



# Risk Recognition and Sexual Revictimization: A Systematic Literature Review

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**Abstract**

Being sexually victimized is a risk factor for future sexual victimization, also known as revictimization. One proposed risk factor for revictimization is risk recognition, the ability to accurately detect risk in potentially threatening situations. The aim of this systematic literature review is to provide an overview of the research on the role of risk recognition in revictimization. In total, 13 studies ( $N = 3,150$ ) were included in this review. Of these, four longitudinal and two cross-sectional studies found empirical support of an association between risk recognition and revictimization. The remaining seven studies found no evidence of any such relationship. Inconsistencies can partially be explained by differences in sampling, methodologies, and measurements used. Other factors, such as the identity of the perpetrator, behavioral response to threat, and optimistic bias also influence risk recognition and revictimization rates and should therefore not be overlooked in research. Future research should aim to use more representative sampling and a more homogenous methodology of measuring risk recognition.

**Keywords:** *risk recognition, risk perception, risk detection, revictimization*

### **Risk Recognition and Sexual Revictimization: A Systematic Literature Review**

Sexual abuse is a pervasive societal problem of debilitating proportion and a known risk factor for various psychological symptoms (Dworkin et al., 2017). Furthermore, it is consistently shown in previous studies that victims of sexual abuse are two to three times more likely to experience further sexual victimization than non-victims (Messman-Moore & Long, 1996). According to a meta-analysis, roughly half of childhood sexual abuse survivors experience sexual victimization again at some point in the future (Walker et al., 2019). Multiple life-time victimization, i.e. being victimized twice or more, occurring in one or more developmental periods, is called *revictimization*. Despite how well-established this phenomenon is, the mechanisms underlying the cycle of victimization are not yet fully understood. Thus, it is important to further our understanding of the risk factors related to sexual revictimization in order to more adequately design risk-reduction and prevention programs.

One assumed risk factor for revictimization is risk recognition, which is defined as the ability to identify situational risk through recognition of danger cues (Wilson et al., 1999). A frequently used method of measuring risk recognition involves presenting participants with hypothetical scenario of a social interaction that ultimately ends in rape (Marx & Gross, 1995). The scenario is provided in the form of a vignette that is either written out or in audio form and contains a male and a female engaged in sexual activity after returning home from a date. Physical contact is demonstrated through dialogue. The female voices resistance in increasingly stern ways, ranging from a kindly worded statement at first to screams and cries at the end of the scenario. Participants are asked to indicate at what point they feel the man in the scenario has gone “too far” and should withhold any further sexual acts. Response latencies are taken as an indicator of risk recognition.

Several formulations have been proposed about the role of risk recognition in revictimization. One assumption is that impaired risk recognition increases the risk of subsequent victimization. This is based on empirical findings of a delayed threat perception in victims of sexual assault (Wilson et al., 1999; Messman-Moore & Brown, 2006; Breitenbecher, 2001). In line with these findings, another study found a slower heart rate pattern in response to threat cues in victims of sexual assault compared to non-victims (Soler-Baillo et al., 2004). This attenuated physiological arousal while identifying risk might decrease a person's ability to perceive and respond to threatening situations, because arousal can aid in risk recognition by increasing sensitivity to threat cues (Wilson et al., 1999). A prospective study measured response time to a hypothetical rape scenario and subsequently looked at rates of sexual revictimization in women with a history of sexual assault in the period following measurement (Marx et al., 2001). At baseline, they found longer response latencies in the women that would be raped during a two-month follow-up period. This added to the body of literature suggesting that longer response latencies as a measure of impaired risk recognition were related to an increased vulnerability to revictimization.

A number of studies (e.g., Breitenbecher, 1999) found no such association between risk recognition and revictimization, leading other researchers to state that risk recognition in itself is not a relevant risk factor for revictimization. An experimental study in support of this assumption found no direct link between a history of sexual assault and impaired ability to recognize risk (VanZile-Tamsen et al., 2005). In addition, another study reported that women with a history of sexual assault were more likely to perceive more risk in hypothetical scenarios than non-victims (Naugle, 2000). On the basis of their findings, they concluded that victims of sexual assault have a similar ability to perceive risk than non-victims, and in some cases an increased sensitivity to risky signals compared to non-victims. Additional research has found that victims of sexual assault are more likely to yield to the perpetrator's request

and less likely to respond assertively (Naugle, 2000; VanZile-Tamsen et al., 2005). These findings have led to the idea that unassertive behavioral response to a potentially threatening situation might be a more relevant risk factor for revictimization than risk recognition in itself. Furthermore, other variables, such as relationship to the perpetrator and trauma-related symptomatology, might influence the association between risk recognition and revictimization (Breitenbecher, 2001; VanZile-Tamsen et al., 2005; Messman-Moore & Brown, 2006). As of yet, there is a lack of unequivocal support for any one of these assumptions and thus no consensus on the matter. In conclusion, the literature surrounding the role of risk recognition in revictimization is inconsistent.

Therefore, a review of the available research on this topic would be relevant to integrate findings, locate gaps in the literature, and understand the reasons behind inconsistent findings across previous studies. Such a review has previously been conducted (Gidycz et al., 2006), exploring the association between women's risk perception and sexual victimization. They provided an overview of available studies and pointed to methodological differences as a source of discrepancies between prior studies. Differences in scenarios and means of providing them (e.g. audio or written vignette) may well influence the results. They also make note of the issue of generalizability; the results found in a controlled experimental setting might not translate to complex, divergent social interactions as they occur in real world environments. In addition, a sense of threat created through a hypothetical scenario might lead to different responses than a sense of acute threat to one's safety experienced in a real social interaction.

Although the review successfully shed light on the subject, it was conducted non-systematically, aimed exclusively at the first incidents of sexual victimization, and is now over 15 years old. Hence, there is a pressing need for a systematic literature review to include recent findings, particularly on sexual revictimization. To address this gap in the literature, the

aim of this study is to systematically provide a general overview of the empirical findings from the last three decades on the role of risk recognition in sexual revictimization, explore potential reasons behind inconsistent results, and propose directions for future research.

## **Method**

### **Literature Search**

This systematic literature review was conducted according to the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses; Moher et al., 2019), using the PRISMA flow diagram and the PRISMA checklist, which were developed to ensure the quality of reporting. Two categories of search terms were selected, one related to risk perception ((“risk” or “threat”) W1 (“perception” or “recognition” or “identification” or “detection”)) and one related to revictimization (((“multiple” or “repeat” or “poly” or “sexual”) W1 (“victimization” or “trauma”)) OR (“revictimization” or “polyvictimization” or “retraumatization”)), where the term ‘W1’ denotes ‘within’. A crossed-combination of these terms was entered into the search engines of PsychInfo and Scopus, complemented by a hand search through reference lists of relevant studies, to ensure an extensive and precise screening of the literature.

### **Selection of Literature**

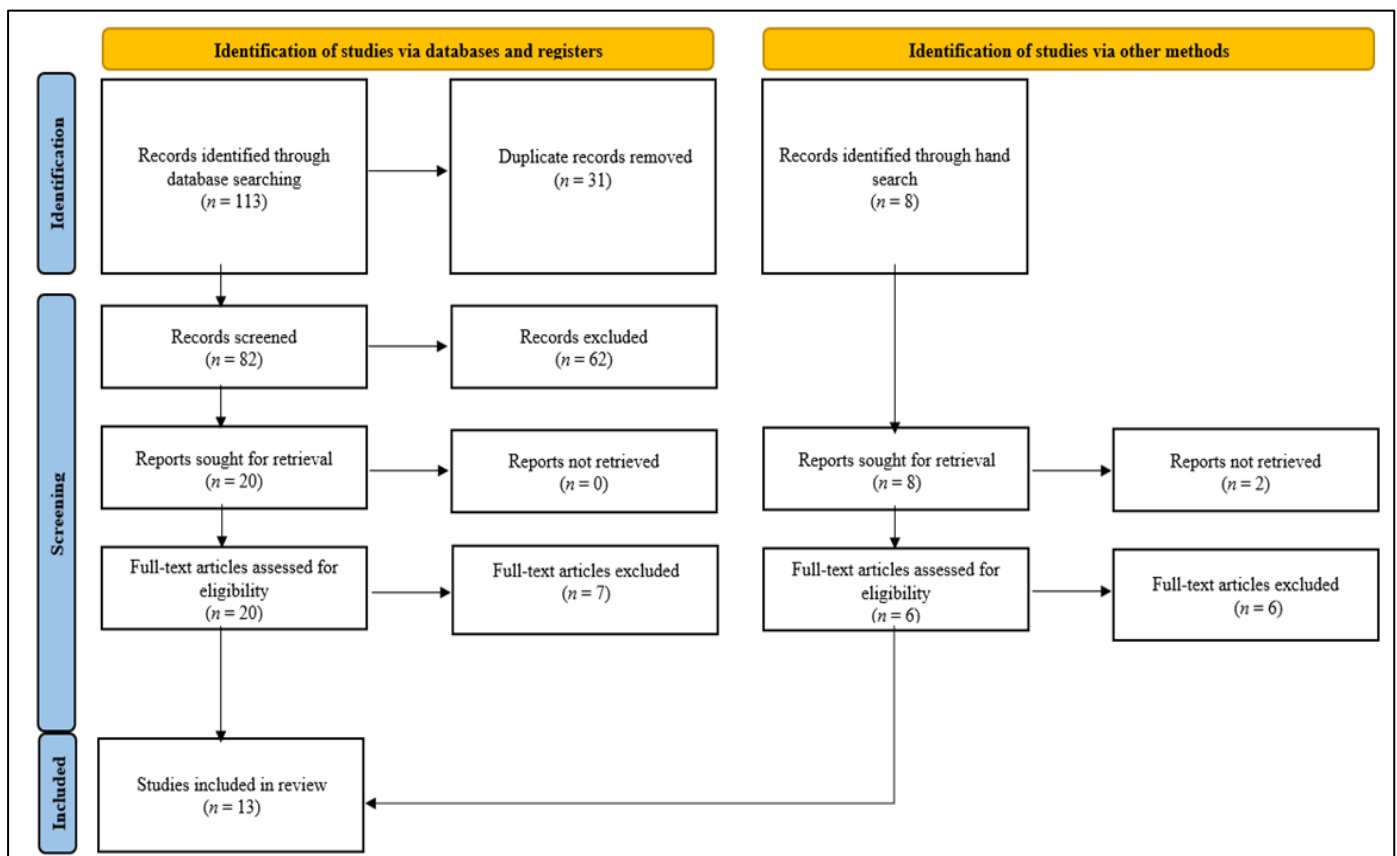
The inclusion criteria for the research were that the studies (1) are published in peer-reviewed journals, (2) are quantitative studies, (3) clearly define revictimization as multiple victimization in one or more stages of development, and (4) are published after 2000. In addition, results were considered as statistically significant when p-values are less than the cut-off of .05. Therefore, marginally significant results were considered as insignificant.

The PRISMA flow diagram is shown in Figure 1 and represents the selection process for the eligible studies. After performing the search and removing the duplicates, the author screened the abstracts, selecting eligible abstracts and excluding non-eligible abstracts.

Subsequently, the full papers corresponding to the eligible abstracts were assessed based on the inclusion criteria. Out of 113 papers, 13 met the inclusion criteria. By hand search through reference lists of included articles, eight articles were identified to be screened for eligibility. Of these, no articles met all four inclusion criteria, hence not one of these articles was included in the final review. The final number of eligible studies after the screening is 13.

Afterward, the author made an overview of study characteristics such as information about the samples (characteristics of participants, such as gender, ethnicity, age etc.) and designs of the studies, definitions and measures used, as well as relevant results for each study. This information is presented in Table 1.

**Figure 1:** PRISMA Flow Diagram





## Results

At the beginning of this section, the studies included will briefly be described. An overview of the studies that found an association between risk recognition and revictimization will be presented, followed by an elaboration of the studies that did not find an association. Next, several associates of risk recognition that are frequently mentioned in research are described, namely behavioral response, optimistic bias, PTSD symptomatology, and identity of the perpetrator. Finally, potential reasons behind inconsistencies are explored.

### Description of Included Studies

Of the studies included in the current review (total sample size across the included studies  $N = 3,150$ ), seven studies were cross-sectional, four longitudinal, and two had a mixed design. Except for two German studies and one Italian study, all studies were conducted in the United States. Five studies were conducted in college populations, three studies were in community samples, and four in clinical samples (recruited through emergency room, child welfare services, and a clinical multicenter randomized controlled trial). Only one of the included studies had a sample consisting of male and female participants. The remaining only included female participants. For a more detailed description, see Table 1.

**Table 1**

*Summary of the included papers on risk recognition and revictimization*

Authors	Sample and design	Revictimization definition	Measure of risk recognition	Findings
Bockers et al. (2014)	85 adult women; cross-sectional design	Two or more traumatic events occurring in two separate stages of development and perpetrated by different offenders	Response latency to an audiotaped vignette (Marx & Gross, 1995)	No difference in risk recog. between revictimized and non-victimized; single-victimized faster risk recog.
Costanza Baldry & Cinquegrana (2020)	83 women with history of IPV; mixed design	Recurrent abuse from the same partner towards the same survivor	Questionnaire about risk assessment on a 5-point Likert-scale	No significant relationship between risk recog. and

				revictimization at 1 year follow-up
Chu, DePrince, & Mauss (2014)	94 women from a community sample; cross-sectional design	Multiple life-time victimizations	Response latency to an audiotaped vignette (Marx & Gross, 1995)	No difference in response latency between revictimized, single-victimized, non-victimized
DePrinc et al. (2014)	180 adolescent girls with history of CSA; longitudinal design	Multiple life-time victimizations perpetrated by different people	Risk detection/executive function intervention participation	Women in risk-recog.-intervention 5 times less likely to be revictimized at follow-up than controls
Lieberz et al. (2018)	104 women with PTSD related to CSA/CPA; cross-sectional design	Experience of at least two different traumatic events of interpersonal violence committed by different perpetrators	Implicit cues of aggression detection in male faces based on the Width-to-Height ratio (fWHR)	No evidence of decreased ability to detect aggression cues in revictimized PTSD participants
Marcantonio et al. (2020)	551 college women; cross-sectional design	Multiple life-time victimizations	Bystander behaviors	Women with history of sexual assault no impaired risk recog. for other people's risk
Marx et al. (2001)	66 college women; longitudinal design	Women with a history of sexual victimization that experience subsequent victimization	Response latency (Marx & Gross, 1995)	Sexual revictimization preceded by more impaired risk recog.
Messman-Moore & Brown (2006)	339 college women; longitudinal design	Sexual abuse in childhood or adolescence and subsequent sexual victimization in adulthood	Risk Perception Survey (RPS; Messman-Moore, 2006)	Women with history of victimization more impaired risk recog.; revictimization at follow-up preceded by more impaired risk recog.
Senn et al. (2021)	851 college women; longitudinal	Survivors of sexual violence that experience subsequent sexual abuse	Dating scenario where participants indicate how likely the situation will end positively or negatively at different timepoints	Intervention reduced rate of revictimization; risk recog. mediator in relationship
Soler-Baillo et al. (2003)	97 college women; cross-sectional design	Multiple life-time sexual victimizations	Response latency (Marx & Gross, 1995)	Victims of sexual assault significantly longer response latencies + less physiological reactivity

VanZile-Tamsen et al. (2005)	318 women from a community sample; cross-sectional design	Victimization during childhood and during adolescence or adulthood	Rating of inappropriateness of a man's behavior and rating of feelings of upset/discomfort	Sexual assault history no effect on risk recog.; less assertive refusal behavior in victimized women
Volkert et al. (2013)	82 trauma victims (male and female); cross-sectional design	Multiple life-time sexual victimizations	Response latency (Marx & Gross, 1995)	No difference in general risk recog. between revictimized, single-victimized, non-victimized; when controlled for arousal, revictimized more impaired
Yeater & O'Donohue (2002)	300 college women; longitudinal design	Two or more incidents of CSA, two or more incidents of sexual assault or a combination of CSA and sexual assault experiences	Risk Factors and Risk Perception Questionnaire	Revictimized women did not take longer to learn program material; single-victimized women to the longest

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*Note:* Abbreviations: risk recog. = risk recognition.

### **Evidence Supporting an Association between Risk Recognition and Revictimization**

Several studies have found empirical evidence of a link between impaired risk recognition and revictimization. A prospective study (Messman-Moore & Brown, 2006) found that risk recognition was poorer in women with previous sexual assault experiences compared to women without previous victimization experiences and that risk recognition impairment preceded revictimization during follow-up. Another longitudinal study aimed to examine a sexual assault prevention program and reported rates of revictimization in intervention and control groups in a sample consisting of college females with a history of sexual victimization after age 14 (Marx et al., 2001). One of the programs' objectives was to increase risk recognition ability in order to reduce risk of future sexual victimization. Both before and after the intervention, no significant differences in risk recognition between intervention and no-intervention control groups were found, but notably, it was observed that women who were better able to recognize risk were significantly less likely to be raped during a two-month follow-up period. This evidence points to poorer risk recognition as a possible

risk factor for revictimization. An additional longitudinal study (DePrince et al., 2014) explored effects of a risk-detection-based revictimization prevention program on rates of revictimization in adolescent girls that had experienced childhood abuse. The intervention aimed to train executive functions such as attentional processes to improve the participant's detection of risk cues. Girls that were in the intervention group were five times less likely than the control group to be revictimized at follow-up. These findings suggest that an improved risk recognition might serve as a protective factor against revictimization. Another longitudinal study found that an educational program was successful in reducing revictimization incidence through increased risk recognition ability (Senn et al., 2022). The relationship between intervention and decrease in revictimization rate was mediated by risk recognition ability.

A cross-sectional study explored the psychophysiology underlying risk recognition and differences in revictimized, single-victimized, and non-victimized women (Soler-Baillo et al., 2004). The study measured a response latency to an audio stimulus depicting a social interaction ending in rape (Marx & Gross, 1995) as an indicator of risk recognition and heart rate as an indicator of emotional arousal. This study found that victims of sexual assault had longer response latencies than non-victims, meaning they took significantly longer to indicate that the man in the hypothetical scenario had gone "too far". It was also found that victims of sexual assault had a diminished physiological reactivity to cues of sexual threat (i.e., a smaller increase in heart rate). A reduced emotional arousal in response to risk cues might impair detection of relevant risk cues. Therefore, impaired autonomic reactivity and diminished risk recognition are offered as two closely related processes (Soler-Baillo et al., 2004). These findings are in line with the notion that risk recognition may be impaired in victims of sexual assault.

A cross-sectional study (Volkert et al., 2013) initially found no differences in general risk recognition in a sexual assault scenario between revictimized, single-victimized, and non-victimized women. However, interestingly, when level of arousal was controlled for, revictimized women did show a delay in detection of risk.

### **Evidence Not Supporting an Association between Risk Recognition and Revictimization**

Other authors have found no such link between risk recognition and revictimization and find that no risk recognition differences exist between revictimized, single-victimized, and non-victimized individuals. The first study mentioned is longitudinal, all six studies that follow were cross-sectional.

A longitudinal study measured how non-victimized, single-victimized, and revictimized women responded to an information-based sexual victimization risk reduction program (Yeater & O'Donohue, 2005). One part of this program was concerned with teaching women to recognize several situations and behaviors that are known to increase risk of sexual assault. After reading the program material, participants were asked to identify and write down risky aspects of a situation in a written vignette. It was found that revictimized women did not differ from single-victimized or non-victimized women in the time it took them to be trained on the risk recognition program and that there were no differences in how much material the groups remembered after the first trial. Based on these results, it was concluded that revictimized women are not impaired in learning risk recognition-related information.

One study (Bockers et al., 2014) had participants listen to an audio scenario similar to the Marx and Gross (1995) vignette and indicate at which point they felt uncomfortable. Revictimized and non-victimized women did not differ significantly in their response latencies. Thus, revictimized women did not take any longer to detect risk compared to non-victimized women. Single-victimized women had shorter response latencies than both non-victimized and revictimized women. Another study with closely similar methodology

performed in a community sample (Chu et al., 2014) had non-victimized, single-victimized, and revictimized women listen to a series of audio recordings that depicted social interactions and indicate when the male had “gone too far” by pressing a button. Revictimized women did not take longer to press the button compared to single- or non-victimized women. The results of another study (VanZile-Tamsen et al., 2005) closely resembled these two, except in this study participants were asked to make a risk assessment based on a short written scenario in which a male perpetrator makes sexual advances. They were asked to rate the severity of the perpetrator’s behavior and their feelings of distress. Risk appraisals were found not be affected by sexual assault history: there were no significant differences in responses between non-victimized, single-victimized, and revictimized women.

Another study (Lieberz et al., 2018) aimed to test the assumption that revictimization occurs because of a failure to detect aggression and thereby threat in potentially dangerous situations. The study measured ability to detect implicit signals of aggression and had participants rate levels of aggression in pictures of male faces. It was found that revictimized women did not differ significantly in the perception of aggression cues in male faces when compared to healthy controls. This is in line with the notion that revictimized women’s risk perception ability is the same as non-victimized women’s risk perception ability, and thus that revictimized women’s ability to recognize threat is not impaired.

Another study (Costanza Baldry & Cinquegrana, 2020), where female victims of interpersonal violence answered questions about risk assessment on a 5-point Likert scale, found no evidence of a relationship between risk recognition and revictimization rates at 1-year follow-up. A cross-sectional study (Marcantonio et al., 2020) examined risk recognition as a part of active bystander behaviors. These behaviors refer to looking out for others, assessing risk for other people, and making sure other people are safe. It was found that

possible risk deficits related to a history of sexual victimization did not play a role when women are active bystanders or onlookers.

### ***“Buffer” after First Victimization***

While several studies have found no association between risk recognition and revictimization, a longitudinal study found that women with a single victimization experience had an enhanced ability to recognize risk, as indicated by shorter response latencies to risk scenarios compared to revictimized and non-victimized women (Messman-Moore & Brown, 2006). A cross-sectional study had similar findings (Bockers et al., 2014). The authors hypothesize that situational risk perception might be increased after the first victimization incident in some individuals, serving as a buffer for potential future incidents (Bockers et al., 2014). If this increase in risk perception does not occur, odds of revictimization increase, and that may be why no differences in non-victimized and revictimized participants are found in some studies (Lieberz et al., 2018). However, findings of another study (Yeater & O'Donohue, 2005) counter this hypothesis, when it was found that single-victimized participants had more impaired rather than increased risk recognition than revictimized participants.

### **Associates of Risk Recognition**

#### ***Behavioral Response***

Some of the aforementioned studies also took an interest in how participants would respond to a situation in which a male perpetrator made sexual advances once a threat had been detected. In a study that found that victimization history had no influence on risk recognition, behavioral intentions were measured when women were asked to rate how likely they would display certain behaviors categorized as direct resistance, indirect resistance, consent, and passivity. It was found that women with a history of sexual victimization responded less assertively and used less direct resistance to risk cues (VanZile-Tamsen et al.,

2005). In addition, prospective victimization was more strongly related to behavioral response than to ability to detect risk (Messman-Moore & Brown, 2006).

These findings add to a body of literature that suggests ineffective behavioral reaction to sexual threat is what ultimately leads to revictimization instead of threat identification alone. Authors advocate for a shift of focus from threat identification to behavioral response interventions to prevent revictimization (Messman-Moore & Brown, 2006). An existing sexual assault prevention program found self-defense self-efficacy and willingness to defend oneself directly and forcefully to be mediating the effect of the program on sexual assault rates (Senn et al., 2022).

### ***Optimistic Bias***

While individuals may appear to be impaired in quickly and accurately identifying threats for themselves personally, these deficits were not observed when women were assessing risk for somebody else: women with a history of sexual assault were accurate in assessing other women's risk as measured in active bystander behaviors (Marcantonio et al., 2020). This is in line with the well-supported concept of optimistic bias, also called comparative optimism. This term refers to the idea that women are generally less aware of their own personal susceptibility to harm, which includes being sexually assaulted, as compared to their assessment of overall risk of sexual victimization for women in general (Weinstein, 1987). Increased awareness of personal risk through participation in a sexual assault prevention program significantly mediated the relationship between participation in the program and a reduced rate of revictimization (Senn et al., 2022).

### ***PTSD Symptomatology***

Another associate of risk recognition that is often mentioned in research is PTSD symptomatology. "Numbing" or dissociating in a situation may cause victims of previous sexual assault to be less attentive to threat cues, and thus have more difficulty perceiving them



(Chu, 1992; Kluft, 1990). When reading a rape scenario, women high in dissociation considered the perpetrator to be less dangerous than women low in dissociation (Sandberg et al., 2001). Women with a history of sexual assault may "freeze" in response to trauma-related stimuli (Volkert et al., 2013) possibly causing a delayed identification of threat or behavioral response. Conversely, PTSD-related hyperarousal has been offered as a protective factor against revictimization, as it might increase sensitivity to threat cues (Wilson et al., 1999). In one study (Volkert et al., 2013) revictimized women were only more impaired than non-victims when arousal was controlled for.

### ***Identity of the Perpetrator***

Situational risk perception is strongly associated with relationship to a perpetrator, as seen in significant differences in risk appraisals between hypothetical acquaintance and stranger sexual assault scenarios. Scenarios involving acquaintances are consistently judged as less risky (Messman-Moore & Brown, 2006). The fear of stranger rape was found to be much higher than the fear of acquaintance rape, even though women correctly appraise acquaintance rape as occurring more commonly than stranger rape (Hickman & Muehlenhard, 1997). Risk assessments of a hypothetical scenario in which a male perpetrator makes sexual advances and intended response to the situation were strongly impacted by relationship to the perpetrator, who was either a boyfriend, a date, a male friend, or someone just met (VanZile-Tamsen et al., 2005). An increase in level of intimacy led to a decrease in risk appraisal, as well as direct and indirect resistance.

### **Potential Reasons behind Observed Inconsistencies in the Literature**

Three reasons might explain some of the inconsistencies between the results discussed above. Firstly, fundamental differences might exist between the various types of samples used. College samples and community samples may differ significantly in age and socioeconomic background. In addition, two meta-analyses found that studies on

revictimization typically have larger effect sizes in community samples (Rich et al., 2004; Roodman & Clum, 2001). Older samples are also found to have larger effect sizes than younger samples (Roodman & Clum, 2001). This might be because younger people logistically have had less time to be revictimized in their adult lives (Messman-Moore & Long, 1996). Clinical samples consisting of individuals presenting with psychological symptoms might have more severe victimization histories, that have led to more severely impaired functionality than is observed in community samples (Messman-Moore & Long, 1996). In college women, impaired risk recognition and revictimization is linked (Marx et al., 2001; Wilson et al., 1999), while in community samples it is not (Chu et al., 2014). Furthermore, the methodologies of the studies are also rather heterogeneous: the prospective or retrospective nature of the designs might explain the inconsistencies. Lastly, risk recognition was measured in different ways in previous studies, i.e. through written or audio vignettes, through aggression recognition, sexual prevention program outcomes, or time it took to learn risk related information.

### **Discussion**

The purpose of the current study was to present a systematic overview of research on the association between risk recognition and revictimization, explore inconsistencies in the current findings, and identify gaps in the literature. A total of 13 studies were included in this systematic review by PRISMA protocol, of which seven had a cross-sectional design, five had a longitudinal design, and one had a mixed design, resulting in a total sample size ( $N$ ) of 3,150.

### **Summary of the Findings**

Six studies (five longitudinal and one cross-sectional) support the association between risk recognition and revictimization. Victims of sexual assault showed delayed risk recognition compared to non-victims (Soler-Baillo et al., 2004; Volkert et al., 2013)

Messman-Moore & Brown, 2006). Additionally, impaired risk recognition is a possible risk factor for revictimization, as it preceded revictimization in two studies (Messman-Moore & Brown, 2006; Marx et al., 2001). Several interventions that used risk recognition training as an active component have been effective in reducing rates of revictimization, leading to the conclusion that enhanced risk recognition could serve as a protective factor against revictimization (Senn et al., 2022; DePrince et al., 2014; Marx et al., 2001).

The other seven studies (all cross-sectional) have found no evidence of a relationship between the two factors. Three studies using the Marx & Gross (1995) response latency measure of risk recognition (Bockers et al., 2014; Chu et al., 2014; VanZile-Tamsen et al., 2005) found no difference in risk recognition between non-victimized, revictimized, and single-victimized women. Furthermore, no differences were found in the time it took non-victimized, revictimized, and single-victimized participants to learn risk recognition-related educational material (Yeater & O'Donohue, 2005). All three groups were equally able to identify aggression in male faces (Lieberz et al., 2018) and displayed similar bystander behaviors when somebody else was possibly at risk of being sexually assaulted (Marcantonio et al., 2020).

Some of the inconsistencies between studies can be explained by differences in methodology: differences in how risk recognition was measured for example (e.g., through response latency or intervention outcome), differences in samples (e.g., all female or clinical samples) and differences in study design (e.g., retrospective vs. prospective designs). In addition, other factors related to risk recognition, such as identity of the perpetrator, motivations to engage in risky sex, behavioral response and optimistic bias, might influence revictimization and account for some of the inconsistencies in the literature. A number of these as identified through the literature will be discussed below.

### **Related Factors**

Firstly, evaluations of risk are based on the identity of and the relationship to the perpetrator. Risk appraisals are highly context-dependent in that sense. Who the perpetrator is determines how risky a situation is considered to be: strangers are judged to be more dangerous than acquaintances (Messman-Moore & Brown, 2006; VanZile-Tamsen et al., 2005).

Secondly, motivations to engage in sex also play a role in revictimization risk. The association between previous sexual victimization and increased engagement in risky sex behaviors is well-supported in research (Combs-Lane & Smith, 2002). This might be due to impaired risk recognition in victims of sexual assault, but another possible influence on this relationship is the motives to engage in risky sex behaviors. It is possible that victims of sexual assault do accurately recognize sexual risk in certain situations, but choose to enter or remain in the situation regardless, because they have other priorities or alternative motives to pursue sex (Layh et al., 2020). For example, sex can be used as a strategy to regulate emotions and reduce negative affect (Miron & Orcutt, 2014), or to boost self-esteem or seek approval from partner or peers (Layh et al., 2020).

A third related factor is the behavioral response to risk. Someone that has been previously victimized might be unable to respond when confronted with trauma-related material in risk situations, causing them to “freeze” (Volkert et al., 2013). Thus, lack of a proper reaction to risk might be interpreted as poor risk recognition, but this lack of behavioral reaction to risk can be a trauma-response to stimuli related to past traumatic experiences. This is a well-studied defense mechanism, also known as peritraumatic dissociation (Chu, 1992). Other PTSD-related symptomatology, such as numbing, also influence risk assessment, as it can disrupt processes in cognitive and executive processes (e.g., attention focusing, self-monitoring), factors critical in detecting risk (Kluft, 1990).

Optimistic bias is also related to risk appraisals. Women are aware of the general risk of sexual assault, but believe they are less at risk of being sexually assaulted than the average woman (Parks et al., 1998; Norris et al., 1999; Chapin & Pierce, 2012; Untied & Dulaney, 2014). The knowledge of risk recognition in a hypothetical scenario such as in the Marx and Gross (1995) paradigm might not translate to real life application of said knowledge. Therefore, the measures used to assess risk recognition might not have proper ecological validity.

### **Practical Implications**

This research implies that there is empirical evidence that risk recognition has an influence on revictimization and therefore interventions that are found to reduce risk of revictimization should take risk recognition into account. Education about risk recognition and factors that influence it, such as identity of the perpetrator and optimistic bias, should be integrated in sexual assault prevention, with an additional focus on developing an adaptive behavioral response to threat alongside accurate risk detection.

### **Strengths and Limitations**

The systematic nature of this review and the use of the PRISMA protocol has ensured a high quality of reporting in terms of transparency and integrality. Another strength of the present review is its clear definition of revictimization.

One limitation of the present review is that the sampling methods of the studies included are not all-inclusive: results found in these mostly Northern American, mostly female samples do not necessarily translate to the entire world population. Research sampling should aim to be representative of the target population, and thus the fact that the present research was mostly done on females (i.e., only one sample included men) represents the gaps in the literature. Gender differences in risk recognition and its association with revictimization should be explored in future research. Additionally, non-binary and LGBTQ+ individuals are

underrepresented in the current samples, which is problematic because rates of sexual assault revictimization are especially high in sexual minorities (Blackburn et al., 2023). There needs to be more research tailored to this population. Results should therefore be interpreted with caution and with this limited generalizability due to sampling characteristics in mind. In the future efforts should be made to improve generalizability and ecological validity, to be able to appropriately translate research findings to real-world settings.

A relatively small number of studies were included in this review of the literature, because the number of publications on risk recognition and revictimization is limited. To be able to include as many of the available studies as possible, revictimization was fined as multiple life-time victimizations in this review. The included studies adhere to varying differences of revictimization, as can be read in Table 1. More research needs to be done in order for more conclusive results to be obtained. The results would benefit from a more homogenous methodology as well. More studies measuring risk recognition and comparing non-victimized, single-victimized, and revictimized individuals would benefit the body of literature.

When considering the influence of risk recognition on revictimization, it is important to remember is that adequate threat detection does not necessarily translate directly to successful avoidance of risky situations (Soler-Baillo et al., 2014). As mentioned, there are multiple complex variables at play that ultimately lead to revictimization. It seems that various factors influence risk recognition and behavioral response to risk, and identifying these factors can contribute to mitigate the risk of revictimization. Future research should continue to explore the mechanisms that underlie these processes in order to further our understanding of the cycle of victimization, and eventually be able to intervene and prevent.

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