual act and coercive tactic, a complete classification system would include all combinations of the classes of each dimension. This classification system might include verbally coerced oral sex, verbally coerced vaginal sex, physically coerced oral sex, and physically coerced vaginal sex. For a classification system including only two acts and two tactics, this would be considered systematic and complete as it includes every combination of the classes of each dimension. However, each dimension could potentially include more classes which would result in more combinations. Furthermore, even with all of these class combinations, this classification system still would not acknowledge the third dimension of coerced sexual experiences: whether the intended act was completed.

The use of multiple dimensions in one classification system becomes problematic when the classification system does not include all combinations of the classes of each dimension. Such incomplete classification systems appear frequently throughout the research literature (e.g., Koss & Oros, 1982; Koss & Dinero, 1988; Nasta et al., 2005; Struckman-Johnson, Struckman-Johnson, Rucker, Bumby, & Donaldson, 1996). Referencing the example in the previous paragraph, an incomplete classification system with two dimensions may include verbally coerced oral sex, verbally coerced vaginal sex, and physically coerced vaginal sex, while leaving out physically coerced oral sex. When researchers use multiple dimensions in their classification systems without including every combination of the classes of these dimensions, it is problematic as it complicates interpretation of research findings. It becomes unclear, for example, which dimensions may most influence trauma outcomes for victims. Results for such studies also leave out information about the combinations of dimensions that are excluded from the classification system (although there may be methodological challenges to looking at all combinations of dimensions, like low sample size for specific combinations). Researchers have argued that there may be some justification for leaving out some combinations of classes. For example, Muehlenhard et al. (2017) note that the combined class of attempted incapacitated rape may be irrelevant as incapacitated persons cannot resist physical force. Despite such special cases, limitations of classification systems, like those caused by crossing classes of dimensions in an incomplete manner, are meaningful because these limitations spill over into severity continuums created from these classification systems.

Severity Continuums of Coerced Sexual Experiences

As mentioned previously, classification of coerced sexual experiences has allowed researchers to organize classes as falling along a continuum of severity. Severity continuums suggest that certain coerced sexual experiences are in some way worse than others. Often, severity continuums are intended to reflect the presumed impact of the experience on the victim, such that some experiences have a more negative impact on the victim than others (e.g., Brown et al., 2009; Peter-Hagene & Ullman, 2015; Ullman, Townsend, Filipas, & Starzynski, 2007). It should be noted that when I reference severity based on victim outcomes, such references reflect group-level differences in such outcomes, which may not always be applicable on an individual level (e.g., on average, victims of physically forced intercourse may experience more negative sequelae than victims of verbally coerced intercourse, but that does not mean that outcomes for every victim of verbally coerced intercourse will be less than for every victim of physically forced intercourse). Other severity continuums intend to reflect the criminality of the behavior on the part of the perpetrator, such that a coerced sexual experience is considered more severe if it includes an illegal act (e.g., Strang & Peterson, 2013; Koss, Gidycz, & Wisniewski, 1987; Koss et al., 2007), as well as social acceptability, such that coerced sexual experiences that include less socially acceptable behavior on the part of the perpetrator are coded as more severe (e.g., Koss et al., 2007). As mentioned previously, this study addressed severity based on victim outcome, rather than legality or social acceptability of perpetrator behavior. In addition to varying types of severity, clarity of severity continuums also varies throughout the research literature.

Severity continuums are seemingly straightforward for some dimensions of coerced sexual experiences, like the dimension of whether the intended act was

completed. Both qualitative descriptions (Gavey, 1999) and quantitative research (Kilpatrick et al., 1985; Perilloux, Duntley, & Buss, 2012) suggest that coerced sexual experiences in which the intended act was completed are typically more distressing than coerced sexual experiences in which the intended act was attempted but not completed. For example, continuums have generally considered attempted rape to be less severe than completed rape (e.g., SES-SFV; Koss et al., 2007).

For continuums based on the dimension of intended sexual act, severity is somewhat clear depending on the criterion on which severity is based. For example, when considering perceptions of intimacy as the determinant of severity, severity rankings appear to be clear. Classes of acts that are considered more “intimate” (e.g., vaginal intercourse) are considered more severe than classes of acts that are less “intimate” (e.g., kissing; Kanin, 1957; Waldner-Haugrud & Gratch, 1997). There appears to be some consensus on level of intimacy of acts throughout the literature which has been derived from research on sexual scripts. Sexual scripts suggest that the more intimate a sexual act is, the later it generally occurs in the sexual encounter. Given the continuum of intimacy from sexual scripts, kissing, for example, is perceived as less intimate as it generally occurs earlier in the sequence of a sexual encounter, whereas penetration is perceived as highly intimate, causing it to occur at the end of a sexual encounter, assuming the encounter has not already ceased before penetration (McCormick, 2010; Frith & Kitzinger, 2001). The SES-SFV provides an example of a severity continuum reflecting increasing levels of intimacy: (1) kissing, fondling, rubbing, removing clothes (2) oral sex (3) vaginal penetration, and (4) anal penetration (although the suggested scoring system actually combines classes 2, 3, and 4; Koss et al.,

2007). Of course, depending on the victim, the context, and the relationship, there are some times when less intimate classes of intended acts (e.g., fondling) might be more upsetting than more intimate classes (e.g., vaginal penetration) for a specific individual. Although severity based on intimacy appears clear, it does not necessarily reflect severity based on victim outcome. It may be assumed that more intimate sexual acts lead to worse victim outcomes, but adequate empirical data does not yet exist to support this claim. Research has yet to examine victim outcomes of the entire spectrum of coerced sexual acts, so differences in victim outcome between classes of sexual acts are not yet fully understood.

Overall, severity continuums appear even less straightforward and more questionable when they are based on the dimension of coercive tactic. Numerous unique severity continuums for the dimension of coercive tactic appear throughout the research literature. Severity continuums addressing coercive tactic vary in terms of the number of classes included, the content of classes included, and the way in which severity was determined.

Many severity continuums addressing coercive tactic have been dichotomous, including only two classes. The preponderance of these dichotomous severity continuums included the common classes of coercive tactic mentioned previously: (1) physical coercion and (2) verbal coercion. These continuums rated verbal coercion as less severe than physical coercion (Struckman-Johnson & Struckman-Johnson, 1994_a; Gidycz et al., 1995; Kern & Peterson, 2018). Some dichotomous continuums have included different classes than verbal coercion and physical coercion. For example, one dichotomous severity continuum included coercive tactics using a “gentle manner” as low severity and

coercive tactics using a “forceful manner” as high severity (Struckman-Johnson & Struckman-Johnson, 1993).

Some continuums addressing coercive tactic have been more complex, including more than two classes of severity. For example, the SES-SFV includes five categories of tactics, ordered by increasing (presumed) severity: (1) verbal tactics characterized by pressure, lies, or false promises, (2) verbal tactics characterized by anger or criticism, (3) victim incapacitation, (4) threat of physical force, (5) and use of physical force or a weapon (Koss et al., 2007). Weis and Borges (1973) provided an early example of a three-class continuum characterized verbal coercion as the least severe coercive tactic, threat of physical force as moderately severe, and use of physical force as most severe. Another five-class severity continuum included the following classes, ordered from lowest to highest severity of coercive tactic: having sex while the victim is asleep, verbally threatening the victim, drugging the victim to achieve sex, physically restraining the victim, and using violence (Stermac, del Bove, & Addison, 2001). It is important to acknowledge the diversity in severity continuums of coercive tactics because different severity rankings reflect and communicate different assumptions and values about the relative inappropriateness of different coercive tactics.

Critiques of Severity Continuums of Coerced Sexual Experiences

Severity continuums of coerced sexual experiences may be useful in research. Classification systems allow researchers to determine similarities and differences between classes of coerced sexual experiences; severity continuums go further and give researchers the ability to evaluate for the presence of linear statistical relationships (e.g., the relationship between severity of coercive tactic and self-blame; Ullman et al., 2007).

Unfortunately, many severity continuums have been characterized by notable weaknesses. Two potential critiques of severity continuums include (1) the methods used to determine differences in severity among tactics of coercion and (2) severity continuums including classes from multiple dimensions of coerced sexual experiences.

Critique of Methodology. The first critique of severity continuums emerges from the great diversity of methods, as well as the absence of methods, used to determine severity of classes of coerced sexual experiences. Although some methods of determining differences in severity appear to have solid scientific rationale, others seem more subjective. Therefore, it can be argued that research using severity continuums that were created with better methodology may be more meaningful than research using severity continuums that were created with less scientific and more subjective methods.

Some studies have included severity continuums of coerced sexual experiences without defining severity or describing the method used to determine differences in severity (e.g., Turchik & Hassija, 2014). Other studies defined severity, but still did not indicate how differences in severity were determined (Struckman-Johnson & Struckman-Johnson, 1994_b; Struckman-Johnson & Struckman-Johnson, 1993). In other studies, researchers have readily admitted that class severity has been based on their own assumptions (e.g., SES-SFV; Koss et al., 2007). When scientific methodology is not used to determine severity, or when scientific methodology is not detailed in the study description, readers cannot rely on the continuum to accurately reflect the experiences of victims.

When weaker methods are used to determine severity, the severity continuum is more likely to be an inaccurate representation of victim experiences. One method that

researchers have used to determine differences in severity of coercive tactic that appears to have weaker scientific rationale is the use of participant rankings of which tactics seem more coercive. For example, Garcia et al. (1989) had participants rate six different sexual coercion vignettes using a 4-point Likert scale of how coercive they believed the vignette to be. Although averaging across participants is scientifically preferable to the subjective judgements of an individual, it appears to be slightly weaker than other approaches.

Participant rankings of severity may reflect social acceptability as a type of severity of sexual act or coercive tactics because participants are reporting their perceptions of how bad each class is. This method, however, is likely subject to sampling bias. Furthermore, participant rankings cannot speak to severity based on the impact of the sexual act or coercive tactic on victims, as it is unlikely that participants have experienced all classes of coerced sexual experiences.

Another method that researchers have used to determine differences in severity that appears to have weaker scientific rationale is basing severity on the frequency with which a specific class is experienced by victims. For example, Christopher (1988) had women rate the frequency with which they had experienced a number of sexually coercive tactics. In the final severity continuum, tactics that were experienced less frequently were assigned greater severity. Although it is possible that some coercive tactics are infrequent because they are less socially acceptable, it is also possible that the tactics are unpopular for a different reason (e.g., because they are less effective).

Furthermore, frequency with which sexual acts or coercive tactics are experienced in no way addresses severity based on negative impact on victims as it is quite possible that some sexual acts and coercive tactics that are experienced more frequently can result in

greater harm to victims than those experienced less frequently. In sum, this method of determining differences in severity cannot be relied upon to accurately differentiate differences in class severity.

A third method that researchers have used to determine differences in severity is the clinical judgments of a panel of “experts” (e.g., Stermac, del Bove, & Addison, 2004; Stermac et al., 2001). For example, severity in the study conducted by Stermac et al. (2001) was determined by 10 “expert” clinicians working in the field of sexual assault who individually rank ordered classes of coercive tactics based on their perceptions of severity regarding victim outcome, resulting in 100% agreement among experts. This method may be superior to the first two methods described because it is likely that these clinicians have witnessed which types of coercive tactics tend to be associated with more symptoms experienced by victims through their extensive clinical experience working with victims who have experienced different tactics of coercion. One weakness to this method is that these experts could have been influenced by mainstream beliefs about which tactics are worse, rather than basing differences solely on their clinical experience. Given the strengths and weaknesses of this method, there may be times when this method is appropriate (e.g., when it is impossible to obtain empirical data). There are, however, methods that have better scientific rationale than this method.

In contrast to weaker methods, one method that researchers have used to determine differences in severity of coerced sexual experiences that appears to have good scientific rationale is the use of empirical evidence regarding victim outcomes, such that classes associated with more negative symptoms experienced by victims are considered more severe. For example, when investigating the dimension of coercive tactic, Brown

and colleagues (2009) found that forcible rape was associated with more PTSD symptoms than incapacitated rape, which was associated with more PTSD symptoms than verbal coercion. Therefore, they ranked verbal coercion as the class of lowest severity, incapacitated rape as the class of moderate severity, and forcible rape as the class of highest severity. By determining severity using empirical data, the classes in this severity continuum actually reflects differing levels of negative symptoms experienced by victims. Therefore, it is superior to continuums using postulation to determine which classes have a worse impact because data exists to support distinctions in severity. Empirical data regarding victim outcome could be used to determine severity rankings of classes for any of the dimensions of coerced sexual experiences.

The state of the empirical literature regarding victim outcomes of coerced sexual experiences for the dimensions of sexual act and coercive tactic will be further addressed in a later section of the paper. It should be noted, however, that at present there is an absence of adequate empirical data to create accurate evidence-based severity continuums reflecting victim outcomes of coerced sexual experiences related to the dimensions of sexual act or coercive tactic. The goal of this study is to be an initial step in addressing those gaps in the literature.

Critique of Continuums with Multiple Dimensions. In addition to limitations caused by methods used to determine severity, a second critique of severity continuums addresses continuums that include multiple dimensions of coerced sexual experiences. Although many severity continuums include classes of a single dimension of coerced sexual experiences (e.g., severity continuums addressing coercive tactic), several others include classes of more than one dimension (e.g., Kalichman & Rompa, 1995; Koss et al.,

1987; Orlando & Koss, 1983; Testa, VanZile-Tamsen, Livingston, & Koss, 2004). For example, Koss et al.'s (2007) recommendation for scoring the SES-SFV suggested a severity continuum with multiple dimensions included the following classes ordered from least to most severe: (1) *non-victim*: no coercion, (2) *sexual contact*: completed non-penetrative sexual acts achieved using any coercive tactic, (3) *sexual coercion*: attempted or completed oral/vaginal/anal achieved through verbal coercion, (4) *attempted rape*: attempted but not completed oral/vaginal/anal sex attempted through physical force, threat of physical force, or incapacitation, (5) *rape*: completed oral/vaginal/anal sex achieved through physical force, threat of physical force, or incapacitation. This continuum included all three dimensions of coerced sexual experiences in its classes, but in an incomplete fashion that excluded some combinations of classes of the dimensions. For example, the "sexual contact" classification includes only completed kissing, fondling, and rubbing obtained through any coercive tactic. The "sexual coercion" classification includes both attempted and completed oral sex, vaginal penetration, and anal penetration obtained by verbal tactics characterized by pressure, lies, or false promises or by verbal tactics characterized by anger or criticism. This creates a problem; if researchers find that experiences of "sexual coercion" on the SES-SFV are associated with greater victim distress than experiences of "sexual contact," it is unclear whether this is due to differences in the dimension of sexual act, the dimension of coercion tactic, or the dimension of whether the act was completed.

Thus, although severity continuums including multiple dimensions of coerced sexual experiences may not appear problematic on the surface, they cause significant problems with the interpretation of research findings. Different dimensions require

different continuums of severity in order to clearly delineate what part of the coerced sexual experience is leading to differences in dependent variables. For example, it has been argued that when a continuum based on the dimension of coercive tactic also includes the class “attempted rape,” results may be muddled because an attempted experience may be experienced quite differently than the range of completed coerced sexual experiences included in the continuum (Messman-Moore et al., 2008). Gavey (1999), for example, reported feeling empowered, rather than traumatized, after an experience of attempted rape because she felt that she successfully thwarted rape. Therefore, it is unclear how differing aspects of attempted and completed coerced sexual experiences (like feelings of empowerment versus traumatization) would impact research results when combined in a single severity continuum. This concept can be applied to any single severity continuum attempting to include classes of multiple dimensions *unless* the continuum includes every combination of classes of the included dimensions. In theory, all combinations could be analyzed, but this would be extremely challenging to execute.

Victim Outcomes of Coerced Sexual Experiences

Despite the critiques of classification systems and severity continuums of coerced sexual experiences, specifically those reflecting the dimension of coercive tactic, research nonetheless suggests that such systems are relevant when considering clinical outcomes for victims of coerced sexual experiences. Research has demonstrated that coerced sexual experiences may lead to a myriad of negative consequences for victims. Unfortunately, the majority of outcome data comes from correlational designs, rather than longitudinal designs, so causality is not definitive. Despite this limitation, research has demonstrated that individuals with a history of coerced sexual experiences have higher levels of

psychological distress, anxiety, depression, anger, substance use, and PTSD symptoms, on average, than individuals who have not experienced coerced sex (de Visser, Smith, Rissel, Richters, & Grulich, 2003; Offman & Matheson, 2004; Varma, Chandra, Thomas, & Carey, 2007; de Visser et al., 2007; Brown et al., 2009; Zweig et al., 1997; Messman-Moore et al., 2008; Ehlke & Kelley, 2019). Additionally, a history of a greater number of coercion experiences is associated with greater psychological distress (de Visser et al., 2007). Coerced sexual experiences are also associated with negative cognitions, like low self-esteem, negative sexual self-perceptions, and self-blame (Offman & Matheson, 2004; Ullman et al., 2007). Moreover, research demonstrates that coerced sexual experiences are associated with poorer physical and sexual health (de Visser et al., 2007). This body of research suggests that, overall, coerced sexual experiences are associated with a broad range of negative symptoms for victims; however, given the diversity of experiences that are encompassed within this broad definition of coerced sexual experiences, it seems likely that there are different reactions to different classes of the phenomenon. It should be noted that some research suggests that coerced sexual experiences can result in positive outcomes, like posttraumatic growth, although researchers have not yet explored how positive outcomes differ across dimensions (Frazier, Conlon, & Glaser, 2001; Tedeschi & Calhoun, 2004). It is possible that differences in positive outcomes may also inform severity continuums across dimensions.

Victim Outcomes and the Dimension of Coercive Tactic. Although similar types of presumed outcomes are found in research addressing all coerced sexual experiences, the majority of research regarding presumed outcomes has focused solely on physically coerced sexual experiences. The greater focus on experiences involving

physical tactics may result from researchers placing greater emphasis on behaviors that are illegal, or because they assume that verbal tactics do not result in severe negative outcomes. Indeed, some researchers also note that they do not include individuals with verbally coerced experiences in their samples because it may bias results towards the null (e.g., Fogarty, Fredman, Heeren, & Liebschutz, 2008).

Despite much research attention focusing solely on physically coerced sexual experiences, some research has demonstrated that negative symptoms differ as a function of different classes of coercive tactic. Research demonstrating different presumed outcomes associated with different classes of coercive tactic may sometimes, but not always, be helpful in clarifying continuums of severity. For instance, the degree of negative symptoms associated with a class of coerced sexual experiences could help to determine where along a continuum of severity the class falls (e.g., Brown et al., 2009). Furthermore, this research is clinically relevant as it helps us understand which classes of coercive tactic place victims at greatest risk for specific negative symptoms. By better understanding between-group differences in symptoms associated with coercive tactics, mental health providers can implement treatments that better target symptoms for which clients are at greater risk given the coercive tactic used in their coerced sexual experience.

In reviewing research addressing different presumed outcomes of coerced sexual experiences, much of the literature seems to suggest that more negative symptoms are associated with physically coerced experiences than with verbally coerced experiences. For example, Abbey and colleagues (2004) found that women coerced through physical force rated their experiences as more traumatic than women who were coerced through

incapacitation or verbal coercion. Other studies have demonstrated that women who were coerced into sex through physical force have been found to have more severe PTSD symptoms than women coerced through incapacitation. Furthermore, women who were coerced through incapacitation had greater PTSD symptoms than those verbally coerced (Brown et al., 2009; Peter-Hagene & Ullman, 2015; Ullman et al., 2007). Physically coerced sexual experiences have also been associated with more substance use and greater self-blame than verbally coerced sexual experiences (Messman-Moore et al., 2008; Ullman et al., 2007). Davis et al. (2014) examined a variety of severity continuums using the items from the SES-SVF. They found that severity of coercive experiences as rated on the following continuum was positively associated with depression, anxiety, and intrusive symptoms: (1) verbally coerced sexual contact, (2) intoxicated sexual contact, (3) forced sexual contact, (4) verbally coerced attempted or completed penetration, (5) intoxicated attempt complete penetration, (6) forced attempted or completed penetration. Of course, this continuum combines the sexual act and the tactics, so it is not clear, for example, whether the highest level is more severe than the lowest level because the highest level involves the use of force (tactic) or because the highest level involves the presence of penetrative sex (act). Taken together, however, these results seem to suggest that physically coerced sexual experiences are associated with more severe presumed outcomes than verbally coerced sexual experiences.

Although some research suggests that physically coerced sexual experiences are associated with more negative symptoms than verbally coerced sexual experiences, this pattern of negative symptoms is not always consistent. Research has demonstrated that women who experienced verbal coercion exhibited greater social anxiety and lower self-

esteem than women who experienced physical coercion (Zweig et al., 1997; Testa & Dermen, 1999). This suggests that degree of negative symptoms associated with classes of coercive tactic may vary by the type of symptom. Therefore, severity continuums may have to be symptom specific, such that they only apply to specific types of symptoms.

Although certain patterns of between-class differences in presumed victim outcomes are demonstrated in research regarding coerced sexual experiences, it appears that victim symptomatology may be more complex. For example, patterns of negative symptoms may be dependent upon victim characteristics. In one study, women who experienced verbal coercion reported greater depressive symptoms than those who experienced physical coercion, whereas men who experienced physical coercion reported greater depressive symptoms and anger than those who experienced verbal coercion (Zweig et al., 1997). This suggests that beyond creating severity continuums that are symptom dependent, researchers may also need to create different severity continuums for different groups of individuals. Furthermore, it was previously mentioned that the classes of physical coercion and verbal coercion can be subdivided into more nuanced categories. Future research needs to address differing correlates of more nuanced categories of coercive tactic.

Victim Outcomes and the Dimension of Sexual Act. Despite the fact that outcomes of coercive tactic are not yet fully understood, it is clear that researchers have spent some time investigating association between coercive tactic and outcomes. In contrast, victim outcomes of the entire range of sexual acts in coerced sexual experiences have not received ample research attention. Therefore, there is little empirical data upon which to base differences in severity among sexual acts.

The data that exists regarding victim outcomes of the dimension of sexual act does indicate that “more intimate” sexual acts in coerced sexual experiences can result in negative outcomes. For example, forced oral sex, vaginal sex, and anal sex have all been found to be associated with PTSD symptoms (Back, Sonne, Killeen, Dansky, & Brady, 2003; Epstein, Saunders, & Kilpatrick, 1997). The research fails to address whether acts that are societally deemed to be less intimate, like kissing or fondling, can also result in substantial victim distress. Although researchers may assume that such acts result in fewer and less severe psychological symptoms, empirical data are needed to support this assumption.

Victim Outcomes of the Dimension of Whether Act was Completed. As mentioned previously, researchers have generally agreed that completed coerced sexual experiences are worse than attempted experiences. For example, Perilloux et al. (2012) demonstrated that victims of completed rape had worse outcomes than victims of attempted rape, such that they experienced lower self-esteem, lower self-perceived value as a romantic partner, a worse sexual reputation, lower frequency of sex, worse long-term relationships, lower self-perceived attractiveness, worse social reputation, worse health, lower sexual desire, worse family relationships, and less social interaction following the experience than those who experienced attempted rape. In their study comparing scoring strategies for the SES-SFV, when Davis et al. (2014) utilized a scoring system in which attempted experiences were classified as less severe than completed experiences, severity rankings were correlated with depression, anxiety, and PTSD intrusion symptoms, suggesting that completed experiences resulted in worse outcomes than attempted experiences. Again, these findings suggest that researchers should prioritize the collection

of empirical data addressing differences in victim outcomes for the domains of coercive tactic and sexual act to help clarify severity continuums for these dimensions of coerced sexual experiences.

The Current Study

Coerced sexual experiences have been classified and organized into severity continuums based upon their differences. For example, differences along two dimensions of coerced sexual experiences, (1) sexual act and (2) coercive tactic, have been used to create classification systems and severity continuums. Although these dimensions have been used to create classification systems and severity continuums, few of these classification systems and severity continuums are based upon empirical evidence. Therefore, previous research does not sufficiently demonstrate if and how classes differ from one another.

Although completion of sexual acts may be an important dimension to consider when studying coerced sexual experiences, the present study focused on psychological correlates of completed coerced sexual experiences in order to provide better clarity about potential severity continuums for the other two dimensions of coerced sexual experiences: sexual act and coercive tactic. There are two reasons for this: (1) it seems relatively straightforward that a completed coerced sexual experience would be, on average, worse than an identical coerced sexual experience that was attempted but not completed, and (2) I attempted to measure all dimensions in such a way as to fully cross each dimension. It did not make sense to ask about some attempted acts or tactics. As previously noted, Muehlenhard et al. (2017) speculated that researchers sometimes do not ask about attempted sexual coercion through incapacitation because incapacitation would

presumably be incompatible with being able to resist and stop the coercion. They also suggested that researchers may not opt to measure attempted sexual touching because touching can be done quickly before there is time to resist. Krebs et al. (2016) stated that they did not measure any experiences with attempted sexual coercion in their study 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” (p. 9).

The aim of this study was to be an initial step in the process of clarifying classification systems and severity continuums of coerced sexual experiences based upon the dimensions of sexual act and coercive tactic. Specifically, this study used the classes of sexual act and coercive tactic as measured in the Sexual Experiences Survey-Short Form Victim (SES-SFV), which is often considered the gold standard measure or instrument of choice when studying coerced sexual experiences (Anderson et al., 2018; Kolivas & Gross, 2007; Davis et al., 2014), to examine between-class differences in psychological correlates reported by victims. The psychological correlates of interest in this study were commonly-identified psychological sequelae of sexual coercion—PTSD symptoms, depressive symptoms, anger, posttraumatic cognitions, and perceived severity—as well as one potential positive outcome of sexual coercion—posttraumatic growth (PTG). Given the inclusion of one positive outcome and given the correlational nature of the data used in the present study, the term “psychological correlates” rather than “psychological symptoms” or “psychological outcomes” will be used to refer to these variables. Notably, because many studies find that PTG and PTSD are related (e.g., Kleim & Ehlers, 2009; Dekel, Mandl, & Solomon, 2011; Jin, Xu, & Liu, 2014), perhaps because a certain level of distress is required to create the conditions to allow for growth

in the face of adversity, below I predict that the negative psychological correlates and PTG (a positive psychological correlate) will show a similar pattern of relationship with the different classes.

This study aimed to (1) determine if existing classes measured by the SES-SFV do or do not significantly differ from one another in terms of psychological correlates to inform if they should remain distinct or potentially be collapsed, (2) examine the association between multiple coercive tactics and acts occurring during a single coerced sexual experience and levels of psychological correlates, and (3) uncover patterns of differences in levels of psychological correlates reported by victims across classes to inform the organization of classes into severity continuums.

Hypotheses

Because the Sexual Experiences Survey-Short Form Victimization (SES-SFV; Koss et al., 2007) is the most widely used measure of sexual coercion, I used their classes of sexual act and coercive tactic for hypothesis testing. The classes of sexual act measured on the SES-SFV include the following:

- (1) Fondling or rubbing against the private areas of the participant's body (breast/chest, crotch or butt), kissing the private areas of the participant's body (breast/chest, mouth), or removal of clothing without consent
- (2) Performing oral sex on the participant or making the participant perform oral sex
- (3) Vaginal penetration with a penis, finger, or object
- (4) Anal penetration with a penis, finger, or object

Although the SES-SFV was designed to measure both men's and women's sexual victimization, Koss et al. (2007) excluded items assessing experiences in which a victim is coerced or forced into penetrating another person's vagina or anus because they argued that these acts were not as psychologically distressing as experiences of coerced or forced penetration. However, because the purpose of this study is to evaluate such assumptions about the severity of different acts, I added two additional acts to the measure:

- (5) Penetrating the other person's vagina with a penis, finger, or object
- (6) Penetrating the other person's anus with a penis, finger, or object

The classes of coercive tactics from the SES-SFV include the following:

- (1) *Verbal tactics characterized by pressure, lies, or false promises:* Telling lies, threatening to end the relationship, threatening to spread rumors about the participant, making promises that weren't true, continually verbally pressuring the participant after the participant said they did not want to
- (2) *Verbal tactics characterized by anger or criticism:* Showing displeasure, criticizing the participant's sexuality or attractiveness, getting angry but not using physical force after the participant said they did not want to
- (3) Taking advantage of the participant when the participant was too drunk or incapacitated to stop what was happening
- (4) Threatening to physically harm the participant or someone close to the participant
- (5) Using force, for example holding the participant down with their body weight, pinning the participant's arms, or having a weapon

Literature demonstrates that individuals report experiencing additional coercive tactics that are not captured by the SES-SFV. First, some individuals report experiences in which sexual acts are initiated without being given a chance to say “no” or refuse (e.g., Kern & Peterson, 2019). Second, individuals report experiences in which they say “no” or refuse a sexual act, and the other person ignores the refusal, engages in the act, but does not use notable violence or force (e.g., Muehlenhard & Linton, 1987; Parker, 2013; Kern & Peterson, 2019). It has also been documented that individuals have experienced coerced sex in which they were asleep, but not incapacitated by drugs or alcohol, when non-consensual sex was initiated (e.g., Kern & Peterson, 2019; Davies, 2013). Given this information, the following three classes of coercive tactics were added:

- (6) Beginning the sexual act without giving the participant an opportunity to refuse or say “no”
- (7) Ignoring the participant’s direct refusal of the sexual act
- (8) Beginning the sexual act while the participant is asleep

The hypotheses for this study were as follows:

1. Following coerced sexual experiences, for the dimension of sexual act, different classes of acts will be associated with different degrees of severity of psychological correlates. Specifically, sexual act classes 3, 4, 5, and 6 will result in the highest levels of psychological correlates, class 2 will result in moderate levels of psychological correlates, and class 1 will result in the lowest levels of psychological correlates. This prediction is based on previous research suggesting that penetrative sexual acts are more “intimate” than non-penetrative acts (Kanin, 1957; Waldner-Haugrud & Gratch, 1997), as

well as research indicating that oral sex is perceived as less intimate and severe by victims than other forms of penetrative sex (Bart & O'Brien, 1985).

2. Following coerced sexual experiences, for the dimension of coercive tactic, different classes of tactics will be associated with different degrees of severity of psychological correlates. Specifically, coercive tactic classes 4 and 5 will result in the highest levels of psychological correlates, class 3 will result in moderate levels of psychological correlates, and classes 1 and 2 will result in the lowest levels of psychological correlates. This prediction is based on previous research demonstrating that coerced sexual experiences involving physical coercion result in the most PTSD symptoms, coerced sexual experiences involving incapacitation result in moderate PTSD symptoms, and coerced sexual experiences involving verbal coercion result in the least PTSD symptoms (Brown et al., 2009; Peter-Hagene & Ullman, 2015; Ullman et al., 2007). PTSD symptoms often co-occur with other psychological correlates like depression and posttraumatic cognitions (Nixon, Resick, & Nishith, 2004; Blanchard, Buckley, Hickling, & Taylor, 1998; Claycomb et al., 2016), so I believe that this pattern will hold for all symptom measures. Although there is little research addressing these categories, classes 6 and 7 are hypothesized to be associated with levels of psychological correlates similar to classes 4 and 5 as these classes involve a perpetrator engaging in sex with a conscious individual without their agreement. Class 8 is hypothesized to result in levels of psychological correlates similar to class 3 as the participant is not conscious at the initiation of the sexual experience.

Because research suggests that a single coerced sexual experience may involve multiple sexual acts and coercive tactics, I investigated the association between number

of sexual acts and coercive tactics within a single coerced sexual experience and victim reports of psychological correlates. Therefore, my third hypothesis was as follows:

3. Both the number of sexual act and the number of coercive tactic will be associated with psychological correlates:

- a. A larger number of sexual acts within a coerced sexual experience will predict higher levels of psychological correlates following that experience.
- b. A larger number of coercive tactics within a coerced sexual experience will predict higher levels of psychological correlates following that experience.

Method

Participants

A total of 402 participants with a history of coerced sexual experiences were included in study analyses. These participants were taken from a larger sample of individuals recruited through the University of Missouri-St. Louis psychology undergraduate subject pool, classes in the College of Education and Health Professions at the University of Arkansas, and Amazon's Mechanical Turk (MTurk). Individuals in the larger sample began the "sexual experiences study" online. Participants from the University of Missouri-St. Louis were compensated with research credits for a course in the Department of Psychological Sciences. Participants from the University of Arkansas were compensated with extra credit in the course from which they were recruited. Participants from Amazon's MTurk were compensated with a payment of \$1.50. Given the potentially sensitive nature of experiences reported by participants, there was no requirement for the percent of survey items completed to receive compensation. Participants who endorsed at least one coerced sexual experience and provided complete

or nearly complete data were included in this study. Participant demographics are outlined in Table 1, and the sample is further described in the Results section.

Table 1
Group demographics

Demographic Variable	University of Missouri (N = 135)		University of Arkansas (N = 81)		Amazon's MTurk (N = 186)		Total (N = 402)	
	M	SD	M	SD	M	SD	M	SD
Age	23.8	8.1	21.4	2.1	34.3	9.6	28.2	9.9
	N	%	N	%	N	%	N	%
Gender								
Female/Woman	122	90.4	73	90.1	105	56.5	300	74.6
Male/Man	11	8.1	6	7.4	77	41.4	94	23.4
Gender Non-Binary	1	0.7	2	2.4	3	1.5	6	2.9
Race								
Caucasian/White	80	59.3	64	79.0	136	73.1	280	69.7
African American/Black	36	26.7	6	7.4	17	9.1	59	14.7
Mixed-Race	10	7.4	3	3.7	11	5.9	24	6.0
Hispanic/Latino/Latina	2	1.5	5	6.2	11	5.9	18	4.5
Asian/Pacific Islander	5	3.7	1	1.2	8	4.3	14	3.5
Native American/ Alaskan Native	0	0.0	2	2.5	2	1.1	4	1.0
Another	2	1.5	0	0.0	1	0.5	3	0.7
Sexual Orientation								
Heterosexual/Straight	107	79.3	74	91.4	147	79.0	328	81.6
Bisexual	16	11.9	5	6.2	25	13.4	46	11.4
Gay/Lesbian	6	4.4	1	1.2	11	5.9	18	4.5
Uncertain	4	3.0	0	0.0	1	0.5	5	1.2
Another	2	1.5	1	1.2	2	1.1	5	1.2
Relationship Status								
Exclusive/Monogamous	71	52.6	41	50.6	125	67.2	329	81.6
Single/not dating	33	24.4	25	30.9	34	18.3	92	22.9
Single/dating	20	14.8	10	12.3	12	6.5	42	10.4
Non-exclusive/Monogamous	5	3.7	4	4.9	6	3.2	15	3.7
Open Relationship	6	4.4	1	1.2	8	4.3	15	3.7
Religion								
None	49	36.3	11	13.6	101	54.3	161	40.0
Protestant	30	22.2	46	56.8	39	21.0	115	28.6
Catholic	22	16.3	14	17.3	34	18.3	70	17.4
Another	27	20.0	10	12.3	9	4.8	46	11.4
Muslim	7	5.2	0	0.0	1	0.5	8	2.0
Jewish	0	0.0	0	0.0	2	1.1	2	0.5
Employment								
Stable/Part-Time	79	58.2	45	55.6	37	19.9	161	40.0

Stable/Full-Time	24	17.8	3	3.7	119	64.0	146	36.3
None	19	14.1	20	24.7	22	11.8	61	15.2
Inconsistent	13	9.6	13	16.0	7	3.8	33	8.2
Student								
Yes	135	100.0	81	100.0	24	12.9	240	59.7
No	0	0.0	0	0.0	162	87.1	162	40.3
Perpetrator								
Stranger	13	9.6	10	12.3	33	17.7	56	13.9
Non-Stranger	121	90.3	70	86.4	153	82.3	344	85.6

Measures

Demographics. Participants completed a questionnaire to gather information about their age, race, gender, sexual orientation, religiosity, relationship status, employment, and student status.

Sexual Experiences Survey-Short Form Victimization (SES-SFV; Koss et al., 2007). The SES-SFV is a seven-item measure that evaluates experiences of sexual victimization. Four items on the measure evaluate completed sexual acts including (1) fondling, kissing, touching, clothing removal (2) oral sex, (3) vaginal penetration, and (4) anal penetration; additional items measuring (5) vaginal penetration of another person and (6) anal penetration of another person were added. Three items on the measure evaluate attempted coerced sexual experiences, and these were excluded from the present study. Following each item evaluating sexual act is a list of possible coercive tactics, including (1) verbal tactics characterized by pressure, lies, or false promises, (2) verbal tactics characterized by anger or criticism, (3) victim incapacitation, (4) threat of physical force, (5) and use of physical force or a weapon. As stated in the hypotheses, three additional categories based on coercive strategies reported in previous research were added: (6) no opportunity for participant to say “no,” (7) ignoring direct refusal, (8) beginning the sexual act while the participant is asleep. As this study is only concerned

with coerced sexual experiences, the SES-SFV was used to screen which participants had had a coerced sexual experience, and were therefore eligible for inclusion in study analyses. To screen, participants endorsed how many times each coercive tactic has been used to achieve each sexual act since age 14. Participants responded on a 4-point scale, ranging from 0 (*never*) to 3+ (*three or more times*). The SES-SFV has demonstrated adequate convergent validity with measures of relationship abuse (WEB scale; Smith, Earp, & DeVillis, 1995) and relationship violence (Relationship Violence questionnaire; Whitmire, Harlow, Quina, & Morokoff, 1999) in a community sample of women (Davis et al., 2014) and adequate convergent validity with measures of partner violence (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) and childhood sexual abuse (CTQ-CSA; DiLillo et al., 2010) in a sample of college men (Anderson et al., 2018).

Description of Most Upsetting Coerced Sexual Experience. Participants who screened positive for a coerced sexual experience on the SES-SFV, and were thus eligible for inclusion in this study, completed a description of a coerced sexual experience. This study is concerned with severity differences in classes of sexual act and coercive tactic in coerced sexual experiences, so participants were asked to focus responses on a specific coerced sexual experience. To narrow the experience on which they reported, individuals with a history of a single coerced sexual experience were asked to report on that experience. Individuals with a history of more than one coerced sexual experience were asked to report on their most upsetting or distressing coerced sexual experience. A similar strategy was used in the work of Byers and Glenn (2012) in which individuals who had multiple experiences of coerced sex were asked to complete a questionnaire about the incident of coerced sex that they considered most severe or upsetting. Participants first

provided a brief description of the selected coerced sexual experience to help focus their attention and ensure that they were recalling a specific event. After completing the description, participants completed a deconstructed version of the SES-SFV (with the additional categories of sexual act and coercive tactic previously noted). This deconstructed version of the SES-SFV included a list of every sexual act included in the six classes of completed sexual acts on the SES-SFV, with each act listed as an individual item (e.g., “someone had oral sex with me or made me have oral sex with them without my consent” was presented as two individual items), and participants endorsed each individual act that occurred during the selected coerced sexual experience. Participants also indicated which act on the list was most upsetting or distressing. Next, participants were presented with a list of every coercive tactic in the five classes of coercive tactics on the SES-SFV, with each tactic listed as an individual item (e.g., “telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn’t want to” was presented as five separate items), and participants endorsed each individual tactic that was used during the selected coerced sexual experience. Participants also indicated which tactic on the list was most upsetting or distressing. For the purpose of this study, on this measure, coercive tactics were labeled “strategies” to reduce participant underreporting that may result from negative connotations associated with the term “coercive tactic.”

Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5; Weathers et al., 2013). The PCL-5 is a 20-item measure of Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) symptoms of posttraumatic stress disorder (PTSD). The PCL-5 includes four subscales, targeting the four symptom clusters of PTSD: re-

experiencing, avoidance, negative thoughts and feelings, and physiological arousal and reactivity. An example of an item measuring reexperiencing is: “In the past month, how much were you bothered by repeated disturbing dreams of the stressful experience?” An example item measuring avoidance is: “In the past month, how much were you bothered by avoiding external reminders of the stressful experience?” An item measuring negative thoughts and feelings is: “In the past month, how much were you bothered by feeling distant and cut off from other people?” An item measuring physiological arousal is: “In the past month, how much were you bothered by being ‘superalert’ or watchful or on guard?” Responses to items on this measure are rated on a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*). Subscale scores for each of the four symptom clusters are calculated by summing the item scores in each subscale. The total score is then calculated by summing scores of each subscale. For the purpose of this study, participants were asked to respond to all items on this measure in relation to the coerced sexual experience described in their narrative. The PCL-5 subscales have demonstrated good internal consistency ($\alpha = .94$; Blevins, Weathers, Davis, Witte, & Domino, 2015) in a sample of university students reporting a history of a “very stressful life event.” For this sample, Cronbach’s alpha was .95.

Center for Epidemiologic Studies Depression Scale-Revised (CESD-R; Eaton, Smith, Ybarra, Muntaner, & Tien, 2004). The CESD-R is a 20-item self-report measure that surveys the frequency with which individuals experienced symptoms of a depressive episode over the past two weeks. Example items include “I could not shake off the blues” and “I lost interest in my usual activities.” Responses to items on this measure are rated a 5-point scale of frequency ranging from 0 (*not at all or less than 1*

day last week) to 4 (*nearly every day for two weeks*). Scores are calculated by summing item scores, with higher scores reflecting greater depressive symptoms. The CESD-R has demonstrated good internal consistency ($\alpha = .92$; Van Dam & Earleywine, 2011) in a combined community and university sample. For this sample, Cronbach's alpha was .95.

Dimensions of Anger Reactions Scale-5 (DAR-5; Forbes et al., 2014). The DAR-5 is a 5-item self-report measure screening for anger reactions. Each item addresses a specific anger reaction, including anger frequency, intensity, duration, aggression, and interference with social functioning. Sample items include “when I got angry, I stayed angry” and “my anger prevented me from getting along with people as well as I'd have liked to.” Responses to items on this measure are rated on a 5-point scale ranging from 1 (*none of the time*) to 5 (*all of the time*). Scores are calculated by summing item scores, with higher scores reflecting stronger anger reactions. The DAR-5 has demonstrated good internal consistency ($\alpha = .90$; Forbes et al., 2014) in a university sample. For this sample, Cronbach's alpha was .89.

Posttraumatic Cognitions Inventory (PTCI; Foa, Ehlers, Clark, Tolin & Orsillo, 1999). The PTCI is a 33-item questionnaire that measures negative thoughts about the self, negative thoughts about the world, and self-blame. An example of an item measuring negative thoughts about the self is: “I am a weak person.” An example of an item measuring negative thoughts about the world is: “People can't be trusted.” An example of an item measuring self-blame is: “The event happened to me because of the sort of person I am.” Responses to items on the PTCI are rated on a 7-point scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). Subscale scores for this measure are calculated by averaging the item scores in each subscale. For the purpose of this study,

participants were asked to respond to all items on this measure in response to the coerced sexual experience described in their narrative. The PTCI subscales have been shown to have high internal consistency ($\alpha = .86-.97$) in a combined treatment seeking, community, and university sample (Foa et al., 1999). For this sample, Cronbach's alpha was .96 for the negative thoughts about the self subscale, .92 for the negative thoughts about the world subscale, and .84 for the self-blame subscale.

Perceived Severity. Most studies using perceived severity have assessed the construct using only one or two items (e.g., Bennett & Banyard, 2016; Robbins & Merrill, 2014), and often items measuring severity conflate perceptions of severity with the use of physical force as a coercive tactic, for example, by referencing physical injury as a marker of severity (e.g., Kern & Peterson, 2019). Because I am interested in the association between different coerced sexual experiences and perceptions of severity, I have created my own measure of perceived severity that does not conflate severity with the use of physical force as a coercive tactic. Therefore, perceived severity was assessed by asking participants to rate their agreement with the following 5 items: “the incident was severe,” “the incident was serious,” “the incident was important,” “the incident was trivial,” and “the incident was minor.” The items were rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with the last two items being reverse scored. Scores for this measure are calculated by summing item scores. For this sample, Cronbach's alpha was .87.

Posttraumatic Growth Inventory-Short Form (PTGI-SF; Cann et al., 2010).

The PTGI-SF is a 10-item questionnaire that measures five domains of positive change following challenging life circumstances or experiences. It is an abbreviated version of

the widely used Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). The five factors measured by the PTGI-SF are relating to others, new possibilities, personal strength, spiritual change, and appreciation of life. An example of an item measuring the factor *relating to others* is: “I learned a great deal about how wonderful people are.” An example of an item measuring the factor *new possibilities* is: “I established a new path for my life.” An example of an item measuring the factor *personal strength* is: “I know better that I can handle difficulties.” An example of an item measuring the factor *spiritual change* is: “I have a better understanding of spiritual matters.” An example of an item measuring the factor *appreciation of life* is: “I have a greater appreciation for the value of my own life.” Responses to items on the PTGI-SF were rated on a 6-point scale ranging from 0 (*I did not experience this change as a result of my experience*) to 5 (*I experienced this change to a very great degree as a result of my experience*). Participants were directed to answer items based on the coercive sexual experience that they described. Although the original measure utilizes the term “crisis” rather than “experience” on the rating scale, I used the term “experience” because it is unlikely that all participants identified their coerced sexual experience as a “crisis.” Scores for this measure are calculated by summing item scores. The PTGI-SF is highly correlated with the PTGI ($r = .88-.94$) and has demonstrated high internal consistency ($\alpha = .84-.93$) across a variety of populations including college students and victims of intimate partner violence (Cann et al., 2010). For this sample, Cronbach’s alpha was .95.

Procedure

First, participants provided informed consent. Then, participants completed the SES-SFV to assess the overall number and type of coerced sexual experiences since age

14. Participants who screened positively for a history of a coerced sexual experience were included in the present study. Following the completion of the SES-SFV, participants who endorsed only one coerced sexual experience on the SES-SFV were asked to complete the remainder of the survey based on that experience. Participants who endorsed more than one coerced sexual experience on the SES-SFV were asked to think back to their most distressing or upsetting coerced sexual experience and complete the remainder of the survey on that experience. Participants wrote a short narrative of their most distressing or only coerced sexual experience in order to jog their memory of the event. Following this narrative, participants completed the deconstructed version of the SES-SFV, endorsing every sexual act that occurred, the worst (or only) sexual act that occurred, every coercive tactic that occurred, and the worst (or only) coercive tactic that occurred during that specific coerced sexual experience. They also answered questions about their relationship with the perpetrator, approximately how long ago the experience occurred, and how distressing the overall survey was to complete, but those data are not presented here.

Once participant provided details about their worst (or only) coerced sexual experience, they completed the battery of outcome measures addressing a number of psychological correlates, including the PCL-5, the CESD-R, the DAR-5, the PCTI, the perceived severity scale, and the PTGI-SF. To avoid potential order effects, the order of these six scales was randomized. Next, participants provided demographic information. Finally, they were debriefed.

Results

Data Preparation

A total of 1,078 individuals recruited through the University of Missouri – St. Louis psychology undergraduate subject pool ($N = 276$), University of Arkansas classes in the College of Education and Health Professions ($n = 214$), and Amazon’s MTurk ($n = 588$) began the online survey. Incomplete survey responses, including those in which participants omitted a description of a sexual experience, were excluded: University of Missouri ($n = 65$), University of Arkansas ($n = 57$), and Amazon’s MTurk ($n = 174$). Additional responses were excluded from Amazon’s MTurk sample, specifically if responses appeared to be provided by automated survey bots ($n = 36$) or suggested limited understanding of English and limited comprehension of survey questions ($n = 45$). Following these exclusions, of the remaining University of Missouri-St. Louis participants ($n = 211$), a total of 144 reported a coerced sexual experience. Of remaining University of Arkansas participants ($n = 157$), a total of 84 reported a coerced sexual experience. Of the remaining Amazon’s MTurk participants ($n = 333$), a total of 199 reported a coerced sexual experience. Taken together, a total of 427 participants reporting coerced sexual experiences participated in this study.

Further data cleaning was conducted within the sample endorsing coerced sexual experiences. Specifically, six participants were excluded as their descriptions of their worst (or only) coerced sexual experience involved an experience occurring before the age of 14. Three participants were excluded because the sexual acts they endorsed during their coerced sexual experience suggested that the participant had both male and female genitalia, which is likely indicative of random responding. Fifteen participants were excluded for endorsing a worst (or only) sexual act or coercive tactic that they did not include in the list of tactics or acts that occurred, and upon reviewing their description of

the coerced sexual experience, appeared to have engaged in a random pattern of responding. One participant was excluded for reporting in the final survey comments that their brain was on “autopilot” for part of the study, and they responded randomly during that period. The remaining participants (N = 402) were included in at least one study analysis. For each analysis, individuals who responded to 80% or more of scale items for the dependent variable measure were included in the analysis. Other missing values were replaced using mean imputation

Demographics

The sample included 74.6% women (n = 300), 23.4% men (n = 94), and 2.0% gender non-binary individuals (n = 8). The mean age of the sample was 28.18 (SD = 9.91). Participants were 69.4% Caucasian (n = 279), 28.9% African American (n = 59), 6.2% mixed-race (n = 29), 4.5% Latino, 3.0% Asian, 1.0% Native American, and 0.7% another race. The majority of the sample identified as heterosexual (81.6%, n = 328), followed by 11.4% who identified as bisexual (n = 46), 4.5% who identified as gay or lesbian (n = 18), and 2.5% who reported another sexual orientation or reported being uncertain about their sexual orientation (n = 10). The majority of participants reported being religiously affiliated (60.0%, n = 241), in a monogamous relationship (59.0%, n = 237), students (59.7%, n = 240), and consistently employed (76.4%, n = 307). Please see Table 1 for complete study demographics.

Chi-square tests of independence and one-way ANOVAs were used to compare the demographics of participants from the three data collection sources (see Table 1). Results demonstrated that the gender distribution of the three samples differed significantly, $\chi^2(10) = 70.61, p < .001$. Chi-square analyses were followed by post hoc

analyses using residuals to determine significant cells. Post hoc analyses demonstrated that the sample from Amazon's MTurk included proportionately more men and fewer women than the other two samples. The three samples did not significantly differ on the number of non-binary participants. Significant age differences emerged across recruitment sources, $F(2, 398) = 101.58, p < .001$. Post hoc analyses using Tukey HSD test demonstrated that the average age of participants recruited through Amazon's MTurk was significantly higher than the other two sources. Results showed differences in racial distribution of the three samples, $\chi^2(12) = 35.89, p < .001$. Post hoc analyses demonstrated that the sample from University of Missouri-St. Louis included proportionately more African American participants and proportionately fewer Latinx participants than the other two samples. Additionally, the sample from the University of Arkansas included proportionately more White students than the sample from University of Missouri-St. Louis. The samples did not differ in terms of Asian, Native American, mixed-race, and other race participants. Religious identity significantly differed across recruitment groups, $\chi^2(10) = 81.08, p < .001$. The sample from University of Missouri-St. Louis included proportionately more Muslim participants than the other two samples. The sample from University of Arkansas included proportionately more Protestant participants. The sample from MTurk included the most non-religious participants, the sample from University of Missouri-St. Louis included a moderate amount, and the sample from University of Arkansas included the least, with all groups being significantly different from each other. The sample from University of Missouri-St. Louis included the most participants with other religious identities, the sample from University of Arkansas included a moderate amount, and participants from Amazon's MTurk

included the least, with all groups being significantly different from each other. The groups did not significantly differ based on sexual orientation, $\chi^2(8) = 11.65, p = .17$.

Demographic analyses were also conducted to compare recruitment sources based on relationship status and employment status. Results indicate significant differences in relationship status, $\chi^2(8) = 15.88, p = .04$. A higher proportion of individuals recruited through Amazon's MTurk reported being in a monogamous relationship. University of Missouri-St. Louis students reported the largest proportion of individuals identifying as single but dating, followed by the University of Arkansas. University of Arkansas students reported the largest proportion of individuals identifying as single but not dating, followed by the University of Missouri-St. Louis. Employment status significantly differed between groups, $\chi^2(8) = 128.13, p < .001$. A higher proportion of individuals recruited through Amazon's MTurk reported full-time employment, and a higher proportion of individuals from the other two sources reported part-time employment. University of Arkansas students reported the highest levels of inconsistent employment, followed by University of Missouri-St. Louis students. University of Arkansas participants reported significantly more unemployment than the other two groups.

Descriptive Statistics

For worst (or only) sexual act that occurred during participants' described coerced sexual experience, as categorized by the SES-SFV, 37.1% identified fondling or rubbing of their crotch, breasts, or butt, kissing of their lips, or their clothes being removed (class 1, $n = 149$), 32.1% identified being vaginally penetrated (class 3, $n = 129$), 11.2% identified performing oral sex on someone else or oral sex being performed on them (class 2, $n = 45$), 7.2% identified being anally penetrated (class 4, $n = 30$), 5.5%

identified penetrating someone vaginally (class 5, $n = 22$), and 1.7% identified penetrating someone anally (class 6, $n = 7$). Five percent of participants who reported a coercive experience on the SES-SFV did not identify a worst (or only) sexual act in the subsequent question ($n = 20$). See Table 2 for further descriptive statistics regarding classes of sexual acts. Although very few participants identified their worst (or only) act as penetrating someone anally, preliminary analyses revealed that inclusion of these participants did not impact results, so these participants were not excluded from analyses. When listing the total number of more specific sexual acts that occurred during the coerced sexual experience, the mean number of sexual acts reported was 4.02 ($SD = 3.09$). For worst (or only) coercive tactic that occurred during participants' described coerced sexual experience, as categorized by the SES-SFV with three additional classes added by the researchers, 18.2% identified not being given a chance to say "no" (class 6, $n = 73$), 15.7% identified lies, nonviolent threats, false promises, or pressure (class 1, $n = 63$), 14.9% identified the use of physical force or a weapon (class 5, $n = 60$), 13.9% identified being too incapacitated by alcohol or drugs to consent (class 3, $n = 56$), 13.7% identified the other person ignoring their refusal (class 7, $n = 55$), 10.2% identified being asleep when the act was initiated (class 8, $n = 41$), 9.2% identified the expression of anger, criticism, or displeasure (class 2, $n = 37$), and 2% identified threat of harm to themselves or someone else (class 4, $n = 8$). Two percent of participants who reported coercion on the SES-SFV did not identify a worst (or only) coercive tactic ($n = 9$). See Table 3 for further descriptive statistics regarding classes of coercive tactic. Although very few participants identified their worst (or only) coercive tactic as threat of harm, preliminary analyses revealed that inclusion of these participants did not impact results,

so these participants were not excluded from analyses. When listing the total number of more specific coercive tactics that occurred during the coerced sexual experience, the mean number reported was 4.71 (SD = 2.71).

Table 2

Behaviors identified as the worst or only sexual act occurring the coercive sexual experience (N = 382)

SES-SFV Class	Endorsed Sexual Act	Total Endorsement N	Percent %
Class 1		149	37.1
	Someone fondled my breast/chest	22	5.5
	Someone fondled my crotch	56	13.9
	Someone fondled my butt	17	4.2
	Someone kissed my lips	18	4.5
	Someone kissed my breast/chest	7	1.7
	Someone rubbed up against my breast/chest	3	0.7
	Someone rubbed up against my crotch	16	4.0
	Someone rubbed up against my butt	3	0.7
	Someone removed some of my clothes	7	1.7
Class 2		45	11.2
	Someone had oral sex with me	21	5.2
	Someone made me have oral sex with them	24	6.0
Class 3		129	32.1
	Someone inserted a penis into my vagina	94	23.4
	Someone inserted a finger into my vagina	33	8.2
	Someone inserted an object into my vagina	2	0.5
Class 4		30	7.5
	Someone inserted a penis into my butt	24	6.0
	Someone inserted a finger into my butt	5	1.2
	Someone inserted an object into my butt	1	0.2
Class 5		22	5.5
	Someone made me insert my penis into their vagina	20	5.0
	Someone made me insert my finger into their vagina	2	0.5
	Someone made me insert an object into their vagina	0	0.0
Class 6		7	1.7
	Someone made me insert my penis into their butt	6	1.5

Someone made me insert my finger into their butt	0	0.0
Someone made me insert an object into their butt	1	0.2

Table 3

Coercive tactics identified as the worst or only tactic experienced during the coercive sexual experience (N = 393)

SES-SFV Class	Endorsed Coercive Tactic	Total Endorsement	Percent
		N	%
Class 1		63	15.7
	Someone told me lies	2	0.5
	Someone threatened to end our relationship	12	3.0
	Someone threatened to spread rumors	8	2.0
	Someone made false promises	9	2.2
	Someone verbally pressured me	32	8.0
Class 2		37	9.2
	Someone showed displeasure	12	3.0
	Someone criticized my sexuality or attractiveness	4	1.0
	Someone got angry at me	21	5.2
Class 3		56	13.9
	Someone took advantage of me while I was too intoxicated to stop what was happening		
Class 4		8	2.0
	Someone threatened to physically harm me	2	0.5
	Someone threatened to physically harm someone close to me	6	1.5
Class 5		60	14.9
	Someone physically forced me	18	4.5
	Someone held me down	29	7.2
	Someone pinned my arms	10	2.5
	Someone had a weapon	3	0.7
Class 6		73	18.2
	Someone went ahead without giving me a chance to say "no"		
Class 7		55	13.7
	Someone went ahead after I said "no"		

Class 8**41****10.4**

Someone started while I was asleep

Mean scores for outcome variables were as follows: posttraumatic stress symptoms (PCL-5; $M = 13.84$, $SD = 15.34$), depressive symptoms (CESD-R; $M = 13.73$, $SD = 15.22$), anger (DAR-5; $M = 8.37$, $SD = 4.17$), negative thoughts about the self (PTCI subscale; $M = 2.06$, $SD = 1.10$), negative thoughts about the world (PTCI subscale; $M = 4.07$, $SD = 1.61$), self-blame (PTCI subscale; $M = 2.70$, $SD = 1.44$), perceived severity ($M = 24.07$, $SD = 7.31$), and posttraumatic growth (PTGI-SF; $M = 17.78$, $SD = 14.86$). Skewness and kurtosis values for all outcome variables fell below a cutoff score of ± 2 , suggesting they are in the acceptable range (Ryu, 2011); however, standard error in the sample was low for both skewness ($S.E. = 0.12$) and kurtosis ($S.E. = 0.24$), suggesting that the results should be interpreted with caution due to low variance. Please see Table 4 for complete descriptive statistics.

Table 4*Descriptive statistics for primary variables of interest*

Dependent Variable	M	SD	Min	Max	Skewness	SE	Kurtosis	SE
PCL-5	24.07	0.36	5.00	63.00	-0.40	0.12	-0.58	0.24
CESD-R	17.78	0.76	0.00	68.00	1.30	0.12	1.10	0.24
DAR-5	8.37	0.21	5.00	25.00	1.37	0.12	1.49	0.24
PTCI Negative Thoughts About the Self	2.06	0.05	1.00	6.10	1.14	0.12	0.68	0.24
PTCI Negative Thoughts About the World	4.07	0.08	1.00	7.00	-0.25	0.12	-0.87	0.24
PTCI Self-Blame	2.70	0.72	1.00	6.80	0.60	0.12	-0.68	0.24
Perceived Severity	24.07	0.36	5.00	35.00	-0.40	0.12	-0.58	0.24

PTGI-SF	17.78	0.74	0.00	50.00	1.30	0.12	1.10	0.24
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Some outcome variables differed by recruitment source and demographic characteristics. PCL-5 scores differed by recruitment source, $F(2, 398) = 4.93, p = .01$, with University of Missouri-St. Louis participants reporting higher PCL-5 scores than the other two sources, and by race, $F(6, 394) = 2.22, p = .04$, with White participants reporting lower PCL-5 scores than Black participants and Asian participants. CESD-R scores differed by sexual orientation, $F(4, 397) = 4.82, p = .001$, with heterosexual participants reporting lower CESD-R scores than gay/lesbian participants, bisexual participants, and uncertain participants, and by religious identity, $F(5, 396) = 2.90, p = .01$, with Muslim participants reporting higher CESD-R scores than all other religious identity groups. DAR-5 scores differed by recruitment source, $F(2, 399) = 8.71, p < .001$, with University of Missouri-St. Louis participants reporting higher DAR-5 scores than the other sources, and by sexual orientation, $F(4, 397) = 3.84, p = .004$, with heterosexual participants reporting lower DAR-5 scores than bisexual participants and uncertain participants. PTCI negative thoughts about the self scores differed by recruitment source, $F(2, 398) = 6.36, p = .002$, with University of Arkansas participants reporting lower negative thoughts about the self scores than the other sources, and by sexual orientation, $F(4, 396) = 6.34, p < .001$, with heterosexual participants reporting lower negative thoughts about the self scores than bisexual participants and uncertain participants. PTCI self-blame scores differed by recruitment source, $F(2, 399) = 6.14, p = .002$, with University of Arkansas participants reporting lower self-blame scores than the other sources, by sexual orientation, $F(4, 397) = 3.32, p = .01$, with heterosexual participants

reporting lower self-blame scores than bisexual participants and uncertain participants, and by whether the participant knew the perpetrator, $t(398) = 2.57, p = .01$, with participants coerced by non-strangers reporting higher self-blame scores than participants coerced by strangers. Perceived severity scores differed by gender, $F(2, 397) = 4.66, p = .01$, with women reporting higher perceived severity scores than men, and by age, $\beta = .19, t(399) = 18.60, p < .001$, with older participants reporting higher perceived severity scores. PTGI-SF scores differed by recruitment source, $F(2, 399) = 7.30, p = .001$, with Amazon's MTurk participants reporting lower PTGI-SF scores than the other sources, by gender, $F(2, 397) = 3.03, p = .04$, with women reporting higher PTGI-SF scores than men, by race, $F(6, 395) = 4.64, p < .001$, with Black participants reporting higher PTGI-SF scores than Asian participants, White participants, and participants identifying as "another race," and by religious identity, $F(5, 396) = 8.48, p < .001$, with non-religious participants reporting lower PTGI-SF scores than Catholic participants, Muslim participants, Protestant participants, and participants identifying as members of "another religion." PTCI negative thoughts about the world scores did not differ in relation to any relevant demographic variables. Participants from the three recruitment sources demonstrated proportionately different patterns of endorsement of worst (or only) sexual act, $\chi^2(10) = 24.51, p < .01$. They did not demonstrate differences in endorsement of worst (or only) coercive tactic, $\chi^2(14) = 9.47, p = .80$. Although many study variables differed by recruitment source, samples from recruitment sources were combined for a number of reasons. First, data were collected from a number of recruitment sources to increase sample diversity, so some differences as a function of source were expected and seen as desirable. Second, recruitment sources differed in terms of their patterns of worst

(or only) sexual act as well as across a number of demographic variables. Given this information, it is likely that mean differences in outcome variables across recruitment source are at least partially explained by differences in worst (or only) sexual act and participant demographics. Therefore, all study analyses controlled for demographic variables with significant mean differences on the variable of interest. Controlling for recruitment source in addition to demographics would likely be redundant as source differences are likely explained by demographic differences. Additionally, it would decrease power to detect mean differences by worst (or only) sexual act, as patterns differed for each source.

Hypothesis Testing

Given significant mean differences, analyses controlled for the following demographic variables. Participant gender (women vs. men) was controlled for analyses addressing perceived severity and PTGI-SF. As the sample size for non-binary individuals ($n = 8$) was too small to control for differences, these individuals were excluded from analyses for which gender was controlled. Based on the demographic comparisons reported above, race (White vs. not White) was controlled for in analyses addressing PCL-5. Race (Black vs. not Black) was controlled for in analyses addressing PTGI-SF. Sexual orientation (heterosexual vs. not heterosexual) was controlled for in analyses addressing CESD-R, DAR-5, PTCI negative thoughts about the self, and PTCI self-blame. Religion (Muslim vs. not Muslim) was controlled for in analyses addressing CESD-R. Religion (religious vs. not religious) was controlled for in analyses addressing PTGI-SF. Age was controlled for in analyses addressing perceived severity, and whether the perpetrator was known (stranger vs. not stranger) was controlled for in analyses

involving PTCI self-blame. Covariates are detailed in results tables. Preliminary analyses revealed that Levene's test of homogeneity of variance was violated for comparison of CESD-R, $F(5, 376) = 2.98, p = .01$, and PTCI negative thoughts about the self, $F(5, 375) = 3.52, p = .004$, by worst (or only) sexual act, as well as PCL-5, $F(7, 384) = 4.52, p < .001$, CESD-R, $F(7, 385) = 3.10, p = .004$, and PTCI negative thoughts about the self, $F(7, 384) = 2.13, p = .04$, by worst (or only) coercive tactic. Preliminary analyses demonstrated that when analyses involving PCL-5 and CESD-R were run with square root transformations and analyses involving PTCI negative thoughts about the self were run with log transformations, homogeneity of variance was demonstrated except for the ANOVA comparing worst (or only) act classes on mean PTCI negative thoughts about the self, $F(5, 375) = 2.68, p = .02$. This analysis should be interpreted with caution. These transformations were used for all hypothesis testing involving these dependent variables.

Hypothesis 1. One-way ANOVAs were run to test the hypothesis that following coerced sexual experiences, sexual act classes 3-6 (vaginal penetration, anal penetration, penetration of their vagina, penetration of their butt) would result in the highest levels of psychological correlates, class 2 (oral sex) would result in moderate levels of psychological correlates, and class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) would result in the lowest level of psychological correlates, with sexual act as the independent variable and the following psychological outcome variables as the dependent variables: PCL-5, CESD-R, DAR-5, PTCI negative thoughts about the self, PTCI negative thoughts about the world, PTCI self-blame, perceived severity, and PTGI-SF. Significant between-group differences were found for a number of variables, and the Sidak test was used for post hoc comparisons. Because the majority of analyses involved

control variables, the Tukey HSD test was unable to be used for post hoc comparisons. The Sidak test has been shown to have low Type-I error rate but slightly greater power to detect group differences than the Bonferroni test, and was therefore the best fit for the analyses (Ludbrook, 1998).

When comparing worst (or only) sexual acts as identified by participants and controlling for relevant demographic variables, significant between-group differences emerged for PCL-5 scores, $F(5, 373) = 3.32, p = .006, \eta_p^2 = .04$, PTCI negative thoughts about the self scores, $F(5, 374) = 2.28, p = .047, \eta_p^2 = .03$, and PTCI negative thoughts about the world scores, $F(5, 376) = 5.76, p < .001, \eta_p^2 = .07$. Post hoc comparisons revealed that sexual act class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) had significantly lower PCL-5 scores, PTCI negative thoughts about the self scores, and PTCI negative thoughts about the world scores than class 3 (vaginal penetration). Further, between-group differences emerged for PTCI self-blame, $F(5, 372) = 3.56, p = .004, \eta_p^2 = .05$, with post hoc comparisons revealing that sexual act class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) had significantly lower PTCI self-blame scores than classes 3 (vaginal penetration) and 5 (penetration of their vagina). Significant between-group differences emerged for perceived severity, $F(5, 366) = 12.48, p < .001, \eta_p^2 = .15$. Post hoc comparisons revealed that sexual act class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) had significantly lower perceived severity scores than the following classes: sexual act class 2 (oral sex), class 3 (vaginal penetration), class 5 (penetration of their vagina), and class 6 (penetration of their butt). No significant between-group differences were found for CESD-R, $F(5,$

374) = 1.17, $p = .33$, $\eta_p^2 = .02$, DAR-5, $F(5, 375) = .72$, $p = .61$, $\eta_p^2 = .01$, or PTGI-SF, $F(5, 366) = 1.78$, $p = .12$, $\eta_p^2 = .02$. Results for hypothesis 1 are detailed in Table 5.

Table 5

Differences in psychological correlates as a function of the different types of worst or only sexual act experienced during a coercive sexual experience

Dependent Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2
PCL-5 ₂ *	381			373	3.32	.006	.04
Class 1 ^a	148	11.12	14.26				
Class 2 ^{a,b}	45	14.46	16.63				
Class 3 ^b	129	16.55	15.54				
Class 4 ^{a,b}	30	14.97	18.51				
Class 5 ^{a,b}	22	11.64	10.85				
Class 6 ^{a,b}	7	20.14	19.62				
CESD-R _{4,5}	382			374	1.17	.46	.02
Class 1	149	12.64	15.31				
Class 2	45	13.54	13.99				
Class 3	129	15.34	16.08				
Class 4	30	15.03	16.58				
Class 5	22	8.64	6.82				
Class 6	7	9.95	17.97				
DAR-5 ₄	382			375	.72	.61	.01
Class 1	149	7.99	3.67				
Class 2	45	8.51	5.41				
Class 3	129	8.53	4.12				
Class 4	30	8.47	4.45				
Class 5	22	8.50	4.49				
Class 6	7	10.71	4.39				
PTCI negative thoughts about the self ₄ *	381			374	2.28	.05	.03
Class 1 ^a	149	0.90	1.06				
Class 2 ^{a,b}	45	1.95	1.02				
Class 3 ^b	128	2.23	1.15				
Class 4 ^{a,b}	30	2.30	1.25				
Class 5 ^{a,b}	22	1.81	0.55				
Class 6 ^{a,b}	7	2.84	1.57				
PTCI negative thoughts about the world*	382			376	5.76	.001	.07
Class 1 ^a	149	3.62	1.61				

Class 2 ^{a,b}	45	4.32	1.60				
Class 3 ^b	129	4.59	1.46				
Class 4 ^{a,b}	30	3.97	1.83				
Class 5 ^{a,b}	22	0.76	1.63				
Class 6 ^{a,b}	7	4.45	0.82				
PTCI self-blame _{4,8} *	380			372	3.56	.004	.05
Class 1 ^a	148	2.36	1.41				
Class 2 ^{a,b}	45	2.72	1.60				
Class 3 ^b	129	2.91	1.34				
Class 4 ^{a,b}	29	2.89	1.43				
Class 5 ^b	22	3.48	1.53				
Class 6 ^{a,b}	7	3.34	1.16				
Perceived severity _{1,7} *	374			366	12.48	.001	.15
Class 1 ^a	147	20.80	7.25				
Class 2 ^b	44	25.99	7.12				
Class 3 ^b	126	27.23	5.79				
Class 4 ^{a,b}	29	24.23	7.46				
Class 5 ^b	22	24.68	7.59				
Class 6 ^b	6	26.11	5.74				
PTGI-SF _{1,3,6}	375			366	1.78	.12	.02
Class 1	148	15.89	14.60				
Class 2	44	17.67	14.91				
Class 3	126	20.29	15.28				
Class 4	29	15.44	13.77				
Class 5	22	13.05	11.47				
Class 6	6	27.14	8.05				

* indicates a statistically significant ($p < .05$) omnibus test after controlling for relevant demographic differences. Within each scale, groups with different superscripts indicate statistically significant differences based on follow-up tests using the Sidak post hoc test. The following subscripts indicate control variables for analyses: 1 = gender (men vs. women), 2 = race (White vs. not White), 3 = race (Black vs. not Black), 4 = sexual orientation (heterosexual vs. not heterosexual), 5 = religion (Muslim vs. not Muslim), 6 = religion (religious vs. not religious), 7 = age, 8 = relationship to perpetrator (stranger vs. non-stranger). Class 1 = fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed, Class 2 = oral sex, Class 3 = vaginal penetration, Class 4 = anal penetration, Class 5 = penetration of their vagina, Class 6 = penetration of their butt. PCL-5 = PTSD Checklist for DSM-5, CESD-R = Center for Epidemiologic Studies Depression Scale-Revised, DAR-5 = Dimensions of Anger Reactions-5, PTCI = Posttraumatic Cognitions Inventory, PTGI-SF = Posttraumatic Growth Inventory-Short Form.

These results provide partial support for hypothesis 1 as sexual act class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) was associated with lower levels of psychological correlates than other classes across a number of variables (PTSD symptoms, negative thoughts about the self, negative thoughts about the world, self-blame, perceived severity). Specifically, of classes with significantly higher levels of psychological correlates than class 1, class 3 (vaginal penetration) was significantly higher for the largest number of psychological correlates (PTSD symptoms, negative thoughts about the self, negative thoughts about the world, self-blame, perceived severity). Class 5 (penetration of their vagina) was significantly higher than class 1 on measures of self-blame and perceived severity, and classes 2 (oral sex) and 6 (penetration of their butt) were significantly higher than class 1 on perceived severity. Overall, this suggests that oral sex, vaginal penetration, penetration of the other person's vagina, and penetration of the other person's butt in a coerced sexual experience are associated with higher levels of some, but not all, psychological correlates than fondling or rubbing of the crotch, breasts, or butt, kissing on the lips or clothes removed. No significant differences were found between class 4 (anal penetration) and any other classes, possibly due to the small number of participants who endorsed anal penetration as the worst (or only) act.

Hypothesis 2. The same statistical analyses used to test hypothesis 1 were used to test hypothesis 2. Coercive tactic classes 4-7 (threat of harm, physical force, no chance to say "no," ignored refusal) were hypothesized to be associated with the highest levels of psychological correlates, classes 3 and 8 (incapacitation, asleep) were hypothesized to be associated with moderate levels of psychological correlates, and classes 1 and 2 (lies/nonviolent threats/pressure, anger/criticism) were hypothesized to be associated with

the lowest levels of psychological correlates. Significant between-group differences were found for a number of outcome variables. First, significant differences were found for PCL-5, $F(7, 382) = 4.77, p < .001, \eta_p^2 = .08$. Post hoc analyses revealed that coercive tactic classes 1 (lies/nonviolent threats/pressure), 6 (no chance to say “no”), and 8 (asleep) had significantly lower PCL-5 scores than class 2 (anger/criticism). Coercive tactic group 6 (no chance to say “no”) also had significantly lower PCL-5 scores than class 5 (physical force). Next, significant between-group differences were found for PTCI self-blame, $F(7, 381) = 2.60, p = .01, \eta_p^2 = .05$. Post hoc analyses revealed that coercive tactic class 8 (asleep) had significantly lower self-blame scores than class 2 (anger/criticism). Third, significant between-group differences were found for perceived severity, $F(7, 376) = 2.89, p = .006, \eta_p^2 = .05$. Post hoc analyses revealed that coercive tactic class 6 (no chance to say “no”) had significantly lower perceived severity than class 5 (physical force). Fourth, significant between-group differences were found for PTGI-SF, $F(7, 376) = 3.54, p = .001, \eta_p^2 = .06$. Post hoc analyses revealed that coercive tactic class 6 (no chance to say “no”) had significantly lower PTGI-SF than class 2 (anger/criticism). Additional between-group differences emerged for PTCI negative thoughts about the self, $F(7, 383) = 2.77, p = .008, \eta_p^2 = .05$, PTCI negative thoughts about the world, $F(7, 385) = 2.25, p = .03, \eta_p^2 = .04$, and CESD-R, $F(7, 383) = 2.44, p = .02, \eta_p^2 = .04$; however, post hoc analyses were not significant. Given the modest effect sizes, it is possible that analyses may have reached significance in a larger sample. Between-group differences were not significant for DAR-5, $F(7, 384) = 21.33, p = .23, \eta_p^2 = .02$. Results for hypothesis 2 are detailed in Table 6.

Table 6

Differences in psychological correlates as a function of the different types of worst or only coercive tactic experienced during a coercive sexual experience

Dependent Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2
PCL-5 ₂ *	392			382	4.77	.001	.08
Class 1 ^a	63	12.26	14.37				
Class 2 ^b	36	21.39	17.80				
Class 3 ^{a,b,c}	56	13.12	14.68				
Class 4 ^{a,b,c}	8	27.13	20.77				
Class 5 ^d	60	19.46	17.85				
Class 6 ^{ac}	73	9.57	12.72				
Class 7 ^{a,b,c}	55	11.49	11.19				
Class 8 ^a	41	11.88	14.01				
CESD-R _{4,5} *	393			383	2.44	.02	.04
Class 1	63	10.89	11.78				
Class 2	37	19.33	19.26				
Class 3	56	12.00	14.05				
Class 4	8	20.00	18.35				
Class 5	60	19.21	17.11				
Class 6	73	12.84	13.87				
Class 7	55	10.80	14.00				
Class 8	41	12.12	14.95				
DAR-5 ₄	393			384	1.33	.23	.02
Class 1	63	8.51	3.86				
Class 2	37	8.68	4.03				
Class 3	56	8.21	4.32				
Class 4	8	10.75	4.86				
Class 5	60	9.49	4.69				
Class 6	73	7.93	3.99				
Class 7	55	7.55	3.55				
Class 8	41	8.24	4.57				
PTCI negative thoughts about the self ₄ *	392			383	2.77	.008	.05
Class 1	63	2.18	1.12				
Class 2	37	2.47	1.36				
Class 3	56	1.87	0.95				
Class 4	8	2.78	1.47				
Class 5	59	2.30	1.05				
Class 6	73	1.81	0.97				
Class 7	55	1.99	1.06				
Class 8	41	1.85	1.07				

PTCI negative thoughts about the world*	385	2.25	.03	.04
Class 1	63	3.88	1.60	
Class 2	37	4.14	1.52	
Class 3	56	4.05	1.52	
Class 4	8	5.27	1.77	
Class 5	60	4.65	1.47	
Class 6	73	3.82	1.71	
Class 7	55	4.07	1.41	
Class 8	41	3.91	1.22	
PTCI self-blame _{4,8} *	391			
Class 1 ^{a,b}	63	3.05	1.39	
Class 2 ^b	37	3.23	1.63	
Class 3 ^{a,b}	55	2.95	1.32	
Class 4 ^{a,b}	8	3.05	1.72	
Class 5 ^{a,b}	60	2.69	1.41	
Class 6 ^{a,b}	72	2.44	1.45	
Class 7 ^{a,b}	55	2.53	1.48	
Class 8 ^a	41	2.20	1.22	
Perceived severity _{1,7} *	386			
Class 1 ^{a,b}	61	23.56	6.51	
Class 2 ^{a,b}	37	23.89	6.34	
Class 3 ^{a,b}	54	24.89	6.77	
Class 4 ^{a,b}	8	27.75	6.34	
Class 5 ^b	58	27.46	6.94	
Class 6 ^a	73	21.49	7.67	
Class 7 ^{a,b}	54	24.60	6.83	
Class 8 ^{a,b}	41	23.71	8.58	
PTGI-SF _{1,3,6} *	387			
Class 1 ^{a,b}	61	17.57	14.36	
Class 2 ^b	37	22.97	14.23	
Class 3 ^{a,b}	54	18.13	14.95	
Class 4 ^{a,b}	8	24.38	13.57	
Class 5 ^{a,b}	59	20.82	16.04	
Class 6 ^a	73	11.63	12.76	
Class 7 ^{a,b}	54	20.09	15.80	
Class 8 ^{a,b}	41	16.64	13.49	

* indicates a statistically significant ($p < .05$) omnibus test. Within each scale, groups with different superscripts indicate statistically significant differences ($a < b$, $c < d$) based on follow-up tests using the Sidak post hoc test. The following subscripts indicate control variables for analyses: 1 = gender (men vs. women), 2 = race (White vs. not White), 3 = race (Black vs. not Black), 4 = sexual orientation (heterosexual vs. not heterosexual), 5 = religion (Muslim vs. not Muslim), 6 = religion (religious vs. not religious), 7 = age, 8 =

relationship to perpetrator (stranger vs. non-stranger). Class 1 = lies/nonviolent threats/pressure, Class 2 = anger/criticism, Class 3 = incapacitation, Class 4 = threat of harm, Class 5 = physical force, Class 6 = no chance to say “no,” Class 7 = ignored refusal, Class 8 = asleep. PCL-5 = PTSD Checklist for DSM-5, CESD-R = Center for Epidemiologic Studies Depression Scale-Revised, DAR-5 = Dimensions of Anger Reactions-5, PTCI = Posttraumatic Cognitions Inventory, PTGI-SF = Posttraumatic Growth Inventory-Short Form.

These results demonstrate a different pattern of psychological correlates than hypothesized. Although classes 5 (physical force) and class 6 (no chance to say “no”) were hypothesized to have similar levels of psychological correlates, class 5 demonstrated higher levels of psychological correlates than class 6 on measures of PTSD symptoms and perceived severity. Although class 2 (anger/criticism) was hypothesized to have low levels of psychological correlates, class 2 demonstrated higher levels of psychological correlates than a number of classes. Specifically, class 2 demonstrated higher levels of psychological correlates than class 6 on measures of PTSD symptoms and posttraumatic growth. Class 2 also demonstrated higher levels of PTSD symptoms than classes 1 (lies/nonviolent threats/pressure) and 8 (asleep), as well as and higher levels of self-blame than class 8.

Hypothesis 3. Linear regression analyses were used to test hypothesis 3, that number of sexual acts and number of coercive tactics would independently predict higher levels of psychological correlates. First, it was hypothesized that more sexual acts during a coerced sexual experience would predict higher levels of psychological correlates. Second, it was hypothesized that more coercive tactics during a coerced sexual experience would predict higher levels of psychological correlates. Higher PCL-5 scores were associated with more sexual acts, $\beta = .32$, $t(388) = 6.44$, $p < .001$, $f^2 = .11$, and more coercive tactics, $\beta = .36$, $t(397) = 7.57$, $p < .001$, $f^2 = .15$, occurring during a

coerced sexual experience. Higher CESD-R scores were associated with more sexual acts, $\beta = .15$, $t(389) = 3.11$, $p = .002$, $f^2 = .08$, and more coercive tactics, $\beta = .23$, $t(398) = 4.76$, $p < .001$, $f^2 = .12$. Higher DAR-5 scores were associated with more sexual acts, $\beta = .15$, $t(389) = 3.05$, $p = .002$, $f^2 = .04$, and more coercive tactics, $\beta = .16$, $t(398) = 3.30$, $p = .001$, $f^2 = .05$. Higher PTCI negative thoughts about the self scores were associated with more sexual acts, $\beta = .11$, $t(388) = 2.23$, $p = .03$, $f^2 = .05$, and more coercive tactics, $\beta = .21$, $t(397) = 4.40$, $p < .001$, $f^2 = .09$. Higher PTCI negative thoughts about the world scores were associated with more sexual acts, $\beta = .21$, $t(389) = 4.30$, $p < .001$, $f^2 = .05$, and more coercive tactics, $\beta = .27$, $t(398) = 5.53$, $p < .001$, $f^2 = .08$. Higher perceived severity scores were associated with more sexual acts, $\beta = .31$, $t(381) = 6.52$, $p < .001$, $f^2 = .20$, and more coercive tactics, $\beta = .32$, $t(390) = 6.65$, $p < .001$, $f^2 = .20$. Higher PTGI-SF scores were associated with more sexual acts, $\beta = .21$, $t(382) = 4.27$, $p < .001$, $f^2 = .19$, and more coercive tactics, $\beta = .22$, $t(391) = 4.73$, $p < .001$, $f^2 = .21$. Higher PTCI self-blame scores were associated with more coercive tactics, $\beta = .14$, $t(396) = 2.82$, $p = .005$, $f^2 = .06$, but not number of sexual acts, $\beta = .03$, $t(387) = .54$, $p = .59$, $f^2 = .03$. Overall, these analyses support hypothesis 3, as higher levels of psychological correlates were associated with more sexual acts and more tactics that occurred during a coerced sexual experience. Results for hypothesis 3 are detailed in Table 7.

Table 7

Relationships between psychological correlates and number of sexual acts and psychological correlates and number of coercive tactics occurring during coerced sexual experience

Dependent Variable	β	t	df	p	f^2
PCL-5₂					
Number of sexual acts*	.32	6.44	388	.001	.14
Number of coercive tactics*	.36	7.57	397	.001	.18

CESD-R_{4,5}

Number of sexual acts*	.15	3.11	389	.002	.08
Number of coercive tactics*	.23	4.76	398	.001	.12

DAR-5₄

Number of sexual acts*	.15	3.05	389	.002	.04
Number of coercive tactics*	.16	3.30	398	.001	.05

PTCI negative thoughts about the self₄

Number of sexual acts*	.11	2.23	388	.03	.05
Number of coercive tactics*	.21	4.40	397	.001	.09

PTCI negative thoughts about the world

Number of sexual acts*	.21	4.30	389	.001	.05
Number of coercive tactics*	.27	5.53	398	.001	.08

PTCI self-blame_{4,8}

Number of sexual acts	.03	0.54	387	.59	.03
Number of coercive tactics*	.14	2.82	396	.005	.06

Perceived severity_{1,7}

Number of sexual acts*	.31	6.52	381	.001	.20
Number of coercive tactics*	.32	6.65	390	.002	.20

PTGI-SF_{1,3,6}

Number of sexual acts*	.21	4.27	382	.001	.19
Number of coercive tactics*	.22	4.73	391	.001	.21

* indicates a statistically significant ($p < .05$) regression analysis when number of acts and coercive tactics were entered into separate regressions predicting the dependent variable. The following subscripts indicate control variables for analyses: 1 = gender (men vs. women), 2 = race (White vs. not White), 3 = race (Black vs. not Black), 4 = sexual orientation (heterosexual vs. not heterosexual), 5 = religion (Muslim vs. not Muslim), 6 = religion (religious vs. not religious), 7 = age, 8 = relationship to perpetrator (stranger vs. non-stranger). PCL-5 = PTSD Checklist for DSM-5, CESD-R = Center for Epidemiologic Studies Depression Scale-Revised, DAR-5 = Dimensions of Anger Reactions-5, PTCI = Posttraumatic Cognitions Inventory, PTGI-SF = Posttraumatic Growth Inventory-Short Form.

Exploratory Analyses

Exploratory analyses addressing interaction effect. As main effects were found for both worst (or only) sexual act and worst (or only) coercive tactic across a number of dependent variables, exploratory analyses were run to test for interaction effects between

these two independent variables. Two-way ANOVAs were run for each of the dependent variables to test for interaction effects, with worst (or only) sexual act and worst (or only) coercive tactic as the two independent variables. No significant interaction effects emerged ($p = .11-.82$; $\eta_p^2 = .06-.11$).

Exploratory analyses addressing within-class differences for worst or only sexual act. For primary hypothesis testing, participants were grouped into classes consistent with those on the SES-SFV based on more specific worst (or only) sexual act and worst (or only) coercive tactic reported. Analyses were run to compare sexual acts that fell within the same SES-SFV class to explore any within-class differences in order to inform potential subdivision of classes. For worst (or only) sexual act class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed), significant within-class differences were found for PTGI-SF, $F(8, 136) = 2.15$, $p = .04$, $\eta_p^2 = .11$; however, post hoc analyses using the Sidak test were not significant. No other significant differences were found when comparing sexual acts within class 1 ($p = .10-.94$). For worst (or only) sexual act class 3 (vaginal penetration w/ penis, object, or finger), significant within class differences were found for perceived severity, $F(2, 122) = 3.20$, $p = .04$, $\eta_p^2 = .05$; however, post hoc analyses were not significant. No significant differences were found when comparing sexual acts within class 2 ($p = .24-.96$). Given the low sample sizes for the majority of the sexual acts included in classes 4-6, exploratory analyses were not run to test within-class differences. Taken together, these results provide preliminary support for within-class differences in posttraumatic growth for class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) and within-class differences in perceived severity for class 3 (vaginal penetration), although a

larger sample size may be required to establish differences based on post hoc analyses.

See Table 8 for descriptive statistics.

Table 8

*Mean scores for psychological correlates for specific worst or only sexual acts
(N = 382)*

Sexual Act	PCL-5	CESD-R	DAR-5	PTCI self	PTCI world	PTCI blame	Severity	PTGI
Class 1								
Fondled my breast/chest	M = 12.90 SD = 8.31	M = 8.45 SD = 13.15	M = 7.06 SD = 3.03	M = 1.74 SD = 1.08	M = 3.34 SD = 1.50	M = 1.96 SD = 0.96	M = 22.52 SD = 6.64	M = 18.67 SD = 15.26
Fondled my crotch	M = 11.25 SD = 13.35	M = 13.05 SD = 14.59	M = 7.11 SD = 2.83	M = 1.84 SD = 0.99	M = 3.62 SD = 1.66	M = 2.33 SD = 1.40	M = 20.96 SD = 7.63	M = 16.01 SD = 15.34
Fondled my butt	M = 13.41 SD = 17.05	M = 14.54 SD = 17.57	M = 9.37 SD = 4.23	M = 2.04 SD = 1.21	M = 3.71 SD = 1.74	M = 2.02 SD = 1.19	M = 20.25 SD = 6.34	M = 12.65 SD = 15.07
Kissed my lips	M = 10.06 SD = 9.59	M = 13.07 SD = 26.29	M = 8.78 SD = 3.41	M = 1.72 SD = 0.69	M = 4.06 SD = 1.71	M = 2.57 SD = 1.85	M = 21.71 SD = 7.56	M = 12.04 SD = 12.26
Kissed my breast/chest	M = 15.29 SD = 22.82	M = 26.29 SD = 21.41	M = 10.14 SD = 4.63	M = 2.32 SD = 1.60	M = 3.88 SD = 1.73	M = 2.37 SD = 1.43	M = 17.71 SD = 9.62	M = 24.43 SD = 17.27
Rubbed up against my breast/chest	M = 19.67 SD = 30.66	M = 14.33 SD = 22.28	M = 9.67 SD = 8.08	M = 2.22 SD = 2.12	M = 3.67 SD = 1.07	M = 2.67 SD = 1.86	M = 15.67 SD = 5.77	M = 11.00 SD = 14.93
Rubbed up against my crotch	M = 8.25 SD = 11.04	M = 10.31 SD = 12.56	M = 9.06 SD = 4.88	M = 1.86 SD = 1.06	M = 3.28 SD = 1.65	M = 2.39 SD = 1.34	M = 18.32 SD = 6.21	M = 9.25 SD = 10.27
Rubbed up against my butt	M = 21.33 SD = 19.55	M = 13.68 SD = 23.70	M = 6.67 SD = 2.89	M = 3.21 SD = 0.03	M = 3.76 SD = 0.86	M = 3.13 SD = 0.23	M = 23.33 SD = 4.16	M = 37.33 SD = 5.51
Removed some of my clothes	M = 10.43 SD = 17.78	M = 7.33 SD = 10.71	M = 7.86 SD = 3.48	M = 2.00 SD = 1.11	M = 3.63 SD = 1.66	M = 3.51 SD = 2.05	M = 20.00 SD = 7.15	M = 16.59 SD = 6.81
Class 2								
Had oral sex with me	M = 15.61 SD = 18.67	M = 11.68 SD = 14.46	M = 9.43 SD = 6.10	M = 1.87 SD = 1.11	M = 4.55 SD = 1.54	M = 2.49 SD = 1.36	M = 25.10 SD = 7.15	M = 13.87 SD = 13.43
Made me have oral sex with them	M = 13.46 SD = 14.96	M = 15.17 SD = 13.68	M = 7.71 SD = 4.71	M = 2.16 SD = 0.96	M = 4.12 SD = 1.65	M = 2.92 SD = 1.79	M = 26.42 SD = 7.08	M = 20.34 SD = 15.63
Class 3								
Inserted a penis into my vagina	M = 17.04 SD = 15.75	M = 16.10 SD = 16.39	M = 8.69 SD = 4.23	M = 2.24 SD = 1.19	M = 4.67 SD = 1.34	M = 2.99 SD = 1.35	M = 27.95 SD = 5.93	M = 20.94 SD = 15.63
Inserted a finger into my vagina	M = 14.57 SD = 14.70	M = 12.49 SD = 14.48	M = 8.00 SD = 3.86	M = 2.15 SD = 0.97	M = 4.38 SD = 1.79	M = 2.65 SD = 1.21	M = 24.82 SD = 4.95	M = 17.45 SD = 15.06
Inserted an object into my vagina	M = 26.00 SD = 24.04	M = 26.50 SD = 28.99	M = 10.00 SD = 2.83	M = 3.00 SD = 2.42	M = 4.50 SD = 1.92	M = 3.20 SD = 3.11	M = 31.00 SD = 4.24	M = 22.00 SD = 12.73
Class 4								

Inserted a penis into my butt

M = 14.83 M = 15.37 M = 8.58 M = 2.37 M = 3.91 M = 2.95 M = 25.74 M = 16.19
SD = 19.88 SD = 17.61 SD = 4.58 SD = 1.33 SD = 1.96 SD = 1.48 SD = 7.45 SD = 14.67

Inserted a finger into my butt

M = 14.40 M = 16.20 M = 8.60 M = 2.05 M = 4.09 M = 2.08 M = 20.00 M = 13.20
SD = 14.58 SD = 12.62 SD = 4.51 SD = 0.98 SD = 1.45 SD = 0.90 SD = 6.36 SD = 9.93

Inserted an object into my butt

M = 21.00 M = 1.05 M = 5.00 M = 1.90 M = 4.86 M = 4.80 M = 18.00 M = 25.00
SD = 0.00 SD = 0.00

Class 5

Made me penetrate their vagina with my penis

M = 11.35 M = 8.90 M = 8.55 M = 1.84 M = 3.79 M = 3.47 M = 25.35 M = 12.40
SD = 10.61 SD = 6.99 SD = 4.71 SD = 0.54 SD = 1.58 SD = 1.60 SD = 6.38 SD = 10.02

Made me penetrate their vagina with my finger

M = 14.50 M = 6.00 M = 8.00 M = 1.60 M = 3.50 M = 3.60 M = 18.00 M = 19.50
SD = 17.68 SD = 5.66 SD = 1.41 SD = 0.77 SD = 2.93 SD = 0.57 SD = 18.38 SD = 27.58

Made me penetrate their vagina with an object

M = N/A
SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A

Class 6

Made me penetrate their butt with my penis

M = 16.50 M = 16.26 M = 10.00 M = 2.61 M = 4.55 M = 3.27 M = 27.29 M = 27.17
SD = 18.71 SD = 16.54 SD = 4.34 SD = 1.59 SD = 0.85 SD = 1.25 SD = 5.27 SD = 8.82

Made me penetrate their butt with my finger

M = N/A
SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A SD = N/A

Made me penetrate their butt with an object

M = 42.00 M = 42.11 M = 15.00 M = 4.19 M = 3.86 M = 3.80 M = N/A M = N/A
SD = 0.00 SD = N/A SD = N/A

PCL-5 = PTSD Checklist for DSM-5, CESD-R = Center for Epidemiologic Studies Depression Scale-Revised, DAR-5 = Dimensions of Anger Reactions-5, PTCI self = Posttraumatic Cognitions Inventory negative thoughts about the self subscale, PTCI world = Posttraumatic Cognitions Inventory negative thoughts about the world subscale, PTCI blame = Posttraumatic Cognitions Inventory self-blame subscale, PTGI-SF = Posttraumatic Growth Inventory-Short Form.

Exploratory analyses addressing within-class differences for worst or only

coercive tactic. Within-class comparisons were also run for classes of worst (or only)

coercive tactic to inform potential subdivision of classes. For within-class comparisons of

worst (or only) coercive tactic class 1 (lies/nonviolent threats/pressure), significant

between-group differences were found for PTCI negative thoughts about the world, $F(4,$

58) = 3.14, $p = .02$, $\eta_p^2 = .18$. Post hoc analyses demonstrated that participants whose

reported worst (or only) coercive tactic was “someone threatened to spread rumors about

me” reported more negative thoughts about the world than participants whose reported

worst (or only) sexual act was “someone continually verbally pressured me.” Analyses

further demonstrated, significant within-class differences for PCL-5 scores, $F(4, 56) = 2.75, p = .04, \eta_p^2 = .16$; however, post hoc analyses were not significant. No other significant group differences were found for worst (or only) coercive tactic class 1 ($p = .14-.70$). For within-class comparisons of worst (or only) coercive tactic class 2 (anger/criticism), significant between-group differences were found for PTCI negative thoughts about the self, $F(2, 33) = 6.78, p = .003, \eta_p^2 = .29$. Post hoc analyses demonstrated that participants whose reported worst (or only) coercive tactic was “someone showed displeasure” and “someone criticized my sexuality or attractiveness” reported more negative thoughts about the self than participants whose reported worst (or only) sexual act was “someone got angry at me.” No other significant group differences were found for worst (or only) coercive tactic class 2 ($p = .06-.95$). No significant differences were found when comparing coercive tactics within class 5 ($p = .14-.74$). Given the low sample sizes for the coercive tactics included in classes 4, exploratory analyses were not run to test within-class differences. Additionally, exploratory analyses were not run for coercive tactic classes 3, 6, 7, 8 as these classes each consisted of a single coercive tactic. Results provide preliminary support for within-group differences in negative thoughts about the world for class 1 (lies/nonviolent threats/pressure), as well as potential within-group differences in PTSD symptoms. Results also provide preliminary support for differences in negative thoughts about the self for class 2 (anger/criticism).

See Table 9 for descriptive statistics.

Table 9

Mean scores for psychological correlates for specific worst or only coercive tactics (N = 393)

Coercive Tactic	PCL-5	CESD-R	DAR-5	PTCI self	PTCI world	PTCI blame	Severity	PTGI
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Class 1

M = 29.96 M = 26.00 M = 7.67 M = 2.89 M = 5.43 M = 3.53 M = 33.67 M = 38.67
 SD = 26.18 SD = 23.51 SD = 1.53 SD = 0.67 SD = 0.38 SD = 0.64 SD = 1.53 SD = 5.51

PCL-5 = PTSD Checklist for DSM-5, CESD-R = Center for Epidemiologic Studies Depression Scale-Revised, DAR-5 = Dimensions of Anger Reactions-5, PTCI self = Posttraumatic Cognitions Inventory negative thoughts about the self subscale, PTCI world = Posttraumatic Cognitions Inventory negative thoughts about the world subscale, PTCI blame = Posttraumatic Cognitions Inventory self-blame subscale, PTGI-SF = Posttraumatic Growth Inventory-Short Form.

Exploratory analyses addressing number of sexual acts and number of coercive tactics. Given that hypothesis 3 was supported, demonstrating that, independently, the number of sexual acts and the number of coercive tactics that occur during a coerced sexual experience are positively associated with psychological correlates, exploratory analyses were run using multiple regression models including both number of sexual acts and number of coercive tactics as predictor variables. These multiple regressions were run to test whether both predictor variables predicted unique variance in dependent variables. For PTSD symptoms, the regression indicated that the two predictor model significantly predicted PCL-5 scores, $F(3, 382) = 26.35$ $p < .001$, $R^2 = .17$, with both number of sexual acts, $\beta = .16$, $p = .003$, and number of coercive tactics, $\beta = .27$, $p < .001$, explaining unique variance. For depressive symptoms, the regression indicated that the two predictor model significantly predicted CESD-R scores, $F(4, 382) = 11.47$, $p < .001$, $R^2 = .11$, with number of coercive tactics, $\beta = .21$, $p < .001$, but not number of sexual acts, $\beta = .03$, $p = .55$, explaining unique variance. For anger, the regression indicated that the two predictor model significantly predicted DAR-5 scores, $F(3, 383) = 6.70$, $p < .001$, $R^2 = .05$, with number of coercive tactics, $\beta = .13$, $p = .03$, but not number of sexual acts, $\beta = .08$, $p = .16$, explaining unique variance. For negative thoughts about the self, the regression indicated that the two predictor model significantly predicted scores on this PTCI subscale, $F(3, 382) = 10.70$, $p < .001$, $R^2 = .08$, with number of coercive tactics, $\beta = .21$, $p < .001$, but not number of sexual acts, $\beta = .001$, $p =$

.98, explaining unique variance. For negative thoughts about the world, the regression indicated that the two predictor model significantly predicted scores on this PTCI subscale, $F(2, 384) = 15.81, p < .001, R^2 = .08$, with number of coercive tactics, $\beta = .21, p < .001$, but not number of sexual acts, $\beta = .10, p = .10$, explaining unique variance. For self-blame, the regression indicated that the two predictor model significantly predicted scores on this PTCI subscale, $F(4, 380) = 4.93, p = .003, R^2 = .05$, with number of coercive tactics, $\beta = .17, p = .006$, but not number of sexual acts, $\beta = -.06, p = .30$, explaining unique variance. For perceived severity, the regression indicated that the two predictor model significantly predicted severity scores, $F(4, 374) = 21.87, p < .001, R^2 = .19$, with both number of sexual acts, $\beta = .20, p < .001$, and number of coercive tactics, $\beta = .21, p < .001$, explaining unique variance. For posttraumatic growth, the regression indicated that the two predictor model significantly predicted PTGI-SF scores, $F(5, 374) = 16.92, p < .001, R^2 = .19$, with both number of sexual acts, $\beta = .11, p = .04$, and number of coercive tactics, $\beta = .18, p = .002$, explaining unique variance. Taken together, for the majority of dependent variables (depressive symptoms, anger, negative thoughts about the world, negative thoughts about the self, self-blame), only number of coercive tactics predicted unique variance; however, for PTSD symptoms, perceived severity, and posttraumatic growth, both number of sexual acts and number of coercive tactics predicted unique variance.

Exploratory analyses addressing the effects of gender. Given that some previous research has found different patterns in outcomes between men and women following a coerced sexual experience (e.g., Zweig et al., 1997), exploratory analyses were run to explore the effect of gender in this sample. First, exploratory analyses

examined potential interaction effects between gender and worst (or only) sexual act on outcome variables. No significant interactions were found between gender and worst (or only) sexual act on any outcome ($p = .29-.84$; $\eta_p^2 = .002-.007$). Second, exploratory analyses examined potential interaction effects between gender and worst (or only) coercive tactic on outcome variables. No significant interactions were found between gender and worst (or only) coercive tactic on any outcome ($p = .26-.86$; $\eta_p^2 = .009-.02$). Although no significant interaction effects were found involving gender, some gender differences did emerge within this sample. Women reported significantly more sexual acts occurring within their coerced sexual experience ($M = 4.39$; $SD = 3.24$) than did men ($M = 2.89$; $SD = 2.29$), $t(381) = 4.12$, $p < .001$. Women also reported significantly more coercive tactics occurring during the experience ($M = 4.00$; $SD = 2.81$) than did men ($M = 2.80$; $SD = 2.16$), $t(390) = 3.80$, $p < .001$.

Additional exploratory analyses examined potential gender differences in worst (or only) sexual act and worst (or only) coercive tactic. Significant gender differences emerged for worst (or only) sexual act, $\chi^2(5) = 133.43$, $p < .001$. Post hoc analyses using adjusted standardized residuals demonstrated that men endorsed proportionately higher rates of oral sex (class 2; 17.0%) than women (9.3%). Moreover, as would be expected, men endorsed proportionately higher rates of penetration of the other person's vagina (class 5; 23.4%) than women (0%), and men endorsed proportionately higher rates of penetration of the other person's butt (class 6; 6.4%) than women (0%). Additionally, post hoc analyses using adjusted standardized residuals demonstrated that women endorsed proportionately higher rates of vaginal penetration (class 3; 41.9%) than men

(0%). No significant gender differences emerged for worst (or only) coercive tactic, $\chi^2(7) = 7.75, p = .36$.

Exploratory analyses addressing relationship to perpetrator. Given common rape myths about sexual assault primarily being perpetrated by strangers (e.g., Johnson, Kuck, & Schander, 1997) as well a research demonstrating perceptions of victims of acquaintance rape as more culpable (e.g., Grubb & Harrower, 2008), further analyses were run to investigate differences in coerced sexual experiences perpetrated by a non-strangers versus a stranger.

During data preparation, whether perpetrator of the coerced sexual experience was a stranger was shown to be related to PTCI self-blame, $t(398) = 2.57, p = .01$, such that experiences perpetrated by a stranger ($M = 2.24; SD = 1.27$) were associated with lower levels of self-blame on the PTCI subscale than those perpetrated by a non-stranger ($M = 2.77; SD = 1.46$). Analyses also compared the types of acts and tactics perpetrated by strangers versus non-strangers. No significant differences in patterns of worst (or only) sexual act were found for experiences perpetrated by strangers versus non-strangers, $\chi^2(5) = 10.38, p = .07$. Significant differences were, however, found for pattern of worst (or only) coercive tactic, $\chi^2(7) = 20.53, p = .01$. Post hoc analyses using adjusted standardized residuals demonstrated that participants reported proportionately higher rates of not having the chance to say “no” (class 6) as the worst (or only) coercive tactic when the coerced sexual experiences were perpetrated by a stranger (33.9%) as compared to a non-stranger (15.4%). Participants reported proportionately higher rates of anger, displeasure, or criticism (class 2) as the worst (or only) coercive tactic when the coerced sexual experiences were perpetrated by non-strangers (10.8%) as compared to strangers

(0.0%). Additionally, coerced sexual experiences that were perpetrated by non-strangers involved significantly more sexual acts ($M = 4.16$; $SD = 3.09$) than those perpetrated by strangers ($M = 3.18$; $SD = 2.97$), $t(386) = 2.21$, $p = .03$, and more coercive tactics ($M = 3.86$; $SD = 2.72$) than those perpetrated by strangers ($M = 2.83$; $SD = 2.55$), $t(395) = 2.59$, $p = .01$. In sum, participants coerced into sexual acts by non-strangers experienced higher levels of self-blame. Participants coerced by non-strangers were more likely to report the use of anger/criticism, and participants coerced by a stranger were more likely to report not being given a chance to say “no.” Participants coerced by a non-stranger reported more sexual acts and coercive tactics occurring during the experience.

Discussion

Previous research has demonstrated that coerced sexual experiences vary across a number of dimensions, including intended sexual acts of the perpetrator, whether these sexual acts were achieved, and the coercive tactics used by the perpetrator (e.g., Koss et al., 2007). Given the significant variability in coerced sexual experiences, it is unsurprising that they have been shown to result in varying outcomes (e.g., Brown et al., 2009; Zweig et al., 1997; Messman-Moore et al., 2008). In the past, researchers have created a number of classification systems and severity continuums in an attempt to better study the variability of coerced sexual experiences and how they differ across dimensions. Unfortunately, previous severity continuums are limited. One major limitation is that a number of researchers have not based ranking of classes in severity continuums on empirical data, instead relying on common sense. Therefore, such severity continuums may not accurately reflect true differences in how upsetting or distressing coerced sexual experiences are for victims. As an initial step in addressing this issue, the

present study examined variability in the dimensions of sexual act and coercive tactic across a number of psychological correlates in order to better understand differences among classes based on victims' reports with the aim of better informing future severity continuums. The dimension of whether or not an intended sexual act occurred was not addressed because researchers have previously demonstrated that achieved sexual acts tend to be more distressing to victims than those that aren't achieved (Kilpatrick et al., 1985; Perilloux et al., 2012). Additionally, given that previous research has shown that individuals who have had numerous coerced sexual experiences report more psychological symptoms (de Visser et al., 2007), this study sought to examine the cumulative effect of the number of sexual acts and the number of coercive tactics that occurred in a single coerced sexual experience on victim outcomes. The results of the present study demonstrated a pattern of severity of sexual act that is partially consistent with the pattern hypothesized based on previous research; however, the pattern of severity of coercive tactic differed substantially from the hypothesized pattern. Furthermore, results suggest that greater numbers of sexual acts and coercive tactics within a single coerced sexual experience are associated with higher endorsement of psychological symptoms as well as higher endorsement of one positive psychological variable—posttraumatic growth.

Discussion of Study Results

Sexual Act. Regarding the dimension of sexual act, results provided partial support for hypothesis 1, that worst (or only) sexual act classes 3-6 (vaginal penetration, anal penetration, penetration of their vagina, penetration of their butt) would be associated with the highest levels of psychological correlates, class 2 (oral sex) would be

associated with moderate levels of psychological correlates, and class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) would be associated with the lowest levels of psychological correlates. Overall, across multiple dependent variables, class 1 was consistently associated with lower levels of psychological correlates than other classes. Participants whose worst (or only) sexual act fell in class 1 reported significantly lower perceptions of severity than classes 2 (oral sex), 3 (vaginal penetration), 5 (penetration of their vagina), and 6 (penetration of their butt), suggesting that victims do not perceive sexual acts falling in class 1 to be as severe as the majority of other sexual acts. Additionally, participants whose worst (or only) sexual act fell in class 1 reported less self-blame than participants in classes 3 and 5. It is possible that because participants perceived sexual acts in class 1 as less severe, they in turn felt that these acts were less blame-worthy. Furthermore, participants whose worst (or only) sexual act fell in class 1 reported fewer PTSD symptoms, negative thoughts about themselves, and negative thoughts about the world than class 3. No significant group differences were found between classes 2 through 6, and class 4 in particular did not significantly differ from any other groups (likely due to low sample size that prevented detection of difference). Furthermore, no between-group differences emerged for depression symptoms, anger, or posttraumatic growth.

Results demonstrating the lowest levels of psychological correlates associated with class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed) are consistent with what would be suggested by sexual script theory. As previously noted, sexual script theory suggests that less intimate acts, such as those grouped in class 1, tend to occur earlier in a sexual encounter (McCormick, 2010; Frith & Kitzinger, 2001).

Research participants have rated kissing and intimate touching as occurring earlier in a sexual encounter, prior to sexual “intercourse” (Edgar & Fitzpatrick, 1993), and previous researchers have classified less “intimate” nonconsensual sexual acts as less severe (e.g., Waldner-Haugrud & Gratch, 1997). It is possible that participants whose worst (or only) sexual act fell in class 1 were less distressed by the experience because they perceived the sexual act as less intimate than other potential acts that could have occurred. It is noteworthy that class 1 differed from all classes but group 4 on perceived severity. It is quite possible that the construct of perceived severity is related to perceived intimacy and is most strongly influenced by individuals’ internalized sexual scripts.

The lack of differences among sexual act classes 2 through 6 (oral sex, vaginal penetration, anal penetration, penetration of their vagina, penetration of their butt) also relates to sexual script theory. It is quite possible that sexual acts in these classes were perceived as similarly “intimate.” As mentioned, research has demonstrated that individuals perceive kissing and intimate touching as preceding “sexual intercourse” in a sexual encounter, suggesting that it is less intimate (e.g., Edgar & Fitzpatrick, 1993). Research has also demonstrated significant variability in what sexual acts individuals define as “sex” (Peterson & Muehlenhard, 2007; Sewell & Strassberg, 2015; Sewell, McGarrity, & Strassberg, 2017), which is likely dependent upon individuals’ sexual practices, preferences, and sexual orientation. Therefore, it makes sense that sexual act classes 2 through 6 may result in similar levels of psychological correlates, particularly when considering a diverse sample. For example, although oral sex was hypothesized to be less distressing than classes involving vaginal or anal penetration based on research in samples of heterosexual women (e.g., Bart & O’Brien, 1985), in a study by Sewell et al.

(2017), 52.7% of women identifying as lesbian or bisexual classified oral-genital stimulation as “definitely sex,” suggesting that in diverse samples, it may be inaccurate to assume that oral sex is less distressing or less intimate than penetrative sex. Sex/gender and sexual orientation determine which sexual acts individuals can physically participate in or desire to participate in, making it difficult to distinguish differences in severity for classes 2 through 6 when they are not universally experienced. Although different than hypothesized, it should be mentioned that Koss et al. (2007) suggested combining all classes on SES-SFV except for class 1 when considering differences in severity of sexual act. It is also noteworthy that classes 5 (penetrating their vagina) and 6 (penetrating their butt) do not differ from class 3 (vaginal penetration) in terms of their relationship to a variety of psychological correlates. These results counter common rape myths that men cannot be sexually assaulted, particularly by a woman (Turchik & Edwards, 2012). They also counter the assumption that having one’s own body penetrated through coercion or force is inherently more distressing than being forced or coerced into penetrating someone else (e.g., Koss et al., 2007). Not only can sexual acts experienced by men be involved in coerced sexual experiences, but they appear equally distressing to sexual acts stereotypically thought to occur during coerced sexual experiences. It is also possible that lack of significant group differences may also be due to methodological limitations (e.g., small group sizes) of the present study.

Significant between-group differences for class of worst (or only) sexual act did not emerge for depressive symptoms, anger, or posttraumatic growth. It is possible that for these outcome variables, the sexual act that was achieved by the perpetrator was less important than the coercive behavior during the coerced sexual experience. Cognitive-

behavioral models of anger suggest that higher order appraisals of a situation impact anger reactions (see Cox & Harrison, 2008 for review). Appraisal is also believed to impact depressive symptoms following a stressful life experience (Beck & Bredemeier, 2016). It is possible that the class of sexual act occurring is less strongly associated with appraisal of the experience than other relevant variables (e.g., what the perpetrator did to achieve sex is more strongly associated with appraisal). Alternatively, given that sexual scripts inform how people *think* about sexual encounters, more “intimate” or severe sexual acts may have a greater association with cognitive, rather than emotional, outcomes. It is also notable that the measures for depression and anger are the only measures that did not directly ask about symptoms related specifically to the coercive sexual experience; thus, compared to the other variables in the study, these variables may be less directly tied to the coerced sexual experience. Additionally, posttraumatic growth is conceptualized as positive change following a highly distressing experience (Tedeshi & Calhoun, 2004). Given that depression and anger did not differ by sexual act, it may suggest lower overall levels of distress in this sample. Therefore, following lower levels of distress, high levels of posttraumatic growth would not be expected (e.g., Kleim & Ehlers, 2009; Dekel et al., 2011; Jin et al., 2014). Insignificant results may also be due to low variability in participant scores across groups.

Exploratory analyses found few within group differences for classes of sexual acts, which would indicate that most of these classes may require no further subdivision to capture variance along this dimension. Two exceptions, however, did emerge. First, significant differences in posttraumatic growth were found for class 1 (fondling/rubbing crotch, breasts, butt; kissing lips; clothes removed), although post hoc comparisons did

not reflect significant differences. Second, significant differences in perceived severity were found for class 3 (vaginal penetration), although post hoc comparisons did not reflect significant differences. It is possible that low sample sizes for the unique sexual acts within classes 1 and 3 were not large enough to detect differences, and future research may wish to further explore within-group differences for these classes.

Coercive Tactic. Regarding the dimension of coercive tactic, results did not support hypothesis 2, that coercive tactic classes 4-7 (threat of harm, physical force, no chance to say “no,” ignored refusal) would be associated with the highest levels of psychological correlates, classes 3 and 8 (incapacitation, asleep) would be associated with moderate levels of psychological correlates, and classes 1 and 2 (lies/nonviolent threats/pressure, anger/criticism) would be associated with the lowest levels of psychological correlates. Although class 2 (anger/criticism) was hypothesized to have low levels of psychological correlates, and class 6 (no chance to say “no”) was hypothesized to have high levels of psychological correlates, results of this study demonstrated a different pattern. Participants whose worst (or only) coercive tactic fell in class 6 reported fewer PTSD symptoms than participants whose worst (or only) coercive tactic fell in classes 2 and 5 (physical force) as well as lower perceived severity than participants whose worst (or only) coercive tactic fell in class 5. Furthermore, participants whose worst (or only) coercive tactic fell in class 6 reported lower posttraumatic growth than classes 2. Participants whose worst (or only) coercive tactic fell in class 2 reported higher levels of PTSD symptoms than class 1 (lies/nonviolent threats/pressure) and class 8 (asleep), as well as and higher levels of self-blame than class 8. Although analyses suggested that there were significant main effects for depression, negative thoughts about

the self, and negative thoughts about the world, post hoc comparisons did not demonstrate significant between-group differences. The lack of significant post hoc differences for depression, negative thoughts about the self, and negative thoughts about the world is likely due to low variability of scores and low sample sizes for some classes. Similar to classes of sexual acts, between-group differences did not emerge for anger.

Although class 6 (no chance to say “no”) was hypothesized to have similarly high levels of psychological correlates as classes 4 (threat of harm), 5 (physical force), and 7 (ignored refusal) given that all these experiences involve an explicitly non-consenting individual who is conscious, research addressing communication of consent to sex may explain lower levels of psychological correlates associated with class 6. Some individuals report consenting to sex using exclusively nonverbal behaviors (Hall, 1998), with some data suggesting higher frequency of nonverbal consenting behaviors than verbal consenting behaviors (Beres, Herold, & Maitland, 2004). Willis and Jozkowski (2019) demonstrated that, in relationships with greater sexual precedence (e.g., established sexual relationships), individuals may rely less on communication and more on contextual cues to infer consent to a sexual activity. Given that, for many individuals, nonverbal communication of consent is normative, they may view instances in which they are not given the opportunity to say “yes” or “no” to a sexual experience to be less problematic than an instance in which they are actively coerced or forced, particularly if it is in the context of an established sexual relationship where sexual consent may be (rightly or wrongly) assumed based on sexual precedent.

Although research has consistently shown significant differences between physically coerced sex and verbally coerced sex (e.g., Brown et al., 2009; Messman-

Moore et al., 2008; Ullman et al., 2007), class 2 (anger/criticism), a type of verbal coercion, resulted in high levels of psychological correlates, similar to class 5 (physical force). One potential explanation relates to the fact that behaviors falling in class 2 are commonly considered psychologically abusive. Psychological abuse is associated with depressive symptoms, and “ridiculing traits” was rated as more severe than other types of psychological abuse by women with a psychological abuse history (Sackett & Saunders, 2001). Psychological abuse is correlated with physical aggression (e.g., O’Leary, Malone, & Tyree, 1994), so it is possible that individuals who are coerced into sex through forms of anger and criticism may feel intimidated and afraid, which then leads them to consent to sex. This may particularly be the case within relationships where past expression of anger has preceded violence. Fear reactions may explain significantly higher PTSD symptoms in class 2 than classes 1 (lies/nonviolent threats/pressure) and 8 (asleep), even though distress following coerced sexual experiences in class 2 would not generally meet the threshold of a trauma required for a PTSD diagnosis. Although class 1 is similarly verbal in nature, differences between classes 1 and 2 demonstrate that the content of the verbal coercion matters. In heterosexual encounters, some coercive tactics falling in class 1 (e.g., verbal pressure) are possibly viewed as more normative and less threatening than those in class 2, particularly given commonly endorsed sexual scripts that suggest that a sexual encounter begins with a man persuading a woman into sex (Frith & Kitzinger, 2001). Heterosexual scripts normalizing the pressuring and persuasion of women by men, however, may only apply to the 71.1% of the sample identifying as women reporting attraction to men (61.9% of sample identifying as heterosexual women and 9.2% of sample identifying as bisexual women). Gender differences in this sample are further

discussed in a later section. Furthermore, given that class 2 implies that participants eventually agreed to sex after the coercive tactic, it is unsurprising that these individuals reported higher self-blame than those in class 8 (asleep), as individuals in class 2 may view their agreement (despite it following coercion) as a contributing factor to the experience. The exploratory within-class finding that participants whose reported worst (or only) coercive tactic was “someone showed displeasure” and “someone criticized my sexuality or attractiveness” reported more negative thoughts about the self than participants whose reported worst (or only) sexual act was “someone got angry at me” also made sense given that displeasure and criticism expressed by the perpetrator may be internalized and integrated into a victim’s own view of themselves.

It is noteworthy that research has shown differences in levels of psychological correlates of incapacitated rape and physically forced rape (e.g., Brown et al., 2009), yet coercive tactic class 3 (incapacitation) did not significantly differ from class 5 (physical force) or any other coercive tactic classes on dependent variables. It is possible that this is due to low variability in participant scores on measures of dependent variables. It may also be possible that these results reflect a legitimate lack of difference among groups given that the study is examining the entire spectrum of coerced sexual experiences, rather than just coerced penetrative sex.

Overall, exploratory analyses suggested few within-group differences for classes of coercive tactics, potentially indicating that these groups do not require further subdivision. In addition to the within-group difference previously noted for class 2, within class 1, participants whose reported worst (or only) coercive tactic was “someone threatened to spread rumors about me” reported more negative thoughts about the world

than participants whose reported worst (or only) sexual act was “someone continually verbally pressured me.” Again, reflecting upon heterosexual sexual scripts that characterize men as initiators/persuaders and women as gatekeepers of sex (Frith & Kitzinger, 2001), for the large portion of our sample identifying as women attracted to men (71.1%), verbal pressure may be viewed as more normative and less threatening, whereas threatening to spread rumors may be interpreted as more malicious in nature, thus leading to a stronger associate with interpretations of the world and other people. Furthermore, in populations of adolescents, victimization by the spread of rumors or lies has been associated with depression, suicidal ideation, and suicide attempts (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). It is quite possible that spreading rumors in any context, sexual or not, is associated with victim distress.

Number of Sexual Acts and Coercive Tactics. Regarding support for hypothesis 3, given previous research demonstrating that a history of more coerced sexual experiences in one’s lifetime is associated with more psychological symptoms (de Visser et al., 2007), it makes sense that more sexual acts and more coercive tactics occurring during a single coerced sexual experience would be associated with higher levels of psychological correlates. One reason that more sexual acts within a coerced sexual experience may be associated with higher levels of psychological correlates is that the duration of the experience may be longer. More sexual acts may also relate to more negative victim experiences because the experiences may have felt like multiple coerced sexual experiences combined into one. The association between more coercive tactics and higher scores on outcome measures may relate to participants putting forth greater resistance to stop the experience but not succeeding, leading to greater feelings of

powerlessness. Cognitive distortions related to powerlessness commonly follow trauma and contribute to trauma-related disorders like PTSD (Resick, Monson, & Chard, 2017). It is worth noting, though, that number of sexual acts and tactics may also be conflated with the type of act and tactic, respectively. For example, given the research showing that kissing and fondling usually precede vaginal or anal intercourse, someone who endorses intercourse as the worst (or only) sexual act likely also experienced less intimate behaviors such as fondling and kissing; thus it is not clear whether the type of act or the number of acts is driving the level of distress because these are likely inextricably linked. Similarly, physical force may only be used when other coercive tactics (e.g., verbal coercion) fail, meaning that physical force may be associated with a larger number of tactics than some other tactic classes.

When looking at exploratory analyses that included both number of sexual acts and number of coercive tactics, it is noteworthy that, for the majority of dependent variables, only number of coercive tactics explained unique variance. For depressive symptoms, anger, negative thoughts about the self, negative thoughts about the world, and self-blame, the number of sexual acts was not a significant predictor of participant scores when number of coercive tactics was included in the model. Although results from hypothesis testing suggest that sexual act is important, the association between number of coercive tactics and outcome variables appears more substantial. This may relate to participants' feelings of powerlessness or perceptions that they were repeatedly violated by the other person. For PTSD symptoms, perceived severity, and posttraumatic growth, however, the number of sexual acts did explain unique variance. Therefore, although number of coercive tactics may be more strongly associated with the experience of the

victim, number of sexual acts still relates to victim experiences of psychological correlates. This speaks to the importance of considering both sexual act and coercive tactic when creating sexual coercion severity continuums.

Additional Exploratory Analyses. Although significant main effects were found for worst (or only) sexual act and worst (or only) coercive tactic across a number of dependent variables, it should be mentioned that no interaction effects were found. Lack of significant interaction is likely due to sample size. When crossing six classes of sexual acts and eight classes of coercive tactics, particularly when different classes are endorsed at different rates, it would take an extremely large sample to detect any interaction effects that may exist.

As previous research has demonstrated different patterns in outcomes for men and women following coerced sexual experiences (e.g., Zweig et al., 1997), and given that men and women enact different roles within heterosexual scripts (e.g., Frith & Kitzinger, 2001), exploratory analyses were run to examine potential interaction effects involving gender on outcome variables. Given the low number of individuals in this sample who did not identify within the gender binary, analyses only compared men and women. Results did not demonstrate significant interactions between gender and sexual act or gender and coercive tactic. This would suggest that, although Zweig and colleagues (1997) uncovered differing outcomes for men and women based on tactic, men and women in the present sample had similar psychological symptoms following similar coerced sexual experiences. These results may reflect the true absence of gender differences. It is also quite possible that there was not enough power to detect significant interactions given the low number of men in this sample (23.4%) and the large number of

classes of sexual acts and coercive tactics, so future research is required to confirm the present findings.

Although significant interaction effects involving gender did not emerge, there were significant gender differences within the present sample. Women reported experiencing significantly more sexual acts and coercive tactics during the coerced sexual experience than did men. This potentially relates to different roles within sexual scripts, in which women are viewed as the gatekeepers of sexuality that require persuasion to engage in sex, even if women desire sexual activity (e.g., Frith & Kitzinger, 2001). Women's refusal of sex may be taken less seriously than men's, and therefore, individuals may be more comfortable using larger numbers of coercive tactics with women, until sex is achieved. There may also be a stronger assumption that women actually want to engage in the sexual encounter despite their initial refusal, and thus, the other person engages in a larger number of sexual acts based on this assumption. Although women experienced significantly more coercive tactics, men and women demonstrated no significant difference in their reported worst (or only) coercive tactic. It is possible that gender relates to the number but not the types coercive tactics experienced; however, gender differences could potentially be detected in a larger sample.

As would be expected, men and women reported different worst (or only) sexual acts during coerced sexual experiences. Women reported higher rates of vaginal penetration (with no men reporting this sexual act), and men reported higher rates of penetrating the other person's vagina and butt (with no women reporting these sexual acts). These findings make sense given differences in male and female genitalia. It is

interesting, however, that men reported significantly higher rates of oral sex than women. A larger percentage of men reported being coerced into receiving oral sex (13.8%) than performing oral sex (3.2%). Although little research addresses gender differences specifically related to coerced oral sex, Lewis and Marston (2016) found that participants perceived performing oral sex on a woman as a “bigger deal” than performing oral sex on a man. It is possible that the tendency to view the performance of oral sex on men as less of a “big deal” contributes to higher rates of coerced oral sex in men, with perpetrators in some way feeling that their behavior is less problematic.

Given common rape myths about sexual assault primarily being perpetrated by strangers (e.g., Johnson et al., 1997) and evidence that it is more commonly perpetrated by acquaintances (see Kern & Peterson, 2017 for brief review), exploratory analyses sought to uncover differences between coerced sexual experiences perpetrated by strangers and non-strangers within this sample. A majority of participants (85.6%) reported that their coerced sexual experience was perpetrated by a non-stranger as opposed to a stranger, which is slightly lower than some estimates of acquaintance rape (e.g., 92%; Mynatt & Allgeier, 1990). This is likely due to the inclusion of a broader range of sexual acts (e.g., fondling) in this study. Although no differences were found for worst (or only) sexual act based on perpetrator type, participants reported proportionately higher rates of not having the chance to say “no” (class 6) as the worst (or only) coercive tactic when the coerced sexual experiences were perpetrated by a stranger, as well as higher rates of anger, displeasure, or criticism (class 2) when experiences were perpetrated by non-strangers. This is noteworthy given that class 2 was shown to be associated with higher levels of psychological correlates than class 6. The only difference

found between these groups in regards to outcome variables, however, was on reports of self-blame. This is consistent with previous research demonstrating similar levels of distress among victims of acquaintance and stranger rape (Ullman & Siegel, 1993) as well as research demonstrating higher levels of blame attributed to victims of acquaintance rape as compared to stranger rape (e.g., Viki, Abrams, & Masser, 2004; Grubb & Harrower, 2008; Persson, Dhingra, & Grogan, 2018). Research has demonstrated that individuals who are blamed by others for something that they did not do tend to experience higher levels of guilt than individuals who are not blamed by others (Parkinson & Illingworth, 2009). It is possible that the greater tendency towards victim blaming for non-stranger rape may lead individuals coerced into sex by non-strangers to experience higher levels of guilt and self-blame because they internalize the viewpoint that they are responsible for their victimization. Furthermore, counterfactual thinking following an assault (i.e., thoughts about how the victim could have prevented the assault) is correlated with self-blame (Miller, Handley, Markman, & Miller, 2010). It is possible that counterfactual thinking may be more common following a coercive experience perpetrated by a non-stranger because victims may feel like they have greater ability to influence the behavior of someone they know.

Exploratory analyses demonstrated that coerced sexual experiences perpetrated by non-strangers involved more sexual acts and more coercive tactics than those perpetrated by strangers. Perpetrators of sexual assault have reported expectations that they would be having sex during an encounter as justification for perpetration behaviors (e.g., Wegner, Abbey, Pierce, Pegram, & Woerner, 2015). It is likely that many non-stranger relationships (e.g., romantic partner, previous sexual partner) are associated with higher

expectations for sex. Higher expectations could potentially explain the increase in sexual acts and coercive tactics that occur, such that perpetrators will persistently use more coercive tactics to achieve sex when feeling entitled, and they may feel entitled to more sexual acts.

Implications

Results of the present study have numerous implications for future researchers. The first major implication is that results highlight the importance of broadening classes included in classification systems of coerced sexual experiences for both the dimensions of sexual act and coercive tactic. Although the SES-SFV was utilized in this study, additional classes were added for the dimension of sexual act and coercive tactic for two reasons: (1) to be more inclusive of sexual acts experienced by diverse individuals and (2) to reflect additional coercive tactics described in participant qualitative descriptions but not included in most quantitative measures (Kern & Peterson, 2019). The first added class of sexual act was penetration of the other person's vagina which was endorsed by 5.5% of the sample as the worst (or only) sexual act that occurred. The second added sexual act was penetration of the other person's butt which was endorsed by 1.7%. Although these sexual acts were only endorsed as the worst (or only) sexual act by a small percentage of the sample (7.2%), the inclusion of these classes is meaningful as they expand measurement to better reflect the experiences of men who are coerced into sexual activity. The first added class of coercive tactic was having no chance to say "no" which was endorsed by 18.2% of the sample as the worst (or only) coercive tactic that occurred. The second added coercive tactic was having a direct refusal ignored which was endorsed by 13.7%. The third added coercive tactic was someone initiating the

sexual act while the participant was asleep (but not incapacitated) which was endorsed by 10.4%. A large percentage of participants endorsed these three added classes (42.3%). This suggests that the SES-SFV may not adequately be capturing coercive tactics that individuals are frequently experiencing and identifying as the worst (or only) coercive tactic during a coerced sexual experience, and thus, the measure may be under-estimating the actual rates of sexual coercion participants have experienced. Given these results, measures of coerced sexual experiences used in future research should be updated to reflect these classes.

Another implication for future research is, given that coercive tactic class 2 (anger/criticism) demonstrated significantly higher levels of psychological correlates than class 1 (lies/nonviolent threats/pressure), even though both classes encompass tactics of verbal coercion, these classes should likely be subdivided in future research addressing verbal coercion. A large body of research has established verbally coerced experiences as less distressing for victims than physically coerced experiences (e.g. Abbey et al., 2004; Messman-Moore et al., 2008; Ullman et al., 2007), yet the results of this study indicate a more nuanced picture, in which some types of verbal coercion are more distressing than others, and may even be as distressing as some types of physical coercion. Furthermore, the presumed hierarchical order of coercive tactics on the SES-SFV is as follows: (1) verbal tactics characterized by pressure, lies, or false promises, (2) verbal tactics characterized by anger or criticism, (3) victim incapacitation, (4) threat of physical force, (5) and use of physical force or a weapon, although classes 1 and 2 are combined for “sexual coercion” and items 3 through 5 are combined as “rape” for any type of oral, genital, or anal penetration (Koss et al., 2007). This study would suggest that this

presumed hierarchy may not accurately reflect severity based on severity of outcomes reported by victims and should, therefore, be used with caution. Future researchers may wish to replicate these results to better inform severity ranking of classes on this measure.

A third research implication relates to coercive tactic class 6 (no chance to say “no”). Class 6 was associated with lower levels of psychological correlates than hypothesized. Behaviors in this category were nonconsensual if one adopts a definition of consent that requires affirmative consent, or “an affirmative expression of willingness on the part of each participant” (Tuerkheimer, 2015, p. 441). Over a thousand colleges in the United States, as well as some state governments, have adopted affirmative consent policies and legislature in a hope to decrease sexual violence and victimization (for review, see Tuerkheimer, 2015; Muehlenhard, Humphreys, Jozkowski, & Peterson, 2016). Severity continuums based on affirmative consent policies would suggest that the coercive tactic of not having a chance to say “no” is more severe than coercive tactics that lead an unwilling individual to verbally consent, despite their unwillingness (e.g. class 2 tactics of anger and criticism). It is notable, however, that the present research based on victim-reported symptoms would suggest that not having a chance to say “no” may be perceived by victims as less severe than some experiences in which consent is obtained through coercion given the low levels of symptoms reported by participants endorsing class 6 as the worst (or only) tactic they experienced. These results suggest that researchers must be mindful of how coercion severity is defined in their research. One could easily assume that affirmative consent policies are prohibiting the “worst” coercive tactics, and therefore, prohibited tactics must result in the worst outcomes for victims. The reality, however, may not be so simple. Therefore, when designing studies that

involve severity of coercive tactics, researchers must reflect upon what type of severity is most relevant to their research question, as this would inform the ordering of classes in the severity continuum.

Also related to the construct of affirmative consent, results of the present study can inform sexual education and sexual assault prevention programming. Scholars have proposed the importance of addressing sexual coercion, in addition to consent, in sexual education (e.g., Hirst, 2013); however, many current sexual education and sexual assault prevention programs stress the importance of affirmative consent (Muehlenhard et al., 2016). One limitation of focusing solely on affirmative consent is that it does not necessarily discourage the use of verbally coercive tactics. Instead, individuals may perceive verbal coercion as acceptable because their partners may eventually agree to the sexual act, even if their partners are not actually willing. This study furthers the argument by demonstrating the association between more coercive tactics and higher levels of psychological correlates reported by victims. Not only are diverse coercive tactics associated with reported victim outcomes, but the use of more coercive tactics is associated with more distressing outcomes. Therefore, sexual education programs should not only discourage the use of any coercive tactic to obtain “consent” from another person, but it could also demonstrate that utilizing numerous repeated tactics until one successfully achieves sex could exacerbate the consequences of the experience for the victim. Other implications of the present study for sexual education and assault prevention relate to gender and relationship to the perpetrator. This study demonstrates that, although number and type of sexual acts and number of coercive tactics differed by gender, men and women reported similar levels of psychological symptoms following

similar coerced sexual experiences. Therefore, it should be emphasized that coercion is problematic, regardless of gender. Moreover, given that non-strangers use more coercive tactics and achieve more sexual acts during coerced sexual experiences, programming should emphasize the importance of non-pressured consent in sexual encounters with known others.

The results of this study are clinically meaningful in that they suggest that individuals may present for mental health treatment following a wide variety of coerced sexual experiences. Therefore, treatment providers must stay mindful of possible assumptions about what may or may not be distressing. The stereotypical image of a woman presenting for PTSD treatment following physically forced vaginal sex vastly oversimplifies individuals' experiences of coerced sex and the outcomes of these experiences. Given that oral sex, vaginal penetration, penetration of the other person's vagina, and penetration of the other person's butt were all associated with similar levels of problematic psychological correlates, providers need to maintain awareness of diverse experiences of sex across diverse populations, recognizing that these can all be coerced. Furthermore, high levels of psychological symptoms following anger/criticism suggests that even if an individual is not physically forced into sex, and even if they eventually agree to engage in sex, they may still experience significant distress following the experience. This is relevant given previous literature suggesting that verbally coerced experiences are less distressing for victims than physically coerced experiences (e.g. Abbey et al., 2004; Messman-Moore et al., 2008; Ullman et al., 2007). It is likely important for clinicians to assess level of fear experienced if clients are reporting distress

following a coerced sexual experience involving anger. It is possible that a client may have a history with the perpetrator that would cause anger to induce fear.

A second implication for clinical practice relates to the association between multiple sexual acts and coercive tactics and higher levels of psychological correlates. Assessment prior to mental health treatment should address the number of acts and tactics that occurred in order to better understand client distress. Additionally, therapy providers utilizing treatments from a cognitive behavioral perspective may wish to address the association between multiple sexual acts and coercive tactics and client thoughts following the experience. It is possible that more coercive tactics in particular may be associated with cognitive distortions related to powerlessness. An additional implication for clinical practice relates to posttraumatic growth. Coercive tactics that were associated with higher levels of negative psychological symptoms were also associated with more posttraumatic growth (i.e., anger/criticism and physical force). More sexual acts and coercive tactics were also associated with higher posttraumatic growth. This suggests that coerced sexual experiences that appear to relate to more negative outcomes can also be associated with positive outcomes. It makes sense that, to experience growth, one must first be distressed in some way. Therefore, clinicians should be mindful that more severe experiences may also be experiences that lead to high levels of positive growth in clients.

Results of exploratory analyses suggest that clinicians would benefit from maintaining awareness of clients' relationships to their perpetrators. Consistent with literature addressing victim-blaming, participants reported higher self-blame when they knew their perpetrator. Therefore, clinicians should thoroughly assess self-blame, particularly with clients who have been coerced by a known other. Cognitive distortions

related to self-blame may be important to address in a number of cognitive behavioral interventions (e.g., Cognitive Processing Therapy for PTSD, Cognitive Behavioral Therapy for Depression).

Limitations

There are a number of relevant limitations for this study. One major limitation of this study is the sample size. Given the large number of classes of both worst (or only) sexual acts and worst (or only) coercive tactics, as well as the unequal sample sizes across classes, the sample size of this study is likely too modest to detect all significant between-group differences, particularly regarding the classes of sexual acts and coercive tactics that have lower base rates. The impact of sample size is highlighted by significant main effects found for worst (or only) coercive tactic on measures of depressive symptoms, negative thoughts about the self, and negative thoughts about the world. Although there were significant main effects, post hoc comparisons were not significant. It is probable that with a larger sample size, post hoc comparisons would have demonstrated significant differences. Additionally, it is likely that a larger sample size would be required to detect any significant interaction effects between worst (or only) sexual act and worst (or only) coercive tactic. Furthermore, although some exploratory analyses examining within-group differences for classes of sexual act and coercive tactic were significant, it is quite possible that more within-group differences could have been detected in a larger sample. Therefore, conclusions about whether classes require further subdivision to avoid grouping meaningfully different phenomena cannot be made from the results of this study.

A second limitation of this study relates to the significant differences among the three recruitment sources. Multiple recruitment sources were used in part to increase diversity of the study sample. The use of multiple recruitment sources did increase sample diversity, but it is also notable that mean scores on multiple dependent variables differed across recruitment source. Although demographic variables were controlled for in study analyses to account for differences in recruitment source, it is possible that differences across recruitment source is reflective of some other group differences that were not accounted for in our analyses. Additionally, although the goal was to increase generalizability, by combining a university and a community sample, results may not be entirely generalize to either population.

A third limitation of this study is that participants predominantly identified as heterosexual women (61.9%). Many results of this study could be explained by heterosexual sexual scripts, in which women are the gatekeepers of sexual activity, and men are the initiators. Given that men and women have different roles within sexual scripts, and non-heterosexual individuals likely have different sexual scripts, it is quite possible that patterns of severity of sexual act and coercive tactic may differ for both men and non-heterosexual individuals. Although some cursory analyses were run comparing men and women, the number of men and non-heterosexual participants in this sample was too low to adequately and satisfactorily compare with women and heterosexual participants.

A fourth limitation of this study is that, although the practice of combining multiple types of coerced sexual experiences when creating sexual coercion categories and continuums was critiqued, this study compared groups of sexual act and coercive

tactic from an established classification system. The categories compared were from the instrument of choice when studying coerced sexual experiences, the SES-SFV (Anderson et al., 2018; Kolivas & Gross, 2007; Davis et al., 2014); however, other methodology could be used in the future in order to avoid bias inherent in comparing pre-existing classes.

Other limitations of this study are as follows. First, participant scores on outcome variables demonstrated little variability, potentially impacting the ability to detect significant group differences. Second, the analysis comparing negative thoughts about the world by class of worst (or only) sexual act violated the assumption of homogeneity of variance, even when the dependent variable was transformed. Therefore, these results must be interpreted with caution. Third, the relationships demonstrated in this study were correlational in nature. Therefore, the causal nature of the relationships is not yet understood. Fourth, it is possible that individuals endorsed “asleep” as their worst (or only) coercive tactic when they were actually incapacitated due to drugs or alcohol due to the wording of the item: “someone started while I was asleep.” Future researchers may wish to adjust language to clarify that it reflects normal sleep, rather than being “passed out” from substances. Fifth, this study only examined two dimensions of coerced sexual experiences, sexual act and coercive tactic. Other dimensions exist that were not analyzed (i.e., whether or not an intended sexual act was achieved). Sixth, gender of the perpetrator was not collected. It is quite possible that perpetrator gender affects characteristics and outcomes of coerced sexual experiences. This information could also be useful in examining the effect of heterosexual scripts on outcomes.

Future Directions

The present study should be replicated in a larger, representative community sample. A larger sample would provide greater power to detect between-group differences that may not have been detected in the present study, given that the sample size of some classes of sexual act and coercive tactic were endorsed by a low number of individuals. Furthermore, there is preliminary evidence that some of the classes on the SES-SFV have significant within-group differences. A larger sample size would provide power to detect such within-group differences which would inform any necessary subdivisions of classes on this measure. Future research utilizing the SES-SFV should likely use the expanded version of this measure that included additional classes of sexual act and coercive tactics in order to better capture diverse individuals' experiences of coerced sexual experiences.

Analyses comparing psychological correlates of classes of sexual acts demonstrated no differences among the following acts: oral sex, vaginal penetration, anal penetration, penetration of the other person's vagina, and penetration of the other persons butt. This lack of difference was explained by the role of gender/sex and sexual orientation in determining the sexual acts individuals engage in, as well as varying definitions of "sex." Future researchers may wish to explore the role of gender/sex and sexual orientation on psychological correlates of classes of sexual acts. It is quite possible that different populations may demonstrate different patterns of severity, particularly because their sexual interactions are informed by different sexual scripts. Additionally, heterosexual scripts exist for sexual initiation. Given different gender roles in heterosexual scripts and the fact that such scripts do not neatly apply to same-gender sexual interactions, it is quite possible that gender and sexual orientation could affect

levels of distress following various coercive tactics. The sample size in this study was inadequate for comparisons across these groups, so future research with a larger, more diverse sample would greatly benefit the research literature.

Future researchers may wish to consider the use of cluster analysis as an approach to help distinguish meaningful classes of coerced sexual experiences. This approach would allow for the clustering of individuals with coerced sexual experiences based on similar levels of psychological correlates as well as characteristics of their coerced experience (i.e., worst sexual act or coercive tactic). Similar to the present study, researchers could ask participants to report the worst (or only) sexual act and the worst (or only) coercive tactic that occurred as well as resulting psychological symptoms. This differs from the present approach by utilizing statistics to cluster similar phenomena based on similar levels of psychological correlates, rather than classifying phenomena and then comparing classes. This approach to developing classes for a measure of coerced sexual experiences may eliminate a number of bias that could impact classification if it were to occur prior to comparisons (e.g., familiarity with existing severity continuums, knowledge of consent laws, media depictions of sexual coercion).

Given that the present study did not address the dimension of whether or not an intended sexual act occurred, future researchers may wish to explore the utility of including intended but not achieved experiences in measures of coerced sexual experiences. As mentioned in the introduction, there are many limitations to including such experiences, so research addressing the added value of this dimension would be worthwhile and informative. Future researchers may also wish to examine if any additional dimensions of coerced sexual experience exist and appear relevant to include

in measures of these experiences (e.g., number of lifetime coerced sexual experiences, nature of relationship to perpetrator, resistance strategy used by the victim, types of injuries sustained).

Conclusion

Some previous researchers have created classification systems and severity continuums of coerced sexual experiences without using empirical evidence to determine distinctions among classes or the relative severity of these classes. There is, however, evidence that psychological correlates following a coerced sexual experience differ in relation to the sexual act that occurred and the coercive tactic that was used (e.g., Davis et al., 2014; Brown et al., 2009; Peter-Hagene & Ullman, 2015). Furthermore, research has demonstrated that a history of numerous coerced sexual experiences in a lifetime is associated with more psychological symptoms (de Visser et al., 2007). The present study expanded upon this literature by examining differences in psychological correlates of coerced sexual experiences by classes of sexual act and coercive tactic. Results demonstrated that the class comprised of fondling, kissing, and clothes removal was related to lower psychological correlates than other sexual acts. Furthermore, not having a chance to say “no” was generally associated with lower levels of psychological correlates and anger/criticism and physical force were generally associated with higher levels than other groups. Results also demonstrated that more sexual acts and more coercive tactics during a coerced sexual experience were associated with higher levels of psychological correlates. Despite study limitations, primarily related to sample size, these results have a number of implications. Results suggest different patterns of severity than reflected in previously established severity continuums. Therefore, further research is

needed utilizing a larger sample to establish a measure of coerced sexual experiences that depicts more accurate severity continuums. Results may also inform sexual education and assault prevention programming as well as mental health treatment provided to individuals with histories of coerced sexual experiences.

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