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Differences in the type and sequence order of self-defense behaviors during a high-risk victimization scenario: Impact of prior sexual victimization

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Differences in the Style and Sequence of Self-Defense Behavior in Relation to Sexual

Victimization in College Women using a Laboratory-Based Scenario

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ABSTRACT

Objective: During a potential sexual assault experience, an active, assertive behavioral response to threat (BRTT) can be protective while a non-assertive BRTT may increase risk. However, little is known about how the sequence of behaviors that a woman engages in during a threatening situation may be related to sexual victimization. The present study investigated the style and sequence of behaviors in college women's behavioral response to threat using a lab-based date rape self-defense scenario.

Method: 135 college women (113 with a history of sexual victimization) completed a lab-based self-defense scenario in which the threat stimuli and situational context were standardized. Participants also completed a comprehensive assessment of multiple BRTT styles and the sequence of behaviors utilized.

Results: Most participants endorsed likely using multiple BRTT styles during the hypothetical scenario. Participants with a history of sexual victimization were more likely to endorse diplomatic and immobile style behaviors and using immobile behaviors earlier in the sequence than participants without a victimization history.

Conclusions: Prior research has typically assessed whether respondents are likely to engage in one type of BRTT. The present results indicate that women often anticipate using multiple BRTT strategies and that these strategies are likely situation-dependent. Further, women with a history of sexual victimization may utilize different BRTT styles likely as a result of their prior traumatization.

Differences in the Style and Sequence of Self-Defense Behavior in College Women using a

Laboratory-Based Scenario

One-quarter of college women experience rape while on campus (Carey, Durney, Shepardson, & Carey, 2015); the experience of rape and other types of sexual victimization is associated with a wide range of negative physical and mental health sequelae (Martin, Macy, & Young, 2011). Indeed, rape is the number one cause of PTSD in civilians (Breslau et al., 1998). In comparison to approaches like attitude change programs, the science of interventions to reduce situational risk factors for rape is nascent (Ullman & Najdowski, 2011). Some of the most promising sexual assault risk reduction interventions draw from the tradition of Feminist Self-Defense (FSD; Gidycz & Dardis, 2014). FSD challenges rape myths and teaches participants to engage in assertive behavioral responses to threat (assertive BRTT) when threatened (Senn et al., 2015; Simpson Rowe, Jouriles, & McDonald, 2012, 2015). However, evidence suggests that FSD interventions typically have small effect sizes (Orchowski, Gidycz, & Raffle, 2008; Senn et al., 2015) and may be more difficult to implement in certain situations such as with known partners (Clay-Warner, 2002). The efficacy of risk reduction interventions for at-risk women may be enhanced by a greater understanding of BRTT including how prior sexual victimization may change BRTT. Following, the present study aimed to examine the selection and sequence of behaviors from three common styles of BRTT (assertive, diplomatic, and immobile) that women anticipated engaging in during a standardized high-risk sexual assault scenario (described below). We specifically focused on a population at high risk for sexual assault: college women with a history of sexual victimization.

BRTT encompasses any behavior (voluntary or involuntary) that is elicited by the threat of sexual assault (Anderson & Cahill, 2015). Qualitative research supports this broad, inclusive

definition; multiple studies have found that women's responses to threat include a wide variety

of both assertive (e.g., resistance) and non-assertive (e.g., compliance) behaviors. In these

studies, approximately 30% of participants described behavioral responses that were not

assertive (Anderson, Brouwer, Wendorf, & Cahill, 2016; Masters, Norris, Stoner, & George,

2006). Only two styles of non-assertive BRTT have been consistently characterized by past

research: diplomatic style responses (those that attempt to accommodate social and interpersonal

concerns) and immobile style responses (those characterized by "freezing" or a lack of ability to

respond; Nurius, Norris, Young, Graham, & Gaylord, 2000).

Theoretical Models of Behavioral Response to Threat

One of the most prominent models for understanding BRTT is the cognitive-ecological

model of women's coping responses to male sexual aggression (Nurius & Norris, 1995). This

model focuses on the immediate antecedents of BRTT and how BRTT are influenced by

situational factors (social norms, behavioral expectations) that are mediated by cognitive and

emotional processing. The cognitive-ecological model is consistent with criminological

approaches emphasizing reducing risk by focusing on reducing the number of risky situations;

primarily through so-called "target hardening" strategies (Hebenton, 2011). Target hardening, or

reducing the vulnerability of potential victims, is consistent with FSD.

Incarcerated sexual offenders report that as many as 50% of their attacks were prompted

by situational cues (e.g., noticing a potential victim is in an isolated situation), and approximately

three-quarters of offenders consider whether they will get caught before acting (Beauregard &

Leclerc, 2007). In experimental work with college students, college men were less likely to act

aggressively when presented with more assertive BRTT (Hoyt & Yeater, 2011). The relative

efficacy of diplomatic and immobile behavior is unclear, but non-forceful behavior on the part of

the person attacked is associated with increased risk for rape in some research (for a review see Anderson & Cahill, 2015). Prior research has shown that BRTT are highly sensitive to the specific context and situation of the attack. Important contextual/situational factors include the relationship to the attacker, emotional reactions, physical setting, and the intensity of the threat (Anderson & Cahill, 2014; Clay-Warner, 2002, 2003; Nurius et al., 2000). Therefore, stimulus standardization is important for research characterizing and identifying predictors of BRTT in order to elucidate risk attributed to individual differences vs. situations.

BRTT and Sequence

In order to address the extreme heterogeneity in sexual victimization experiences, researchers have developed and assessed BRTT in response to standardized stimuli (Jouriles, Simpson Rowe, McDonald, Platt, & Gomez, 2011; Yeater & Viken, 2010). However, these studies have typically focused on only one type of BRTT, such as refusal intensity (Anderson & Cahill, 2014; Jouriles et al., 2009, 2011; Yeater & Viken, 2010). Women often employ multiple behaviors when reacting to a threatening situation, spanning multiple styles of BRTT (Clay-Warner, 2002). Indeed, research suggests that styles of BRTT may be better conceptualized as non-orthogonal continua rather than discrete, singular dichotomies (Anderson & Cahill, 2015). It is possible that the full range of BRTT behaviors and the sequence in which they are implemented may be related to subsequent risk. For instance, although two women may both engage in assertive behavior during a potentially threatening situation, it is likely that the earlier a woman engages in assertive behavior, the larger the protective effect will be. To wit, in research examining the effect of assertive BRTT on the odds of sustaining a physical injury during a sexual assault, investigators have made opposite conclusions in different studies, at least partially because the sequence of BRTT was unknown (Wong & Balemba, 2016). The use of

lab-based scenarios, in conjunction with comprehensive assessment of multiple styles of BRTT and the sequence in which different BRTT styles are employed, is greatly needed to better understand the situational and psychological factors that facilitate different types of BRTT.

BRTT and Sexual Victimization

Research has consistently found a link between sexual victimization history and the use of non-assertive BRTT (Anderson & Cahill, 2015). Women with a history of sexual victimization report more immobile style behavior during subsequent assaults, choose less intense refusal options from an array of choices, and escalate the intensity of their responses less quickly than women without a history of sexual victimization (Crawford, Wright, & Birchmeier, 2008; Gidycz, Van Wynsberghe, & Edwards, 2008; Messman-Moore & Brown, 2006; Yeater & Viken, 2010). Yet the exact relationship of sexual victimization to non-assertive BRTT is unclear. The cognitive-ecological model suggests that experiences of sexual victimization alter one's ability to process threatening information by altering emotional processes and expectancies regarding the interpretation of coercive behavior (Nurius & Norris, 1995). Thus, a person who has been repeatedly sexually victimized may come to see these experiences as more normative and adjust expectations for safety downward. Age of prior sexual victimization is also likely an important factor; theories of developmental psychopathology highlight the importance of early experiences (Cicchetti & Toth, 2009) and the effectiveness of various BRTT would likely vary by age. Some research has demonstrated a direct link between childhood sexual abuse (CSA) and less effective BRTT (Stoner et al., 2007). Others have found that the effects of CSA were mediated by other variables such as risk-taking behavior (Fargo, 2008; George et al., 2014). Research on developmental revictimization, or the experience of sexual victimization in childhood and additionally in another developmental period, has found that developmental

revictimization is associated with less effective BRTT (Messman-Moore & Brown, 2006). Yet rarely does research control for age of prior victimization, the characteristics of the situation, or the sequence or specific behaviors of BRTT.

Current study

Prior work has highlighted the association between sexual victimization history and BRTT. However, the extreme heterogeneity of situations in which sexual assaults occur presents potentially confounding variables (Gidycz et al., 2008; Nurius, Norris, Macy, & Huang, 2004; Nurius et al., 2000; Turchik, Probst, Chau, Nigoff, & Gidycz, 2007). The goal of the current study was to comprehensively assess multiple styles and the sequence of BRTT in at-risk college women using a standardized threat stimulus. We sought to investigate both victimization history and sequence as key variables for understanding BRTT. Specifically:

1. We hypothesized that there would be group differences at both the item and total score level for BRTT and that participants with sexual victimization histories would have higher diplomatic and immobile BRTT scores. We analyzed victimization history three ways (any victimization: yes/no, any CSA: yes/no, developmental revictimization: yes/no) in order to examine how the age of victimization may be related to BRTT.

2. We aimed to describe the sequence of behaviors in college women's BRTT and explore potential group differences in sequence. Given the exploratory nature of this aim, we made no specific hypotheses. We present these analyses both descriptively (Figure 1) and statistically.

Method

Participants

Participants were 135 college women with a mean age of 22.76 (*SD* = 5.75). Participants were recruited from a single Midwestern university. Participants were mostly Caucasian (76.3%) and heterosexual (88.9%); 17.8% identified as African American, 5.9% as Asian/Asian American, 4.4% as Native American, and 4.4% as Latina. To ensure a large number of participants would have a history of sexual victimization, potential participants (N = 508) were screened for eligibility. The Childhood Trauma Questionnaire-Childhood Sexual Abuse Short Form (CTQ-CSA; 5 items, Bernstein et al., 1994) and items 8-13 from the Sexual Experiences Survey (Koss & Oros, 1982) were used to screen all potential participants. All participants with a history of repeated sexual victimization were invited to participate as were approximately one in every three participants without a history of sexual victimization. However, groups were more lopsided than expected, likely due to our comprehensive measurement strategy (see Measures below).

Procedures

The Institutional Review Board of the first author's university approved the following procedures. Participants who screened positive for eligibility were directed to the study website hosted in the SONA experiment management system to sign up for a private, individual appointment to complete the study. At the study appointment, participants completed an interactive informed consent with a female research assistant who then provided instructions on how to complete the analog self-defense scenario and the study questionnaires. The administration of the self-defense scenario and the questionnaires was counterbalanced; 71 participants completed the scenario first, 64 completed the questionnaires first.

BRTT scenario. Prior research has found significant relationships between the style of BRTT used in a hypothetical scenario and the type used in response to actual threats experienced

during a follow-up period (Gidycz et al., 2008; Turchik et al., 2007), underscoring the validity of vignette stimuli. BRTT were elicited and measured using a previously validated, adapted version of the response latency paradigm as a lab-based assessment of self-defense behavior (Anderson & Cahill, 2014; Marx & Gross, 1995). The vignette was created by paid actors and has been rated as realistic by both male and female undergraduates (Marx & Gross, 1995). This paradigm has demonstrated good evidence of construct validity (Gross, Weed, & Lawson, 1998; Tuliao, Hoffman, & McChargue, 2017). Evidence of convergent validity has also been found: men's scores are associated with frequency of sexual perpetration and calloused sexual beliefs (Bernat, Stolp, Calhoun, & Adams, 1997) and women's scores are associated with sexual victimization (Soler-Baillo, Marx, & Sloan, 2005).

The vignette depicts a stereotypical dating scenario (Siebenbruner, 2013) that gradually escalates to violence. Participants listen to an audio recording of a generic heterosexual couple talking in the man's apartment after a date at the movies. Participants are instructed to imagine themselves in the scenario and to listen carefully. The recording begins with mutual, consensual interaction, pleasant conversation leading to kissing. However, the man's behavior quickly escalates and becomes progressively more coercive. At a predetermined point unknown to the participant, the recording automatically pauses, and participants record their hypothetical response to the situation (Anderson & Cahill, 2014; Pumphrey-Gordon & Gross, 2007) via a standardized questionnaire (see next section). The vignette was stopped at a point associated with a moderate level of threat based on past research (Anderson & Cahill, 2014). Specifically, the recording was stopped after 138 seconds, at which point the man has twice violated the woman's explicitly stated boundaries by touching her breasts and then touching her buttocks. The recording ends with the woman saying angrily, "Haven't you been listening? I just told you not

to touch my chest, and now you touch my butt." Figure 2 displays a partial transcript of the recording.

Materials

      Behavioral response to threat. The Behavioral Response Questionnaire (Nurius et al., 2000) was used to assess 27 different hypothetical behavioral responses to threat; items were presented in a fixed order. This measure was developed empirically and iteratively with sexual assault survivors (Nurius et al., 2000). Participants were given the following instructions, "The following items include a variety of ways women might respond to uncomfortable or threatening situations. We have listed some of them here to better understand how you would react in response to the situation you just listened to." Participants rated each item on a five-point Likert scale from 0 "not at all like my response" to 4 "very much like my response." Each BRQ item belongs to one of three subscales. Assertive items directly challenge the threat; for example, "tell him clearly and directly that I want him to stop," "push him away," and "become physically defensive (e.g. hit, kick, scratch)". These items are consistent with the behavior advocated by FSD interventions, (BRQ-A; twelve items, alpha = .83). Diplomatic scale items indirectly or gently challenge the threat (BRQ-D; nine items, alpha = .69). An example item is, "jokingly tell him he is coming on too strong." Items from the immobile scale represent a lack of response related to extreme emotional distress (BRQ-I; six items, alpha = .59). An example from the immobile scale is, "…I feel almost paralyzed and unresponsive". Although the immobile scale reliability was low, it is similar to other published research examining BRTT within the cognitive-ecological model (alpha = .54, Macy, Nurius, & Norris, 2007). All BRQ items are listed below in Table 2.

After completing the individual ratings of each item, participants were instructed to indicate at least the first five items they thought would be the most effective in resolving or ending the situation. They were further asked to indicate the order in which they would take each action. For sequence analyses, we only used items that participants rated as "somewhat likely" or greater.

Victimization history questionnaires. Victimization history questionnaires are listed below in the order of administration. A total of 48 items were used.

The Childhood Trauma Questionnaire – Childhood Sexual Abuse subscale (CTQ-CSA; Bernstein et al., 1994) was administered to assess history of CSA. The CTQ-CSA has demonstrated validity and reliability, including test-retest (Bernstein et al., 1994). The CTQ-CSA contains five items describing experiences before age 14 such as "someone threatened to hurt me or tell lies about me unless I did something sexual with them" rated on a scale from 0 "never true" to 5 "very often true." Nearly one half of the sample (45.1%) endorsed CSA.

The Revised Conflicts Tactics Scales – Sexual Coercion subscale (CTS2-SC;Straus, Hamby, Boney-McCoy, & Sugarman, 1996) was used to assess sexual victimization within intimate partnerships. The CTS2-SC was included as prior research has demonstrated that sexual victimization within romantic partnerships is common and frequently underestimated by measures of general sexual victimization (Moreau, Boucher, Hébert, & Lemelin, 2014). The CTS2-SC has demonstrated adequate validity and reliability in prior research, including test-retest reliability (Simpson & Christensen, 2005; Vega & Malamuth, 2007). Respondents make a frequency rating for how often each behavior occurred in the past year (0, 1, 2, 3-5, 6-10, 11-20, 20+, not in the past year but it did happen before).

The Sexual Experiences Survey-Short Form Victimization (SES-SFV; Koss et al., 2007) was used to assess adolescent/adult sexual victimization since age 14. The SES-SFV contains seven stem items which describe a sexual behavior followed by five possible coercive tactics for a total of 35 items assessing sexual victimization. An example item is, "someone had oral sex with me or made me have oral sex with them without my consent by taking advantage of me when I was too drunk or out of it to stop what was happening." Due to an error in data collection, one of the compound items was accidentally omitted for the first 56 participants. Item-level analysis indicated that in the remaining sample, all participants who endorsed the missing item (item 6) endorsed at least two other SES-SFV items making it unlikely that participants missing this item were misclassified. The psychometric properties of the SES-SFV in women appear adequate with good evidence of validity demonstrated by correlations with measures of psychological distress (Davis et al., 2014) and adequate test-retest reliability (Johnson, Murphy, & Gidycz, 2017). Most of the sample endorsed sexual victimization on the SES-SFV or the CTS2-SC (81.4%).

We did not calculate Cronbach's alpha for the CTQ-CSA, the SES-SFV, or the CTS2-SC consistent with recommendations that internal consistency is less relevant for measures of behavioral experiences (Diamantopoulos, Riefler, & Roth, 2008; Koss et al., 2007). More specifically, internal consistency is a relevant measure for questionnaires that assess a latent construct. In the case of sexual victimization, there is no latent construct that in and of itself induces sexual victimization given that sexual victimization is inherently caused by another person besides the victim (Koss et al., 2007). Thus, test-retest reliability is a more important measure of reliability for measures of behavioral experiences, such as sexual victimization.

We next created three dichotomous variables to examine victimization history: any sexual victimization history, CSA history, and developmental revictimization history.Scores from the CTQ-CSA, CTS2-SC, and SES-SFV were used to assess any sexual victimization history. If participants endorsed sexual victimization in childhood (via the CTQ-CSA) as well as in adolescence/adulthood (via the CTS2-SC or the SES-SFV), they were coded as experiencing developmental revictimization. Approximately one-third of the sample (31.9%) endorsed developmental revictimization.

Results

Participants without a history of sexual victimization were younger in age than those with a sexual victimization history, $t(81.98) = -2.42$, $p = .02$, thus age was controlled for in relevant analyses. Next, we determined whether BRQ item ratings or rankings were affected by counterbalance condition. Using a conservative standard to control for multiple comparisons ($p < .01$), two items were affected by counterbalance condition (items 9 and 25), such that participants in the scenario first condition rated these items more highly. There was also a difference for counterbalance condition such that participants in the scenario first condition provided an average of twice as many rankings, $t(98.24) = 4.18$, $p < .001$, Cohen's $d = .73$. As a result, counterbalance condition was controlled for in analyses.

Aim 1. Table 2 presents the number of "1" rankings and mean ratings for each BRQ item. Parentheses are used to indicate the item subscale (A = assertive, D = diplomatic, I = immobile).

Mean Item Scores. Of the five most highly rated items, groups differed on only one item. Participants with any history of sexual victimization (coded dichotomously) and those with a history of developmental revictimization were more likely to rate item 6 highly: "shrug or turn my body away" ($F(1, 134) = 10.35$, p $= .002$; $F(1, 134) = 3.26$, p $= .04$, respectively).

Item Rankings. The mean number of rankings provided was 5.52 (SD = 2.73), range 0 –

17. There was no relationship between number of rankings and CSA or victimization history.

Approximately one-third of participants (n = 45) ranked all three types of BRTT. Participants

with a history of sexual victimization were more likely to rank any immobile behavior, F(1,134)

= 7.16, p = .008 as were participants with a history of CSA, F(1,134) = 5.27, p = .02, and

participants with a history of developmental revictimization, F(1,134) = 3.40, p = .04. Ranking

assertive behavior was negatively correlated with ranking immobile behaviors r(113) = -.26, p

=.006 for those with a history of sexual victimization; there was no relationship for those without

a history of sexual victimization.

Total Scores. To examine victimization history group differences in BRTT styles during

the scenario, three separate ANCOVAs controlling for counterbalance condition and age were

conducted for each BRQ subscale score (summed). There were no group difference for total

assertive scores, F(1, 133) = 2.54, p = .11, d = .35; however, participants with a history of sexual

victimization had significantly higher diplomatic and immobile scores, F(1, 133) = 4.78, p = .03,

d = .46 and F(1, 133) = 4.57, p = .03, d = .43, respectively. Results were marginal for diplomatic

and immobile scores when examined by history of developmental revictimization. There were no

significant differences when examining CSA history. Means for BRTT scores and correlations

by group are reported in Tables 3 and 4.

Aim 2.

Descriptive results. As most participants ranked at least three behaviors, we analyzed the

first three ranked behaviors. Most participants began with a diplomatic behavior (n = 65), and

one-third remained diplomatic in their first three ranks (n = 22). Approximately one-third of

participants ranked an assertive behavior first (n = 47), yet only eight remained assertive in the

next two ranks. Thus, most participants who began assertive de-escalated their responses

(83.0%). Fourteen participants (10.4%) began with an immobile behavior; only one participant

was consistently immobile in all three ranks.

Figure 1 demonstrates the sequence of responses in ranks 1-3 among participants who

started with a diplomatic response, with the number of victimized and non-victimized

participants depicted graphically with each rank. The x's and o's represent the number of

participants with (x) and without (o) a history of victimization who selected a behavior of that

style of BRTT at each ranked step. The arrows indicate movement between types of BRTT from

rank 1 to rank 2 and rank 2 to rank 3. We limited our figure to the first three ranks of participants

selecting a diplomatic behavior at rank 1 due to the complexity of graphically illustrating all the

potential sequences.

Relationship to sexual victimization. Next, analyses were computed to examine

whether victimization history affected sequence by computing chi-squares to assess whether the

number of participants with a victimization history varied at each rank. Specifically, choosing an

immobile behavior at rank 2 and 3 was associated with developmental revictimization, $F(2, 126)$

$= 6.34$, $p = .002$. Choosing an immobile behavior at rank 3 was associated with CSA, $F(1, 127) =$

8.83, $p = .004$.

Relationship of rank 1 choice to rank 2 choice. In order to assess whether rank 1

decisions affected rank 2 decisions we computed a multinomial logistic regression with rank 1

choices dummy coded. We were only able to assess the impact of rank 1 on rank 2 given the

power limitations of our small sample. We did not include sexual victimization in this analysis as

the almost perfect prediction of sexual victimization to immobile responses destabilized the

model. We utilized the assertion category as the reference category given our interest in non-

assertive behavior and findings on victimization history. Choosing a diplomatic behavior at rank 1 was a significant predictor of choosing a diplomatic behavior at rank 2 (B = 20.13, p < .001) and the overall model was significant, Nagelkerke R^2 = .34, p < .001.

Discussion

Sexual victimization is common among college women, but there are relatively few effective interventions to reduce the risk of sexual victimization. Further, research and interventions on situational risk factors for sexual victimization is limited. The present study is one of the first to examine multiple styles of the target behavior of FSD, BRTT, in participants with and without a history of sexual victimization using a standardized threat stimulus and informed by the cognitive-ecological model.

Despite the moderate risk vignette that participants were exposed to, and the assertive behavior of the woman in the vignette which may have primed assertion, many reported that they would be likely to respond with non-assertive behavior in this situation. Indeed, consistently assertive behavior was rare in the sequence analysis; most participants (83%) who began by ranking an assertive behavior subsequently de-escalated their response. This finding is perhaps not shocking given gender stereotypes about dating and sexual behavior (Masters, Casey, Wells, & Morrison, 2013) and the high victimization rates in our sample. Yet,in this specific vignette, any behavior that is not assertive may be risky as the efficacy of diplomatic and immobile behavior is unknown. The efficacy of diplomatic responses is likely highly situation-dependent and may be particularly sensitive to social context.

Consistent with our hypotheses and prior research, in Aim 1 we found that participants with a history of victimization were more likely to endorse diplomatic and immobile styles of BRTT including differences in the specific behaviors endorsed. Consistent with the cognitive-

ecological model, it is likely that women with a history of victimization had to overcome more barriers (psychological symptoms, lower risk perception) to enact assertive behavior. This was further underscored in Aim 2. Indeed, there was a negative relationship between ranking assertive behavior and immobile behavior for women with a history of any sexual victimization, but there was no significant relationship for those without a history of sexual victimization. Research consistently shows that women juggle competing demands when responding to a threat of sexual assault (Nurius et al., 2004). These demands are likely heightened for women with a history of sexual victimization. For example, women with a history of sexual victimization and greater relationship expectancies are more likely to endorse diplomatic BRTT (Macy et al., 2007). This suggests that BRTT for women with a history of victimization may be less focused on their safety than the interpersonal elements of these situations. Indeed, diplomatic behavior at rank 1 predicted diplomatic behavior at rank 2. Altogether, these results suggest that changes in BRTT may be a mechanism of repeated sexual victimization and that interventions directed at identifying situational risk may be effective.

To wit, examination of Figure 1 reveals that *only* participants with a history of sexual victimization ranked an immobile behavior at rank 2 or 3. While this is consistent with clinical work suggesting a strong relationship between immobile behavior and past sexual trauma (Heidt, Marx, & Forsyth, 2005), this is less consistent with applied research that has demonstrated that short-term stress increases vigilance to threat and thus facilitates accurate decision making (Akinola & Mendes, 2012). It is likely that the relationship between prior sexual victimization and BRTT is complex. This also demonstrates that it may not be the mere presence of assertive or non-assertive behaviors that impacts risk, but that the sequence of these behaviors may be critical in determining safety. This is especially notable given criminological theory and "target

hardening" strategies. The first behavior may be a critical signal for some perpetrators as to whether to persist or desist in their behavior.

Limitations

Our relatively small sample limits the power of analyses in Aim 2, and replication of the sequence results is needed in much larger samples. Power analyses suggest recruiting 300-600 participants to further explore how decisions at one-time point may influence later decisions. The size of the non-victimized group was quite small, and these unexpectedly unequal group sizes may have led to an underestimation of group differences. Although we used the most comprehensive assessment of BRTT available, qualitative research indicates that the range of BRTT is quite broad and likely not fully captured by the BRQ (Anderson et al., 2016; Masters et al., 2006).

Research Implications

Our findings indicated that multiple, diverse behaviors are the most common response to the threat of sexual assault even when the situational characteristics of the assault are held constant. Only one-quarter of participants ranked the same style of BRTT at the first three steps. This supports the continuous, rather than dichotomous model of BRTT (Anderson & Cahill, 2015) and underscores the need for research which examines multiple styles of BRTT.

Future research should further explore the impact of situational risk factors on BRTT using similar methods. For example, the relationship to the perpetrator, the degree of social isolation, and the presence of alcohol are common situational risk factors for sexual assault that could be experimentally manipulated in this type of research, likely impact BRTT, and may be malleable to intervention efforts. We also recommend future research extend this model to include risk perception. The cognitive-ecological model states that BRTT is dependent upon risk

perception, yet little empirical research has examined BRTT in the context of high or low-risk perception. Neuroscience findings indicate that trait anxiety increases risk perception, and anxiety is a frequent sequela of sexual victimization (White, Skokin, Carlos, & Weaver, 2016). Yet, people are less likely to perceive risk from intimates, and risk perception is highly situation-dependent (Byers, Giles, & Price, 1987; Gidycz, McNamara, & Edwards, 2006).

Clinical and Policy Implications

We examined sexual victimization history three ways; it is notable that developmental revictimization was the variable most frequently associated with group differences; this is consistent with research on developmental psychopathology (Cicchetti & Toth, 2009; Messman-Moore & Brown, 2006). The long-term impact of developmental revictimization indicates that early intervention (especially pre-college) would be most effective in ameliorating the risks imparted by CSA. Policies which support access to psychological services for children and families are important for supporting early intervention.

Conclusions

We found that most participants described multiple behaviors in response to the study stimuli (a single risky situation) and that these behaviors often included a mix of assertive, diplomatic and immobile style responses. The efficacy of these behaviors is likely context (situation) dependent. Women with a history of sexual victimization were more likely to endorse diplomatic and immobile style responses and utilize immobile style responses earlier in response to the threat. This indicates that women with a history of sexual victimization may have different BRTT styles likely as a result of prior traumatization and therefore, may require different types or levels of intervention to reduce their risk for sexual assault.

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Tables

Table 1

Number of Rankings, Mean Rankings, Number of #1 Rankings, Mean Ratings for all BRQ items in the Entire Sample, (N = 135)

Item and corresponding subscale	# Ranked 1	*M*(*SD*)
1. Jokingly tell him…too strong (D)*	20	1.54(1.30)
2. Nicely or apologetically tell… (D)*	17	2.32(1.37)
3. Try to get him to hug or kiss but not sex (D)	7	1.94(1.35)
4. Fake arrival of others (D)	3	1.46(1.51)
5. Stiffen my body (I)*	13	2.06(1.38)
6. Shrug or turn my body away (D)*	4	2.39(1.28)
7. Make an excuse (D)	2	1.78(1.45)
8. Tell him I have to leave (D)*	11	2.84(1.14)
9. Tell him I like him…but not ready (A)*	14	2.71(1.26)
10. Discuss my discomfort with him (D)	1	2.16(1.36)
11. Tell him I won't like him… if he doesn't stop (A)	2	1.54(1.48)
12. Start crying (I)	0	.54(1.04)
13. Tell him clearly I want him to stop (A)*	27	2.68(1.39)
14. Raise my voice "HEY LISTEN!" (A)	2	1.88(1.49)
15. Verbally reject or insult him "You're a jerk" (A)	1	.76(1.13)
16. Threaten to tell his friends (A)	0	.25(.68)
17. Find a way to attract attention from others (A)	0	.55(1.03)
18. Push him away (A)*	3	2.16(1.32)
19. Run away (A)	0	1.07(1.24)
20. Become physically defensive (hitting, kicking) (A)	0	.73(1.11)
21. Suggest I have a weapon (A)	0	.29(.73)
22. Too overwhelmed to act (I)	2	.46(.90)
23. Drink or take drugs to calm myself (I)	0	.21(.68)
24. Distract him with other activities like having a drink (D)	1	.91(1.26)
25. I would be too impaired (alcohol, drugs) to react (I)	0	.94(1.38)
26. I would struggle at first but stop…hopeless (I)	0	.44(.89)
27. I would yell or scream (A)	0	.94(1.38)

Note. A = assertive subscale, D = diplomatic subscale, I = immobile subscale

* denotes items that were among the five most frequent by either mean item rating or by ranking

Table 2
Group Differences in Total Scores, Controlling for Age and Condition

Type of BRTT	No victimization, *n* = 22 *M*, *SE*	any victimization, *n* = 112 *M*, *SE*	Cohen's *d*
Assertive	11.15, 1.42	16.63, .63	.35
Diplomatic*	11.66, 1.08	14.24, .48	.46
Immobile*	12.56, 1.24	15.46, .55	.43

Note. * indicates significant group differences, p < .05.
NV = no victimization, RV = repeated victimization

Table 3
Correlations between each Behavioral Response Style by Group

	no victimization, *n* = 22			any victimization, *n* = 112			entire sample, *N* = 135		
	BRQ-A	BRQ-D	BRQ-I	BRQ-A	BRQ-D	BRQ-I	BRQ-A	BRQ-D	BRQ-I
BRQ-A	—			—			—		
BRQ-D	.46*	—		.38**	—		.32***	—	
BRQ-I	.45*	.96***	—	.27**	.95***	—	.31***	.95***	—

*Note. * p < .05, ** p < .01, *** p < .001*
BRQ = Behavioral Response Questionnaire, A = assertive, D = diplomatic, I = immobile
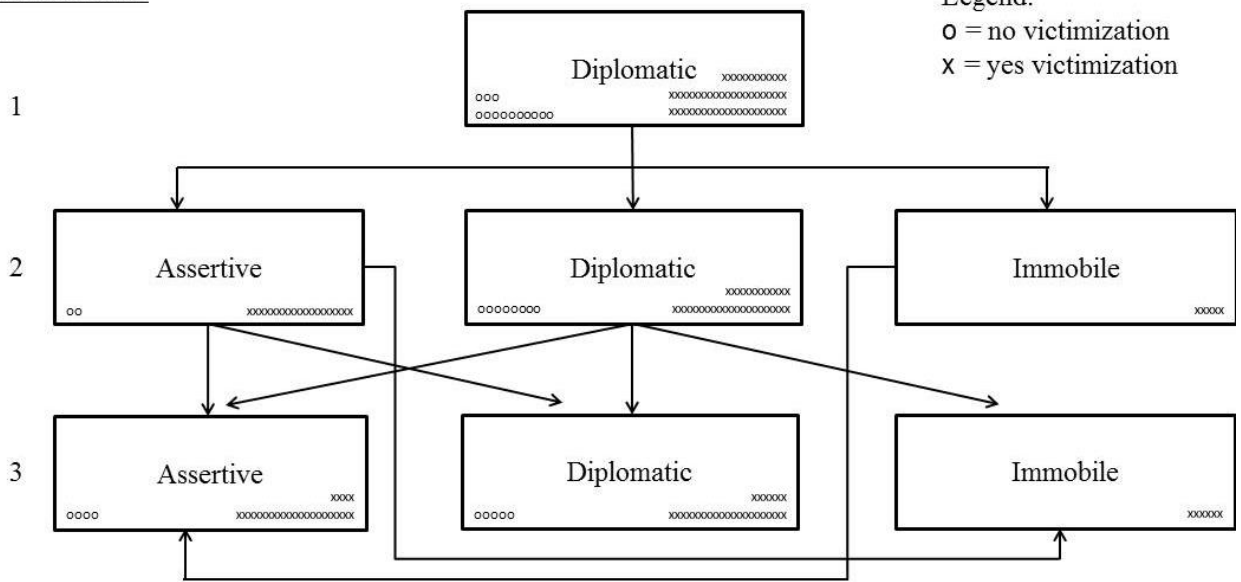
Figures

Figure 1

Diagram of rank orders for participants first selecting a diplomatic behavior, $n = 65$

Note. Arrows represent flow of participant ranks from rank 1 to rank 2 and rank 2 to rank 3.

Figure 2

Partial transcript of audio recording used to represent threat stimulus

Type of Interaction	Time (s)	Dialogue
Mutual interaction	33	(W) Kiss me… You really know how to show a girl a good time.
Polite refusals in response to M's suggestion	71	(M) I like to touch your breasts. (W) No, don't do that.
Verbal refusals in response to M's behavior	94	(W) I like when you touch my chest, but not right now (M) Sorry, it won't happen again, I just lost control.
Verbal refusals from W in response to verbal coercion and unwanted touching from M	137	(W) "Haven't you been listening? I just told you not to touch my chest and now you touch my butt."

Assessment of Behavioral Response

Note. W indicates woman, M indicates man. Text after the parentheses indicate dialog.