EVALUATION OF THE MODIFIED SOCIAL REACTIONS QUESTIONNAIRE: A MIXED-METHODS APPROACH

by

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Survivors of sexual assault receive a wide range of social reactions when they disclose their sexual assault experience to informal (e.g., family and friends) and formal (e.g., police, healthcare providers) support sources. Survivors' perceptions of these social reactions may influence post-assault recovery. Researchers have found that receiving what are perceived as harmful social reactions, such as those that blame the survivor for the assault, are associated with higher levels of distress, negative cognitions, and maladaptive coping strategies. Conversely, the impact of what are perceived as helpful social reactions, such as receiving validation and support, has been mixed, with some researchers finding that receiving these reactions is linked to less self-blame and less distress, while others find no relationship. Currently, the most commonly used instrument to examine survivors' disclosure reactions is the Social Reactions Questionnaire, which gauges the frequency with which survivors received a number of potentially helpful and harmful responses during disclosure experiences. Nonetheless, little research has examined survivors' perceptions of reactions they receive and the impact it may have on their post-assault outcomes. It is possible that how helpful or harmful survivors perceive these reactions is more strongly associated with adjustment than frequency of receipt of reactions.

This dissertation sought to further evaluate a modified version of the Social Reactions Questionnaire (SRQ) that assesses perceived helpfulness/harmfulness of social reactions received rather than frequency. Previous work conducted by the author evaluated this revised measure among a sample of college women who experienced sexual assault. Factor analyses of the modified SRQ supported a 34-item measure, with two helpful reactions subscales (validating and supportive responses and providing tangible aid responses) and three harmful reactions subscales (turned against responses, controlling responses, and egocentric responses). Results of this initial study supported the psychometrics of modified version of the SRQ, including adequate internal consistency and good convergent validity with other measures of distress, coping, and social support. However, the previous study did not evaluate the modified measure's convergent validity with other measures of disclosure or evaluate test-retest reliability.

Therefore, in the current dissertation, I sought to further validate the modified SRQ in a sample of college women who experienced sexual assault, via evaluation of the measure's internal consistency, convergent validity, and test-retest reliability. In addition, to assess the validity of the scales, responses were compared with written descriptions of the helpful and harmful reactions they had received when they disclosed. The two-week test-retest of the modified SRQ was evaluated and convergent validity with measures of trauma disclosure, posttraumatic cognitions, and sexual-assault related stigma was assessed. Overall, there were mixed findings, with three of the subscales demonstrating adequate to good internal consistencies (validating/supportive, turned against, and controlling subscales, α_s ranging from .79 -.89). Conversely, the egocentric subscale ($\alpha = .56$) and the providing aid subscale ($\alpha = .54$) both displayed poor internal consistency. Most subscales demonstrated good two-week test-retest reliability (ICCs ranging from .81 to .86), with the exception of the turned against subscale,

which demonstrated moderate reliability (ICC = .71). Scores on the modified SRQ were not associated with post-traumatic cognitions, with the exception of the controlling subscale, which was moderately positively correlated with negative cognitions about self (r = .33). Conversely, all three of the harmful reactions subscales were moderately positively correlated with stigma scores (turned against r = .46; controlling r = .35; egocentric r = .39). Additionally, scores were associated with the Disclosure Trauma Questionnaire (DTQ). Specifically, the turned against subscale was correlated with reluctance to talk r = .33, the validating / supportive response subscale with urge to talk r = .30 and the emotional reactions subscale with all three of the harmful reactions subscales: turned against r = .43; controlling r = .33; egocentric r = .36). Lastly, survivor's written accounts were analyzed using thematic analysis and then grouped into four overarching disclosure response types. Modified SRQ scores varied among survivors describing these four types of disclosure responses in expected ways. Future work with the modified SRQ could focus on survivors with greater diversity in disclosure responses received, such as those who seek formal help, as well as evaluate whether the measure's psychometrics are improved when utilizing a different response metric. Such research could lead to a better understanding of how best to assess social reactions among sexual assault survivors.

Evaluation of the Modified Social Reactions Questionnaire: A Mixed-Methods Approach

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INTRODUCTION

Scope of Sexual Assault

Sexual assault, defined as any "sexual act committed against someone without that person's freely given consent, including sexual acts obtained by force or coercion, and perpetrated against an individual unable to give consent due to age (e.g. minor), disability, or impairment following voluntary or involuntary substance use," affects more than half of women and a fifth of men during their lifetime (Basile, Smith, Breiding, Black, & Mahendra, 2014; Black et al., 2011). One of the most severe forms of sexual assault is rape, defined as "nonconsensual oral, anal, or vaginal sex, obtained by force, by threat of bodily harm, or when the victim is incapable of giving consent," (Black et al., 2011; Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007; Littleton et al., 2018). Rape experiences are categorized into different groups based on the tactics used to attempt or achieve the assault, resulting in three groups: drug- or alcohol-facilitated rape, incapacitated rape, and forcible rape. Drug- or alcohol-facilitated rape (DAFR) signifies a rape that results from the perpetrator giving the survivor drugs or alcohol with the intention of impairing his or her functioning in order to assault them, often without the survivor's permission. Further, incapacitated rape (IR) occurs when the survivor uses drugs or alcohol voluntarily, but is too impaired or intoxicated to prevent the sexual assault from occurring. The last category, forcible rape (FR), refers to rape that is attempted or achieved by use of physical force, injury, or threat of force (Zinzow et al., 2010). Unfortunately, rape remains pervasive and affects women of all ages, such that 10.6% - 20% of adult women will experience a rape (Basile, Chen, Black, Saltzman, 2007; Black, Basile, Breiding, Smith, Walters, 2011; Littleton, et al., 2018; Walsh et al., 2012).

Although sexual assault affects all women, women attending college are at particularly heightened risk of experiencing some form of sexual victimization, with approximately 11.5% to 20% of college women experiencing a rape (Hossain, Memiah, & Adenyinka, 2014; Koss, Gidycz, & Wisniewski, 1987; Kilpatrick et al., 2007; Krebs, Lindquist, Warner, Fisher & Martin, 2007). Sexual assault is especially common among women in their first year of college, such that approximately 24% of women are a victim of some form of sexual assault in their first semester of college, with 4.1% of all women experiencing a rape, and 20% experiencing a sexual assault in the second semester of college, and 3.1% experiencing a rape in the second semester (Jordan, Combs, & Smith, 2014). Further, a study of first year college women found that 11.4% of women experienced an attempted or completed rape in the Fall semester, with 8.5% also experiencing an attempted or completed rape in the Spring semester (inclusive of new and repeat victims; Carey, Durney, Shepardson, & Carey, 2015). These high rates of sexual violence pose a great threat to college women's physical and mental health and well-being.

Impact of Sexual Assault

Following sexual victimization, survivors often experience a wide range of problems that greatly influence their overall wellbeing. For example, in a national study of college rape survivors, 56% reported depressive symptoms and 43% met criteria for current major depression (Zinzow et al., 2010). Further, in comparison to women without a sexual assault history, college women who have been sexually victimized are 2.1 to 3.2 times more likely to attempt suicide (Chang et al., 2015; Gidycz et al., 2008). Many survivors also experience symptoms of post-traumatic stress disorder (PTSD). In the aforementioned national study of college rape victims, 17% met lifetime criteria for PTSD (Zinzow et al., 2010). Additionally, nearly 50% of survivors of sexual assault reported being victimized again, with 40% of these women reporting the onset

or exacerbation of PTSD symptomology following the second sexual victimization (Walsh et al., 2012).

Mental health concerns often coincide with or contribute to other problems, including engagement in risky behaviors and poor academic performance. For example, women with a sexual assault history are more likely to develop unhealthy or problematic eating behaviors during college in comparison to their non-victimized counterparts, including engaging in vomiting or using laxatives in order to lose weight (Gidycz et al., 2008). Survivors of sexual assault are also more likely to engage in risky sexual behaviors, including using alcohol prior to sex, having multiple sexual partners, and having one-time sexual encounters (Gidycz, Orchowski, King, & Rich, 2008; Littleton, Grills, & Drum, 2014). Hazardous alcohol use is also common among college women who are rape survivors. Specifically, a study conducted by Neilson and colleagues concluded that college women who experienced sexual assault were significantly more likely to drink during the week and drink in order to cope with anxiety (Neilson et al., 2018). This was further explored in a study of college women by Littleton and colleagues. This study found that survivors of sexual assault reported more depressive and anxious symptoms, as well as more hazardous drinking and risky sexual behaviors (Littleton, Grills-Taquechel, Buck, Rosman, & Dodd, 2012). Further, it is noted that hazardous drinking is a risk factor for experiencing another incapacitated rape among women who have already been victimized (Gidycz et al., 2007; Littleton, Grills-Taquechel, Buck, Rosman, & Dodd, 2012; McCauley, Calhoun, & Gidycz, 2010).

Not surprisingly, experiencing a sexual assault can negatively affect academic performance. For example, in a study of first-year college women, those who experienced a sexual assault during their first semester had significantly lower GPAs by the end of their first

year (Jordan, Combs, & Smith, 2014). Another study of female college students supported that exposure to sexual violence was associated with poor academic performance, even after controlling for standardized test scores, high school rank, and conscientiousness (Baker et al., 2016). The authors examined this relationship further in a longitudinal study of college women over the course of their college career. The results illustrated that sexual victimization predicted cumulative GPA at the end of four years of college, with sexual victimization as strongly related to final-term GPA as high school rank, conscientiousness, and standardized test scores. Further, sexual victimization increased the risk of college dropout, such that only 56% of sexually victimized women graduated four years later, compared to 85% of women with no sexual victimization history (Baker et al., 2016). Clearly, experiencing a sexual assault can have serious and lasting consequences on survivors' physical and mental health and overall well-being and success. Therefore, it is critically important to understand factors that may influence recovery and survivor help seeking.

Formal Help Seeking Following Sexual Assault

Despite the violent nature of sexual assault and the serious effects it may have on a survivor, sexual assault is one of the most underreported crimes, with studies finding that only 2 to 11.5% of women who had been victimized reported their sexual assault to the police (Fisher, Daigle, Cullen, & Turner, 2003; Krebs, Lindquist, Warner, Fisher, & Martin, 2007; Tjaden & Thoennes, 2006; Wolitzky-Taylor et al., 2011). There are many factors that influence the rate of reporting sexual assault, including the type of assault (e.g., rape, attempted rape, unwanted touching) and whether drugs and alcohol were involved. Specifically, one study concluded that 16% of forcible rapes were ultimately reported to the police by college women, which is significantly greater than the 2.7% of drug-alcohol facilitated or incapacitated rapes that were

reported (Wolitzky-Taylor et al., 2011). Research indicates that the few women who report to the police do so in order to receive medical care and seek advice from an agency that provides assistance (e.g. rape crisis center; Wolitzky-Taylor et al., 2011). Conversely, women may choose to not report a sexual assault to the police or other agencies for a variety of reasons. Specifically, two national telephone survey studies concluded that four of the major reasons women did not report a rape to the police were because they did not want their family or friends to find out about the assault, they were concerned that they did not have enough proof that the assault occurred, they feared retaliation by the perpetrator or others, and they feared being treated poorly by the police, lawyers, or criminal justice system (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007). Additionally, women may be aware of the low rates of conviction for rapists and the fact that survivors can be subjected to procedures and processes that are unsupportive (Campbell, Wasco, Ahrens, Sefl, & Barnes, 2001; Koss, 2007).

In addition to not formally reporting these crimes to the police, survivors of sexual assault do not often disclose to other formal sources of support, such as nurses, physicians, therapists/counselors, religious personnel, or college campus authorities. Specifically, a study utilizing a sample of community women found that only approximately one-third of rape survivors sought out formal support, with most survivors seeking medical care (Campbell, Wasco, Ahrens, Sefl, & Barnes, 2001). Further, another study of sexual assault victims conducted by Ullman and Filipas concluded that approximately half of survivors disclosed to mental health professionals (52%), with fewer women disclosing to physicians (27.1%), and rape crisis centers (14.1%; Chen & Ullman, 2010; Ullman & Filipas, 2001). The identity of the first disclosure recipient was also investigated by Ahrens and colleagues who found that 14.7% of survivors first disclosed to a formal support provider, most often a healthcare provider (4.9%),

with 7.4% of survivors noting the reason for disclosure was seeking tangible aid, such as information or help (Ahrens, Campbell, Ternier-Thames, Wasco, & Sefl, 2007).

College sexual assault survivors appear even less likely to seek out formal support in comparison to community-recruited samples. Research reveals that only 5.6% to 16% of college survivors of sexual assault disclosed to a health care or rape crisis facility (Ameral, Reed, & Hines, 2017; Fisher, Daigle, Cullen, & Turner, 2003; Holland & Cortina, 2017; Lindquist et al, 2013; Littleton, 2010; Orchowski & Gidycz, 2012; Walsh et al., 2010). One study investigated patterns of help seeking among victimized college women, including women who experienced a sexual assault. The study concluded that 13% of sexually assaulted women sought formal help on their campus, with the most common reasons for not utilizing campus resources being that the survivor did not perceive the experience to be serious enough (56%), followed by believing the assault to be a private matter (46%), not wanting the perpetrator to get in trouble (17%), and feeling ashamed (11%; Ameral, Reed, & Hines, 2017). A similar pattern was identified when survivors were asked about formal help seeking outside of campus resources, such that the number one reason for not disclosing to formal sources was perceiving the experience to not be serious enough (55%), followed by believing it was a private matter (39%), not wanting the perpetrator to get in trouble (12%), and feeling ashamed (9%; Ameral et al., 2017).

Another study corroborated these findings by assessing formal disclosure and help seeking by college women who experienced a sexual assault and found that only 5.6% of survivors disclosed to university supports (e.g., formal report to the university, sexual assault centers, and university housing; Holland & Cortina, 2017). Further, the same researchers investigated the main reasons survivors stated for not disclosing to formal sources and found four major themes. First, survivors noted accessibility, such as a lack of knowledge about resources

and logistical or timing concerns (e.g. “I’m too busy with schoolwork). Acceptability of the experience was also noted, meaning thoughts and beliefs about the experience that made it seem unjustifiable to disclose to formal support (e.g. “reporting it would cause me a lot of stress,” “I didn’t consider it serious enough because it happens to girls all the time”). Next, appropriateness was another major theme, meaning the survivor did not view these formal sources as being helpful or useful (e.g. “I knew they would have to report it and I wasn’t comfortable with that”). Lastly, the use of alternative coping was identified as a reason for not utilizing formal sources, such that other coping strategies or actions made it unnecessary to disclose to formal supports (e.g. “I told my friends, so I don’t need to tell anyone else”; Holland & Cortina, 2017). Thus, overall, survivors of sexual assault, particularly college women, will often not report or disclose their assault to formal sources of support for a variety of reasons, including accessibility of resources and beliefs surrounding the lack of helpfulness of these resources and the seriousness of the assault experience. In contrast, research has consistently supported that sexual assault survivors frequently seek informal support, such as from family and friends.

Informal Help Seeking Following Trauma

In contrast to formal disclosure and help seeking, most sexual assault survivors will eventually disclose their experience to informal supports, such as family and friends. However, not all survivors will disclose immediately following the assault. Indeed, research highlights a similar pattern and use of disclosure with regards to many stressful and traumatic events, particularly interpersonal traumatic experiences. For example, one study of childhood sexual abuse (CSA) survivors found that 43% disclosed immediately (within a month) to an informal source and another 12% disclosed after the first month but within the year following the abuse, while 19% delayed disclosure more than a year following the abuse, and 26% never disclosed

(Kogan, 2004). Survivors stated that they delayed disclosure or did not disclose at all due to fear (e.g. fear of what would happen, fear of not being believed) and intense negative emotions (e.g. shame, guilt, disgust; Morrison, Bruce, & Wilson, 2018). Similarly, the majority of female victims (81%) of interpersonal violence (IPV) reported disclosing the violence to an informal source of support, most often a family member or friend (Ansara & Hindin, 2010). Interestingly, research indicated that survivors of IPV disclose in a similar pattern to survivors of CSA, such that some women will disclose to informal supports immediately, while another large portion will wait to disclose. Specifically, one study found that 54% of women disclosed immediately to a friend or family member, while 36.9% waited anywhere from 3 months to 2 years to disclose the experience to someone (Dunham & Senn, 2000). In terms of women who do not disclose, one study of college women who experienced dating violence found that survivors stated they did not disclose because they did not perceive it to "be a big deal." Further, these women noted that they did not think anyone else would understand, and many stated they had concerns related to the reaction they would receive, such as feeling embarrassed (Edwards, Dardis, & Gidycz, 2011). For the women who disclosed, they endorsed the most helpful reaction being emotional support, which is corroborated by the fact that disclosure and receipt of support is associated with more positive mental health outcomes (Sylaska & Edwards, 2013).

Like other groups of survivors, the majority of survivors of sexual assault will disclose, but there are also barriers to the disclosure process. For example, a study of college survivors of sexual assault concluded that the most common barrier for not disclosing was "I handled it myself." Other barriers to disclosure for survivors were feelings of shame and not wanting others to be involved (Zinzow & Thompson, 2011). Most often, survivors disclose to a friend or peer (80-88%), a romantic partner (55-56%), or a family member (10%-32%; Banyard, Ward, Cohn,

Plante, Moorhead, Walsh; 2007; Fisher, Daigle, Cullen and Turner, 2003; Littleton, Axsom, Breitkopf, and Berenson, 2006; Littleton, 2010; Orchowski & Gidycz, 2012; Orchowski, Untied, & Gidycz, 2013). Survivors of sexual assault disclose to two or three other individuals on average (Ahrens, Stansell, & Jennings, 2010). As noted previously, survivors vary in how soon after the assault they disclose. Indeed, in a study of 155 adult sexual assault survivors, one third disclosed immediately following the assault, while one third waited more than a year to disclose, and one third had never disclosed (Ullman, 1996b). Another study of adult survivors identified four patterns of disclosure, including non-disclosers (women who do not disclose at all), slow starters (women who slowly begin to disclose over time), crisis disclosers (women who disclose within two days following the assault and last disclose a week after the assault), and on-going disclosers (women who disclose within the first week and continue disclosing; Ahrens, Stansell, & Jennings, 2010).

Reasons for these differences in disclosure practices could be due to characteristics of the assault, relationship to the perpetrator, decisions concerning who to disclose to, as well as reasons for disclosing (e.g., needing medical attention versus emotional support). Indeed, survivors who experience non-stereotypical rapes (e.g., no weapons, no injuries, known perpetrator, impairment from alcohol during the assault) as well as survivors who did not initially label the experience as a rape (unacknowledged rape victims), are less likely to ever disclose (Ahrens et al., 2010; Littleton, Axsom, Breitkopf, & Berenson, 2008). Another reason for the variation in timing of disclosure could be the survivors' expectations and reasons for disclosing. Survivors who disclose the experience within the first 24-72 hours are more likely to be seeking assistance in obtaining medical care or tangible support. Conversely, survivors who delay disclosure are more likely to be seeking emotional support (Ahrens et al., 2010). Overall,

this research supports that while many survivors disclose their assaults, they likely have diverse reasons for doing so, and at the same time often have to overcome a number of barriers to disclosure, including beliefs regarding whether what happened was a sexual assault and concerns about being blamed or viewed negatively.

Given that most survivors of assault disclose to at least one other person, the event of disclosing the assault can potentially be an important part of the recovery process. Indeed, when survivors disclose, they are often seeking help or looking for emotional support (Ahrens, Campbell, Ternier-Thames, Wasco, & Sefl, 2007). When survivors disclose, the recipient can provide the survivor with a wide range of responses, some of which are helpful for the survivor, while others may instead be harmful and impede the recovery process. The following section will review the existing literature on sexual assault survivors' experiences with disclosure.

Social Reactions Survivors Receive

Survivors endorse receiving a wide range of responses after disclosing their sexual assault. These responses, or social reactions, defined as specific responses to the disclosure of an event, can be classified into several types. Indeed, research focused on women's disclosure experiences has identified several types of positive as well as negative social reactions. Specifically, positive social reactions consist of three types of responses: emotional support, tangible aid, and informational support (Ullman, 2010). Emotional support includes responses that provide validation and reassurance to the survivor, which can be in response to the incident itself, as well as the survivor's coping strategies and psychological reactions. These responses include those that acknowledge the survivor's feelings, as well as actively listening, refraining from judgment, and sharing personal experiences (e.g., a friend who responds by disclosing her own sexual assault experience). Tangible aid includes providing assistance to the survivor, such

as taking her to the hospital or the police station. Other forms of tangible aid include walking the survivor to and from her apartment, staying with the survivor at night, and sitting with the survivor while receiving medical care. Lastly, informational support encompasses providing resources to the survivor, such as educational materials (e.g., a book about the effects of rape), and information on how to seek help (e.g., where to go).

Conversely, there are a number of different types of responses that can be defined as a negative social reaction, which Relyea and Ullman have conceptualized as fitting into two primary types: "turned against" (TA) reactions, and "unsupportive acknowledgement" (UA) responses (Relyea & Ullman, 2015). TA responses are social reactions that are likely to be consistently viewed as hurtful to the survivor, such as blaming and stigmatizing responses (e.g., "You were not careful," "You should not have been drinking so much"; Relyea & Ullman, 2015) and generally are regarded as responses by the disclosure recipient focused on intentionally inflicting harm on the survivor. On the other hand, UA responses often include acknowledgement of the assault, while at the same time minimizing its severity or its impact or being overly intrusive. For example, distracting responses (e.g., "told you to stop thinking about it") often implies acknowledgement that the assault is the issue, but then invalidates the survivor's experience and desire to discuss the assault (Relyea & Ullman, 2015). As a result, how a survivor perceives UA responses is likely dependent on the survivor's interpretation or perception of the response, such as the extent to which the individual engaging in the response is viewed as trying to be helpful. Further, it is presumed that such responses often represent the disclosure recipient's attempt to be helpful while simultaneously managing his or her own emotional reaction to the disclosure.

Impact of Social Reactions on Survivor Outcomes

Several studies have investigated the influence of receipt of these different types of social reactions on post-assault adjustment, including long-term outcomes (Ullman, 2021). Cross-sectional studies have demonstrated that receiving negative social reactions, particularly turned against reactions, are associated with greater symptoms of distress. Specifically, stigmatizing and blaming responses may fuel negative cognitions among survivors, such as "It's all my fault this happened." In response to these negative cognitions and other symptoms of distress, survivors may rely more on maladaptive coping strategies, such as avoidance behaviors, substance use, and other risky behaviors. These maladaptive coping strategies may then put the survivor at greater risk for subsequent sexual victimization. As far as empirical work, receipt of these negative social reactions are associated with greater PTSD symptom severity, as well as greater symptoms of depression, in both community samples and college samples (Hakimi, Bryant-Davis, Ullman, & Gobin, 2018; Littleton & Breitkopf, 2006; Ullman, 2021; Ullman & Peter-Hagene, 2014; Ullman & Filipas, 2001). Further, studies have illustrated that different reactions may have varying impacts on the survivor. For example, among a college sample of rape victims, negative disclosure reactions predicted maladaptive coping as well as depressive and PTSD symptomatology (Littleton, 2010). Another study conducted by Littleton and Breitkopf (2003) investigated the specific responses received and how that affected survivor outcomes. Specifically, they found that survivors who received egocentric responses, such as when the disclosure recipient becomes angry or upset at the perpetrator to the point where the survivor has to provide support, is associated with greater avoidance coping. Also, in a cross-sectional study using a diverse community sample of women, distraction responses and responses in which the survivor was treated differently (e.g., stigmatizing responses) more strongly predicted severity of

PTSD symptomology than receiving other forms of negative responses (Ullman & Filipas, 2001). Additionally, controlling responses (e.g., telling the survivor what to do) were associated with higher symptoms of distress (e.g., anxiety, depression, PTSD) and blaming responses (e.g., telling the survivor she is partially or fully at fault for the assault) were related to less engagement in adaptive coping strategies and lower levels of self-esteem (Orchowski, Untied, & Gidycz, 2013).

Longitudinal research has similarly confirmed the impact of receipt of negative social reactions on adjustment (Ullman, 2021). For example, a study among 262 college women survivors of rape found that receipt of negative reactions prospectively predicted PTSD symptomology over a two-month follow-up (Littleton, 2010). Moreover, in a prospective study of college survivors of sexual assault, analyses revealed that higher levels of negative social reactions were associated with higher levels of hostility, paranoia, interpersonal sensitivity (e.g., uneasiness, self-deprecation, and feelings of inadequacy), and specific fears (Orchowski & Gidycz, 2013). Further, a study of community recruited adult female sexual assault survivors found that receipt of negative social reactions prospectively predicted less disclosure and more problematic drinking behaviors over a one-year follow-up period (Ullman, Starzynski, Long, Mason, & Long, 2008). Further, a three-year longitudinal study with a diverse sample of adult survivors of sexual assault concluded that the relation between receipt of negative social reactions and PTSD symptoms is reciprocal, such that negative social reactions were associated with greater PTSD symptom severity and in turn PTSD symptoms predicted receipt of subsequent negative social reactions (Ullman & Peter-Hagene, 2016).

Conversely, research regarding the receipt of positive social reactions yields more mixed findings. Specifically, one cross-sectional study indicated that receipt of positive social reactions

was related to greater use of adaptive coping strategies and better perceived control of recovery, as well as lower PTSD symptoms (Ullman & Peter-Hagene, 2014). In a community sample of 155 survivors of sexual assault, Ullman found that positive social reactions were associated with less immediate distress and less self-blame (Ullman, 1996a). However, directly contrasting these findings, another study conducted by Ullman found that receiving emotional support and tangible aid were not related to survivors' adjustment or health outcomes (Ullman, 1996b). In a college sample of sexual assault survivors, researchers found that receipt of positive social reactions was associated with increased coping by the survivor in terms of seeking out emotional support. Researchers hypothesized that this could be due to the idea that women who receive emotional support upon disclosure have access to a social network that can provide supportive and appropriate responses to the survivor (Orchowski, Untied, & Gidycz, 2013). A recent longitudinal study of community-recruited survivors concluded that receipt of positive reactions did not have a significant effect on PTSD symptoms over three years (Ullman & Peter-Hagene, 2016). Conversely, another 3-year longitudinal study conducted by Ullman and Relyea using the same participant pool concluded that survivors who received negative social reactions, particularly unsupportive acknowledgement, engaged in more maladaptive coping strategies over time, whereas positive reactions was associated with decreases in maladaptive coping over time (Ullman & Relyea, 2016). However, longitudinal research on the impact of positive reactions on adjustment and recovery is limited, and no studies exist utilizing college samples of survivors.

Perception of Social Reactions

As previously noted, not all survivors will perceive social reactions in the same way, such that recent research indicates that some reactions may not be universally perceived as helpful or hurtful by survivor (Campbell, Ahrens, Sefl, Wasco, & Barnes, 2001; Dworkin, Newton, &

Allen, 2016). Several studies have supported that survivors vary in their perceptions of social reactions, such that some individuals may perceive certain negative social reactions as helpful, while others may view a positive social reaction to be harmful or neutral (Campbell, Ahrens, Sefl, Wasco, & Barnes, 2001; Ahrens Cabral, & Abeling, 2009). For example, a survivor may receive a distracting response, which is labeled as a negative social reaction but perceive it to be helpful in reducing her distress about the assault. Conversely, a survivor may be encouraged to go to the police, which is labeled as a positive social reaction (e.g. tangible aid), but she may perceive this reaction to be neutral or harmful if she does not want to do so. Clearly, there may be a mismatch between the type of support survivors are expecting or needing from others and the actual support they receive, which can ultimately lead to a disruption in the recovery process.

This possibility was explored by Campbell and colleagues (2001) who interviewed 102 survivors to assess perceptions of social reactions, how they may have differed among survivors, and how that influenced health outcomes. The conclusions of this study were that most women perceived "positive" social reactions as being helpful, but there was much more variation in perceptions of "negative" social reactions. Specifically, only three of the six types of "negative" reactions were perceived to be harmful by the majority of participants, while the remaining three reactions were not universally viewed as harmful. For instance, the minimizing response of "told you to go on with your life" was regarded by 43% of participants as hurtful, while 49% viewed it as helpful. Further, the egocentric reaction of "wanting to seek revenge on the perpetrator" was regarded as hurtful by 21%, neutral by 18%, and healing by 61%. Lastly, the controlling response "tried to control decisions you made" was regarded as healing by 27%, harmful by 68%, and neutral by 5%. This perception was further proven to be important to post assault outcomes, such that survivors who perceived "wanted to seek revenge" as being a harmful social

reaction also endorsed high levels of depression, post-traumatic stress, and physical health problems in comparison to survivors who found the reaction to be healing (Campbell, Ahrens, Sefl, Wasco, & Barnes, 2001).

This was further corroborated by another study of 26 adult women sexual assault survivors who were interviewed. The results of this study found that up to 73% of survivors' perceptions were mismatched with what researchers had labeled the reaction to be, either negative or positive. The study posited that other factors may also influence survivor perceptions, such as her relationship to the disclosure recipient, the presence of other social reactions, and the degree to which she is experiencing consequences of the assault (Dworkin, Newton, & Allen, 2016). Another qualitative study of 103 survivors' experiences seeking formal support by Ahrens and colleagues found that the same reaction may be perceived differently based on the identity of the disclosure recipient. For example, survivors stated that they received tangible aid from formal support providers, such as the police and counselors. However, more than half of the survivors stated that they felt the police did not provide emotional support when providing aid, or outright blamed the survivor, which ultimately lessened the positive impact of receiving aid. Conversely, survivors almost always endorsed tangible aid provided by counselors as being positive or helpful (Ahrens, Cabral, & Abeling, 2009). Of note, disclosure recipients may have several motivations for providing social reactions, particularly negative social reactions. For example, some individuals may be trying to provide a helpful response, such as distracting and controlling responses, and not realize that the survivor may be needing or expecting a different response. Indeed, some women may find it helpful to have someone distract them from thoughts about their sexual assault or take control of upcoming decisions, whereas other survivors may perceive these reactions to be dismissive and unsuitable in addressing their

needs. Additionally, disclosure recipients could have the intention of wanting to purposefully harm the survivors, such as by blaming them or re-victimizing them. In these situations, survivors tend to universally view these reactions as harmful and there is often less variation in survivors' perception. These perceptions are very important to post assault recovery because it has been shown that even the perception of others responding in a positive or sympathetic way can serve as a buffer to the onset of symptoms of PTSD (Dunmore, Clark, & Ehlers, 1999).

Overall, it is evident that survivors can receive a wide range of reactions when disclosing a sexual assault. The ways in which the survivor perceives these reactions varies, which ultimately can affect the post-assault recovery process. Interestingly, a recent systematic review and meta-analysis conducted on the perceptions of social reactions received following disclosure of interpersonal violence found that perceiving these social reactions more positively was associated with less severe psychopathology (Dworkin, Brill, & Ullman, 2019). Conversely, receiving negative reactions and perceiving those reactions as harmful can exacerbate psychological distress following a sexual assault. As such, understanding survivors' experiences of disclosure reactions, including how often they received these reactions as well as how they perceived them is critical in elucidating the influence of social reactions on adjustment outcomes. This highlights the need for a reliable and valid measure to assess these constructs, including perceptions of the helpfulness and harmfulness of reactions received.

Assessment of Disclosure Reactions

Several measures have been developed to assess social reactions to the disclosure of stressful and traumatic life events. The Unsupportive Social Interactions Inventory (USII) was designed to measure unsupportive social interactions following a stressful life event with the purpose of identifying how these reactions influence adjustment (Ingram, Betz, Mindes, Schmitt,

& Smith, 2001). Factor analyses indicated that the measure has four subscales: distancing, bumbling, minimizing, and blaming (Ingram, Betz, Mindes, Schmitt, & Smith, 2001). Overall, psychometric research in two independent college samples supported the reliability and validity of this measure (Ingram et al., 2001). However, one limitation of the USII is that it may not adequately capture the diverse reactions received by sexual assault survivors. It has also never been used to assess social reactions following the disclosure of an adult sexual assault. Additionally, it does not assess receipt of positive social reactions.

Davis and colleagues (1991) developed the Crime Impact Social Support Inventory (CISSI) to assess supportive and unsupportive behaviors a disclosure recipient might display following a crime. The measure consists of 42-items that encompass negative reactions (22 items; e.g. “Has indicated that I should have fought back more during the crime”) and positive reactions (20 items; e.g. “Has comforted me by showing me some physical attention”) and asks participants to rate these items on a 5-point Likert scale. Unfortunately, this measure has not been widely utilized and as such, there is only internal consistency data available. Additionally, it has only been utilized to evaluate the experiences of survivors who experienced a stranger rape. However, survivors of stranger rape likely receive different disclosure responses in comparison to survivors who were assaulted by a friend or romantic partner (Bell, Kuriloff, & Lottes, 1994).

Ullman developed the Social Reactions Questionnaire (SRQ; 2000) to address the lack of appropriate measures to assess social reactions received by sexual assault survivors. The SRQ is now the most widely used and accepted measure of sexual assault social reactions. It is a 48 item, self-report measure that assesses the frequency of receipt of positive and negative social reactions among survivors of sexual assault. This measure includes two positive social reactions

subscales: emotional support/belief (e.g. providing expressions of care) and tangible aid/instrumental support (e.g. providing information or aid, such as helping the survivor seek medical care; Ullman, 2010). It has five negative social reactions subscales: controlling (e.g. telling the survivor to go to the police), blaming (e.g. telling the survivor that she did something that contributed to her attack), egocentric reactions (e.g. becoming extremely angry at the perpetrator or upset about the assault, such that the survivor then has to provide comfort), distracting (e.g. telling the survivor to stop thinking about it), and treat differently (e.g. treating the survivor as if she is damaged goods; Ullman, 2010).

Psychometric research supports the validity and reliability of this measure. In fact, the initial psychometric properties of the SRQ were evaluated in three separate samples of sexual assault survivors (college students, community volunteers, and individuals receiving mental health services; Ullman, 2000). Results supported the measure's seven factor structure, as well as the internal consistency of the seven subscales and inter-correlations among the subscale scores. Further, eight-week test-retest reliability was good overall (r_s = .64-.81). The positive subscales were also correlated with better psychological functioning and more social support, while the negative social reaction subscales were negatively associated with psychological functioning and positively related to PTSD symptom severity (Ullman, 2000).

Of note, Ullman and colleagues recently developed a shorter version of the SRQ, the Social Reactions Questionnaire – Shortened (SRQ-S; Ullman, Relyea, Sigurvinsdottir, & Bennett, 2017). Aside from being shorter (16 items total), this measure also has three primary scales: Unsupportive Acknowledgement (UA), Turned Against (TA), and Positive Reactions. These 16 items can be further broken down into eight secondary subscales with two items each. Some preliminary psychometric research utilizing a college sample and a community sample

demonstrated adequate internal consistencies (Ullman, Relyea, Sigurvinsdottir, & Bennett, 2017).

Both the SRQ and the SRQ-S assess frequency of receipt of social reactions, but not perceptions of the helpfulness or harmfulness of the reactions received. However, only measuring the frequency of receiving these reactions is potentially problematic as responses are then partially dependent on the number of individuals to whom survivors have disclosed. Further, as noted earlier, responses are classified as positive or negative, which may not always match survivors' perceptions of these reactions. Additionally, assessing frequency of reactions received, rather than perceptions of these reactions, may help explain some of the weaker findings from previous research, such as mixed findings of the relation between receipt of positive reactions and outcomes. Taken together, this supports a need to modify the SRQ in order to assess survivors' perceptions of the helpfulness of harmfulness of the reactions received as opposed to frequency of receipt of reactions.

Given the need for a measure that assesses sexual assault survivors' perceptions of the social reactions they receive upon disclosing the experience to an informal support, I recently modified the SRQ to assess survivors' perceptions of each social reaction received rather than frequency of response received. Specifically, I modified the SRQ to ask participants to describe how helpful or harmful they viewed each reaction they had received on a 7-point scale, ranging from -3 to 3 (-3=*extremely harmful*, -2=*moderately harmful*, -1=*somewhat harmful*, 0=*neutral*, 1= *somewhat helpful*, 2=*moderately helpful*, 3=*extremely helpful*). In an initial evaluation of this revised measure among a sample of 191 college women who experienced rape or attempted rape, factor analyses of the modified SRQ consisted of 34 items from the full 48 item measure with two helpful reactions subscales (validating and supportive responses and providing tangible aid

responses) and three harmful reactions subscales (turned against responses, controlling responses, and egocentric responses). Further, scores on the validating and supportive responses subscale were positively correlated with engagement coping and perceived social support, as well as negatively correlated with depression. The providing tangible aid responses subscale was positively correlated with engagement coping. The controlling responses subscale was positively correlated with depression, stress, hazardous drinking, PTSD, and disengagement coping, as well as negatively associated with engagement coping. The turned against responses subscale was positively correlated with disengagement coping, PTSD, and hazardous drinking. Lastly, the egocentric responses subscale was positively correlated stress. Thus, results of this initial study supported that the modified version of the SRQ illustrated adequate internal consistency and factor structure and displayed good convergent validity with other measures of distress, coping, and social support. Notably, none of the associations of modified SRQ subscale scores with the outcome measures were in the incorrect direction. However, scores on providing aid subscale of the original SRQ were positively correlated with PTSD, stress, anxiety, depression, disengagement coping and alcohol use in the study. Therefore, given these initial promising results, further work evaluating this measure's psychometric properties seems warranted.

Purpose of the Current Study and Aims

The purpose of the current dissertation is to further evaluate the psychometrics (i.e., internal consistency test-retest reliability, convergent validity) of the modified SRQ among a college sample of survivors with a history of attempted or complete rape. This study seeks to further validate the modified SRQ through comparison of survivors' responses on the modified SRQ with their written narratives of their experiences disclosing their assault. Specifically, the aims of the current study are as follows:

Aim 1. The first aim is to evaluate the internal consistency of the subscales of the modified Social Reactions Questionnaire in a new sample of sexual assault survivors to ensure the measure has sound psychometric properties.

Aim 2. In line with the first aim, the second aim is to evaluate the psychometric properties of the modified SRQ by evaluating the test-retest reliability of the modified SRQ over a two-week period.

Aim 3. The third aim is to examine the convergent validity of the modified SRQ by comparing participant scores on this measure with other measures of trauma disclosure, posttraumatic cognitions, and sexual-assault related stigma.

Aim 4. The final aim is to evaluate the extent to which participants' narratives about their disclosure experiences are consistent or inconsistent with their quantitative responses on the modified SRQ. Ultimately, this further evaluates the validity of the modified measure.

METHODS

This study consisted of two separate parts. For part one, all participants were asked to complete a measure that assessed their history of attempted rape and rape since age 14. If they endorsed a history of [attempted] rape, participants were asked to complete measures related to assault characteristics (e.g., relationship to perpetrator, assault tactics, disclosure), as well as measures related to stigma, post-assault cognitions, disclosure experiences, and the modified SRQ (if they disclosed). Participants who endorsed a history of [attempted] rape and endorsed disclosing the event to someone else were invited to participate in part two of the study, which would be completed approximately two weeks after completing part one. Part two consisted of completing the same measures as part one: the modified SRQ and measures related to stigma, post-assault cognitions, and disclosure. Further details are provided in the procedure.

Procedure

For part one of the study, participants were 509 undergraduate women recruited through the psychology department participant pool (SONA) at East Carolina University (ECU). They were recruited using announcements on the SONA website. All of the data was collected through an online survey and a brief description of the purpose of the study was posted. Specifically, participants were informed that the purpose of the study is to examine stressful experiences, including unwanted sexual experiences, help seeking and support, and adjustment among college women. Of note, participants were excluded from participating in the study if they identified as male or were under the age of 18 years old. Participants' Sona ID numbers were collected in order to provide the participant with credit for completing the survey, as well as to ensure that each participant did not complete the survey more than once. Further, when a participant endorsed experiencing a sexual assault, as well as disclosing this event to someone else, she was

asked if she would like to participate in part two of this study. If she agreed, her e-mail address and phone number were collected in order to contact her about completing part two.

Participants were first asked to provide electronic consent. After providing consent, participants were asked to complete the measures, starting with demographic questions (e.g., age, race/ethnicity). Next, participants were asked to complete a screening measure that assessed experiences of attempted and completed rape since the age of 14. If the participant endorsed one of these screening items, she was then asked to complete a measure of assault characteristics, as well as self-report measures of post-traumatic cognitions, perceptions of stigma, and disclosure experiences as they related to her sexual assault, and the modified version of the SRQ (if she reported disclosing the assault to at least one person). Additionally, survivors who had disclosed their assault were asked to respond to six open-ended prompts about their disclosure experiences. Survivors who did not disclose the assault completed five prompts concerning their thoughts and decisions regarding disclosure and help seeking.

Finally, participants who had disclosed a sexual assault experience were asked to voluntarily provide their email address and cell phone number to be contacted to complete a second part of the study for additional course credit.

For the second part of the study, participants who had experienced sexual assault since the age of 14 and disclosed the experience to someone else were invited to participate. Qualified participants were invited via email and text message to complete the second part of the study for additional course credit approximately two weeks after completing the initial study. For this second part of the study, participants were asked to complete the sexual assault screening questions, disclosure screening question, as well as complete the modified SRQ and other disclosure-related measures a second time.

Measures

All participants

Demographics. All participants were asked to answer six demographic questions that assessed age, gender, racial identity, ethnicity, academic standing, and sexual orientation.

Attempted and completed rape experiences. Six items from the Sexual Experiences Survey – Revised (SES-R) were administered to assess attempted and completed rape experiences in adolescence and adulthood. Participants completed six "Yes" or "No" questions regarding experiences of unwanted and nonconsensual attempted or completed sex (vaginal, oral, anal sex or object penetration) since the age of 14. Items assessed experiences perpetrated by the use of physical force, threat of violence, or when the individual was too impaired by substances to provide consent. A psychometric study consisting of 136 adult community men and 433 adult community women indicated that these SES-R items have fair to adequate validity and reliability as indicated by two-week test-retest reliability, internal consistency (0.92) and predictive validity of traumatic symptoms (Johnson, Murphy, & Gidycz, 2017). Further, a recent study conducted by Littleton and colleagues found that the SES-R attempted and completed rape items demonstrated moderate consistency over 1 to 4 weeks in a college sample of men and women who endorsed a history of sexual victimization on the measure (kappa for attempted rape items .33, kappa for rape items,.60; Littleton, Layh, Rudolph, & Haney, 2019).

Survivors of sexual assault

***Assault Characteristics*.** If a participant endorsed a history of sexual assault on the SES-R, she was asked to complete the Assault Characteristics Questionnaire (ACQ) about this experience (or her worst experience if she experienced multiple sexual assaults). This measure was originally developed by Koss (1985), later modified by Layman, Gidycz, and Lynn (1996)

and most recently expanded upon by Littleton and Breitkopf (2006). Items assessed participants' relationship with the perpetrator at the time of the assault from a list of provided options, which were coded into the following categories: stranger, acquaintance, friend, romantic partner, or relative. Participants also indicated tactics used by the perpetrator to obtain sex from a provided list, which were coded into the following categories: verbal threats of harm, nonverbal threats/intimidation, moderate force (used body weight, twisted your arm or held you down), and severe force (used a weapon, hit or slapped you, choked or beat you, showed or used a weapon). Participants were also asked to indicate what behaviors they engaged in to indicate that they did not want to participate in the sexual activity from a list provided (which were coded as: low assertive resistance (cried, turned cold), moderately assertive resistance (said "no" or "stop," tried to reason or plead with the person), and strongly assertive resistance (physically struggled ran away, screamed for help, hit/kicked/punched/scratched/bit the other person).

Participants then answered a series of open-ended items that inquired about the number of standard drinks that she and the perpetrator consumed prior to the assault, as well as any other drugs or substance use. They were also asked to report any ways in which they were impaired by the substances during the assault. Types of impairment were coded as: impaired (difficulty speaking, difficulty walking, difficulty moving limbs), incapacitated (i.e. unconscious), and asleep. Further, participants were asked how old they were when the assault occurred using an open-ended item, as well as a yes or no item regarding if they disclosed the experience to anyone else. If they answered "yes" to disclosure, they were asked to indicate their relationship with the individual(s) to whom they disclosed from a list provided, including: parent or stepparent, sibling or stepsibling, other relative, friend, boyfriend/date/partner, police, doctor/nurse/health care provider, therapist/counselor, priest/minister/rabbi, stranger or someone you just met.

Supporting the validity of the ACQ, previous work by Littleton and colleagues concluded that victims of rape who endorsed that their assaults involved more violence on this measure, such as severe physical force by the perpetrator and/or strongly assertive resistance strategies by themselves, had more severe symptoms of PTSD and ultimately engaged in more maladaptive coping strategies. Further, survivors who reported being impaired during the assault due to substance use endorsed more self-blame and stigma concerns in comparison to survivors who did not report being impaired (Littleton, Grills-Tacquechel, & Axsom, 2009; Littleton & Henderson, 2009).

***Post-traumatic cognitions*.** Participants completed the post-traumatic cognitions inventory (PTCI; Foa et al., 1999) to assess trauma related negative cognitions in connection to their sexual assault. The PTCI is a 33-item measure that assesses thoughts and beliefs related to exposure to a trauma, with three subscales: self-blame (e.g. "There is something about me that made the event happen), negative cognitions about self (e.g. "I feel like I don't know myself anymore"), and negative thoughts about the world (e.g. "I have to be on guard all the time"). Participants were asked to respond to each item by choosing the extent to which that statement is true in relation to their unwanted sexual experience on a 7-point Likert scale, bounded by 1 (*totally disagree*) and 7 (*totally agree*). The total scale of the PTCI demonstrated good internal consistency ($\alpha = .97$), as did each of the subscales (α_s ranging from 0.86-0.97) among a sample of 601 adults with and without symptoms of PTSD (Foa et al., 1999). Further, the scale demonstrated good test-retest reliability and demonstrated good convergent validity with other measures of trauma-related cognitions (Foa et al., 1999).

***Disclosure of Trauma*.** The Disclosure of Trauma Questionnaire (DTQ) is a 34-item measure that explores three major areas of disclosure experiences following traumatic events:

Urge to talk, reluctance to talk, and emotional reactions (Mueller et al., 2008). Specifically, urge to talk assesses whether or not the individual wants to disclose to another person (e.g. "The more often I talk about the event, the clearer it becomes to me"). Next, the reluctance to talk subscale assesses whether the participant is hesitant or resistant to discussing the traumatic experience with someone else (e.g. "Telling somebody about the incident would not be of any help to me"). Lastly, the emotional reactions subscale assesses the individual's emotional state during the disclosure experience (e.g. "I feel extremely tense when I describe the incident"). All participants were asked to rate each item regarding their unwanted sexual experience on a 4-point Likert scale, ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). Initial research among a German sample of 178 former political prisoners supported the psychometric soundness of this measure with internal consistencies of subscales ranging from r = 0.82-0.88 and test-retest reliability ranging from r = 0.76-0.89 (Mueller et al., 2008). Additionally, the DTQ displayed adequate validity, as indicated by high correlations between the DTQ subscales and negative cognitions, as well as PTSD symptom severity. Specifically, reluctance to talk and emotional reaction were both positively correlated with thoughts of self-blame and negative thoughts about self and the world. Additionally, all three of the subscales were positively correlated with a subscale of perceived general disapproval of survivors of trauma (Mueller, Moergeli, Maercker, 2008). Further, the DTQ has demonstrated adequate internal consistency among individuals coping with first episode of psychosis and military personnel recently deployed, with subscale alphas ranging from .75 to .90 (Currier et al., 2012; Lev-Wiesel, Gottfried, Eisikovits, & First, 2014; Pietruch & Jobson, 2012).

Stigma. Participants were administered a nine-item measure to assess sexual-assault related stigma (Gibson & Leitenberg, 2001). For each item, participants were asked to rate the

extent to which it applies to their unwanted sexual experience on a 5-point scale, ranging from "not at all" to "very much." An example item is, "How much do you think others would blame you for what happened?" In a sample of women who experienced sexual abuse during childhood, Coffey and colleagues found good internal consistency for this measure (α = .93; Coffey, Leitenberg, Henning, Turner, & Bennett, 1996). Further, scores were found to vary between sexual assault survivors with and without a history of childhood sexual abuse, supporting the measure's validity. Lastly, higher scores on this measure have been associated with greater use of maladaptive coping strategies following sexual assault (Gibson & Leitenberg, 2001).

***Social Reactions*.** The Modified Social Reactions Questionnaire (SRQ; Haney, 2018; Ullman, 2000) was administered to participants who disclosed their sexual assault to at least one other person. The modified SRQ is a 34-item measure that asks individuals to first indicate if they received a described reaction from someone to whom they disclosed their assault, and, if so, to rate how helpful or harmful the reaction received was to them on a 7-point scale, ranging from -3 to 3 (-3 = Very Harmful, -2 = Moderately Harmful, -1 = Somewhat Harmful, 0 = Neutral, 1 = Somewhat Harmful, 2 = Moderately Harmful, 3 = Very Helpful). Then, for each item, a helpfulness or harmfulness score was calculated. Specifically, each item was recoded to represent a helpfulness or harmfulness score, depending on if the item was associated with a helpful or harmful subscale. Specifically, harmful response items, responses were recoded on a 0 to 3 scale, with 1 to 3 ratings corresponding to participants' perceived harmfulness ratings. Responses of participants who rated the item as helpful, neutral, or who did not report receiving that reaction received a score of 0. A similar procedure was used for calculating helpfulness scores, for items that were on one of the two helpfulness subscales. From the initial psychometric study of 191 college sexual assault survivors, the modified measure was found to consist two

helpful reaction subscales; providing tangible aid (α = .68) and validating and supportive responses (α = .89), and three harmful reaction subscales; turned against responses (α = .86), controlling responses (α = .70), and egocentric responses (α = .60; Haney, 2018).

***Open-ended Disclosure Reaction Prompts*.** Following the completion of the quantitative measures, survivors who endorsed disclosing their sexual assault were provided 6 open-ended prompts regarding their experience disclosing their sexual assault, all of which were developed for the purpose of this study. Specifically, participants were first asked "Thinking back to all your experiences disclosing your unwanted sexual experience, what was the most helpful response you received?" Then they were asked "What was your relationship with the person who responded in this way?" and "What made this response so helpful?" They were then asked the same questions regarding the most harmful response they had received when disclosing their unwanted sexual experience.

Power Consideration and Analysis Plan

Prior to conducting analyses, the data were cleaned. Specifically, participants who completed the survey in less than five minutes (mean completion time = 172 seconds; *n* = 15), partial completers (*n* = 12), as well as duplicate responses (*n* = 6) were eliminated. These cutoff points were used because it was deemed unlikely that a participant could complete this survey appropriately in under five minutes. Of the participants who were partial completers, 8 completed less than 50% of the survey and the remaining 4 participants did not complete key items from the modified SRQ or the qualitative items. After the data was cleaned, the final sample consisted of 509 participants. From this sample, 205 participants (40.3%) screened positive for a sexual assault history, with 171 (83.4%) reporting they had disclosed their sexual assault to at least one other person and 168 of these participants providing qualitative responses

regarding the disclosure reactions they had received. A total of 94 (55.0%) eligible participants provided an e-mail address to receive an invitation to complete the second survey. Of these, 32 participants (34.0 %) completed the second survey. The sample was deemed sufficient for all of the proposed analyses. Specifically, a sample size of 32 falls within the necessary range for evaluating test-retest reliability. Additionally, Patton (2015) argues that 50 participants are necessary for most qualitative analyses, thus, I had sufficient qualitative responses to execute aim 4.

Aim 1. The first aim was to evaluate the internal consistency of the subscales of the modified Social Reactions Questionnaire in a new sample. Specifically, the internal consistency was evaluated by calculating Cronbach's alphas for each of the five subscales (helpful: validating and supportive, providing tangible aid; harmful: turned against, controlling, egocentric). Cronbach's alphas greater than and equal to 0.7 were considered acceptable (George & Mallery, 2013).

Aim 2. In line with the first aim, the second aim was to evaluate the test-retest reliability of the modified SRQ in a subsample of participants who complete the measure twice in a two-week period. An intraclass correlation coefficient (ICC) was calculated between time 1 SRQ responses and time 2 SRQ responses. The ICC was utilized rather than Pearson's *r* because the ICC accounts for within-subject change and the change in average performance of the group over time, unlike Pearson's *r*, and therefore accounts for systematic errors within the measure (Vaz, Falkmer, Passmore, Parsons, & Andreou, 2013). ICC values less than 0.5 are indicative of poor reliability, while ICC values between 0.5 and 0.75 are indicative of moderate reliability and values over 0.75 are considered excellent (Koo & Li, 2016).

To conduct test-retest reliability analyses, research indicates that for measures that are 40 items in length, 32 participants are sufficient to detect an excellent ICC of 0.9-0.95 with 90% power (Bujang & Baharum, 2017).

Aim 3. The third aim was to examine the convergent validity of the modified SRQ by comparing subscale scores with other measures of assault disclosure, posttraumatic cognitions, and sexual assault-related stigma. Specifically, Pearson correlations were calculated among the scores on the subscales of the modified SRQ with scores on the self-report measures of sexual assault-related stigma, post-traumatic cognitions, and trauma disclosure. Correlations between 0.3 and 0.5 as well as between -0.3 and -0.5 were considered a moderate correlation, with larger correlations considered a strong correlation (Hinkle, Wiersma, & Jurs, 2003).

Aim 4. The final aim was to evaluate the extent to which participants' descriptions of the most helpful and harmful disclosure responses they received were consistent or inconsistent with their quantitative responses on the modified SRQ. There were 168 written responses that were coded. Written responses to the disclosure prompts were analyzed using thematic analysis using the guidelines developed by Braun and Clarke (2006). Two additional coders, EM (doctoral student) and JV (undergraduate student), both trained research assistants, were involved throughout this process and disagreements in coding were resolved through conferral with the faculty advisor (HL). First, we (the author and the two additional coders) started by becoming familiar with the data set, followed by identifying initial elements. Then, we searched for themes among the data, which involved sorting the elements into possible themes. Of note, the author and additional coders followed the established guidelines put forth in the research to conduct thematic analysis. Specifically, we were open to familiarizing ourselves with the data and allowing for novel elements and themes to emerge from the data. Next, we reviewed and refined

the themes to ensure the validity of the themes. We then created a definition for each of the themes, including a name for each theme (Braun & Clarke, 2006). The last step was organizing the themes to categorize them as belonging to one of four overarching thematic types: helpful validating and supportive responses, helpful providing tangible aid responses, harmful "unsupportive acknowledgement" responses, and harmful "turned against" responses. These types are consistent with research by Relyea and Ullman (2015), which has grouped negative disclosure reactions as belonging to two different types, unsupportive acknowledgement and turned against reactions, and positive social reactions as validating and supportive reactions and providing tangible aid.

RESULTS

Overall Sample and Participant Demographics

Participants were traditional college-aged (*M* = 18.5 years; *SD* = 0.8 years, range 18-24 years) and primarily identified as Non-Hispanic/Latina (89.6%, *n* = 456) and European American/White (72.1%, *n* = 367). More specifically, in terms of racial minority identity, 20.8% (*n* = 106) of participants identified as Black/African American, 5.3% (*n* = 27) identified as Asian /Asian-American, and 4.7% (*n* = 24) identified as "other." Further, 2.4% (*n* = 12) identified as multi-ethnic/multiracial, as well as Alaskan Native/Native American, and less than 2% of participants identified as Pacific Islander, Caribbean Islander, and North African/Middle Eastern.

Additionally, the majority of participants were first year students (84.7%, *n* = 431) and identified as heterosexual (87.2%, *n* = 444). Of the 509 individuals who participated in the study, 205 (40.3%) screened positive for a sexual assault history since the age of 14, 41.5% (*n* = 85) of whom endorsed experiencing an attempted rape and 58.5% (*n* = 120) endorsed experiencing a completed rape. There were no significant differences between survivors and non-victims in ethnicity, academic year, or sexual orientation. Additionally, there was no significant differences between survivors (*M* = 18.48, *SD* = 0.89) and non-victims (*M* = 18.44, *SD* = 0.79) in terms of age, t (507) = 056, p = 0.57. There was a significant association between race and being a victim $\chi 2$ (1, *N* = 509) = 9.37, p =.03, such that of the women reporting a sexual assault history, 79.5% identified as White (*n* = 163) in comparison to 67.1% (*n* = 204) of non-victims who identified as White, φ = .14. Results of chi-square analyses comparing the demographics of sexual assault survivors and non-victims are summarized in Table 1.

Of the 205 participants who experienced a sexual assault, the majority (83.4%, *n* = 171) reported disclosing their experience to at least one other person. The majority of disclosing

survivors were under the age of 20 (*M* = 18.42 years; *SD* = 0.68 years, range 18-21 years) and identified as Non-Hispanic/Latina (92.4%, *n* = 158) and European American/White (81.3%, *n* = 139). Further, most were first year students (83.0%, *n* = 142) and identified as heterosexual (84.2%, *n* = 144). There were no significant differences between survivors who disclosed and those who did not disclose in terms of race, ethnicity, academic year, and sexuality. However, there was a significant difference between survivors who disclosed (*M* = 18.42, *SD* = 0.68) and survivors who did not disclose (*M* = 18.82, *SD* = 1.6) in terms of age, such that disclosers were younger than their non-disclosing counterparts, *t* (203) = 2.5, *p* = 0.01, Hedges' *g* = 0.33. The demographics and chi-square analyses results are summarized in Table 2.

Table 1. Demographics of survivors and non-victims

	Survivors		Non-victims		$\chi 2$	Overall	
Demographics	%	*n*	%	*n*		%	*n*
Ethnicity					0 .48		
Hispanic/Latina	9.3	19	11.2	34		10.4	53
Non-Hispanic/Latina	90.7	186	88.8	270		89.6	456
Race					9.37*		
European American	79.5	163	67.1	204		72.1	367
Racial minority†	20.5	42	32.9	100		27.9	141
Black/African American	14.6	30	25.0	76		20.8	106
Asian/Asian American	4.9	10	5.6	17		5.3	27
Multi-ethnic/ multi-racial	2.9	6	2.0	6		2.4	12
Middle Eastern / North African	1.5	3	0.3	1		0.8	4
Caribbean Islander	1.0	2	1.3	4		1.2	6
Pacific Islander	1.0	2	0	0		0.4	2
Native Alaskan / American Native	2.4	5	2.3	7		2.4	12
Other	3.4	7	5.6	17		4.7	24
Academic Year					0.81		
First year	82.9	170	85.9	261		84.7	431
Second year	12.7	26	11.2	34		11.8	60

Third year	3.4	7	1.6	5		2.4	12
Fourth year	0.5	1	1.0	3		0.8	4
Other	0.5	1	0.3	1		0.4	2
Sexual Orientation					3.41		
Heterosexual	83.9	172	89.5	272		87.2	444
Sexual minority	16.1	33	10.5	32		12.8	65
Lesbian	2.4	5	0.7	2		1.4	7
Bisexual	10.2	21	7.6	23		8.6	44
Pansexual	2.0	4	1.6	5		1.8	9
Queer	0	0	0.7	2		0.4	2
Asexual	1.0	2	0	0		0.4	2
Other	0.5	1	0	0		0.2	1

Note: * $p < 0.05$. † indicates participants could select all that applies.

Table 2. Demographics of disclosers and non-disclosers

	Disclosers		Non-disclosers		$\chi 2$	Overall	
Demographics	%	*n*	%	*n*		%	*n*
Ethnicity					3.40		
Hispanic/Latina	7.6	13	17.6	6		9.3	19
Non-Hispanic/Latina	92.4	158	82.4	28		90.7	186
Race					1.99		
European American	81.3	139	70.6	24		73.7	151
Black/African American	12.3	21	26.5	9		9.9	17
Asian/Asian-American	5.3	9	2.9	1		1.8	3
Multi-ethnic/ multi-racial	2.9	5	2.9	1		7.6	13
Middle Eastern / North African	1.8	3	0	0		0.6	1
Caribbean Islander	0.6	1	2.9	1		0.6	1
Pacific Islander	1.2	2	0	0		0.6	1
Native American / Alaskan Native	1.2	2	8.8	3			
Other	2.9	5	5.9	2		2.3	4
Academic Year					0.01		
First year	83.0	142	82.4	28		82.9	170
Second year	13.5	23	8.8	3		13.5	23
Third year	3.5	6	2.9	1		3.5	6
Fourth year	0	0	2.9	1		0	0
Other	0	0	2.9	1		0	0

Sexual Orientation					0.72		
Heterosexual	84.2	144	82.4	28		83.9	172
Lesbian	1.8	3	2	5.9		1.8	3
Bisexual	12.3	21	0	0		12.3	21
Pansexual	1.2	2	2	5.9		1.2	2
Asexual	0.6	1	1	2.9		0.6	1
Other	0	0	1	2.9		0.6	1

Note: * $p < 0.05$.

Characteristics of the Sexual Assaults

Of the 205 women who screened positive for a sexual assault history since the age of 14, 41.5% (*n* = 85) endorsed experiencing attempted rape and 58.5% (*n* = 120) endorsed experiencing a completed rape. The majority of disclosing sexual assault survivors (67.8%, *n* = 116) reported that the assailant used moderately severe force tactics (e.g., using body weight to hold them down), as well as 11.1% (*n* = 19) reporting the perpetrator using severe force during the assault (e.g., hitting or slapping). Further, a majority of survivors (82.5%, *n* = 141) noted using moderately assertive resistance strategies (e.g., saying "no"), as well as almost half of survivors (42.7%, *n* = 73) reported using highly assertive resistance strategies (e.g. physically struggled). Among sexual assault survivors who disclosed, nearly half (49.1% *n* = 84) reported consuming some alcohol at the time of the sexual assault and 11.7 % (*n* = 20) reported using other drugs at the time of the assault. When asked about the perpetrator's alcohol use, 12.3% (*n* = 21) did not provide an answer. For survivors who reported knowing the perpetrator's alcohol use, almost half (46.7%, *n* = 70) stated the perpetrator was drinking alcohol at the time of the assault and 27.6% (*n* = 47) were under the influence of another substance. Almost all of the participants (96.5%, *n* = 165) were assaulted by a man and over half were assaulted by an acquaintance (29.2%, *n* = 50) or friend (22.2%, *n* = 38). This was followed by women who were assaulted by a romantic/dating partner (28.7%, *n* = 49) and a stranger or someone that they just met (14.1%, *n* =

24). The most frequent disclosure recipients were friends, (82.5%, *n* = 141), followed by family members (51.5%, *n* = 88), and a significant other (24.0%, *n* = 41). More than half of participants disclosed to 2-3 other people, followed by 22.2% who disclosed to one person and 15.0% who disclosed to 4-5 others. Assault characteristics are summarized in Table 3.

Assault characteristics of survivors who did not disclose are summarized in Table 4. There were no significant differences between disclosers and non-disclosers in terms of survivor alcohol use, resistance strategies, and assailant tactics. However, there was a significant difference between disclosers and non-disclosers in their and relationship to perpetrator, $\chi 2$ (1, N = 205) = 4.44, p =.04, such that more non-disclosers, 48.5% reported that the perpetrator was a romantic partner (n = 16) in comparison to 28.7% (n = 49) of disclosers, φ = .15.

Table 3. Sexual Assault Characteristics of Disclosing Survivors

Assault Characteristics	%	*n*
Assault Type		
Attempted rape	40.4	69
Completed rape	59.6	102
Assailant Relationship		
Stranger or just met	14.1	24
Acquaintance	29.2	50
Friend	22.2	38
Romantic partner	28.7	49
Relative	5.8	10
Assailant Tactics*		
Nonverbal threats/intimidation	39.8	68
Verbal threats	12.9	22
Moderate force	67.8	116
Severe force	11.1	19
Resistance Strategies*		
Low assertive	46.8	80
Moderately assertive	82.5	141
Highly assertive	42.7	73
Perpetrator Sex		
Male	95.5	165
Female	2.9	5
Both males and females	0.6	1
Substance Use		
Survivor alcohol use	49.1	84
Survivor drug use	11.7	20

Assailant alcohol use	46.7	70
Assailant drug use	27.6	47
Survivor disclosed	83.4	205
Number disclosed		
1 person	22.2	37
2-3 people	53.2	89
4-5 people	15.0	25
5+ people	9.6	16
Relationship with Disclosure Recipient*		
Friend	82.5	141
Relative	51.5	88
Significant Other	24.0	41
Counselor/Therapist	10.5	18
Other formal source (doctor, police)	9.4	16

* Indicates the participant could select more than one response.

Table 4. Sexual Assault Characteristics of Non-Disclosing Survivors

Assault Characteristics	%	*n*
Assault Type		
Attempted rape	47.1	16
Completed rape	52.9	18
Assailant Relationship		
Stranger or just met	18.2	6
Acquaintance	18.2	6
Friend	18.2	6
Romantic partner	48.5	16
Relative	0	0
Assailant Tactics*		
Nonverbal threats/intimidation	35.3	12
Verbal threats	2.9	1
Moderate force	67.6	23
Severe force	8.8	3
Resistance Strategies*		
Low assertive	46.8	80
Moderately assertive	79.4	27
Highly assertive	52.9	18
Perpetrator Sex		
Male	94.1	32
Female	2.9	1
Both males and females	2.9	1
Substance Use		
Survivor alcohol use	42.4	14
Survivor drug use	11.8	3
Assailant alcohol use	35.5	11
Assailant drug use	18.2	6

* Indicates the participant could select more than one response.

Modified Social Reactions Questionnaire

The modified SRQ contains five subscales, two helpful reaction subscales (validating / supportive responses, providing tangible aid) and three harmful reaction subscales (controlling, turned against, and egocentric responses). With the exception of the validating /supportive subscale, the remaining subscales were highly positively skewed and leptokurtic, indicating that participant scores were clustered near the low end of the range (i.e., near 0). Conversely, the validating/supportive subscale was fairly symmetrical and platykurtic, meaning scores were distributed across the entire possible range, with a fairly normal distribution. See Table 5 for the descriptive statistics of the modified SRQ subscales.

Table 5. Descriptive Statistics of the Modified SRQ

	n	Min.	Max.	Mean	SD	α	Skewness	Kurtosis
Valid/Support	171	0	2.92	1.51	0.78	0.89	-0.30	-0.89
Aid	171	0	3.00	0.25	0.51	0.54	2.39	6.31
Turned Against	171	0	2.55	0.22	0.42	0.79	2.81	9.46
Controlling	171	0	3.00	0.23	0.52	0.81	3.07	10.18
Egocentric	171	0	3.00	0.27	0.51	0.56	2.55	7.47

**Note. Valid/Support = Validating / Supportive subscale, Aid = Providing Tangible Aid subscale*

Aim 1.

In order to evaluate whether the modified version of the Social Reactions displayed adequate internal consistency, Cronbach's alphas were calculated for each of the subscales. Of note, there was no missing data for the modified SRQ. In terms of the helpful subscales, the Validating and Supportive Responses subscale demonstrated good internal consistency (α = .89). On the other hand, the Providing Tangible Aid subscale had poor internal consistency (α = .54). Similarly, the harmful subscales displayed varying levels of internal consistency. Specifically, the Controlling subscale had good internal consistency (α = .81) and the Turned Against subscale

demonstrated adequate internal consistency (α = .79). Conversely, the Egocentric subscale had poor internal consistency (α = .56).

Aim 2.

To address Aim 2, intraclass correlation coefficients were calculated between the time 1 SRQ responses and time 2 SRQ responses. A total of 94 (55.0%) eligible participants provided an e-mail address to receive an invitation to complete the second survey and of these, 32 participants (34.0%) completed the second survey (18.7% of the eligible participants). On average, participants completed the time 2 survey 21.8 days after completing time 1, although four participants completed the second survey over 4 weeks after completing the first survey (range = 14 to 43 days). There was no missing data for the modified SRQ. Overall, most of the subscales demonstrated good test-retest reliability (ICCs ranging from .81 to .86), with the exception of the Turned Against subscale, which demonstrated moderate reliability (ICC = .71). The ICCs are summarized in Table 6.

Table 6. Intraclass Correlation Coefficient for Modified SRQ

Subscale	ICC
Valid/Support	.85
Aid	.81
Controlling	.86
Turned Against	.71
Egocentric	.81

**Note. Valid/Support = Validating / Supportive subscale, Aid = Providing Tangible Aid subscale*

Aim 3.

Pearson correlations were calculated among the scores on the subscales of the modified SRQ with scores on measures of stigma, post-traumatic cognitions (PTCI), and other measure of trauma disclosure (DTQ). First, scores were calculated and analyzed for the other measures. There was minimal missing data. Specifically, there was no missing data for the stigma scale,

one participant (0.5%) had missing data on the PTCI and one participant (0.5%) had missing data on the DTQ. Participants with missing data were eliminated from analyses involving that measure. Participants endorsed experiencing variable amounts of sexual assault related stigma, with an average score of 23.4 (SD = 10.0; range 9-45). Further, on a measure of post-traumatic cognitions, participants endorsed high rates of negative cognitions about self (M = 2.3; SD = 1.2), negative cognitions about the world (M = 4.6; SD = 1.5), and cognitions related to self-blame (M = 2.9; SD = 1.4), as well as a high overall total score (M = 103.4; SD = 41.2). Lastly, on the DTQ, participants endorsed high levels of reluctance to talk about the event (M = 15.0, SD = 8.3) and emotional reactions related to the event (M = 11.4; SD = 7.8), while endorsing lower levels of urge to talk (M = 7.4; SD = 4.8).

Pearson correlations were calculated among participant scores on these three other measures and scores on the subscales of the modified SRQ. Specifically, in terms of post-traumatic cognitions, the controlling subscale was moderately positively correlated with negative cognitions about self (r = .33). Although this was the only moderate correlation between the modified SRQ subscales and the subscales of the PTCI, there were other correlates that fell just shy of the moderate range. Refer to Table 6 for more details. In addition, all three of the harmful reactions subscales were moderately positively correlated with stigma scores (turned against r = .46; controlling r = .35; egocentric r = .39). Table 7 summarizes these correlations. As far as the DTQ, as summarized in Table 8, the turned against subscale was moderately positively correlated with reluctance to talk (r = .33), while the validating / supportive response subscale was moderately positively correlated with the urge to talk subscale (r = .30). Further, the emotional reactions subscale of the DTQ was moderately, positively correlated with all three of the harmful subscales (turned against r = .43; controlling r = .33; egocentric r = .36).

Table 7. Correlations Among Modified SRQ, Post-traumatic Cognitions, and Stigma

	1	2	3	4	5	6	7	8
1. Valid/Support	-							
2. Aid	.25**							
3. Turned Against	-.14	.04						
4. Controlling	-.14	.03	.40**					
5. Egocentric	-.09	.08	.28**	.32**				
6. PTCI - Self	-.26**	-.05	.27**	.33**	.26**			
7. PTCI – World	-.00	.14	.19*	.20**	.18*	.59**		
8. PTCI - Blame	-.09	-.13	.24*	.08	.09	.60**	.40**	
9. Stigma	-.20**	.05	.46**	.35*	.39**	.69**	.52**	.50**

*Note. **p<.01. *p<0.05. PTCI = Post-traumatic Cognitions Inventory, including the subscales negative cognitions about self, negative cognitions about the world, and self-blame. V/S = Validating / Supportive subscale, PA = Providing Tangible Aid subscale, TA = Turned Against subscale, C = Controlling subscale, and Ego = Egocentric subscale*

Table 8. Correlations Among Modified SRQ and Disclosure

	1	2	3	4	5	6	7	8
1. Valid/Support	---							
2. Aid	.25**							
3. Turned Against	-.14	.04						
4. Controlling	-.14	.03	.40**					
5. Egocentric	-.09	.08	.28**	.32**				
6. DTQ - RTT	-.13	-.04	.33**	.19*	.27**			
7. DTQ - UTT	.30**	.24**	.10	-.02	.04	-.09		
8. DTQ - ER	-.08	.16*	.43**	.33**	.36**	.77**	.12	

*Note. **p<.01. *p<0.05. DTQ = Disclosure of Trauma Questionnaire, including the subscales reluctance to talk (RTT), urge to talk (UTT), and emotional response (ER). V/S = Validating / Supportive subscale, PA = Providing Tangible Aid subscale, TA = Turned Against subscale, C = Controlling subscale, and Ego = Egocentric subscale*

Aim 4.

Lastly, to address Aim 4, the 168 qualitative responses were examined by the author, along with the two other coders. Of these 168 responses, 164 were able to be coded for the helpful reactions received and 122 were able to be coded for the harmful responses received. A total of two participants indicated they had never received a helpful reaction when they disclosed, while 42 participants indicated that they had never received a harmful reaction when

they disclosed. Of the remaining participants, two responses were not codable for the helpful responses and three responses were not codable for the harmful responses.

After becoming familiarized with the data, we identified the elements across the helpful qualitative responses and the harmful qualitative responses. Specifically, we identified 48 helpful social reaction response elements and 32 harmful social reaction response elements. Next, we identified overarching themes from these elements. There were 14 themes total, 6 helpful responses and 8 harmful responses. Of note, themes were not reported if fewer than 5.0% of participants endorsed experiencing this type of reaction. Therefore, three harmful themes (lack of care, provided aid, and told others) were removed and five helpful themes (shared experiences, clarification, empowered, distraction, and neutral) were removed. Refer to Table 9 and Table 10 for a comprehensive list of the themes. Approximately one third of the qualitative helpful responses (31.3%) encompassed more than one theme, while nearly a quarter of the qualitative harmful responses (22.8%) encompassed more than one theme. The themes were then organized as belonging to one of four overarching thematic types: helpful validating and supportive responses, helpful providing tangible aid responses, harmful "unsupportive acknowledgement" responses, and harmful "turned against" responses. It is worth noting that we were also familiar with current research regarding types of social reactions. Therefore, it is likely that this existing knowledge influenced the way in which we categorized the elements and themes. See Table 11 for a joint display that depicts these overarching thematic categories, along with their respective themes and average scores of each of the modified SRQ subscale scores.

Table 9. Helpful Reaction Themes

Theme	Definition	Example	% (*n*)
Validating / Support Responses			
Validation	Affirmation or confirmation that the survivor's reactions, emotions, or decisions are valid.	"You're okay now and it wasn't your fault, you did everything right!" - 19-year-old, Native-American /Alaskan Native, heterosexual woman	41.5 (68)
Nonjudgmental Listening	Listened in a nonjudgmental and accepting manner	"the person I told was very understanding and made me feel like I wasn't being judged. they were there for me and let me express everything I needed to." - 18-year-old, White, heterosexual woman	23.8 (39)
Sympathized	Showed sympathy and understanding; normalized the survivor's reactions or emotions	"Probably sympathizing with me and sharing their experiences so I don't feel alone." - 19-year-old, White, bisexual woman	19 (11.6)
Support	Stated that they would support the survivor long-term; provided comfort	"Told me that they are here for me and will be by my side with whatever direction I would go with the situation" - 19-year-old, White, heterosexual woman	30.5 (50)
Providing Aid			
Provided Aid	Encouraged or provided the survivor with formal help or resources; gave recommendations or suggestions.	"Just being there and listened my experienced and **helped me get more information for therapy**"	10.8 (18)

		- 18-year-old, Black, heterosexual woman	
Spent time	Spent time with the survivor; Provided physical comfort or affections (e.g. hugging, holding)	"**Spending time with me, holding me,** or telling me I did nothing wrong**."** - 19-year-old, White, pansexual woman	10.2 (17)

Table 10. Harmful Reaction Themes

Theme	Definition	Example	% (*n*)
Turned Against			
Blaming	Blamed the survivor or said it was her fault	"…It was my fault since I was intoxicated" - 19-year-old, Multi-ethnic, heterosexual woman	31.0 (40)
Disbelief	Expressed disbelief in survivor's account	"That it did not happen or that I was remembering the situation incorrectly…" - 18-year-old, White, heterosexual woman	14.7 (19)
Betrayal	Did not provide expected support; supported the perpetrator	"Getting told to get over it and that he didn't do anything wrong." - 18-year-old, White, heterosexual woman	7.8 (10)
Treat Differently	Started treating the survivor differently (e.g., infantilizing, treating like damaged goods, name calling).	"that in the future I needed to be watched and that I couldn't make decisions or go places on my own at parties." - 19-year-old, White, heterosexual woman	12.4 (16)

Dismissive	Dismissed survivor's account; did not listen; actively ignored the survivor	"to brush it off and move on" - 18-year-old, Asian-American, asexual woman	14.7 (19)
Minimized	Belittled the survivor's account; did not take it seriously	"Telling me it was not that serious." - 18-year-old, White, heterosexual woman	10.9 (14)
Unsupportive Acknowledgement			
Egocentric	Redirected focus to self	"They made it all about themselves and I ended up having to talk to them about their issues with it" - 18-year-old, White, heterosexual woman	14.0 (18)
Take Control	Made decisions for the survivor; told survivor what to do	"I think taking me to the police and making me talk to them was harmful because it's not what I really wanted to do at the time" - 19-year-old, Black, heterosexual woman	13.2 (17)

Table 11. Joint Display

Types	Themes M (SD)	N	V/S M (SD)	PA M (SD)	TA M (SD)	C M (SD)	Ego M (SD)
Helpful Validating and Supportive Response	Validation, Nonjudgmental Listening, Sympathized, Support	136	**1.63 (0.72)**	0.25 (0.53)	0.19 (0.38)	0.19 (0.44)	0.27 (0.53)
Helpful Providing Aid Response	Provided aid, Spent Time	38	1.49 (0.70)	**0.42 (0.57)**	0.32 (0.49)	0.37 (0.68)	0.32 (0.45)
Harmful "Unsupportive Acknowledgement" Response	Egocentric, Take Control	35	1.41 (0.79)	0.24 (0.50)	0.30 (0.54)	**0.44 (0.73)**	**0.48 (0.68)**
Harmful "Turned Against" Response	Blaming, Disbelief, Betrayal, Treat Differently, Dismissive, Minimize	92	1.51 (0.75)	0.27 (0.47)	**0.34 (0.50)**	0.30 (0.61)	0.31 (0.51)
Did not receive harmful response		42	1.64 (0.77)	0.25 (0.64)	0.01 (0.05)	0.03 (0.14)	0.06 (0.18)

**Note. V/S = Validating / Supportive subscale, PA = Providing Tangible Aid subscale, TA = Turned Against subscale, C = Controlling subscale, and Ego = Egocentric subscale*

DISCUSSION

Demographics of Study Population

The current study sought to further evaluate the psychometric properties of the modified SRQ in a sample of college women. The full sample of participants primarily identified as Non-Hispanic/Latina (89.6%, *n* = 456) and European American/White (72.1%, *n* = 367), with smaller portions of women identifying as Black, multi-ethnic, Asian/Asian-American, and other. The ethnic/racial demographics of the sample overall mirrored those of the undergraduate population (65.3% White, non-Hispanic; 16.3% Black or African American; 2.4% Asian or Asian-American; 7.5% Hispanic/Latina; 0.6 American Indian or Alaskan Native; 3.8% two or more races; ECU Fact Book, 2019), although the study population was more likely to be White, as were survivors of sexual assault.

Nearly a quarter of women (23.6%, *n* = 120) endorsed experiencing a completed sexual assault since the age of 14, with another 16.7% (*n* = 85) endorsing an attempted sexual assault. Notably, the rates of sexual assault in this study are higher in comparison to current research estimates within samples of college women. The study was advertised to female students enrolled in undergraduate psychology classes and provided details about the study, highlighting the researcher's interest in understanding college women's experiences with stressful events, including sexual assault. Therefore, it is likely that this advertisement attracted more women with a sexual assault history to participate, leading to these higher rates. Further, the majority of survivors disclosed the sexual assault to someone else (83.4%), most often a friend (82.5%), which is also consistent with prior research with college survivors. Specifically, research indicates that most women will disclose a sexual assault with an informal source, most often a friend (Ahrens, Campbell, Ternier-Thames, Wasco, 2007; Fisher, Daigle, Cullen, and Turner,

2003; Orchowski & Gidycz, 2012; Ullman, Starzynski, Long, Mason, and Long, 2008)). These disclosure experiences and the social reactions received can have an integral role in the post assault recovery process, supporting the need for valid and reliable measures of social reactions.

Internal Consistency of the Modified SRQ

The goal of this dissertation was to further evaluate the validity and reliability of the modified SRQ. Overall, the modified measure revealed mixed findings related to validity and reliability, with variability across analyses. First, the internal consistency of the subscales of the modified SRQ was investigated. Three of the subscales demonstrated adequate to good internal consistencies, with the validating/supportive, turned against, and controlling subscales all having good internal consistency. Conversely, the egocentric subscale and the providing aid subscale both displayed poor internal consistency. These results are similar to previous work with the modified SRQ, such that there were varying levels of internal consistency in the previously examined subscales. Further, in terms of the original measure, initial psychometrics revealed that internal consistency ranged from .77 to .93 across the seven subscales. It is possible that these two subscales demonstrated poor internal consistency in part due to the fact that each subscale only contains three items. Further, both of these subscales include items that are less frequently endorsed by participants. In particular, providing aid items tend to be less frequently endorsed than other forms of helpful reactions. For example, “Took you to the police,” an item from the providing aid subscale was endorsed by only 3.9% of participants.

Test-Retest Reliability of the Modified SRQ

Next, the two-week test-retest reliability of the modified SRQ was examined. A total of 32 participants completed time 2 an average 3 weeks after time 1. Four of the subscales demonstrated good reliability, which supports the reliability of the modified SRQ over a short

period of time (i.e. two to four weeks). However, the turned against subscale demonstrated moderate test-retest reliability and it is unclear why this may be the case. The psychometrics of the original SRQ likewise revealed good test-retest reliability among a sample of 50 college students, such that Pearson correlations were calculated between time one and time two surveys, administered 8 weeks apart, and correlations ranged from .64 to .81. Interestingly, the weakest test-retest reliability was found for the turned against subscale, which suggests that the SRQ subscales assessing blatant negative or harmful responses demonstrate weaker test-retest reliability. It is possible that over time, the survivors' perceptions of the harmfulness of these responses decreased. Specifically, the measure tasks survivors with thinking about harmful social reactions, which are likely associated with negative emotions. Perhaps as survivors thinks more about these harmful reactions, the negative emotions associated with the experience of receiving negative harmful reactions decreases, leading to changes in perceptions. Alternatively, because these negative harmful reactions were overall rarely received, and far outnumbered by supportive responses, it is possible that perceptions of the harmfulness of these responses may be more variable among survivors, given that they often occurred within the context of also receiving supportive responses.

Convergent Validity of the Modified SRQ

In terms of convergent validity, participant scores on the modified SRQ were compared with scores on measures of stigma, post-traumatic cognitions, and another measure of trauma disclosure. Results indicated that the modified SRQ displayed good convergent validity with other measures of disclosure and stigma, although it was not as strongly correlated with the measure of posttraumatic cognitions. Specifically, the harmful reaction subscales of the modified SRQ were significantly correlated with a measure of stigma, suggesting that receipt of harmful

reactions can exacerbate or create survivors' feelings of stigma related to their sexual assault. Further, the subscales of the modified SRQ were correlated with the subscales of the DTQ. Specifically, the validating/supportive response subscale was related to the urge to talk, suggesting that receiving emotionally supportive reactions may be associated with the survivor's urge to talk to others. Conversely, if a survivor has the urge to talk to others, she may have more disclosure experiences or engage in a more detailed disclosure, increasing the likelihood she receives a validating and supportive response. Similarly, the turned against subscale was related to reluctance to talk, perhaps indicating that receiving overtly harmful reactions may lead to more reluctance in disclosing. Further, all three of the harmful subscales were also positively moderately correlated with the emotional reaction subscale of the DTQ. This indicates that there is a relationship between receiving harmful reactions and experiencing more intense or negative emotions during the disclosure process, although it is unclear what the relationship between these factors may be. Lastly, the controlling subscale of the modified SRQ was moderately positively correlated with the negative cognitions about self subscale of the PTCI. One possibility is that items within the controlling subscale (i.e. "stop thinking about it") may be perceived in such a way that a survivor believes she cannot make decisions for herself and thus are associated with experiencing negative cognitions about herself and her abilities (i.e. "I cannot handle this"). On the other hand, a survivor may be experiencing negative cognitions about herself and her abilities following the sexual assault, thereby eliciting more controlling responses from informal sources. Of note, there were a few other correlates that fell just shy of the moderate range, indicating that there are likely still aspects of the modified SRQ that are associated with posttraumatic cognitions.

This extends previous work with the modified SRQ, which compared modified SRQ scores with measures assessing alcohol use, stress, depression, anxiety, social support, coping, and symptoms of posttraumatic stress disorder. This previous work found that the helpful subscales were correlated with engagement style coping and various types of social support, while the harmful reaction subscales were related to disengagement style coping, anxiety, and PTSD. Further, the original version of the SRQ also demonstrated good convergent validity, such that the mean number of positive and negative social reactions reported were correlated with measures of psychological functioning and social support (Ullman, 2000). Specifically, more negative reactions were related to more severe symptoms of PTSD (r =.42) and less self-esteem (r = -.20), while more positive reactions were related to perceived satisfaction with support from others (r = .52), frequency of social contact (r =.28), received support in the last month (r = .42), and self-esteem (r =. 19). Ultimately, the modified measure demonstrated good convergent validity, similar to previous work with the modified SRQ and the original version of the SRQ.

Qualitative Responses and the Modified SRQ

This study sought to further evaluate the modified SRQ by comparing the quantitative data with qualitative responses to 6 open-ended questions. Specifically, participants were asked to detail the most harmful and helpful reactions, respectively, they received as well as the reasons why they were helpful or harmful. Of note, there were more women (26.3%) that indicated they had not received a harmful social reaction, in comparison to women that indicated they had not received a helpful social reaction (1.2%). This is consistent with prior research, suggesting receiving harmful responses are fairly rare, particularly among informal support sources (Ullman & Filipas, 2001).

In terms of the helpful reactions, social reactions that validated the participant's experience (41.5%), provided support and comfort to the survivor (30.5%), and included nonjudgmental listening (23.8%) were the most commonly endorsed reactions in the written responses. On the other hand, the most commonly endorsed harmful reactions in the written responses were blaming reactions (32.5%), disbelief (15.4%), and dismissive responses (15.4%). These themes were further categorized as belonging to one of four types: helpful validating and supportive responses, helpful providing tangible aid responses, harmful "unsupportive acknowledgement" responses, and harmful "turned against" responses. Notably, the participant average scores on the subscales align well with the qualitative responses. Specifically, participants that described receiving more validating and supportive social reactions in their written responses have the highest average score on the validating/supportive response subscale (of the four main types). Similarly, participants who described receiving tangible aid also had to highest average score of the four types on the providing tangible aid subscale. Of note, it is unclear if the same person provided both the helpful and harmful responses.

Similarly, the two qualitative harmful types of reactions demonstrated similar patterns. In particular, participants who indicated receiving a turned against harmful response type had the highest average score on the turned against subscale. Additionally, participants who described experiencing unsupportive acknowledgment responses in their qualitative responses had the highest average scores on the egocentric and controlling subscales. Finally, participants who reported not receiving a harmful reaction had the lowest average scores across the three harmful reaction subscales, as well as the highest average score on the validating/supportive response subscale. This display demonstrates that observationally, scores on the modified measure of the SRQ aligns well with qualitative responses.

Limitations

There are several limitations with the current dissertation, which should be noted. First, participants were predominately White women in their first year of college. Therefore, it is unclear whether these findings would generalize to other groups, including women of color, survivors of different ages, or men. Further, this study utilized measures that were solely self-report. Although this is the best way to collect data on participant perceptions, it can lead to more inflated results due to a common method variance for the convergent validity analyses. Additionally, participants had a history of both attempted and completed rapes only, and thus it is not known whether results would generalize to survivors of other forms of sexual assault. However, I elected to only assess the experiences of survivors of these more severe forms of sexual assault given that they would be more likely to receive certain types of social reactions to their disclosures (e.g., turned against responses, tangible aid) than survivors of less severe assaults (e.g., coercion, unwanted touching).

Further, many of the reactions were not often received by participants. Specifically, survivors endorsed receiving fewer of the harmful social reactions in comparison to the helpful reactions. As such, it is likely that this lack of variation led to issues with skew and did not provide results that were completely representative of the full population of sexual assault survivors. In addition to reactions less often received, perceptions of some of the "negative" disclosure reactions received were generally not mixed, as has been posited in some prior research (Campbell, Ahrens, Sefl, Wasco, & Barnes, 2001; Dworkin, Newton, & Allen, 2016). Specifically, survivors who received each type of reaction generally perceived this reaction in alignment with whether the reaction was conceptualized as being positive or negative on the original SRQ. It is unclear why there was this discrepancy in the current study as compared to

prior research. It is likely that there are many other factors involved in survivor perceptions of the reactions they receive, which was not fully captured within the current study. Perhaps due to the fact that this study was primarily limited to survivors who had disclosed to informal sources of support, survivor perceptions of these reactions were more consistent. Indeed, it seems logical to posit that survivors disclosing to someone with whom they had a longer-term relationship (e.g., friend, family member) had well-elaborated expectations as to how they would respond. Thus, when the individual to whom they disclosed did not respond in the expected manner (e.g., by engaging in a controlling or egocentric response) this lack of alignment between survivor expectations and reactions received led to a more negative evaluation of this reaction. Conversely, survivors to disclosing to someone they do not know well (e.g., a police office) may be more likely to anticipate a highly negative turned against response (e.g., being blamed) and if instead receive an unsupportive reaction (e.g., a controlling or minimizing response) may view this reaction as less harmful as it was less negative than they anticipated.

Next, although the convergent validity of the modified SRQ was assessed with another measure of trauma disclosure, it was not assessed with another measure of social reactions as there are not any other measures of social reactions that are used consistently to assess disclosure experiences and social reactions received. This limitation is in part why the measure was evaluated alongside participant qualitative responses, leading to the last limitation. Specifically, in terms of the qualitative piece of this project, one limitation is that the researchers were in part guided by prior research on social reactions to sexual assault disclosures. As noted previously, the researchers were open to interpreting the existing data in order to identify and create elements and themes. However, some of this process was likely guided by their knowledge of

existing literature. This could perhaps have led to some biases in the qualitative interpretation of the data.

Clinical Implications

As noted previously, work in this area is critical to understanding the factors that may influence the post assault recovery process. Prior research has supported that social reactions are associated with both post-assault growth as well as the maintenance and exacerbation of negative consequences. Therefore, continued work in exploring the most helpful and harmful social reactions can theoretically improve post-assault outcomes. This is important not only for research and the continued development of measures to assess social reactions; it is also incredibly important for formal support providers interacting with survivors. Specifically, health care workers, are often formal sources of support for survivors. Therefore, this research could directly inform providers about the best and most helpful ways to respond to a sexual assault disclosure by a patient. In fact, a recent meta-analysis concluded that social support interventions have the potential to have a meaningful impact on PTSD symptom severity (Zalta et al., 2020). This suggests a need to develop intervention programs for support providers, both formal and informal, focused on assisting them in supporting survivors. Unfortunately, few such interventions have been developed or evaluated. However, these interventions have the potential to be critically important in facilitating trauma recovery. These interventions, across health care, as well as in training for other formal sources of support (e.g., first responder training, the police academy) could drastically improve how providers are responding, hopefully reducing the receipt and experience of harmful social reactions.

This research also has important implications for clinicians providing psychotherapy to sexual assault survivors. First it is important for clinicians to ask about sexual assault survivors'

disclosure experiences, as well as for clinicians to assist survivors at various stages of the disclosure process. Clinicians can reinforce helpful and validating responses survivors receive. Further, clinicians can provide psychoeducation on social reactions often received by survivors, both helpful and harmful. If the survivor has received a harmful reaction, the clinician can assist the survivor in processing through this reaction. Perhaps, if the clinician is providing trauma therapy, like cognitive processing therapy, the clinician may explore whether the harmful reactions have turned into stuck points for the survivor. Therefore, this may aid in identifying the stuck points that will be gently challenged during therapy, which would also allow the clinician to help collaborate with survivors in finding more helpful, balanced, and realistic thoughts. If a survivor has not disclosed or received a harmful reaction, the clinician can provide support in the process of disclosing to informal and formal sources. It would be important to note that although the survivor cannot control how others respond, assertive communication skills could be discussed, and the clinician can provide support following the disclosure experience. Overall, this research continues to provide support for the need to assess for these disclosure experiences, as well as providing a foundation of knowledge of what reactions may be helpful and harmful for survivors.

Future Research Directions

Overall, results were varied in regard to the reliability and validity of this modified version of the SRQ. Although the measure demonstrated good convergent validity with measures of disclosure and stigma, it was generally uncorrelated with posttraumatic cognitions. Similarly, the internal consistency and test-retest reliability were both varied across subscales, such that the turned against subscale demonstrated moderate test-retest reliability, while the providing tangible aid and egocentric response subscales revealed poor internal consistency. Of note, as mentioned

previously, there were not mixed responses as initially expected. Specifically, most participants viewed these reactions to be helpful or harmful, without much variation in perceptions.

Due to these varied results, future research could work to evaluate the psychometrics of this measure within other settings and populations. It is possible that the results from this study, utilizing a population of predominately White college women, would not generalize to other populations and settings. Therefore, research should examine the reliability and validity of this measure within different settings (e.g., community-based sample, veteran / military sample). Further, within these settings, it would be helpful to utilize more diverse samples, particularly in terms of age, sex, sexual orientation, race, and ethnicity. These various populations may perceive social reactions differently as well as be more likely to receive certain reactions, reflecting the influence culture may have on disclosure experiences.

It should be noted that there are many factors that may influence the survivor's perception of social reactions. In particular, the relationship with the disclosure recipient is a notable factor that can change how a survivor perceives the reaction. For example, "told you to stop talking about it" may be perceived differently if it comes from a parent versus a well-intentioned friend. Further, time is another important factor, both time since the assault and time since the disclosure experience. A reaction may be perceived more intensely (helpful or harmful) immediately following the assault or disclosure experience compared to an assault or disclosure experience that occurred years ago. Therefore, further work could evaluate whether the aforementioned variables are related to scores on the modified SRQ.

Research indicates that women receive more harmful social reactions when reporting to formal sources, such as police and medical personnel. Indeed, a recent systematic review found that disclosing to both informal and formal sources of support was related to more negative

social reactions (Ullman, 2021). Therefore, utilizing the modified SRQ with disclosure experiences related to formal reporting may yield more reports of harmful social reactions and thus enable clearer assessment of the psychometrics of the harmful reactions subscales. Further, research has examined how the original SRQ performs in other areas of trauma, particularly in assessing social reactions among survivors of interpersonal violence and child abuse. Therefore, future work could examine the performance of the modified SRQ in another trauma populations, such as survivors of domestic violence/interpersonal violence or adult child abuse survivors. Lastly, future work in this area could explore adjusting the rating scale of this modified measure, including utilizing a unipolar rating scale for each item (e.g., degree of harmfulness or helpfulness). Research in each of these areas will be important in determining the best way to assess social reactions to trauma disclosures to advance our understanding of the role of disclosure reactions in trauma recovery.

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Appendix A: Measures

Demographics
(for all participants)

First, we would like to know a little bit more about you. Please answer these questions to the best of your ability.

1. How old are you? ____ years

2. What is your gender?
___ Female
___ Other _____

3. Please describe your ethnicity.
___ Hispanic/Latina
___ Non-Hispanic/Latina

4. Tell us what you consider yourself (Mark all that apply).
___ White (Caucasian/ European or European American)
___ Asian/Asian American
___ Middle Eastern/ North African
___ Black/African American
___ Caribbean Islander
___ Native American/ Alaskan Native
___ Pacific Islander
___ Multi-ethnic
___ Other

5. What is your current academic standing?
___ Freshman
___ Sophomore
___ Junior
___ Senior
___ Masters student
___ Doctoral student
___ Other

6. Please describe your sexual orientation.
___ Heterosexual/straight
___ Lesbian
___ Bisexual
___ Pansexual
___ Queer
___ Asexual
___ Other_____

Assault Characteristics Questionnaire
(for participants who endorsed an unwanted sexual experience)

Please take a few minutes to think about your experience or experiences with unwanted sexual contact that occurred after you turned 14.

First, how many of these experiences have you had since you turned 14? ____

If you have had more than one such experience, please complete the following questions regarding what you would consider to be your worst experience with unwanted sex.

How old were you when this experience occurred? ____

What was the gender of the other person(s) involved?
___ Male
___ Female
___ Involved both males and females
___ Other

What was your relationship with the other person or persons at the time of this experience?
____ Stranger
____ Just met
____ Acquaintance (classmate, member of brother fraternity/sister sorority, friend of a friend)
____ Friend
____ Dating casually/hook-up partner/friend with benefits
____ Steady date
____ Romantic partner/boyfriend/girlfriend/spouse
____ Relative (cousin, sibling, stepsibling, parent, aunt/uncle, etc.)

What consensual physical activities had you engaged in with this person before this experience?
____ None
____ Kissing only
____ Petting, mutual masturbation, and/or dry humping
____ Sexual intercourse, oral sex, and/or anal sex

How much alcohol had you consumed at the time of the experience (1 drink = 1 pint of beer, 1 shot or 1 small mixed drink)? *Please estimate.*
____ drinks

Were you using other drugs at the time of the experience?
___ No
___ Marijuana
___ Other drugs, Please write _____

How much alcohol do you think the other person had consumed at the time of the experience (1 drink = 1 pint of beer, 1 shot or 1 small mixed drink)? *Please estimate if you can.*
____ drinks
____ don't know

What drugs do you think the other person(s) was using at the time of the experience?
___ None or don't know
___ Marijuana
___ Other drugs, Please write _____

In what ways were you "out of it" during the experience *as a result of drinking alcohol or using drugs*? (mark all that apply)
___ Asleep
___ Unconscious (blacked out)
___ Had difficulty speaking
___ Had difficulty moving limbs (arms, legs)
___ Had difficulty walking
___ Other, Please write _____

What did the other person (s) do during the experience to try to get you to engage in sexual activity with him or her (mark all that apply)?
___ Non-verbal threats, intimidation
___ Verbal threats to harm you or others
___ Used his or her body weight
___ Twisted your arm or hold you down
___ Hit or slap you
___ Choked or beat you
___ Showed or use a weapon
___ Other, Please write _____

What did you do during the experience to show that you did not want to engage in that sexual activity (mark all that apply)?
___ Turned cold
___ Tried to reason or plead with the person
___ Said "no" or "stop"
___ Cried
___ Screamed for help
___ Ran away
___ Physically struggled
___ Hit/kicked/punched/scratched/bit the other person
___ Other, Please write _____

How many people were involved in this experience?
___ One
___ More than one. Write how many. _____

How many times did you have this type of experience with this person or people?
___ times

After this experience, did you continue to have a relationship with the person or people? Yes No

Did your experience with unwanted sex result in any of these consequences (mark all that apply)?
___ Loss of virginity
___ Physical injury
___ Pregnancy
___ Sexually transmitted infection (STI)

What term do you think best describes your experience?
___ Rape
___ Attempted rape
___ Sexual assault
___ Some other type of crime
___ Miscommunication
___ Bad sex
___ Hook-up
___ Seduction
___ Not sure
___ Other, Please write _____

Have you told anyone about your experience?
___ Yes
___ No

How many people have you told? _____

What was your relationship with the person or people you told (mark all that apply?)
____ Parent or stepparent
____ Sibling or stepsibling
____ Other relative
____ Friend
____ Boyfriend/date/partner
____ Police
____ Doctor/nurse/health care provider
____ Therapist/counselor
____ Priest/minister/rabbi
____ Stranger or someone you just met

Social Reactions Questionnaire - Modified
(for participants who endorsed an unwanted sexual experience)

Now we would like to hear about how other people responded to you when you told them about your unwanted sexual experience. The following is a list of behaviors that other people often show. Please indicate if you have received each of the listed responses from other people by clicking yes or no. If yes, please indicate how helpful or harmful this response was to you by clicking the number that goes with your answer.

(for participants who did not endorse an unwanted sexual experience)
Now we would like to hear about how other people responded to you when you told them about your stressful experience. The following is a list of behaviors that other people often show. Please indicate if you have received each of the listed responses from other people by clicking yes or no. If yes, please indicate how helpful or harmful this response was to you by clicking the number that goes with your answer.

People you told about the experience…	Extremely harmful	Moderately harmful	Somewhat harmful	Neutral	Somewhat helpful	Moderately helpful	Extremely helpful
1. Told you it was your fault		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
2. Pulled away from you		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
3. Wanted to seek revenge on the perpetrator		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
4. Told others about your experience without permission		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
5. Comforted you by telling you it would be all right or by holding you		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
6. Told you he/she felt sorry for you		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
7. Told you that you were not to blame		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
8. Treated you differently in some way than before you told him/her that made you uncomfortable		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
9. Tried to take control of what		Yes				No	

you did/decisions you made							
If yes…	-3	-2	-1	0	1	2	3
10. Focused on his/her own needs and neglected yours		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
11. Told you to go on with your life		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
12. Held you or told you that you are loved		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
13. Reassured you that you are a good person		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
14. Encouraged you to seek counseling		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
15. Told you that you were to blame or shameful because of this experience		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
16. Said he/she feels personally wronged by your experience		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
17. Told you to stop thinking about it		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
18. Listened to your feelings		Yes				No	

If yes…	-3	-2	-1	0	1	2	3
19. Saw your side of things and did not make judgments		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
20. Helped you get information of any kind about coping with the experience		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
21. Told you that you could have done more to prevent this experience from occurring		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
22. Acted as if you were damaged goods or somehow different now		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
23. Expressed so much anger at the perpetrator that I had to calm him/her down		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
24. Told you to stop talking about it		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
25. Showed understanding of your experience		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
26. Told you that you were irresponsible		Yes				No	
If yes…	-3	-2	-1	0	1	2	3

27. Minimized the importance or seriousness of your experience		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
28. Said he/she knew how you felt when he/she really did not		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
29. Was able to really accept your account of your experience		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
30. Spent time with you		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
31. Told you that you did not do anything wrong		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
32. Seemed to understand how you were feeling		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
33. Believed your account of what happened		Yes				No	
If yes…	-3	-2	-1	0	1	2	3
34. Provided information and discussed options		Yes				No	
If yes…	-3	-2	-1	0	1	2	3

Open-ended Disclosure Reaction Prompts

Please take a moment and answer each of the following questions as it relates to your unwanted sexual experience and your disclosure experiences.

1. Thinking back to all your experiences disclosing your stressful experience, what was the most helpful response you received?
2. What was your relationship with the person who responded in this way?
3. What made this response so helpful?
4. Thinking back to all your experiences disclosing your stressful experience, what was the most harmful response you received?
5. What was your relationship with the person who responded in this way?
6. What made this response so harmful?

Appendix B: Subscales of the Modified SRQ

Subscale	**Items**
Validating / Supportive (Helpful scale)	
	1. Told you it was not your fault 6. Comforted you by telling you it would be all right or by holding you 9, Told you that you were not to blame 14. Held you or told you that you are loved 15. Reassured you that you are a good person 22. Listened to your feelings 23. Saw your side of things and did not make judgments 30. Showed understanding of your experience 39. Was able to really accept your account of your experience 40. Spent time with you 41. Told you that you did not do anything wrong 46. Seemed to understand how you were feeling 47. Believed your account of what happened
Providing Tangible Aid (Helpful scale)	
	16. Encouraged you to seek counseling 24. Helped you get information of any kind about coping with the experience 48. Provided information and discussed options
Turned Against (Harmful scale)	
	2. Pulled away from you 4. Told others about your experience without permission 10. Treated you differently in some way than before you told him/her that made you uncomfortable 11. Tried to take control of what you did/decisions you made 17. Told you that you were to blame or shameful because of this experience 20. Said he/she feels personally wronged by your experience 25. Told you that you could have done more to prevent this experience from occurring 26. Acted as if you were damaged goods or somehow different now 33. Told you that you were irresponsible 34. Minimized the importance or seriousness of your experience
Controlling (Harmful scale)	
	13. Told you to go on with your life 21. Told you to stop thinking about it 29. Told you to stop talking about it 35. Said he/she knew how you felt when he/she really did not
Egocentric (Harmful scale)	
	3. Wanted to seek revenge on the perpetrator 7. Told you he/she felt sorry for you

28. Expressed so much anger at the perpetrator that I had to calm him/her down

Appendix C: IRB Approval

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** ·
rede.ecu.edu/umcirb/

Notification of Initial Approval: Expedited

From: Social/Behavioral IRB
To: Laura Haney
CC: Heather Littleton
Date: 12/6/2019
Re: UMCIRB 19-002570
Examining a Measure of Social Reactions

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) occurred on 12/6/2019. The research study is eligible for review under expedited category # 7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a Final Report application to the UMCIRB prior to the Expected End Date provided in the IRB application. If the study is not completed by this date, an Amendment will need to be submitted to extend the Expected End Date. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Name	Description
Consent Form_Examining a Measure of Social Reactions	Consent Forms
DissertationProposal	Study Protocol or Grant Application
Measures Packet	Surveys and Questionnaires
Sona Recruitment	Recruitment Documents/Scripts
Study Protocol for Examining Social Reactions	Study Protocol or Grant Application

For research studies where a waiver of HIPAA Authorization has been approved, each of the waiver criteria in 45 CFR 164.512(i)(2)(ii) has been met. Additionally, the elements of PHI to be collected as described in items 1 and 2 of the Application for Waiver of Authorization have been determined to be the minimal necessary for the specified research.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.