Risk Factors for Revictimization

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Risk Factors for Revictimization

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General Introduction

Childhood Maltreatment

Childhood maltreatment is defined as acts of commission and/or omission by caregivers that lead to (potential) harm to children. Acts of commission are intentional and include physical, sexual, and emotional abuse. Acts of omission are considered as failure in meeting children's basic emotional, physical, and educational needs or protection of children from (potential) harm. Physical and emotional neglect are examples of acts of omission (Centers for Disease Control and Prevention [CDC], 2008).

The rate of childhood maltreatment worldwide is concerning. In the United States, one in seven children suffered from child abuse or neglect in 2021 based on a report by CDC. In Germany, rates of childhood abuse and neglect were 17% (20.2% in women versus 13.4% in men) and 16.5% (17.1% in women and 15.9% in men), respectively (Klinger-Königet al., 2022). In Sweden, the prevalence of childhood/adolescence sexual abuse was 11.5% among women and 3.4% among men (Andersson et al., 2020). An older survey by United Nations Children's Fund (UNICEF, 2017) indicated that three quarter of children at the age between two and four, approximately 300 million, experience regular physical and emotional abuse by their caregivers across the world. A survey in Europe showed that the rate of childhood sexual abuse was approximately one in 10 (12%) among women and the rate of childhood physical abuse was 27% (European Union Agency for Fundamental Rights, 2014). Finally, a meta- analysis integrating the findings of studies between 1980 and 2008, showed that the combined rates of childhood maltreatment (based on self-reports) were between 363 per 1000 cases for emotional abuse and 127 per 1000 for sexual abuse (76/1000 for males and 180/1000 for females). For childhood sexual abuse in women, the highest rate belonged to Australia (21.5%) and the lowest to Asia (11.3%). The highest and lowest prevalence rates for physical abuse were in South America with 54.8% and 14.3% in Australia. Africa had the highest rate for emotional abuse with 46.7% and Australia had the lowest with 11.3% (Stoltenborgh et al., 2015). The combined prevalence across the studies based on informants was four per 1000 for sexual abuse and three per

1000 for physical and emotional abuse. However, even these high rates do not represent the whole picture because childhood maltreatment is underreported (Compier-de Block et al., 2017; Gilbert et al., 2009).

Not surprisingly, the burden of childhood maltreatment on physical and mental health, and quality of life is overwhelming. For instance, a meta-analysis indicated that childhood abuse was related to increased risk for various diseases *(effect size = 0.42, 95% CI = 0.39-0.45),* particularly neurological and musculoskeletal diseases (Wegman & Stetler, 2009). Another study showed that women with a history of childhood maltreatment were nine times more likely to have cardiovascular diseases compared to their peers without such a history (Batten et al., 2004). Also, mortality rates are heightened in people with childhood maltreatment. People who experienced serious childhood adversities, including childhood maltreatment, showed 1.97 times higher rate of premature mortality compared to people without such experiences (Bellis et al., 2015). In another study, quality-adjusted life expectancy (i.e., life span in a desirable health condition) shortened as the severity of negative childhood experiences increased. In general, reporting three or more adverse experiences in childhood decreased life expectancy by 17% (9.5 years). The decreasing effect was even more prominent for women than men, 13.2-year decrease in women versus 4.7 year decrease in men (Jia & Lubetkin, 2020).

In addition, mounting evidence indicates that childhood maltreatment is associated with various symptoms of psychopathology including depression symptoms severity (Fitzgerald & Gallus, 2020; Humphreys et al., 2020; Klinger-König et al., 2022; Klumparendt et al., 2019; Struck et al., 2020; Widom et al., 2018; Wu et al., 2018), anxiety (Klinger-König et al., 2022; Widom et al., 2018), dissociation (Vonderlin et al., 2018), posttraumatic stress disorder (PTSD; Klumparendt et al., 2019; Messman-Moore & Bhuptani, 2017; Sistad et al., 2021; Wilson & Newins, 2018), and borderline personality disorder symptoms (Bertele et al., 2022; Godbout et al., 2019), as well as drug (Huang et al., 2011; Tonmyr et al., 2010; Verona et al., 2016) and alcohol use (Shin et al., 2019; Young-Wolff et al., 2011). A recent large-scale study showed that the effect sizes corresponding to the associations between childhood

maltreatment and mental disorders in adulthood were small for mania (R^2 = .02) to large for depression (R^2 = .26) in a sample recruited from community and psychiatric patients (Struck et al., 2020). Prospective research showed a remarkable increase in lifetime risk of mental disorders. The odds ratios were 2.37 for major depressive disorder, 2.72 for anxiety disorders, 2.98 for alcohol abuse, and 3.72 for drug abuse (Scott et al., 2012).

Besides physical and mental conditions, childhood maltreatment is associated with other social problems such as homelessness. A meta-analysis covering 24 studies reported high rates of childhood maltreatment among homeless people, with a mean prevalence of 37% *(95 % CI = 25 – 51)* for physical abuse and 32% *(95% CI = 23 – 44)* for sexual abuse among women, and 10% *(95% CI = 6 – 7)* among men (Sundin & Baguley, 2015). Another social problem associated with childhood maltreatment, particularly sexual abuse during childhood, is prostitution such that previous research showed very high rates of childhood sexual abuse among sex workers, ranging between 47% (Kramer & Berg, 2003) and 82% (Farley et al., 2005).

Victimization in Adulthood

Similar to childhood maltreatment, victimization in adulthood, in the form of physical, sexual and emotional abuse, is prevalent. A survey with a large sample of 42,000 females, aged between 18 and 74 across 28 countries in Europe, reported that 33% of women (one in three) experienced physical/and or sexual abuse since the age of 15. In total, 8% experienced physical/and or sexual abuse within 12 months prior to the study (European Union Agency for Fundamental Rights, 2014). The prevalence of emotional abuse by an intimate partner such as humiliation and threat of physical harm was 43%. The rate of physical/and or sexual violence by a partner was 22%. These results are similar to global rates indicating a rate of 30% exposure to sexual/and or physical violence by either intimate or non-intimate partners (WHO, 2021). Victimization in adulthood negatively influences physical health. A study examining emergency department visits in the US between 2006 and 2009 reported that 2.27% visits made to these departments were due to

intimate partner violence. In total, 93% of the visits for this reason was made by women (Davidov et al., 2015). Another study in a Canadian city (Ottawa) reported admission rates due to sexual violence of 15.15 per 10,000 admissions in 2018 and 9.82 in 2020. The rates for physical violence were 10.87 in 2018 and 8.35 in 2020. It was assumed that the decreasing trend was due to COVID-pandemic circumstances (Muldoon et al., 2021). Exposure to interpersonal violence also has negative consequences for one's mental health. For instance, adulthood victimization in the form of intimate partner violence is related to PTSD (Lilly & Graham-Bermann; Nixon et al., 2004; Scott & Babcock, 2009), depression (Caetano & Cunradi, 2003; Filson et al., 2009; White & Satyen, 2015), and suicide (Devries et al., 2013). More specifically, after controlling for demographic variables such as education, health condition, and alcohol use, it was found that exposure to adulthood victimization 12 months prior to the study increased the risk of depression by 3.54 fold (Arboleda-Flórez &, Wade, 2001). Heightened severity levels of adulthood victimization are associated with increased risk of developing a mental disorder as well. An investigation indicated that higher severity levels of adulthood victimization, indexed by scores on a measure assessing adulthood victimization, increased the odds of PTSD symptoms at clinical level by approximately eight times, depression by four times, and substance use disorder by three times compared to lower severity levels of victimization (Pahl et al., 2020).

Revictimization

Victimization in two distinct developmental stages (i.e., childhood and adulthood) is called revictimization. Established evidence shows that a significant risk factor for victimization in adulthood is a history of childhood maltreatment (Walker et al., 2017). A cross-sectional study indicated that the risk of adulthood victimization in people with a history of childhood maltreatment was 31.5%, while this rate was 13.2% in people without such a history (Strøm et al., 2017). In general, previous studies suggested two-to-threefold increase in the chance of revictimization, particularly sexual revictimization (Arata, 2002; Jankowski et al., 2002; Van Bruggen et al., 2006). A meta-analysis reported a mean prevalence of 47.9% for sexual revictimization among people with a

history of childhood sexual abuse (Walker et al., 2019). However, the rate of revictimization varies based on the form of abuse, population, and the presence of polyvictimization (i.e., experiencing more than one form of childhood abuse/and or neglect). To investigate the effects of different forms of childhood abuse on revictimization risk, a longitudinal study showed that the risk of revictimization was the highest for childhood sexual abuse (odds ratio; *OR* = 4.34) followed by combined neglect and psychological abuse (*OR* = 1.85), and physical abuse (*OR* = 1.72). Regarding polyvictimization, a combination of sexual abuse and neglect/ psychological violence had the highest risk for adulthood victimization with odds of 22.21, and combined sexual and physical abuse had the lowest risk with odds of 3.70 (Frugaard Stroem et al., 2019). The risk of revictimization increases strikingly in clinical populations. For instance, it has been shown that individuals with a mental disorder and a history of childhood sexual abuse were 38 times more likely to experience sexual victimization in adulthood compared to individuals with a mental disorder and without such an experience, after statistically controlling for age and gender (van der Feltz-Cornelis et al., 2019).

The literature on the potential consequences of revictimization is slim. However, the existing data provide support for the mental burden of revictimization. For instance, a longitudinal study with a large sample size recruited from the general population showed that revictimization was related to PTSD and alcohol use in the follow-up (Ullman, 2016). In another large scale longitudinal study among university students, a path analysis showed that childhood sexual abuse at baseline was related to sexual revictimization at baseline, which in turn predicted using alcohol as an emotion regulation strategy in the follow-up (Hannan et al., 2017). In addition, a cross-sectional study examined the effects of revictimization on PTSD severity among women with drug/alcohol use disorders, and showed that childhood maltreatment was related to sexual revictimization, which in turn was associated with PTSD severity (Schumm et al., 2004). Although the effect sizes were not reported in the studies discussed above, the reported beta coefficients point to small to moderate effects.

In summary, a wealth of research indicate that childhood maltreat-

ment has severe psychological consequences and increases the chance of revictimization. The observed high risk for revictimization among people with a history of childhood maltreatment and its potential consequences highlight a pressing need for the analysis of risk factors making these individuals vulnerable to further exploitation.

Revictimization: Theories and Concepts

Several theoretical accounts have been proposed in the last three decades in response to the need for understanding risk factors for revictimization, starting with Freud's repetition compulsion hypothesis. The proposed accounts refer to three main factors that may increase the probability for revictimization. First, it may be that particular characteristics set victims at risk for revictimization. The second factor concerns active engagement in risky situations, and the third factor concerns characteristics of individuals with a history of childhood maltreatment perceived as indications of vulnerability by potential perpetrators and the influences of such perceptions on selecting victims by perpetrators.

Victims' Characteristics

Repetition Compulsion Theory

Freud hypothesized that there is a need to re-experience previous traumatic events including victimization experiences for two reasons. One is to take an active approach in ongoing violence to achieve a sense of mastery, since taking such an approach as a child would not have been feasible. This can lead to revictimization because people may engage in risky situations such as sex with strangers, to feel in control of the situation. Another reason is to re-experience affects related to previous traumatic incidents, overwhelming affects that were repressed at the time of trauma. Re-experiencing the repressed memories, for example in form of flashbacks, occurs because traumatized individuals need to work on the original experience. It is assumed that emotions caused by re-experiencing these memories would overwhelm these people while they have limited internal or external resources (e.g., low social support due to mistrust), therefore, it might even make them more vulnerable to (re)victimization (Chu, 1992). Freud's conceptualization of

revictimization includes broad processes (Sandberg et al., 1994) that are not testable.

Betrayal Trauma Theory

Betrayal Trauma Theory also focuses on repressed memories and emotions corresponding to victimization experiences, with the difference that this theory uses the more tangible term betrayal blindness. Freyd (1996) postulates that the level of betrayal in interpersonal relationships depends on the degree of closeness and necessity of a relationship. Betrayal in form of victimization inflicted by the caregivers on whom children rely is a traumatic experience. An adaptive reaction to betrayal is to avoid such relations. However, children depend on their caregivers for their survival, therefore, forming distrust towards them and escaping from them are not optimal options for children. Hence, abused children form betrayal blindness that blocks awareness or memories related to the betrayal. Although betrayal blindness can be an adaptive response for a child, it can increase the chance of revictimization later in life by limiting access to memories related to betrayal signals and detecting trustworthiness of others (Gobin & Freyd, 2009). Compromised awareness of these signals might result in engagement in risky situations that enhance exposure to people who violate trust and exploit others or staying with such individuals.

Agency-Oriented Assumption

The explanations discussed above mostly focus on mechanisms that limit risk recognition in the survivors of childhood maltreatment. However, one might decide to stay or engage in risky situations, despite detecting threatening signals, due to other factors such as approval seeking or fear of rejection (Macy, 2007). This assumption assumes victims' agency in decision making regarding risky situations, which might escalate the chance of (re)victimization among people with childhood maltreatment. Germane to this assumption, available evidence indicates that (re)victimized individuals might engage in risky sex behavior for non-sexual goals, such as coping with negative emotions (Miron & Orcutt, 2014) and boosting self-esteem (Layh et al., 2020). Besides this

evidence, a cross-sectional study showed that higher benefit expectation (expected benefits of sexual risk-taking) was related to increased delay in leaving risky situations, which indicates the salience of motives in decision making regarding such situations (Carlson & Duckworth, 2019). Similar to the theories discussed above, this assumption also focuses on victims, whereas the interaction between perpetrators and victims is not clarified.

Victim Preference by Perpetrators Account

Messman and Long's Explanation. In addition to factors underlying increased vulnerability among victims, Messman and Long (2003) draw attention to the effects of victims' characteristics, signaling vulnerability to victimization, on perpetrators. This hypothesis assumes that perpetrators detect vulnerabilities in people with previous victimization and take advantage of them to exploit their targets. For instance, confusion and distractibility induced by dissociation or inability to react assertively to danger cues can be perceived as signals indicating that a person is a good 'target' for exploitation (Messman-Moore & Long, 2003).

Empirical Evidence on Associates of Revictimization

Along with emerging theoretical concepts, research on risk factors increasing the chance of further victimization among survivors of childhood maltreatment is growing. Empirical data on the known risk factors will be discussed next.

Victims' Characteristics

Previous studies found that various intrapersonal risk factors contribute to the increased vulnerability among the survivors of childhood maltreatment. For instance, the literature shows that psychological distress (i.e., in form of PTSD symptoms, dissociation, and depression), emotion dysregulation, and risky behaviors such as sexual risk-taking are potential precursors of revictimization.

The most commonly studied psychological disorder is PTSD. In general, the available data delineate a trend towards the role of PTSD in

revictimization. Prospective studies (Ullman, 2016; Littleton & Ullman, 2013; Ullman et al, 2009; Noll et al., 2003) indicated that PTSD symptom severity was related to revictimization. In line with longitudinal evidence, a cross-sectional study with a large sample (N = 6,764) reported that revictimization increased the odds of meeting criteria for PTSD in six months prior to the study by five fold in adolescent girls, by approximately six fold in college female students, and by approximately eight fold in household-residing women in the USA (Walsh et al., 2012). Two more cross-sectional studies provided support for this relationship (Risser et al., 2006; Littleton and Ullman, 2013) while another retrospective study did not (Filipas & Ullman, 2006). In most studies, the effect sizes were not reported, yet the beta coefficients imply that it concerned small effects. One study showed that PTSD severity explained 11% variance of revictimization, and hyperarousal 39% of the variance (Risser et al., 2006), whereas Littleton and Ullman (2013) showed that a pathway model consisting of PTSD and problematic drinking explained approximately 30% of variance in revictimization. It is noteworthy that all the studies were conducted in the United States, thus, it remains to be seen how these patterns play a role in other parts of the world.

The available evidence for the relevance of dissociation as a factor in revictimization is scarce and inconsistent, and most of the studies have small sample sizes. Two prospective studies showed that dissociation as trait *(Zamir et al., 2018; Indirect effect = .08)* and state (Noll et al., 2003) were related to revictimization, whereas another longitudinal study failed to provide evidence for this relationship (Sandberg et al., 1999). In addition, cross-sectional studies showed higher state dissociation in revictimized patients with mental disorders compared to patients without lifetime history of victimization (Bockers et al., 2014), and provided evidence for a relationship between dissociative disorder symptoms and sexual revictimization by an intimate partner (Dietrich, 2007). All of these studies, except for one (Bockers et al., 2014), which was in Europe, were conducted in the US.

There is also limited evidence for the relationship between depression symptom severity and revictimization. Well-powered longitudinal studies among US-citizens reported a relationship between depression

symptoms and revictimization in university students (Miron & Orcutt, 2014; Cusack et al., 2021) as well as in general population (Najdowski & Ullman, 2011) although the effects seemed small indicated by small beta coefficients.

In conclusion, the very limited and partly inconsistent findings, do not allow any firm conclusion about the relationship between psychological symptoms and revictimization. Furthermore, the observed inconsistencies across the studies regarding the associations between psychological symptoms and revictimization might have resulted from methodological differences, such as different samples, differences in the definition of revictimization, and the measures that were used.

In spite of the limited evidence for the association between symptoms of psychopathology and revictimization, it is has been argued that psychological symptoms, such as PTSD, dissociation, and substance use, may interfere with risk recognition or proper reactions in risky situations as discussed above (Messman-Moore & Long, 2003). Yet, the available evidence underlying this proposition is not convincing. The available studies measured risk recognition within the contexts of a response-latency paradigm (Marx, & Gross, 1995). In this paradigm, respondents listen to an audiotape depicting a dating scenario between a man and woman in which gradually-increasing sexual advances by the man are refused by the woman eventually leading to rape. The respondents are instructed to indicate when the man in the scenario started to cross the line ("has gone too far"). Increased response latency is considered to reflect poor risk recognition. In a study among university students with a mixed cross-sectional and longitudinal design, response latency was higher in sexually revictimized women compared to non-victims based on cross-sectional and longitudinal results. However, the type of perpetrator (acquaintance versus stranger) resulted in a difference in cross-sectional versus prospective data. In the cross-sectional findings, the poor risk recognition was only found when the abuser in the scenario was a stranger, but not an acquaintance. For the longitudinal data, the results were opposite. In addition, excessive latency (indexed by reaction times higher than 70th percentile in the sample) predicted sexual victimization in the follow-up (Mess-

man-Moore & Brown, 2006). These results should be interpreted with caution as many analyses were conducted in this study, while correction for Type I error was not considered. In addition, the effect sizes were not reported. The difference in the cross-sectional and longitudinal data regarding the type of perpetrator was attributed to the low number of victimization rate by strangers in the prospective data by the authors (Messman-Moore & Brown, 2006). However, due to the problems discussed above, it is not clear whether the observed patterns are chance findings or actually due to power issues. Future well-powered research is needed to explore the association between risk recognition and revictimization in the context of different perpetrators. Further, based on cross-sectional data among individuals with mental disorders, revictimized women did not differ from non-victimized women in terms of risk recognition, but they did, however, show slower reaction times compared to women victimized only once, although the effect was very small (B = -.01). The authors concluded that revictimized people might not have poor risk recognition abilities as they did not differ from the non-victimized group. Rather, the group that was victimized only once might have improved risk recognition acting as a buffer against revictimization (Bockers et al., 2014). Nevertheless, the small effect found in the study and lack of difference in risk recognition in revictimized women compared to non-victims cast doubt on this assumption that risk recognition, at least as it is operationalized so far in the studies, is a risk factor for revictimization. Furthermore, two more cross-sectional studies did not find an association between (poor) risk recognition and lifetime sexual victimization in a community sample (Chu et al., 2014) and university students (de Waal et al., 2019).

Furthermore, the relationship between psychological symptoms and revictimization shown in previous studies might be attributable to difficulties with emotion regulation that resulted from childhood maltreatment. Supporting this assumption, a retrospective study on a community sample with a relatively small sample (n = 99) showed that emotion dysregulation had a mediating effect on the relationship between childhood maltreatment and PTSD severity (Lilly et al., 2014). In addition, a longitudinal study found an association between emo-

tion dysregulation and revictimization (Messman-Moore et al., 2013). The difficulty with regulating negative emotions might encourage the survivors of childhood maltreatment to cope with vexing emotions by involvement in risky behaviors such as sexual risk-taking. In line with this hypothesis, a cross-sectional study in college students found that childhood maltreatment was associated with emotion dysregulation, which in turn was positively related to sex with strangers and number of sexual partners, which in turn was related to rape in adulthood in a pathway model. The effect size was, however, small (Messman-Moore et al., 2010). The association between revictimization and risky sex behavior was supported in a cross-sectional study in which exchanging sex for money had a mediating effect in the relationship between childhood sexual abuse and sexual revictimization in a pathway model. The effect size of the model was small too (Ullman & Vasquez, 2015).

While evidence on risk factors for revictimization is amassing, researchers have attempted to integrate existing data by literature reviews (Arata, 2002; Breitenbecher, 2001; Classen et al., 2005; Messman-Moore & Long, 2003), and to clarify the (in)consistencies of the findings across studies, reasons behind the inconsistent findings, and thereby also pointing to the gaps in the literature. However, with one exception (Walker & Wamser-Nanney, 2022), all reviews focused on a specific form of revictimization (i.e., sexual revictimization) and they are already quite old now. In addition, all reviews to date are non-systematic. Clearly then, a systematic review that provides a broad perspective on risk factors for revictimization and also integrates the more recent findings in this field is urgently needed.

To further our understanding of revictimization, it is not only important to increase insight in how risk factors may play out to heighten the chance of revictimization, it would also be important to enhance insight in how the known risk factors interrelate. Thus far, studies on victims' characteristics examined risk factors either in isolation (Bockers et al., 2014; Noll et al., 2003; Risser et al., 2006) or in relation to a very limited number of other candidate risk factors (DePrince, 2008; Messman-Moore et al., 2010; Ullman, 2016; Ullman et al., 2009). This precludes the opportunity to examine how the full range of identified

risk factors relate and may interact, and to what extent these risk factors have independent prognostic value (and which of the identified risk factors might be most important). To elaborate, PTSD symptoms may not solely increase the risk for revictimization unless they somehow increase exposure to potential perpetrators. A woman with PTSD symptoms using alcohol or having sex with strangers in order to cope with overwhelming trauma-related symptoms is more likely to being victimized than a woman with similar symptoms, but using social support or therapy to cope with negative emotions. Therefore, a more comprehensive data-driven model also addressing interrelations between risk factors for revictimization would be very helpful to advance insight in how the various identified risk factors jointly contribute to revictimization.

To further our knowledge about the mechanisms behind revictimization, it is also pivotal to improve our understanding of the contexts in which the survivors of childhood maltreatment might be exploited. One of these contexts is modern dating in which people meet their dating partners online, for instance by mobile dating applications, such as Tinder (Rosenfeld et al., 2019; Rosenfeld & Thomas, 2012). This would provide valuable information given that evidence shows that using online dating is associated with engagement in risky sex behavior (Choi et al., 2016) and higher rates of sexually transmitted diseases (Beymer et al., 2014). Hence, engagement in risky sex behavior in the context of online dating may increase the chance of sexual victimization. Supporting this assumption, available data indicate higher rates of sexual victimization among online dating users compared to non-users (Choi et al, 2016; Shapiro et al., 2017). To date, no study has investigated vulnerability to revictimization in the context of online dating among people with a history of childhood maltreatment. Therefore, it is crucial to examine revictimization rate and its potential risk factors in online dating given that online dating users seem to perceive the risks in such a context (Couch et al., 2012), but they might not apply protective strategies against sexual victimization due to the priority of other motives, such as coping with negative emotions or boosting self-esteem. The investigation of these emotion/self-regulatory motives might well be important to be conducted in the context of dating, since revictimization

in such contexts is common among people with a history of childhood maltreatment (Barrios et al., 2015; Gay et al., 2013; Manchikanti Gómez, 2010).

Perception of Vulnerability by Perpetrators

Although research on intrapersonal risk factors for revictimization is essential for designing prevention programs focused on victims, victim's characteristics increasing their vulnerability for (re)victimization is only one side of the coin. To decrease the rate of revictimization, we also need to investigate how perpetrators select their victims and examine the cues on which they rely to gauge their candidate targets' vulnerability. Evidence on perpetrator's side is still scarce. However, two main findings are observed across prior research. First, individuals with higher psychopathy levels gauge one's vulnerability to victimization with greater accuracy (Book et al., 2013; Ritchie et al., 2018; Wheeler et al., 2009). Second, they seem to base their estimations on non-verbal cues, such as gait cues (Book et al., 2013; Ritchie et al., 2019), and perceived personality traits, such as submissiveness (Richards et al., 1991). To date, most studies focused on walking style signaling vulnerability to mugging or the combination of mugging and sexual abuse. It remains therefore to be examined to what extent other body language cues, such as hand movements, body posture, and emotional expressions may be taken to signal vulnerability and thereby heightening the probability of (sexual) victimization.

Outline of This Dissertation

The core aim of this dissertation is to address the critical gaps in the literature that have been discussed above, and to improve the understanding of risk factors linking childhood maltreatment to adulthood victimization. More specifically, **Chapter 1** aims to contribute to the literature by providing a systematic review of available evidence. To reach this aim, this chapter integrates findings on intrapersonal risk factors for revictimization, discusses the gaps in the literature and directions for future research. As the next step, **Chapter 2** attempts to test interrelations between intrapersonal risk factors of revictimization, including emotion and self-regulatory sex motives, by a data-driven model, which explains

how the candidate risk factors and their interactions connect childhood maltreatment to revictimization. To extend evidence on the agency-focused engagement in risky situations as a potential mechanism of revictimization, **Chapter 3** presents a study that assesses emotion and self-esteem regulatory sex motives for engaging in risky sex in a new context, which is online dating. In this chapter, the rate of revictimization and its potential underlying risk factors will be discussed. **Chapter 4** examines the factor structure and internal consistency of a measure that was developed by the authors for the study presented in Chapter 2 in order to assess the sex motives in online dating. Hence, the studies in Chapter 3 and 4 are based on the same dataset. While chapters 1 to 4 focus on risk factors related to victims' characteristics, **Chapter 5** focuses on victim selection as another potential mechanism of revictimization and aims to understand how victims' vulnerability is estimated and whether this vulnerability is perceived/estimated based on non-verbal cues by perpetrators. To integrate the findings presented in chapters 1 to 5, the **General Discussion Chapter** provides a theoretical data-driven model that explains the interrelations between intrapersonal risk factors of revictimization and the mediating and intervening roles of the risk factors in revictimization. In addition, the effects of victim's characteristics on perpetrators and the role of perpetrators' characteristics, such as psychopathic traits, on the risk for revictimization will be discussed. General Discussion will end with the clinical implications of the proposed model, the limitations of the presented studies, and directions for future research.

Chapter 1

A Systematic Literature Review on Revictimization

Abstract

Objective. There is established evidence that childhood/adolescent victimization is associated with victimization in adulthood although the underlying mechanisms are not still clear. The current study aimed to systematically review empirical studies examining potential psychological factors linking childhood maltreatment to victimization in adulthood and the gaps in the literature. **Method.** Following PRISMA protocol, 71 original studies consisting of a total sample of *n* = 31,633 subjects were analyzed. **Results.** Symptom severity for various trauma-related disorders, dissociation, emotion dysregulation, and risky sexual behaviors emerged as potential predictors of revictimization. While these potential risk factors mediate the relationship between childhood maltreatment and adulthood victimization, evidence for additional factors such as social support, attachment styles, maladaptive schemas, and risk detection is very limited. **Discussion.** Addressing these intrapersonal risk factors, found by prior studies, in interventions and preventive programs might decrease the probability of revictimization. The interactions between the identified risk factors have not been studied well yet. Hence, more research on mediating risk factors of revictimization is needed.

Based on:

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Childhood maltreatment (CM), defined as emotional, physical, sexual abuse, and emotional and physical neglect, has a high prevalence across the world. Approximately, three in four children experience physical and/or emotional victimization. For sexual abuse, this rate is one in five in women and one in 13 in men (World Health Organization, 2020). Previous studies provided extensive evidence in support of higher vulnerability for adulthood victimization (i.e., physical, emotional, and sexual abuse) among survivors of CM. Victimization both in childhood and adulthood is called revictimization in the literature and has received increasing attention in the last decades. A recent meta-analysis indicated that approx. half of individuals with a child sexual abuse history (CSA) are at risk of revictimization (Walker, Freud, Ellis, Fraine, & Wilson, 2019). Several potential mediators have been queried regarding their predictive value, such as dissociation (Zamir, Szepsenwol, Englund, and Simpson, 2018), PTSD symptoms (Ullman & Peter-Hagene, 2016), and emotion dysregulation (Messman-Moore, Ward, & Zerubavel, 2013). Considering the increasing evidence for a strong link between CM and adulthood victimization, it is imperative to elucidate the psychological risk factors mediating revictimization. Therefore, it is important to review the findings of the prior research to shed light on the factors examined so far, and the gaps in the literature.

Except for a recent non-systematic review (Walker & Wamser-Nanney, 2022), previous literature reviews were non-systematic, exclusively on sexual revictimization, and are now outdated (Arata, 2002; Breitenbecher, 2001; Classen et al., 2005; Lalor & McElvaney, 2010; Messman-Moore & Long, 2003). Hence, the aim of this study is to present the current empirical evidence regarding psychological associates of revictimization via a systematic review of the literature. The rationale for focusing on intrapersonal variables related to revictimization is to identify risk factors with predictive value that can be the focus of intervention or preventive programs as well as provide directions for future research. Since most studies so far have focused on a particular type of victimization or a specific population, this study aims to provide a general overview of the psychological risk factors by including all types of victimization and populations.

Method

Literature Search

The search was conducted following the PRISMA protocol (Moher et al., 2009). Two sets of search terms were selected, one for CM ("child abuse", "child trauma", "child maltreatment", "incest", "adverse childhood experiences", "child neglect", and "family violence") and the other for revictimization ("revictimization", "repeat victimization", "polyvictimization", "repeated trauma", "multiple victimization", "retraumatization", "intimate partner violence", "victimization", "sexual aggression", "sexual violence", "rape", "assault", "domestic violence", "betrayal trauma", "adult victims", and "dating violence"). The fully crossed combination of the two sets were searched in Psychinfo, PubMed, ScienceDirect, Springer, and Google Scholar from 2018 to the beginning of 2019. We stopped the search on Google Scholar, once there were no relevant hits on three consecutive pages.

Beforehand, we already had compiled several relevant studies and compared this compilation posthoc to the search results. We noticed that 11 topical studies were not detected by the systematic search due to their outlets not being represented in the searched databases. We, therefore, decided to additionally search the eight journals, which had published these studies, employing the same search terms. Finally, the references of included articles were screened for additional studies.

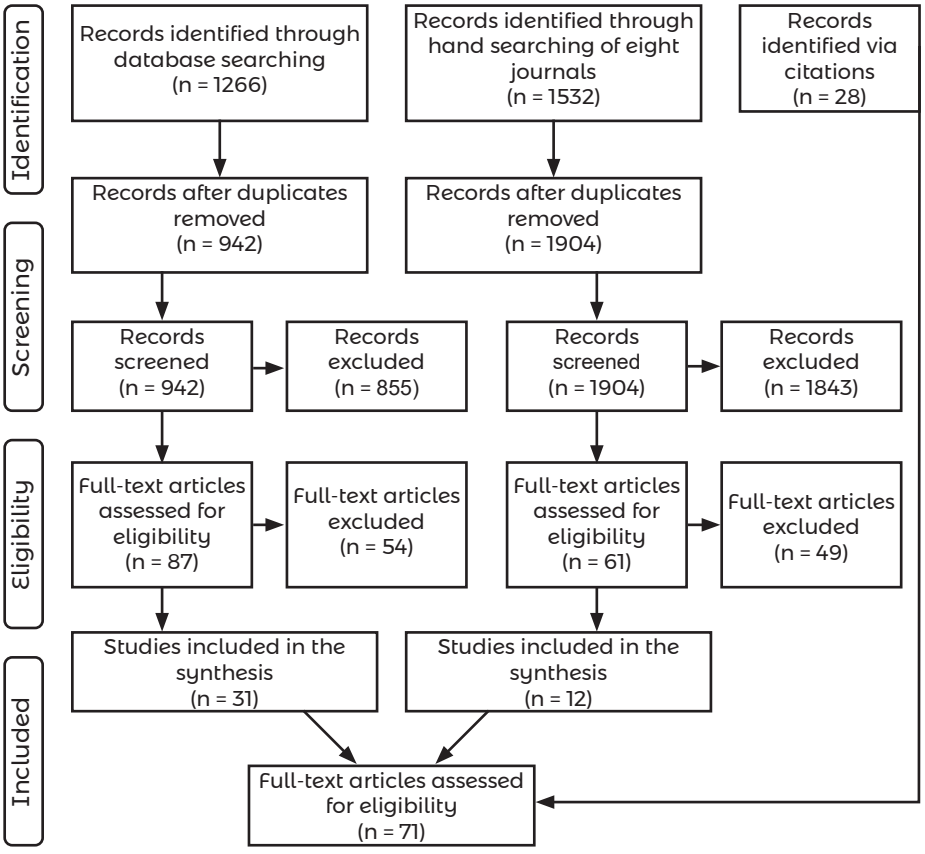
Selection of Literature

The inclusion criteria for the studies were (1) published in peer-reviewed journals, (2) quantitative research, (3) examining psychological associates of revictimization, and (4) clear definition of maltreatment in childhood /adolescence and adulthood victimization based on age ranges. The latter criterion became necessary as prior studies considered various developmental stages for revictimization. While most studies define revictimization as victimization in both childhood and adulthood (Jankowski, 2002, Arata, 2000, Babcock, 2012), more than one victimization experience in lifetime, regardless of the age at occurrence, was defined as revictimization by other authors (Matlow

& DePrince, 2013; Reichert, Segal, & Flannery-Schroeder, 2015). Due to the lack of research on the influence of these different age cut-offs on the relationship between revictimization and its risk factors, we cannot assume the results of these studies are comparable. Therefore, we limited our review to the studies that defined revictimization as interpersonal violence in both childhood/adolescence and adulthood. The flow diagram (see Figure 1) presents the procedure used for selecting eligible studies. One of the authors (F. F) and a research assistant screened the abstracts separately. Consensus between the two assessors about inclusion/exclusion of the studies was achieved for each abstract. Then, the author (F. F) examined each paper based on the inclusion criteria by assessing relevant information in the method and results sections of each paper. For quality assessment in this stage, the author (F.F) investigated the consistency between operational definition of revictimization and actual computation of revictimization. Papers not meeting the criteria were excluded from further analysis.

Figure 1.

PRISMA 2009 Flow Diagram



Afterward, information consisting of sample characteristics (e.g., sample size, population, gender, the country where the data were collected), design of the study, definition of CM/adulthood victimization, measures for tested predictors/correlates of revictimization, and results for each predictor/correlate were extracted from the included papers by the author. For the quality assessment in this stage, the author examined if *p*-value of at least .05 is used for each hypothesis, when p-value correction was not needed. Since we found studies on a wide variety of psychological risk factors, we opted to exclude the risk factors examined by only one study, which do not allow any conclusion or compar-

ison with other studies. The excluded factors were social adjustemnt (Kaltman et al., 2005), shame (Kessler & Bieschke, 1999), psychological mindedness (Zamir & Lavee, 2014), partner selection (Gobin, 2012), psychophysical reaction to trauma-related stimuli (Patriquin et al., 2012), attentional bias to trauma-related stimuli (Field et al., 2001), and emotion recognition (Bell & Naugle, 2008). The final sample consisted of 71 studies. The results section is organized in a way that variables with more evidence are discussed at the top and within each paragraph, longitudinal studies are presented first due to their higher validity. Table S1 in the supplementary section provides information about the included papers.

Results

1. Mental Health

1.1. PTSD Symptoms

Twenty-five papers examined PTSD (*n*=6 longitudinal). Longitudinal studies provided preliminary evidence in favor of the role of PTSD symptoms in revictimization. A longitudinal study (Noll et l., 2003) found a significant relationship between lifetime PTSD severity and sexual/physical revictimization. Two of three prospective studies supported a mediating (Messman-Moore et al., 2005) or moderating (Sandberg et al., 1999) role of PTSD symptoms severity between childhood/adolescent sexual victimization and adulthood sexual victimization, while the study by Livingston and colleagues (2007) did not. In terms of specific PTSD symptoms, numbing was a mediator between CSA and prospective adulthood sexual victimization. Three symptom clusters of PTSD, re-experience, avoidance, and arousal, were intervening factors between CSA and prospective adult sexual victimization via problematic drinking (Ullman et al., 2009). Messman-Moore and colleagues (2009) provided evidence that PTSD severity was an intervening variable between childhood maltreatment and prospective rape in adulthood through risky sexual behavior/sexual dissatisfaction and substance/alcohol abuse.

Sexually revictimized individuals showed higher PTSD symptom

levels than people who were sexually abused exclusively either in childhood or adulthood (Arata, 1999a; Arata, 2000; Aosved et al., 2011; Banyard et al., 2001; Bell & Naugle, 2008; Cloitre et al., 1997; Filipas et al., 2001; Heidt et al., 2005; Kaltman et al., 2005; Messman-Moore et al., 2000; Schumm et al., 2006) and non-victims (Messman-Moore et al., 2000) in cross-sectional studies. Two studies found that revictimized women were more likely to meet diagnostic criteria for current PTSD than non-victims (Schumm et al., 2006) or for lifetime PTSD than sexually abused exclusively in childhood or adulthood and non-victims (Arata, 1999c), but not for current PTSD diagnosis (Arata, 1999c). No difference was found between revictimized women and women sexually victimized exclusively in adulthood (Bolstad & Zinbarg, 1997).

The cross-sectional studies indicated conflicting results. Mokma and colleagues (2016) found a significant indirect relationship between PTSD severity and sexual revictimization that is inconsistent with Filipas and Ullman (2006) and Bell and Naugle (2008) results. Dietrich (2007) reported a relationship between sexual revictimization and PTSD diagnosis only in women, but not in men. Walsh and colleagues (2013) and Risser et al. (2006) found that hyperarousal mediated the relationship between sexual victimization in childhood and adulthood.

1.2. Depression

Thirteen studies (*n* = 2 longitudinal) examined depression. A longitudinal study (Culatta et al., 2017) indicated that depression at the end of the first year of university mediated the relationship between sexual victimization in adolescence (i.e., at 14-years old) and over the second year of university. Livingston et al. (2007) found that depression was an intervening variable in the association between CSA and prospective adult sexual victimization.

Seven cross-sectional studies support the notion that revictimized subjects exhibit higher levels of depression than non-victims and, abused exclusively either in childhood or adulthood (Aosved et al., 2011, Banyard et al., 2001; Cloitre et al., 1997; Gidycz et al., 1993; Heidt et al., 2005; Kaltman et al., 2005; Messman-Moore et al., 2000; Schumm et al., 2006). However, this difference was not found for depression severity

(Field et al., 2001) or for lifetime diagnosis of depressive disorders (Arata, 1999b) and depression severity was not related to sexual revictimization (Classen et al., 2002).

1.3. Anxiety

Eight cross-sectional studies investigated the role of anxiety. The studies found higher anxiety symptoms in sexually revictimized women than victimized exclusively in childhood or adulthood (Gidycz et al., 1993), and non-victims (Messman-Moore et al., 2000; Proulx et al., 1995). Three studies did not find higher lifetime prevalence of anxiety disorders (Arata, 1999b) or anxiety levels (Aosved et al., 2011; Field et al., 2001) in sexually revictimized individuals than non-victims and victimized exclusively in childhood or adulthood. Sexual revictimization was not associated with anxiety in Classen et al. (2002) study. Nevertheless, revictimized women had higher rates of simple phobia and social phobia than non-victims (Cloitre et al., 1997).

1.4. General Psychological Distress

Psychological distress consisted of different symptoms across studies, which might explain the inconsistent findings in 12 studies (n = 4 longitudinal).

The longitudinal studies reported that psychological distress mediated the relationship between CSA and prospective sexual victimization during adulthood (Gidycz et al., 1993; Orcutt et al., 2005), the relationship between child physical abuse and prospective IPV (Lindhorst et al., 2009), and the relationship between CM and prospective dating violence (Cascardi, 2016). Similarly, cross-sectional studies supported the mediating role of psychological distress in the relationship between CSA and coercive sexual assault in adulthood (Fortier et al., 2009), and the relationship between child sexual abuse and IPV in the last 6 months (Engstrom et al., 2008). On the contrary, psychological distress was not an intervening factor between CSA and adult sexual victimization in another study (Gidycz et al., 1995).

Comparative cross-sectional studies provided inconsistent results. Psychological distress was higher in revictimized people than vic-

timized exclusively in childhood (Aosved et al., 2011; Heidt et al., 2005; Kaltman et al., 2005; Proulx et al., 1995) or than exclusively abused in adulthood, and non-victims (Aosved et al., 2011; Heidt et al., 2005). However, no difference between sexually revictimized women and sexual abused exclusively in childhood was found by Gibson and Leitenberg (2001).

2. Dissociation

Thirteen studies (n=4 longitudinal) assessed the impact of different aspects of dissociation (n=7 trait; n=3 peri-traumatic; n=3 posttraumatic; n=1 somatoform dissociation).

The longitudinal studies provided inconsistent results. Zamir et al. (2018) followed 80 women for 32 years. Trait dissociation at the age of 19 mediated the relationship between childhood victimization and prospective IPV. Trait dissociation was related to physical, but not sexual revictimization in another longitudinal study with 6-year follow-up (Noll et al., 2003). However, it was not a mediator between CM and prospective adult physical/sexual victimization in a longitudinal study with 6-month follow-up (Young et al., 2017) or a mediating/moderating factor between childhood/adolescent and prospective adult sexual victimization in a longitudinal study with 10-week follow-up (Sandberg et al., 1999). Peritraumatic dissociation was associated with sexual, but not physical, revictimization in a longitudinal study (Noll et al., 2003).

The results of cross-sectional studies were not convergent. Field et al. (2001) reported higher trait dissociation in sexually revictimized women than sexually victimized in childhood and DePrince (2005) indicated a significant relationship. However, trait dissociation severity was not related to revictimization in another study (Classen et al., 2002). Peritraumatic dissociation was unrelated to revictimization in two studies (Hetzel & McCanne, 2005; Irwin, 1999a).

Cloitre et al. (1997) showed that more people in the sexually revictimized group reported scores close to or above the clinical cut-off than in the groups with sexual abuse exclusively in adulthood or non-victims. This difference was not found by Kaltman et al. (2005), but the revictimization group was very small (n = 10). Dissociation directly fol-

lowing exposure to a traumatic event was not related to sexual victimization in adulthood (Kessler & Bieschke, 1999). Finally, Dietrich (2007) found a relationship between sexual revictimization by a partner and dissociative disorders symptoms severity, but not between sexual/physical revictimization by a partner and somatoform dissociation.

3. Alcohol/Substance Use

Ten studies (*n*= 4 longitudinal) investigated the effect of substance/alcohol use. The longitudinal studies indicated inconsistent results. Lindhorst et al. (2009), following participants for approx. two years, showed that neither general alcohol use nor general marijuana use were significant paths from childhood physical abuse to prospective sexual victimization in adulthood. Valenstein-Mah et al. (2015), following participants for 30 days, found that total drinks per week and drinking consequences i.e., impaired control, risky behavior and blackout, did not predict prospective sexual revictimization facilitated by alcohol/drug and non-alcohol related sexual victimization among people with CSA, but blackout drinking predicted sexual revictimization facilitated by alcohol/drug in people with adolescent victimization. Gidycz et al. (1995) showed that alcohol abuse was not an intervening variable between CSA and prospective adulthood sexual victimization. Alcohol/substance abuse was not a mediator in the relationship between victimization in adolescence and adulthood in another study (Culatta et al., 2017). The pathway to IPV went from negative family environment to CM, then to risky behavior in adolescence including alcohol/substance use, which in turn was associated with adolescent sexual victimization, leading to IPV in adulthood (Fargo, 2008).

Similarly, the results of the cross-sectional studies were inconsistent. Alcohol and substance abuse did not mediate the association between child sexual abuse and IPV in the last 6 months (Engstrom et al., 2008). Moreover, substance and alcohol abuse disorder (as diagnosis) did not mediate the relationship between CSA and adulthood sexual victimization (Messman-Moore & Long, 2002). Nevertheless, the pathways from CSA to alcohol use and then to alcohol-facilitated sexual victimization in adulthood were significant, but not from alcohol use to forcible

sexual assault in adulthood (Mokma et al., 2016). Gidycz et al. (1995) showed that alcohol use was not an intervening factor between CSA and retrospective adulthood sexual victimization. Lifetime prevalence of substance abuse disorder was not higher in sexually revictimized men than sexually victimized in childhood/adulthood and non-victims (Arata, 1999b).

Summary: Mental Health

The results regarding the role of specific psychological symptoms and general psychological distress are mixed. As shown in Table S1, methodological differences including different populations, definitions of CM/adulthood victimization, study designs (longitudinal vs cross-sectional), and measures can potentially explain the inconsistencies. In general, there is evidence that psychological symptoms increase the risk of revictimization although it is not well studied yet how these factors make CM survivors more vulnerable for further victimization. A discussion about findings on each psychological symptom is provided below.

PTSD. Differences in sample sizes, populations and measures explain inconsistent findings in both longitudinal and cross-sectional studies. Nevertheless, the findings show the importance of PTSD symptoms as a risk factor for revictimization, particularly for sexual revictimization in women. PTSD might compromise risk detection and reaction due to hyperarousal and numbing, respectively (Messman-Moore & Long, 2003). In addition, using alcohol or risky sex as emotion regulatory strategies to alleviate PTSD symptoms might interfere with risk detection.

Depression. Most studies found an association between depression and revictimization. The studies that did not support this relationship either had small sample sizes or assessed only recent adulthood victimization rather than victimization throughout adulthood. Even though the mechanism linking depression to revictimization is not as clear compared to PTSD, it has been suggested that the use of sex to cope with depressive symptoms might be the linking mechanism (Miron & Orcutt , 2014).

Anxiety. Although some studies showed a link between anxiety and sexual revictimization exclusively in women, it is not clear if anxiety is a consequence or risk factor for revictimization due to cross-sectional design of the studies. In addition, anxiety can be explained by PTSD symptoms and might not explain revictimization beyond PTSD symptoms. Small sample sizes and various used measures explain the inconsistent findings on anxiety.

Dissociation. The inconsistent results on dissociation may result from the examination of different aspects of dissociation. In addition, the summarized studies assessed trait dissociation by *Dissociative Experience Scale* (Bernstein & Putnam, 1986), which measures both pathological and non-pathological dissociation. Pathological dissociation is associated with CM, while non-pathological dissociation is not (Irwin, 1999b), which might explain the inconsistent results since higher scores on dissociation might be due to higher non-pathological dissociation in some samples.

4. Risk-Taking in Sexual Relationships

4.1. Number of Sexual Partners

Nine studies (n = 3 longitudinal) were conducted on the number of sexual partners. In a longitudinal investigation (Testa et al., 2010), following the participants from adolescence to young adulthood, adolescent sexual victimization was related to risky sexual behavior in adolescence including the number of sexual partners, which in turn was related to risky sexual behavior in young adulthood, leading to prospective sexual adult victimization. However, a longitudinal study, with 17-year follow-up, did not provide support in favor of higher number of sexual partners in sexually revictimized women than sexually abused exclusively in childhood, but prostitution was 3 times more likely in the former group (West et al., 2000). Gidycz et al. (1995) did not provide evidence for the intervening role of the number of sexual partners between CSA and prospective adult sexual victimization in 9-month follow-up.

Higher number of sexual partners was consistently related to sexual revictimization in cross-sectional studies, except for one study (Gidycz

et al., 1995). Sexually revictimized women reported a higher number of sexual partners (Arata, 2000) and higher sexual activity (Mayall & Gold, 1995) than women sexually abused exclusively during childhood. The number of sexual partners and/or relationships was related to sexual revictimization (Arata & Lindman, 2002) and it mediated the relationship between CSA and sexual victimization in adulthood (Arata, 2000; Santos-Iglesias & Sierra, 2012). In addition, Messman-Moore et al. (2010) indicated that the number of sexual partners was an intervening variable between CM and sexual victimization in adulthood. Ullman and Vasquez (2015) found a significant relationship between sexual revictimization and number of partners, but this variable did not mediate the relationship between childhood and adulthood victimization. Gidycz et al. (1995) study did not support the intervening role of the number of sexual partners between CSA and retrospective adult sexual victimization.

4.2. Sex Under the Influence of Alcohol or Substance

Of the six studies on sex under the influence of alcohol or other substances (SIAS), one was longitudinal (Krahé & Berger, 2017) and reported evidence for an association between CSA and SIAS (as well as other risky sexual behavior such as sex with a stranger), which in turn was related to prospective sexual abuse during adulthood.

Messman-Moore et al. (2010) measured the frequency of risky sexual behavior i.e., SIAS or sex without protection in a cross-sectional study. CSA was related to risky sexual behavior with regular partners, which in turn was associated with sexual victimization in adulthood. The same model included significant paths for sexual relations with strangers, with the difference that emotion dysregulation preceded risky sexual behavior in this case. In two cross-sectional studies, SIAS did not mediate the relationship between sexual abuse in childhood and adulthood (Santos-Iglesias & Sierra, 2012; Ullman & Vasquez, 2015), while in another study, using alcohol on dates was related to sexual revictimization (Arata & Lindman, 2002). Interestingly, Walsh et al. (2013) showed that CSA was negatively related to perceived control over sexual feelings, behaviors and interactions, which in turn was associated with the expectancy to enjoy sex more under the influ-

ence of substance/alcohol, which in turn was associated with alcohol/substance-facilitated sexual assault, but not forcible sexual assault.

4.3. Age at Consensual Sexual Initiation

Three studies (*n* = 2 longitudinal) examined the initial age of consensual sex. One longitudinal study suggests that younger age at consensual sexual initiation mediates the relationship between CSA and physical, but not sexual abuse by partners during adulthood among women (Ihongbe & Masho, 2018). Among men, the mediating effects were neither significant for physical nor sexual abuse. Another longitudinal study (West et al., 2000) did not find any evidence for significant age differences at consensual sexual initiation in sexually revictimized students compared to peers sexually victimized in childhood and that result was also shown by a cross-sectional study (Kaltman et al., 2005).

4.4. Sex to Reduce Negative Affect

Orcutt et al. (2005) discuss that the survivors of CSA might use sexual behavior for non-sexual goals such as a coping strategy to reduce negative affect or to feel powerful, which increase the risk of revictimization.

The three studies on this variable (*n* = 2 longitudinal) showed conflicting results. Miron and Orcutt (2014) supported a significant effect of sex to reduce negative affect on sexual revictimization in adulthood through depression and likelihood of sex with strangers over a time period of 57 days among university students. Conversely, Orcutt et al. (2005) did not find evidence for the mediating role of this variable in the relationship between sexual victimization in childhood and adulthood in a 5-year prospective study in a community sample. Having sex to receive love/attention or to deal with sadness/loneliness was associated with sexual revictimization in a cross-sectional study (Myers et al., 2006).

Relatedly, Reid (2009) found that sexual behavior/cognitions, such as using sex to control others and believing that men would not care about women without sex, in conjunction with sexual victimization in adolescence, mediated the relationship between maternal childhood neglect and sexual victimization in adulthood.

5. Sexual Assertiveness and Self-Esteem

Of the six studies (n = 2 longitudinal), two studies were on sexual self-esteem, three on sexual asssertiveness and one on sexual permessiveness.

Krahé and Berger (2017) found that CSA was related to lower sexual self-esteem, which in turn predicted higher prospective sexual victimization in adulthood in women, but not in men. In another longitudinal study (Livingston et al., 2007), sexual assertiveness was a significant intervening variable between CSA and prospective adult victimization. Relatedly, a longitudinal study (Noll et al., 2003) indicated a significant association between sexual permissiveness and physical revictimization, but not for sexual revictimization. In addition, sexual preoccupation was related to sexual, but not physical, revictimization.

Cross-sectional studies showed comparable results. Van Bruggen et al. (2006) showed that lower sexual self-esteem was an intervening variable between CM and adulthood sexual victimization through risky sex behavior. Moreover, sexual assertiveness mediated the relationship between sexual abuse in childhood and adulthood, with higher assertiveness being associated with lower revictimization (Santos-Iglesias & Sierra, 2012). Ullman and Vasquez also (2015) found a negative association between sexual assertiveness and sexual revictimization.

Summary: Risk-Taking in Sexual Relationships

In sum, the findings on the association between risky sex behavior and revictimization, except for sexual assertiveness, are mixed. In addition to methodological differences i.e., various measures and pathway models consisting of different risk factors, the inconsistent results might also be due to the heterogeneity in sexual activity among CSA survivors. People with CSA seem to respond to this traumatic event in two ways: avoidant coping that results in low sexual activity, and self-destructive coping that leads to elevated risky sexual activity (Merrill et al., 2003; Gewirtz-Meydan, 2022) and thus sexual revictimization. Null findings in previous studies could be due to the combination of these two groups. Consistent results regarding the effect of sexual assertiveness on rev-

ictimization is promising for preventive programs and suggests that reaction to risk can influence the occurrence of revictimization. Further research is needed on SIAS and the motives behind risky sex behavior, such as emotion and self-esteem regulatory motives. In addition, previous studies did not consider the context of intoxicated sex well that could result in contradictory results. For instance, the level of alcohol/drug consumption, one versus two parties being intoxicated, and type of substances (low-risk vs high-risk substances) are among the factors that might influence the risk of sexual victimization.

6. Coping Strategies, Emotion Regulation, and Alexithymia

Eight cross-sectional studies queried coping strategies, three emotion regulation, and two alexithymia. Filipas and Ullman (2006) reported that a higher number of women in the revictimized group compared to exclusively sexually abused in childhood indicated using maladaptive coping strategies to deal with CSA i.e., drug/alcohol use for coping, withdrawal from people and sexual contacts as coping. Sexually revictimized women showed higher escape, negotiation, instrumental action, and self-blame than non-victims (Proulx et al., 1995), higher levels of cognitive and anxious coping, such as rumination and irritability, than exclusively sexually victimized in adulthood (Arata, 1999a), and greater use of disengagement coping, any attempt to avoid or disengage, than sexually victimized in adulthood (Gibson & Leitenberg, 2001). Nevertheless, revictimized women were not different than sexually victimizied in adulthood based on expressiveness, avoidance, self-destructive behaviors (Arata, 1999a), and engagement coping (Gibson & Leitenberg, 2001), and not different than sexually victimized in childhood when coping strategies were measured as a general variable (Mayall & Gold, 1995).

Of the two studies (Fortier et al., 2009; Irwin, 1999a) testing the mediating role of coping in CM-revictimization association, only Fortier et al. (2009) showed that disengagement coping was an intervening variable between CSA and coercive (but not forceful) sexual victimization. Draucker (1997) showed that the ability to find a meaning in negative events did not mediate the relationship between CM and adult victimization.

Three studies consistently showed that emotion dysregulation was associated with revictimization (Messman-Moore et al., 2010; Ullman & Vasquez, 2015; Walsh & DiLillo, 2011), either as an intervening variable in a path model to sexual adulthood victimization (Messman-Moore et al., 2010) or as a difference in group averages (Walsh et al., 2011). Regarding the dimensions of emotion dysregulation, revictimized women had higher levels of non-acceptance of emotions, non-awareness of emotions, and lack of emotional clarity than other groups and greater lack of impulse control than women sexually victimized exclusively during adulthood. Ullman and Vasquez (2015) reported that emotion dysregulation in response to the most serious sexual assault in the past year was negatively associated with sexual assertiveness, which in turn was negatively associated with sexual revictimization.

Bell and Naugle (2008) found that alexithymia was associated with sexual revictimization after controlling for PTSD severity, CM and behavioral avoidance to emotions. Cloitre et al. (1997) reported that alexithymia was more prevalent in revictimized women than sexually victimized exclusively in adulthood and non-victims.

Summary: Coping Strategies

Most findings showed that various maladaptive coping styles and emotion dysregulation are risk factors for revictimization, although different definitions used for the maladaptive strategies can explain the null findings in two studies. Nevertheless, the results are in line with the developmental theory of emotion regulation that assumes the role of family functions, such as parenting styles and emotional climate of a family, in the formation of emotion regulation in childhood (Morris et al., 2007). Since CM occurs in a context of a disturbed family (Higgins & McCabe, 2003; Patwardhan et al., 2017), maladaptive emotion-regulation strategies, driven from a disturbed family and CM, develop and increase the chance of revictimization probably through risky sex behavior.

7. Social Factors

In this section, we will discuss evidence on three social factors - social

support (n = 5), disclosure of sexual abuse (n = 2), and interpersonal relationships (n = 7), which were exclusively studied cross-sectionally, except for a study that had both cross-sectional and longitudinal design.

Schumm et al. (2006) showed that revictimized women reported lower social support compared to women exclusively victimized in childhood or adulthood. Lau and Kristensen (2010) and Mayall and Gold (1995) reported no difference between sexually revictimized women and women sexually victimized exclusively in childhood based on perceived social support following CSA and parental support in childhood, respectively. In two studies (Draucker, 1997; Engstrom et al., 2008), social support did not mediate the relationship between childhood maltreatment and IPV.

Two studies investigated whether deciding to disclose CM to friends or relatives – and their respective reactions in response to this disclosure – are associated with revictimization. While Simmel and colleagues (2012) indicated that disclosure was not related to sexual revictimization, regardless of subsequent action after the disclosure, Wager (2013) reported a significant relationship between sexual revictimization and negative reaction to disclosure.

Previous studies indicated that the revictimized group had greater interpersonal problems such as submissiveness and intimacy than subjects sexually abused exclusively in childhood and non-victims (Cloitre et al., 1997), greater non-assertiveness, social avoidance and over-nurturance than subjects sexually victimized in childhood (Classen et all., 2001), greater hostile and controlling behavior than subjects victimized exclusively in childhood (Lau & Kristensen, 2010), and higher interpersonal sensitivity and hostility than non-victims or subjects first victimized in adulthood (Messman-Moore et al., 2000). In addition, Dietrich (2007) showed that sexual revictimization was associated with interpersonal relationship problems in women, but not in men. In another study (Gidycz et al., 1995), difficulties with socialization and assertiveness were not an intervening factor in the association between CSA and retrospective/prospective adult sexual victimization. Self-silencing, avoiding self-expression and effort for pleasing one's partner were also related to sexual revictimization (Arata & Lindman, 2002).

Summary: Social Factors

Although interpersonal problems were consistently related to revictimization, the findings did not support the role of social support in revictimization, except for a study in low-income women (Schumm et al., 2006). Although it is very early to reach to any conclusion due to limited number of conducted studies and methodological differences, lack of evidence on the role of social support might show the weak effects of social support on revictimization. In line with this hypothesis, a literature review on the association between social support and psychological symptoms did not provide strong support for the buffering effect of this factor (Alloway & Bebbington, 1987). Another study showed that negative interactions in the context of support, such as perceived disapproval and pressure, had stronger association with depression than positive interactions in such a context (MaloneBeach & Zarit, 1995). Nevertheless, the effect of social support in low-income women might indicate that social support can be important in specific conditions, in which financial and societal resources are limited. Finally, as summarized studies measured general social support, testing specific dimensions of social support, emotional, informational, and instrumental, might help clarify the role of social support.

8. Attachment and Interpersonal Cognitions

8.1. Attachment Styles, Parental Caring/Bonding, and Family Function

Two studies ($n = 1$ longitudinal) examined the role of parental bonding/caring. Jankowski et al. (2002) indicated that paternal and maternal care/warmth were not associated with sexual revictimization. Conversely, Reid (2009) indicated that a poor mother-child relationship linked to childhood neglect was associated with sexual behavior/cognitions, which in turn were associated with adulthood sexual victimization.

Three cross-sectional studies investigated the role of attachment. Hocking and colleagues (2016) provided support for the mediating role of anxious attachment in the relationship between CM com-

mitted by parental figures and revictimization, but two studies (Gay et al., 2013; Irwin, 1999a) did not find any of the attachment styles to be significant factors. Since the two latter studies did not specify the perpetrators of CM, attachment styles might be an important risk factor for revictimization if the perpetrators are attachment figures. A cross-sectional study showed that intimacy and authority family functions were not related with sexual revictimization (Arata & Lindman, 2002). Since the majority of the sample in this study were perpetrated by caregivers, it is likely that the small effect size found in the study could be the reason behind the null finding.

8.2. Early Maladaptive Schemas and Cognitive Distortions/Attributions

Early maladaptive schemas, i.e. long-lasting themes consisting of cognitions, emotions and bodily sensations that are developed in childhood (Riso et al., 2006), were studied by two cross-sectional studies. The association between childhood maltreatment and IPV was mediated by mistrust, self-sacrifice, and emotional inhibition schemas (Crawford and Wright, 2007) and disconnection/rejection schemas had a mediating role in the the association between child emotional abuse and IPV (Gay et al., 2013).

Five cross-sectional studies examined cognitive distortions. Cognitive distortions about interpersonal relationship such as rejection by others or unrealistic interpersonal expectations were related to sexual revictimization in men, but not in women (Dietrich, 2007). Lau and Kristensen (2010) found greater cognitive distortions i.e., fearful, scared, mistrusting and shyness, in sexually revictimized than victimized exclusively in childhood. Causal attributions specific to CSA incidents and general negative events were not different in sexually revictimized women than sexually victimized in childhood (Mayall & Gold, 1995). Feelings of stigma and powerlessness in reaction to recent adult sexual victimization were higher in sexually revictimized women than sexually victimized in adulthood, but not feeling of betrayal or beliefs about benevolence and meaninglessness of the world (Gibson & Leitenberg, 2001), and beliefs about externality or internality of reinforcement (Bolstad & Zinbarg, 1997).

Summary: Attachment and Interpersonal Cognitions

In general, the summarized studies found an association between negative schemas/cognitions, particularly for interpersonal cognitions and revictimization. Since there is overlap between attachment styles and early maladaptive schemas i.e., both are internal working models that guide how we see relationships and react to others, further insight in which specific attachment styles might be related to which specific schemas is important. Furthermore, future studies could examine if the protective effect of secure attachment style on revictimization depends on whether the perpetrator of CM includes a known or unknown person to a child.

9. Self-Blame

Five studies (n = 1 longitudinal) investigated self-blame. In a longitudinal study with 7-month follow-up, self-blame did not mediate the relationship between adolescent sexual victimization and prospective adulthood sexual victimization (Katz et al., 2010). However, when sexual assertiveness was entered into the model as an intervening variable between self-blame and adulthood sexual victimization, the pathways were significant.

Four cross-sectional studies returned diverging findings. Filipas and Ullman (2006) reported higher self-blame about CSA at the time of abuse and at the current time in sexually revictimized women than sexual abused exclusively in childhood. Despite this, self-blame was not significantly associated with sexual revictimization. Arata (1999a) found higher characterological and societal self-blame regarding sexual assault incidents in sexually revictimized women than sexually victimized exclusively in adulthood, but no difference regarding situational self-blame. In addition, Arata's results (2000) supported the mediating role of self-blame regarding CSA in the association between sexual victimization in childhood and adulthood. Mokma et al. (2016) showed that global self-blame was not associated with sexual revictimization among people with CSA. However, characterological and behavioral self-blame exhibited direct effects among CSA survivors. The

pathways from global self-blame to alcohol use and to PTSD mediated the relationship between CSA and substance-facilitated revictimization.

Summary: Self-Blame

The specific types of self-blame (global versus specific) seem to be differently related to revictimization. Blaming one's personal characteristics and behavior is related to revictimization. In addition, it seems that the linking mechanisms between self-blame and revictimization could be alcohol use, PTSD, and risky sex behavior. However, one could argue that self-blame might be a cognitive distortion derived from different psychological symptoms, such as depression and PTSD, and it is not an additional risk factor beyond those symptoms. The different types of self-blame and the combination of different risk factors in interaction with self-blame in pathway models may explain the inconsistent results among the studies.

10. Risk Detection

To our knowledge, this factor has not been studied longitudinally. Messman-Moore and Brown (2006) assessed risk detection in two risky dating scenarios. Women with sexual revictimization left the scenario with a stranger later than non-victims and showed higher discomfort in response to the sexual advances by a male acquaintance than women sexually abused exclusively in childhood. Moreover, DePrince (2005) tested the association between revictimization and detection of the violation of social contracts. The revictimized group had more errors on precaution (rules for keeping people safe) and social contract (rules for social exchange) problems than people with victimization exclusively in childhood. Pathological levels of dissociation was associated with these errors.

Summary: Risk Detection. These findings, partially supporting poorer risk detection in revictimized people, should be interpreted cautiously as leaving a risky situation with delay might not necessarily reflect poor risk detection, but rather different (motivation-based) behavior. For instance, risky signals in a sexual encounter might be ignored as regulating negative emotions or boosting self-esteem with

sex is given priority (Miron & Orcutt, 2014; Myers et al., 2006). Therefore, interaction between motivations for risky behavior and risk detection needs to be investigated.

Discussion

The purpose of the current systematic review was to integrate evidence on potential psychological mediators of revictimization. We identified 71 studies (n = 48 cross-sectional, n = 21 longitudinal, n = 2 mixed design) meeting our inclusion criteria. The summary of the findings and implications for future research are presented in Table 1 and 2, respectively.

In the few available longitudinal studies, the following factors emerged as promising candidates for future studies: PTSD, general psychological distress, depression, and dissociation. Interventions focused on these psychological factors might decrease the risk of revictimization. Future studies should explore whether emotion regulation and coping strategies, such as using sex to reduce negative affect or alcohol/substance use, might be intervening factors between psychological symptoms and revictimization.

In conjunction, the reviewed cross-sectional studies presented convincing evidence that revictimized groups on average show increased levels of psychological symptoms as well as emotion regulation problems. However, due to the cross-sectional design of most studies, it remains unclear whether the observed differences are precursors or sequelae of revictimization. Emotion regulation difficulties, in turn, are associated with risk-taking in sexual relationships and alcohol consumption. Moreover, pathological forms of emotion regulation such as dissociation might affect proper risk detection or risk reaction such as assertiveness.

The available longitudinal studies on general substance/alcohol use, sex to reduce negative affect, and the number of sexual partners provided incongruent results. The differences in the samples, measures, durations of the studies as well as level of sexual activity among CSA survivors might be the reasons for these inconsistencies. However, sexual revictimization was repeatedly associated with risk-taking sexual

behavior in cross-sectional studies. Most of these studies investigated the impact of these factors separately, while different risky sex behaviors might interact with each other. For instance, sex to reduce negative affect in conjunction with intoxicated sex might have a stronger impact on revictimization.

Two studies showed that revictimized people are less aware of the violations of social rules by others and they have poorer risk detection. However, preliminary evidence on motives behind risky sex behavior, using sex to reduce negative affect or to boost self-esteem, suggest that at least some revictimized individuals do not have more difficulties in recognizing risk signals, but instead they might intentionally disregard them in order to pursue other motivations in risky situations. Similarly, interactions between these risk factors might be also important in the context of interventions.

Table 1.

Summary of the Findings

• Longitudinal and cross-sectional evidence indicates that psychological symptoms, particularly PTSD, are associates of revictimization.
• Risk-taking sexual behavior is repeatedly related to sexual revictimization in cross-sectional studies, while the relationship in longitudinal studies is inconsistent.
• Cross-sectional evidence shows that emotion dysregulation and pathological coping strategies are related to revictimization.
• Prior cross-sectional research indicates that early maladaptive schemas and cognitive distortions are associated with revictimization.

Table 2.

Implications for Future Studies

• Further longitudinal research is needed to understand if associates of revictimization are precursors or consequences of revictimization.
• Interactions between associates of revictimization, such as relationship between emotion dysregulation and risky sex behavior, are not well studied yet and can be addressed in future research.
• Further research on early maladaptive schemas, attachment styles, risk-taking sexual behavior, shame/blame, risk recognition, and social factors is needed.
• Research on men, community samples and various cultures is limited and can be investigated in the future.

While several authors stipulate that altered attachment needs or schemas are central in mediating revictimization (Gold et al., 1999; Pilkington et al., 2021; Young et al., 2003), few studies to date showed that insecure attachment styles or early maladaptive schemas are related to revictimization. Furthermore, attachment needs might play even a more salient role in revictimization if CSA occurs within a family compared to CSA perpetrated by strangers. In addition, it remains unclear how insecure attachment or maladaptive schemas might influence behavior, which in turn might lead to revictimization. One could hypothesize that insecure attachment might be related to risky sex behaviors. For instance, anxious attachment might be associated with lower sexual assertiveness due to fear of rejection or avoidant attachment style might be related to higher number of sexual partners due to avoidance from intimacy. In addition, attachment styles and early maladaptive schemas might be related to revictimization via partner selection (Gobin, 2012).

It should be noted that of the 71 papers included in this research, 17 (23.9%) were published in the last decade (years 2012 to 2018), 38 (53.5%)

in the decade before (years 2001 to 2011), and 16 (22.5%) between 19th century and 2000. We suggest this difference in publication rate found between 2012 to 2018 and 2001 to 2011 can be explained both by the difference in time periods covered (seven years versus 11), as well as the fact that we found additional papers in the latter decade (2001 to 2011) by searching for eligible papers in the citations of found papers.

Strengths and Limitations

The main strength of the current review lies in its systematic design, and including papers with similar definitions for revictimization based on developmental stage. Unlike previous reviews, we differentiated between different types of CM and adulthood victimization and did not include a specific form of victimization to reach to a general view about the risk factors of revictimization. The general perspective showed the risk factors for revictimization might depend on which population and types of victimization you test. It is important for future studies to include these factors.

As the scope of this study was not limited to sexual revictimization, we did not discuss the characteristics of CSA that might influence the risk of sexual revictimization. Factors such as frequency of victimization (single vs multiple victimization), type of perpetrators (parents, strangers, intimate partners), and types of sexual contact (exhibitionism, fondling, intercourse) could be important to understand for whom these risk factors influence revictimization chances. Although the review included a variety of factors and a broad focus, some variables are overrepresented. For example, most studies focused on sexual revictimization, thus, other forms of revictimization, physical and emotional, should be considered in future research. In addition, most studies included heterosexual women and Caucasian student samples, particularly in the US, which makes it unclear if the findings are generalizable to other populations such as men, other non-heterosexual populations, and community samples.

Furthermore, different populations ranging from university students to inmates were studied, while risk factors for revictimization might vary among these populations. Thus, comparing all populations and

not base conclusions on just a specific sample are crucial. Other limitations included cross-sectional designs and small sample sizes, various measures as well as different definitions for CM and adulthood victimization.

Conclusion

The findings on most of the reviewed risk factors were inconsistent, which can be explained by methodological differences across the studies. Nevertheless, the results of this review allowed for drawing several conclusions. In summary, evidence shows that various psychological symptoms, risky sex behavior, emotion dysregulation, and dissociation might be related to revictimization, but further research is still needed due to limited evidence. It is significant to examine how psychological risk factors interact with each other to predict revictimization. Studies on men, community samples and different cultures, and longitudinal research are among the gaps in the literature.

Chapter 2

Interrelations between Risk Factors in a Data-Driven Model

Abstract

Objective. There is ample evidence showing that childhood maltreatment increases two to three fold the risk of victimization in adulthood. Various risk factors, including posttraumatic stress disorder (PTSD) symptoms, dissociation, self-blame, and alcohol abuse are related to revictimization. Although previous research examined associations between risk factors for revictimization, the evidence is limited and the proposed models mostly include a handful of risk factors. Therefore, it is critical to investigate a more comprehensive model explaining the link between childhood maltreatment and adulthood (re)victimization. **Method.** Accordingly, this study tested a data-driven theoretical path model consisting of 33 variables (and their associations) that could potentially enhance understanding of factors explaining revictimization. Cross-sectional data derived from a multi-wave study were used for this investigation. Participants *(N = 2156, age mean = 19.94, SD = 2.89)* were first-year female psychology students in the Netherlands and New Zealand, who responded to a battery of questionnaires and performed two computer tasks. **Results.** The path model created by structural equation modelling using modification indices showed that peritraumatic dissociation, PTSD symptoms, trauma load, loneliness, and drug use were important mediators. Attachment styles, maladaptive schemas, meaning in life, and sex motives connected childhood maltreatment to adulthood victimization via other factors (i.e., PTSD symptoms, risky sex behavior, loneliness, emotion dysregulation, and sex motives). **Discussion.** The model indicated that childhood maltreatment was associated with cognitive patterns (e.g., anxious attachment style), which in turn were associated with emotional factors (e.g., emotion dysregulation), and then with behavioral factors (e.g., risky sex behavior) resulting in revictimization.

Fereidooni, F. , Daniels, J. K., Krause-Utz, A. D., Hagenaars, M. A., Smeets, T., Heins, J., Dorahy, M. J., van Emmerik, A. A. P., de Jong, P. J., Hoekstra, S., Warrens, M. J., Lommen, M. J. J. (Accepted for publication). Childhood maltreatment and adulthood victimization: An evidence-based model. Journal of Psychiatric Research.

Childhood maltreatment (CM) is a common worldwide problem defined as abuse (emotional, psychical, and sexual), neglect (emotional and physical) or other exploitations that harm children's survival, health, and development (World Health Organization [WHO], 2020). The rate of physical and/or emotional abuse is approximately three in four among children at the age of two to four (United Nations Children's Fund [UNICEF], 2017). A systematic review showed that the median prevalence of childhood sexual abuse in girls was between 9% in Asia and 28.8% in Australia. This rate was lower for boys ranging from 6.1 % in Australia to 26.5% in South America (Moody et al., 2018). CM has adverse effects on mental and physical health in adulthood. Meta-analytic studies show that CM is related to higher levels of depression, anxiety, eating-related disorders, impulsivity, and suicidality (Angelakis et al., 2019; Gallo et al., 2018; Liu, 2019; Molendijk et al., 2017).

Further, a meta-analysis provided support in favor of greater rates of physical problems, such as obesity, among CM survivors compared to peers without such experiences (Danese & Tan, 2014). A systematic review showed high rates of cardiovascular diseases, ranging from 61.5% to 91.7%, across studies of people with CM (Basu et al., 2017). In addition, there is extensive evidence that CM increases the risk of interpersonal victimization (i.e., physical, emotional, and sexual abuse) in adulthood. For instance, previous studies reported that childhood sexual abuse increased the chance of adulthood sexual victimization by two-to three-fold (Arata, 2002; Jankowski et al., 2002; Van Bruggen et al., 2006).

Theoretical Accounts of Revictimization

To explain the link between CM and adulthood victimization, psychodynamic theories propose that CM survivors unconsciously repeat past traumatic events to achieve control and mastery over past trauma, a phenomenon called Repetition-Compulsion (van der Kolk, 1989), which is a broad term that can reflect various processes (Sandberg et al., 1994). Other theories have tried to explain revictimization with more specific mechanisms. For instance, Betrayal Trauma Theory assumes that dissociative amnesia is the underlying mechanism of revictimization (Freyd et al., 2007). When a caregiver maltreats a child,

the betrayal cannot be effectively processed with the assistance of avoiding interaction with the perpetrator as the child needs them for physical and mental survival. Therefore, dissociation, as an adaptive response in that context, may support the attachment between the child and caregiver. However, habitual dissociation lasting into adulthood might interfere with information processing, including the detection of danger cues in similar interpersonal situations, resulting in a higher risk of revictimization (Messman-Moore & Long, 2003). Betrayal Trauma Theory assumes that the lack of access to information from the past which is created by dissociation, compromises risk recognition in adulthood, which in turn gives rise to revictimization. However, another formulation posits that revictimized people might actively engage in risky situations, despite their awareness of the threatening cues, due to prioritizing other needs, such as regulating negative emotions (Miron, & Orcutt, 2014). Unlike these three formulations, that focus solely on the victims without considering their (social) context, another hypothesis introduces two underlying mechanisms for revictimization that also consider the impact of the victim's behaviors on potential perpetrators. As a first mechanism, victim's increased vulnerability due to psychological factors, such as posttraumatic stress disorder (PTSD) symptoms, might interfere with risk recognition and/or reaction to risk, and signal vulnerability to potential perpetrators. The second mechanism, exposure to risk, consists of factors increasing the chance of contact with perpetrators, such as engagement in intoxicated sex (Messman-Moore & Long, 2003).

Empirical Evidence of Pathways to Revictimization

Available evidence partially supports several aspects of the above-mentioned theories. For example, people with high betrayal trauma (i.e., perpetrated by someone close) in childhood reported higher dissociation than people who did not experience high betrayal trauma during childhood (Gobin & Freyd, 2009). In turn, dissociation (Hébert et al., 2021; Messman-Moore & Long, 2003) and PTSD diagnosis/or symptoms (Cividanes et al., 2019) are related to revictimization, which is in line with the assumption of increased vulnerability. Relatedly, revictimization is associated with partner selection such

that revictimized women rated partner's characteristics of sincerity and trustworthiness as less desirable compared to non-revictimized women (Gobin, 2012), which might increase the chance of exposure to abusive partners. Although these psychological factors are tested in isolation in most studies, recent studies have started to examine the relations between several risk factors. For instance, a study investigated associations between several risk factors in a pathway model, in which childhood sexual abuse was related to self-blame, which in turn was associated with alcohol-facilitated sexual victimization in adulthood through alcohol use (Mokma et al., 2016). In a study by Miron and Orcutt (2014), childhood sexual abuse was associated with adolescence sexual victimization, and then with depression, which in turn was related to using sexual interactions to reduce negative emotions, and then to the likelihood of sex with strangers, which prospectively predicted adulthood sexual victimization. These studies show the importance of testing the interrelations between risk factors of revictimization.

Inconsistent findings related to risk factors might be due to the majority of studies testing only one risk factor in isolation, and not in the context of other factors (Hébert et al., 2021). For instance, alcohol consumption at home might not expose people to the risk of victimization, while it might increase the risk if it occurs in the context of other factors, such as sexual interactions with strangers (Messman-Moore & Long, 2003). Thus, focusing on the simultaneous presence of multiple risk factors seems crucial for understanding revictimization. In addition, accounting for multiple proposed risk factors provides a chance to detect redundancy and ultimately arrive at a more parsimonious, yet comprehensive model. The complexity of models tested so far is limited to the inclusion of a handful of risk factors (Fortier et al., 2009; Messman-Moore et al., 2010; Orcutt et al., 2005; Ullman & Vasquez, 2015). Many proposed risk factors and relations between them are missing from these models. In addition, the comprehensive models tested so far (Fortier et al., 2009; Messman-Moore et al., 2010; Orcutt et al., 2005; Ullman & Vasquez, 2015) fail to include important intrapersonal risk factors, such as attachment styles and early maladaptive schemas, even though other studies supported their effects on revictimization in

isolation (Celsi et al., 2021; Crawford & Wright, 2007; Hocking et al., 2016).

In sum, more comprehensive models are needed that consider interrelations between risk factors in order to develop evidence-based theories for revictimization. To reach this aim, we built a comprehensive pathway model that consists of a series of candidate mediators between childhood maltreatment and adulthood victimization, that are suggested by available data and theories while also taking the relations between the various mediators into account. To this end, we employed exploratory structural equation modelling (SEM). We addressed two research questions: a) what mediators and their associations explain the relationship between CM and victimization in adulthood? and b) which mediators and relations between mediators show the strongest associations with revictimization?

Method

Procedure and Design

The data were collected as a part of a multi-wave, multi-session study (four sessions within an academic year) running from 2017 to 2021. The sample consisted of first-year female psychology students (> 16 years of age) from the Universities of Groningen, Amsterdam, Utrecht, Leiden, and Maastricht in the Netherlands, and Canterbury in New Zealand. Due to the Covid-19 pandemic, the data were collected using three methods: online, in lab, and hybrid. After providing informed consent, the participants responded to a battery of questionnaires in each session. After finishing each session, participants were debriefed about the study's research questions and provided with contact addresses for psychological support in case they were distressed due to study participation. The participants received course credits or monetary compensation in exchange for their participation. The ethics committees of the corresponding universities approved the study.

The study had a combined cross-sectional and longitudinal design, of which the former was used for the purpose of the current study. Childhood maltreatment, defined as the occurrence of abuse and/or neglect before the age of 15, was assessed in the first session. Adulthood victimization, defined as emotional, physical, and sexual victimization after

age 14, was also assessed in the first session. The candidate mediating variables were assessed in sessions one to four. Table S1 in Supplementary Section II provides information about the sessions in which each measure was administered for each site. Several measures were administered more than once, but only participants' first responses to the pertinent questionnaires were used in the current analysis.

Sample Characteristics

The sample (N = 2156) used in this study was between 17 and 58 years old (M = 19.94, SD = 2.89, n = 60 missing values). The sample was distributed across the sites as follows: 48.2% Groningen (n = 1039), 25.2% Amsterdam (n = 543), 12.4% Canterbury (n = 268), 10.5% Maastricht (n = 226), 3.1% Utrecht (n = 67), and 0.5% Leiden (n = 11). The participant's nationalities were German (n = 621, 28.8%), Dutch (n = 586, 27.2%), New-Zealander (n =183, 8.5%), the remaining (n = 716, 33.2%) were from different nationalities, and 2.2% (n = 48) did not report this information. Of the participants who reported their relationship status (n = 1668), 61.5% (n = 1027) were single, 37% (n = 618) were in relationships, 1.3% (n = 21) or married, and 0.1% (n = 2) were divorced.

Measures

Operationalisation of the independent and outcome variables are described below, whereas the explored mediators are described in Supplementary Section I. Mean and sum scores were computed for all included variables, and the mean scores were standardized for the analyses, while the sum scores were computed only for the purpose of comparison with previous studies when deemed relevant. Age and nationality were assessed by open-ended questions, while relationship status was reported by a multiple-choice question. The descriptive information (e.g., mean, standard deviation, minimum, and maximum) regarding all variables is provided in Table 1.

The independent variable CM was assessed by the Childhood Trauma Questionnaire – Short Form (CTQ-SF; Bernstein et al., 2003), which consists of five subscales (emotional abuse: α = .86; physical abuse: α = .82; sexual abuse: α = .92; physical neglect: α = .61; emotional

neglect: α = .90 in the present sample). The CTQ-SF consists of five items per subscale plus three validity items. Items were rated on a five-point Likert scale (1 = *'Never true', 5 = 'Very often true')* with the additional option of 'I don't wish to answer this question'. The internal consistency of the whole measure in the present study was good (α = .81), which is comparable with previous studies (Bernstein et al., 1997; Paivio & Cramer, 2004). To estimate the number of participants with clinical severity of CM, the cut-offs recommended by Walker and colleagues (1999; sexual abuse ≥8, physical abuse ≥8, emotional abuse ≥10, physical neglect ≥8, and emotional neglect ≥15) were used, which resulted in a dichotomized variable (CM Status, 1 = scores above cut-offs on at least one of the CTQ subscales , 0 = no subscale score above cut-offs).

Adulthood victimization was assessed with the Stressful Life Events Screening Questionnaire (SLESQ; Goodman et al., 1998). This questionnaire measures 11 specific traumatic events of which seven are related to direct interpersonal violence (physical, sexual, and emotional abuse) and the rest are related to indirect interpersonal trauma and non-interpersonal trauma, such as a car accident. For each type of traumatic event, the participants first reported whether they had experienced this event.

Table 1.

Central Tendency, Dispersion Statistics of the Variables

Measure	n	Mean (σ)	Min	Max	Skewness	Kurtosis	Mean sum (σ)	Min	Max	ICC
Alcohol Use	1611	1.03 (.61)	0	2.80	.14	-.54	5.14 (3.04)	0	14	.02
Childhood Trauma Questionnaire	1951	1.50 (.51)	1	4.92	1.90	4.95	36.73 (12.80)	25	123	.06
Connor-Davidson Resilience Scale	309	2.96 (.65)	1	4.43	-.23	-.04	62.15 (13.73)	21	93	.00
Coping Strategies Inventory	312	2.48 (.73)	1.08	4.67	.46	-.22	89.19 (26.29)	39	168	.28**
Difficulties in Emotion Regulation Scale	2094	2.44 (.83)	1	4.88	.60	-.25	19.54 (6.60)	8	39	.01
Dissociative Experiences Scale-II	1110	16.0 (12.39)	0	76.79	1.40	2.11	447.93 (346.86)	0	2150	.21**
Distress Tolerance Scale	1211	3.20 (.73)	1.20	4.93	-.21	-.60	48.05 (10.92)	18	74	.01
Emotional Reactivity Scale	263	1.55 (.90)	0	4	.31	-.62	32.50 (18.0)	0	84	.07
Experience in Close Relationship-Revised										
- Anxious	875	3.71 (.99)	1	6.33	-.19	-.42	66.78 (17.78)	18	114	.03
- Avoidant	723	4.28 (.52)	1.61	5.78	-.42	1.30	76.99 (9.32)	29	104	.05
Multidimensional Existential Meaning Scale	359	4.53 (.10)	1.2	7	-.39	.25	68.0 (14.82)	18	105	.01
Peritraumatic Dissociative Experiences Questionnaire	1468	2.18 (.98)	1	5	.69	-.36	21.79 (9.76)	10	50	.09

Post-traumatic Growth Inventory	298	3.35 (1.08)	1	5.90	-.10	-.70	70.42 (22.73)	21	124	.00
PTSD-Checklist for DSM-5	2001	1.16 (.85)	0	4	.69	-.33	43.17 (17.04)	0	80	.03
Risk Detection	1034	149.14 (54.43)	91.94	351.05	1.90	4.19				.00
Trauma Load	2004	.04 (.09)	0	.67	2.63	7.94	.22 (.51)	0	4	.01
Risky Sex Scale	1237	3.09 (.68)	1	5	-.46	.15	43.21 (9.48)	14	70	.00
Self-Blame Scale	261	2.41 (.91)	0	5.06	-.51	.98	38.50 (14.52)	0	81	.00
Sexual Assertive Scale for Women	494	3.04 (.44)	1.61	4	-.54	-.02	54.70 (7.97)	29	72	.02
Sexual Motive	2084	1.67 (.89)	1	5	1.46	1.48*	8.35 (4.46)	5	25	.00
Sexual Sensation Seeking Scale	484	2.10 (.55)	1	3.73	.26	-.33	23.12 (6.05)	11	41	.00
Somatoform Dissociation Questionnaire	435	1.10 (.46)	0	3.35	-.55	2.86*	22.02 (9.19)	0	67	.02
UCLA Loneliness Scale	570	1.02 (.69)	0	2.95	.51	-.46	20.30 (13.73)	0	59	.10
UPPS-P Impulsive Behaviour Scale	394	2.02 (.54)	1	3.77	.46	-.08	52.47 (14.14)	26	98	.12**
Young Schema Questionnaire										
- Autonomy	1630	2.14 (.10)	1	6	1.03	.63	21.43 (9.55)	10	60	.05
- Other Directed	1629	2.96 (.91)	1	5.90	.42	-.27	29.59 (9.09)	10	59	.03
- Rejection	1628	2.42 (.95)	1	5.96	.80	.19	60.54 (23.80)	25	149	.03

Note. *Deviating from ±1.00; ICC = intraclass correlation; ** Interclass correlation higher than cut-off of 0.10 level.

Those who indicated having experienced such an event were subsequently asked at what age this had taken place. Participants who indicated at least one form of direct interpersonal violence after the age of 14 were coded as 'victimized in adulthood' by a dichotomized variable ('Adulthood Victimization Status') with the second level being 'non-victimized in adulthood' for people without such experiences after the cut-off age.

The variable 'Victimization Status' was created based on the above-mentioned variables for childhood and adulthood victimization resulting in four categories of 'victimized exclusively in childhood', 'victimized exclusively in adulthood', 'victimized both in childhood and adulthood-revictimized', and 'non-victimized'. For the purpose of variable selection (see below), another dichotomized variable 'Revictimization Status' with two levels was created based on Victimization Status ('Non-revictimized' integrating three levels of victimization: exclusively in childhood, exclusively in adulthood, and non-victimized, versus 'Revictimized').

Reliability of the Measures

The estimated reliability of the administered measures was inspected with a threshold of Cronbach's alpha > .70 (see Supplementary section II, Table S2). All Cronbach's alphas were > .70 indicating good estimated reliability, with the exception of the avoidant-subscale of the Experiences in Close Relationships – Revised (α = .57).

Data Analysis

Missing Values

Due to the dissimilar distribution of the measures across universities and sessions in this multi-site study (see Table S1), a priori missing data by design was expected. For instance, in total, 261 participants answered all items of the *Self-blame Scale* ($n_{\text{missing}} = 1895$), while 1110 participants provided complete responses on the *Dissociative Experiences Scale-II* ($n_{\text{cases with missing values}} = 1046$). To deal with the missing values, we applied full-information maximum likelihood estimation, which uses all available information (Rosseel, 2012).

No imputation was conducted because missingness was partially due to the design of the study. In addition, no measure met a priori formulated rules set by the authors: a) the individuals eligible for imputation comprised of more than 5% of the participants that had responded to all items, as suggested by Jakobsen et al. (2017); b) missing values were less than 50% of a whole scale, this criterion was set to assure that enough information on each measure was provided on which imputations could be computed; c) no imputation would be carried out on dichotomised variables since they were measured by single items.

Software Used for Data Analysis

A structural equation modelling (SEM) analysis with Modification Indices (MIs) was conducted using the *Lavaan* package (Rosseel, 2012) in R-Studio. The remaining analyses such as MCAR tests and Cronbach's alphas were performed in SPSS 25.

Adequacy of Sample Size for SEM

To test whether our sample satisfies the requirement for achieving stable covariances in SEM, we applied the rule of at least 10 participants per measure. Since the maximum number of administered instruments was 33, the minimum number of participants needed was 330. In the whole sample, we had different sample sizes per measure (Table 1), however, most measures had a sample size larger than 330, and for the five variables with fewer participants, the sample was only slightly smaller than the required sample size.

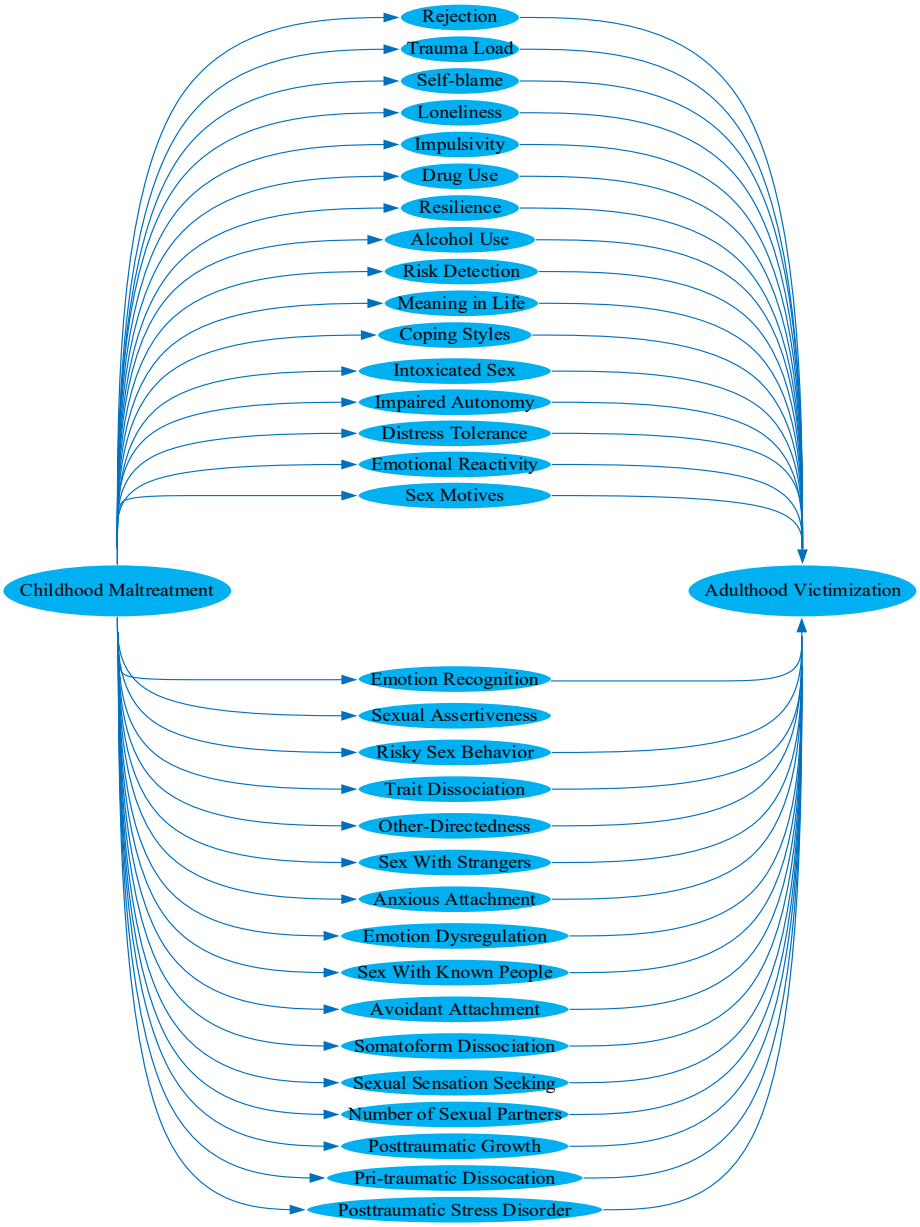
Model Building

A *p*-value of .05 (two-sided) was used as the threshold for statistical significance throughout the data-analysis process. The 'null' model *(Figure 1)* was kept as simple as possible: CM as continuous independent variable, adulthood victimization as a dichotomized outcome variable and all other measures (k = 31) as mediators. The mediators were selected based on a review of the literature. Variables shown to be related to revictimization in previous studies such as PTSD symptoms, dissociation, and emotion dysregulation, and variables found to

be associated with adulthood victimization such as sexual sensation seeking were included. In addition, variables suggested to be related to revictimization, but not investigated previously, such as emotion recognition and loneliness were entered into the null model. Then, to obtain a parsimonious 'starting' model, we removed all non-significant pathways between either CM and the mediators or between adulthood victimization and the mediators in a stepwise fashion. Pathways were removed one by one, starting with the pathway with the highest non-significant p-value, re-estimating the model, and then removing the next pathway with the highest non-significant *p*-value.

Figure 1.

Start Model



The potentially occurring covariances between removed paths were set to zero, followed by testing the new model and detecting, again, the pathway with the highest non-significant p-value. New covariances that emerged between all discarded pathways were set to zero to control for model flow. This process was repeated until all pathways were statistically significant. Together, these steps resulted in a starting model on which Modification Indices (MIs) were implemented in order to investigate relationships between the mediators.

MIs show to what extent chi-square (χ^2) decreases when including parameters and (uni- or bi-) directional relationships (Rosseel, 2012). For this study, we did not include bidirectional relationships suggested by MIs due to the high number of variables in the model and thereby the high number of recommended bidirectional pathways, which could interfere with the parsimony of the model. The suggested parameters (pathways) with the highest MI values were stepwise added to the starting model if they were supported by theories or previous research and their corresponding MIs led to 10 units or greater decrease in χ^2. Furthermore, recommended covariances between variables were only included for two subscales of one overarching measure (e.g., early maladaptive schema domains) or when theoretical reasons were present (e.g., distress tolerance and emotional dysregulation). By default, recommended indexes (pathways) were included in the new model unless there was compelling theoretical or empirical evidence, as evaluated by two of the authors, suggesting the exclusion of the indexes. This approach was chosen to be as data-driven as possible. Whenever adding MIs yielded non-significance results in another path, the non-significant path was discarded. This process was iterated until the change in χ^2 values was smaller than 10 or the Comparative Fit Index (CFI) reached the cut-off of .95 (Shi & Maydeu-Olivares, 2019; West et al., 2012).

Lastly, for the determination of the most predictive pathways between CM and adulthood victimization, the standardised beta-coefficients (b's) corresponding to individual pathways were multiplied (denoted d), with higher scores indicative of stronger predictive pathways. The most predictive paths were based on a combination of

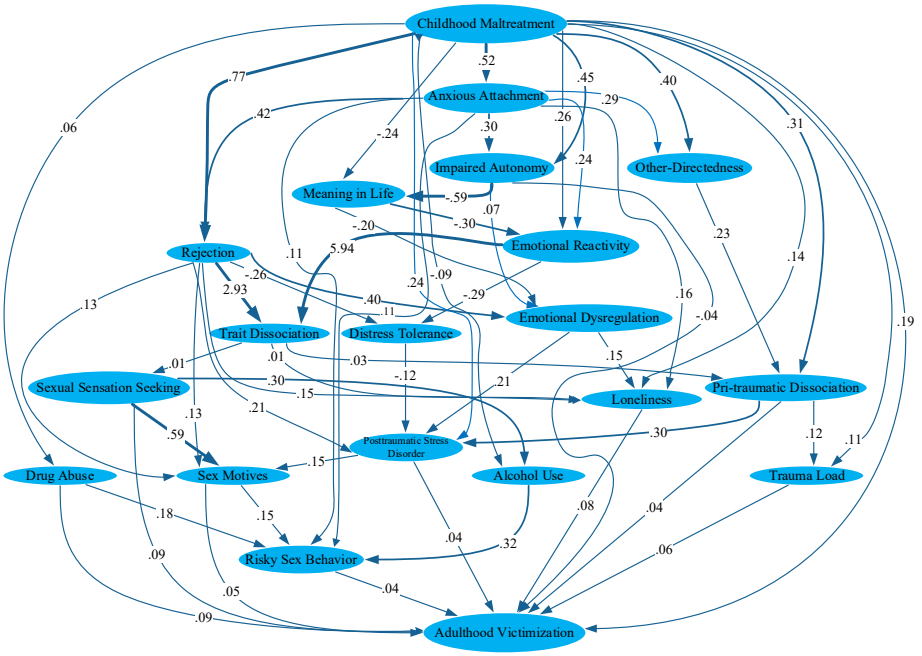
the smallest number of variables with the highest available beta-coefficients running between CM and adulthood victimization. Those mediators linking childhood and adulthood victimization without involvement of the intervening effects of other variables were considered as 'first-order', whereas mediators with solely intervening properties were named 'second-order' mediators. Figure *2 ($\chi2(324) = 793.743$, $p < .001$, CFI = .95 = .95, TLI = .94 > .95, RMSEA = .03 < .06, SRMR = .06 < .08;* cut-offs values for model fit indices adopted from Hu and Bentler (1999)) shows the model created based on the above-mentioned procedure. Table S3 shows the MI values (i.e., change in chi-square values) related to each recommended pathway, the associated chi-square statistics and CFI values after adding a specific path for this model.

Variable Selection

Given the complexity of the final model (Figure 2), we selectively entered the mediators into the starting model to acquire a simplified model with more clinical implications. To find the most relevant variables, we ran logistic regression and t-test analyses for each variable separately. In the logistic regression model, the independent variables consisted of the candidate mediating variables and the dependent variable was Revictimization Status (revictimized vs. non-revictimized).

Figure 2.

Model with 31 mediators

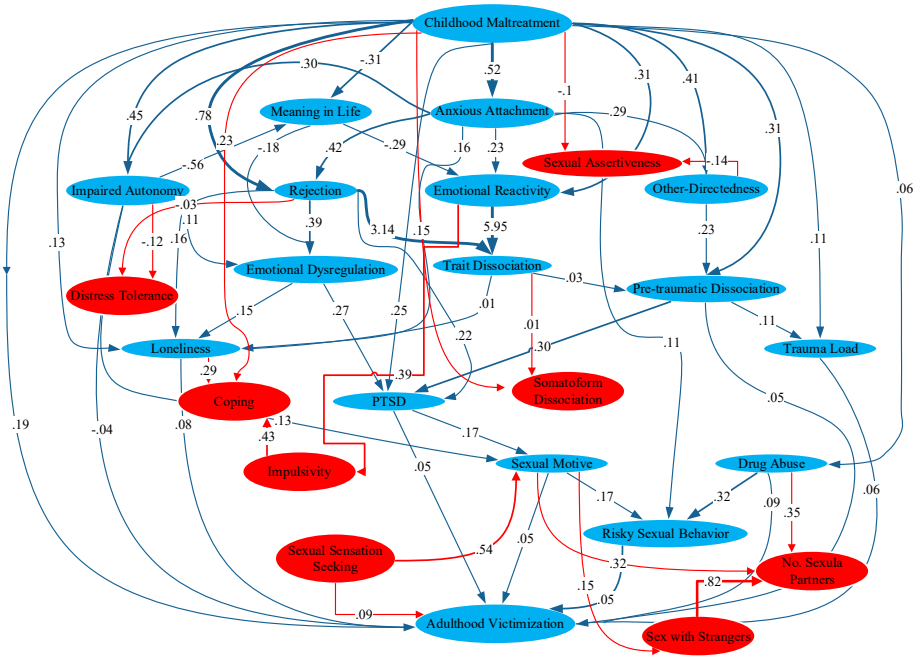


Note. Thickness of the lines shows the strength of the association between the variables based on beta-coefficients (weak ≤ .30 , moderate = between .30 and .49, high ≥ .50). The pathways related to the variables that were neither first-order nor second-order mediators are not shown in this figure for the sake of simplicity. These pathways belong to resilience, coping strategies, total number of sexual partners, self-blame, somatoform dissociation, sexual assertiveness, and sexual sensation seeking.

For the t-test analysis, Revictimization Status was the independent variable and the mediators were the dependent variables. As reported in Table S4, logistic regression results suggested the inclusion of 24 variables, while the t-test recommended including 23 variables. As a more conservative decision, we entered 24 variables in the third and final model and repeated the model-building steps that resulted in the model presented in Figure 3. Table S5 shows the MI values related to each recommended pathway, the corresponding chi-square statistics and CFI values after adding a specific path for the final model. Since the third model was more parsimonious compared to the second one, we reported the findings in the Result section based on the last model.

Figure 3.

Model with 24 mediators



Note. The red variables and lines show the variables that were not (in)directly related to either childhood maltreatment or adulthood victimization. Thickness of the lines shows the strength of the association between the variables based on beta-coefficients (weak ≤ .30 , moderate = between .30 and .49, high ≥ .50).

Assumption Check for the SEM Model

The assumptions of multiple linear regression also apply to SEM (Streiner, 2005). The assumption of linearity was checked by computing skewness and kurtosis values (see Table 1). The majority of variables (*k* = 21, skewness < 1.0) were slightly skewed, five were moderately skewed (skewness between 1 and 2.3), and one (skewness >2.3) was severely skewed based on commonly used cut-offs (Lei & Lomax, 2005). Based on the same cut-offs for kurtosis, most variables (*k* = 20) were distributed slightly non-normal, three were moderately non-normal, and four were severely non-normal. However, given the nature of the variables such as dissociation and PTSD symptoms, these phenomena were not expected to be normally distributed. Hence, no transformation was

conducted. In order to assess the assumption of linearity, it was not feasible to examine all scatterplots due to numerous possible pairs of variables. Therefore, this assumption was assessed via visual inspection of the scatterplots between random variables for which point-biserial and Pearson correlations were calculated. To elaborate, the relationship between the independent variable (CM) and three mediators, association between the dependent variable (adulthood victimization) and three mediators, and the relationship between three mediators (n = 9) were assessed, and the results showed that this assumption was met. With respect to the assumption of multivariate normality of the continuous variables, the Mahalanobis distance was assessed (Gallego et al., 2013). A critical $\chi 2$ value of 43.77 (df = 30) was employed for the current model (Tabachnick & Fidell, 2014). Only 9 participants were identified as multivariate outliers. These outliers were not considered problematic, given the large sample size, and therefore retained in the model. To check for multicollinearity, all pairwise correlations were checked (Table 2). A correlation coefficient of 0.40 was used as an indication of an issue regarding discriminant validity (Grewal et al., 2004). Of the total number of coefficients (n= 465), 16.99% (n = 79) showed a coefficient value of 0.40 or higher. However, since nearly half of these (n = 38) were included in the final model, only 8.82% (n = 41) of the correlations exhibited a relatively high value. For further investigation, variable inflation factors (VIFs) were computed for ten variables based on the pathways in the final model. The VIF values were between one and two, which provided support for an absence of worrisome multicollinearity between the variables. Lastly, the assumption of independence of observations between sites was assessed via intraclass correlation coefficients (ICCs) using the mle4 package in R-Studio (Bates et al., 2015). The cut-off of 0.10 was employed, indicating low dependency between observations (Koo & Mae, 2016). For three measures, nestedness within centers was observed, whereas no ICC could be calculated due to zero variance for several variables (ICC; Table 1). By design, no dependency between observations within individuals was expected given the usage of the first administration of those instruments that were iteratively administered.

Table 2.

Correlation between Included Variables

	AS	AV	CM	CO	DT	DU	ED	EM	ER	IM	IS	LO	ML	PD	PG	PT	RD	RE	RS	SA	SB	SD	SF	SM	SP	Ss	SS	TD	TL	YS
AC	.10	**.34***	**-.01***	.10	-.02	**.38***	.01	.05	-.10	**.20***	**.30***	**-.14***	-.20*	.03	.04	.03	.01	-.10	**.40***	**-.20***	-.05	.10*	**.13***	**.20***	**.24***	**.10***	**.30***	.02	.10*	-.01
AS		**.66***	**.23***	**.30***	**-.40***	.44*	**.40***	**.50***	.06	**.30***	-.02	**.40***	**-.30***	**.24***	.05	**.35***	-.20	-.12	**.24***	**-.31***	.10	.10	.12*	**.22***	.01	.01	**.20***	**.24***	.02	**.51***
AV			**.31***	.41*	**-.40***	**.16***	**.45***	**.70***	.01	**.60***	.05*	**.74***	-.30*	**.53***	.21	**.72***	-.00	.17	**.60***	**-.05***	.16	**.60***	.03	**.60***	**.30***	.30*	**.92***	**.03***	**.70***	**.70***
CM				**.31***	**-.26***	.25*	**.33***	**.40***	-.03	**.23***	-.00	**.33***	**-.40***	**.30***	-.01	**.50***	.01	-.13*	**.10***	**-.20***	**.20***	**.21***	.05	**.20***	**.11***	.10*	.03	**.30***	**.18***	**.50***
CO					**-.33***	.01	**.31***	**.50***	-.02	**.44***	-.10	**.40***	**-.40***	**.30***	-.05	**.40***	.10	**-.30***	**.20***	**-.30***	.22*	**.30***	.04	**.20***	.05	.10	**.17***	**.40***	.12*	**.44***
DT						-.10	**-.62***	**-.60***	.04	**-.30***	-.20	**-.38***	**.31***	**-.27***	-.05	**-.50***	-.02	**.30***	**-.18***	**.21***	-.12	**-.20***	.01	**-.24***	-.04	.03	-.09*	**-.27***	**-.10***	**-.49***
DU							.13*	.31*	-.01	.50*	**.19***	-.10	-.34*	.10	.25*	.14*	.00	-.01	**.95***	-.03*	.12	.50	**.06***	**.40***	**.55***	.41*	**.10***	.01	.21*	.05
ED								**.60***	.03	**.30***	.03	**.43***	**-.60***	**.30***	-.10	**.60***	.02	**-.40***	**.16***	**-.20***	**.24***	**.20***	-.01	**.23***	.01	-.03	.03	**.32***	**.10***	**.62***
EM									-.01	**.60***	.10	**.42***	**-.43***	**.40***	.02	**.52***	.04	-.41*	**.30***	**-.30***	**.18***	**.30***	-.02	**.24***	-.05	-.10	.14	**.42***	**.20***	**.54***
ER										-.04	-.01	.10*	-.12	-.00	-.10	-.00	**-.14***	-.04	.02	.02	-.05	.02	-.10*	-.04	-.10	-.04	.04	-.10	-.10	.01
IM											.01	**.30***	**-.40***	**.33***	.13*	.33*	.01	**-.20***	**.20***	-.30*	.10	**.30***	.04	**.20***	.12	.04	**.25***	**.40***	**.14***	**.32***
IS												-.17	-.10	-.01	.02	.02	.01	-.02	.10*	-.10	.02	.10	**.24***	**.22***	**.30***	.10*	**.15***	-.03	-.01	-.04
LO													**-.40***	**.30***	-.10	**.41***	-.10	**-.40***	.10*	**-.20***	**.25***	.10	-.10	**.13***	-.10	-.05	.05	**.40***	.10	**.51***
ML														**-.20***	**.30***	**-.31***	-.13	**.65***	-.20*	.21*	**-.25***	**-.30***	-.01	-.11*	.01	.20*	-.11	**-.30***	-.13*	**-.53***
PD															**.24***	**.60***	-.00	.00	.05	**-.19***	.13*	**.24***	-.04	**.20***	.10*	.03	**.18***	**.43***	**.23***	**.40***
PG																.13*	-.04	**.54***	.05	-.01	-.05	.01	.01	.10	.10	.12	.08	.20*	.04	-.10

PT	.03	-.12*	**.20***	**-.20***	**.20***	**.30***	.05	**.30***	**.10***	.05	.11*	**.40***	**.22***	**.64***
RD		-.04	.04	-.12*	.05	**.20***	.20*	.06	**.15***	.05	-.10	.00	.00	.01
RE			-.11	**.20***	-.23*	**-.20***	.02	-.02	.01	.10	.03	-.12*	-.04	**-.40***
RS				**-.21***	.14*	.11*	**.20***	**.31***	**.13***	.10	**.31***	.10*	.04	**.20***
SA					-.20*	**-.14***	**-.20***	**-.20***	**-.22***	-.13*	-.13*	**-.21***	-.02	**-.30***
SB						**.24***	-.12	.10	-.01	-.20	-.00	**.17***	-.01	**.20***
SD							-.01	.10	.10	.10	.05	**.30***	**.20***	**.23***
SF								**.20***	**.30***	**.11***	**.20***	-.01	.04	.02
SM									**.40***	**.20***	**.40***	**.15***	**.11***	**.24***
SP										**.55***	**.40***	.00	.10*	.01
Ss											**.20***	.05	.04	.01
SS												**.20***	**.16***	.01
TD													**.13***	**.34***
TL														**.15***

Note. * Significant at 0.05 level (two-tailed)

AC = Alcohol Consumption; AS = Attachment Styles; AV = Adulthood Victimization; CM = Childhood Maltreatment; Co = Coping; DT = Distress Tolerance; DU = Drug Use; ED = Emotional Dysregulation; EM = Emotional Reactivity; ER = Emotion Recognition (GERT); IM = Impulsivity; IS = Intoxicated Sex; LO = Loneliness; ML = Meaning in Life; PD = Peritraumatic Dissociation; PG = Posttraumatic Growth; PT = PTSD; RD = Risk Detection; RE = Resilience; RS = Risky Sex Behavior; SA = Sexual Assertiveness; SB = Self-Blame; SD = Somatoform Dissociation; SF = Sex with Friends; SM = Sex Motive; SP = Number of Sexual Partners; Ss = Sex with Strangers; SS = sexual sensation seeking; TD = Trait Dissociation; TL = Trauma Load; YS = Young's schemas.

Results

Descriptive Results

In the subsample with no missing values on the CTQ, 42.3% (n = 911) reported at least one type of CM, of which 47.7% (n =435) indicated one type, 23.3% (n =212) two types, 16.4% (n =149) three types, 8.9% (n =81) four types, and 3.7% (n =34) five types of CM. Of the subsample with no missing values on the SLESQ, 41.4% (n = 892) reported adulthood victimization. The most common form of abuse during childhood and adulthood was emotional and sexual abuse, respectively. More information about the rate of each type of abuse in childhood and adulthood is represented in Table 3. Of those without missing values on the CTQ and SLESQ (n = 1930), 37.6% (n = 726) were not victimized at any stage, 19.3% (n = 373) experienced maltreatment exclusively during childhood, 16% (n = 309) experienced abuse exclusively during adulthood, and 27% (n = 522) were revictimized. Table 4 presents the prevalence of different forms of adulthood victimization based on different types of CM. Across CM types, the most common form of victimization in adulthood was sexual victimization (Table 4). Among people with a history of CM, 58.3% (n = 522) experienced adulthood victimization, while this rate was 29.9% (n = 309) in people with no history of CM. This difference was statistically significant ($X2$ (1, n = 1930) = 158.66, p < .001). The odds of victimization in adulthood were 3.29 times greater for CM survivors compared to people without a history of CM.

SEM Model

The fit indices showed that the final model (Figure 3) fitted the data well ($\chi^2(233) = 670.03$, $p < .001$, $CFI = .95$, $TLI = .94$, $RMSEA = .03$, $SRMR = .07$).

Direct Relationship between CM and Adult Victimization

The direct pathway from CM to adulthood victimization was significant ($\beta = .19$, $p = .001$).

First-Order Mediators

As shown in Figure 3, the first-order mediators linking CM to adulthood victimization were peritraumatic dissociation (d = .02), PTSD symptoms (d = .01), trauma load (d = .01), loneliness (d = .01), and drug use (d = .01). In addition, impaired autonomy was also a first-order mediator

with a positive association with childhood maltreatment (β = .45), but negatively associated with adulthood victimization (β = -.04) with d = -.02, which might indicate a statistical artefact.

Second-Order Mediators

Attachment Styles. Anxious attachment linked CM to victimization in adulthood via four different pathways: *a*) via loneliness (d = .01); *b*) via risky sex behavior (d = .003); c) via other-directedness domain, which in turn was related to peritraumatic dissociation (d = .002), *d*) via rejection domain, emotion dysregulation, and PTSD symptoms in a consecutive order (d = .001).

Early Maladaptive Schemas. Three domains of maladaptive schemas (rejection, impaired autonomy and other-directedness) were among the most important second-order mediators in the SEM model. Rejection domain linked CM to adulthood victimization via three important pathways; the first one was through PTSD symptoms (d = .01), the second one through loneliness (d = .01), and the last one through emotion dysregulation and then PTSD symptoms in a consecutive order (d = .004). Other directedness was an intervening variable between CM and adulthood victimization through peritraumatic dissociation (d = .005). Impaired autonomy domain linked CM to victimization in adulthood through sex motives (d = .003) in a pathway, and via emotion dysregulation and then PTSD symptoms in a consecutive order in another pathway (d = .001).

Meaning in Life. CM was related to meaning in life, which in turn was associated with emotion dysregulation and PTSD symptoms in a consecutive order leading to adulthood victimization (d = .001).

Drug Use. CM was associated with drug use, which in turn was associated with risky sex behavior leading to victimization in adulthood (d = .001).

Peritraumatic Dissociation. Dissociation during traumatic events linked CM to adulthood victimization through PTSD symptoms, sex motives, and risky sex behavior in a consecutive order (d = .0001).

Table 3.

Prevalence of Different Forms of Childhood Maltreatment and Adulthood Victimization

Childhood						
	Physical Abuse	**Sexual Abuse**	**Emotional Abuse**	**Emotional Neglect**	**Physical Neglect**	**Childhood maltreatment**
Sample size (*n*)	2058	2042	2047	2022	1993	1951
Frequency (*n*)	255	245	685	288	425	911
Percentage (%)	11.8%	11.4%	31.8%	13.4%	19.7%	42.3%
Missing (*n*)	98	114	109	134	163	205
Missing (%)	4.5%	5.3%	9.5%	6.2%	7.6%	9.5%
Adulthood						
	Physical Abuse	**Sexual Abuse**	**Emotional Abuse**	**Weapon**	**Adulthood victimization**	
Sample size (*n*)	2061	2057	2048	2064	2036	
Frequency (*n*)	214	588	366	67	892	
Percentage (%)	9.9%	27.3%	17.0%	3.1%	41.4%	
Missing (*n*)	95	99	108	92	120	
Missing (%)	4.4%	4.6%	5.0%	4.3%	5.6%	

Table 4.

Prevalence of Different Forms of Revictimization

Adulthood								
Childhood	**Sexual Abuse**	**Responses**	**Physical Abuse**	**Responses**	**Emotional Abuse**	**Responses**	**Weapon Threat**	**Responses**
Emotional Abuse missing (%)	268 (39.1%)	682 3 (.4%)	136 (19.9%)	683 2 (.3%)	237 (34.6%)	673 12 (1.8%)	31 (4.5%)	685 none
Physical Abuse missing (%)	114 (44.7%)	253 2 (.8%)	83 (32.5%)	252 3 (1.2%)	84 (32.9%)	250 5 (2.0%)	11 (4.3%)	254 1 (.4%)
Sexual Abuse missing (%)	119 (48.6%)	245 none	51 (20.8%)	243 2 (.8%)	60 (24.5%)	243 2 (.8%)	17 (6.9%)	245 none
Emotional Neglect missing (%)	114 (39.6%)	285 3 (1.0%)	65 (22.6%)	286 2 (.7%)	102 (35.4%)	283 5 (1.7%)	13 (4.5%)	288 none
Physical Neglect missing (%)	155 (36.5%)	424 1 (.2%)	79 (18.6%)	423 2 (.5%)	111 (26.1%)	418 7 (1.6%)	15 (3.5%)	425 none

Mediators Functioning as Networks

Several mediators (i.e., anxious attachment, meaning in life, rejection and impaired autonomy domains, PTSD symptoms, peritraumatic dissociation, and loneliness) with direct connection with CM functioned as networks in the model such that two to six pathways passed through these variables. Although risky sex behavior was not directly associated with CM, three other pathways connected to this variable, which in turn was related to adulthood victimization.

Neither First nor Second-Order Mediators

As shown in Figure 3, several variables were not directly or indirectly associated with CM or adulthood victimization or both, although they were connected to other mediators. The variables directly and/or indirectly linked to CM, but not to adulthood sexual victimization include sexual assertiveness, sex with strangers, number of sexual partners, somatoform dissociation, distress tolerance, and coping. The variable (in) directly associated with adulthood victimization, but not with CM was sexual sensation seeking.

Discussion

The objective of the current study was to understand which factors mediate the relationship between childhood maltreatment and adulthood victimization, and to detect pathways with the strongest association with revictimization using a data-driven SEM analysis. The findings show that childhood maltreatment severity was directly related to victimization in adulthood. The most important first-order mediators (i.e., mediators that are the only mediator in a pathway) connecting CM severity to adulthood victimization were peritraumatic dissociation, PTSD symptoms, trauma load, loneliness, and drug use. Second-order mediators (i.e., mediators involved in pathways consisting of more than one mediator) were attachment styles, early maladaptive schema domains, meaning in life, and peritraumatic dissociation. Several factors had a networking function such that various pathways passed through these first and second-order mediators (i.e., anxious attachment, rejection/impaired autonomy schema domains, PTSD

symptoms, peritraumatic dissociation, and loneliness). The observed pathways will now be discussed.

First-Order Mediators

Peritraumatic Dissociation

Our finding on the role of peritraumatic dissociation in the link between CM and adult victimization is in line with a prospective study on females with a documented history of childhood sexual abuse (Noll et al., 2003), but inconsistent with a cross-sectional study on females recruited from the general population (Irwin, 1999a). The inconsistent results might be due to different definitions for childhood and adulthood victimization, different populations and/or designs. The mediating effect of peritraumatic dissociation on revictimization in the current study can be explained by assuming that dissociation at the time of trauma interferes with information processing and integration of memories, a process that does not allow an individual to learn from past traumatic experiences or have access to relevant information in similar situations, thereby leaving the victims with further risk of abuse (Chu, 1992; Irwin, 1999a). This finding is also consistent with Betrayal Trauma formulation (Freyd et al., 2007).

PTSD Symptoms

Our result regarding the indirect effect of CM severity on adulthood victimization via PTSD symptoms is consistent with previous cross-sectional (Baca et al., 2021; Scoglio et al., 2019) and longitudinal research (Jaffe et al., 2019; Papalia et al., 2016). Although available evidence supports the detrimental effect of PTSD on revictimization, it is not yet clear how PTSD symptoms increase this risk. One explanation is that PTSD, particularly hyperarousal, might compromise risk detection (Messman-Moore & Long, 2003; Fragkaki et al., 2017), which is supported by two studies showing a positive relationship between PTSD, particularly re-experience and hyperarousal, and risk detection (Wilson et al., 1999, Marks & Soler-Baillo, 2005). The role of risk detection was not supported in our study because it was not related to revictimization in the variable selection phase and, thus not included in the model. Potential explana-

tions for the contradictory results regarding the effect of risk detection include the likelihood that revictimized individuals are not homogenous in terms of risk detection and the possibility that the assessment of risk detection used in prior studies might not have ecological validity (for more explanation see Gidycz et al., 2006). Another explanation of the link between PTSD and revictimization is that PTSD might prevent a proper reaction in threatening situations (Messman-Moore & Long, 2003), in a way that protective responses such as assertiveness or escape (Chu, 1992) are not applied, possibly due to the intensity of negative emotions and physiological reactions at the time. Finally, PTSD symptoms influencing verbal and non-verbal cues might signal vulnerability to potential perpetrators (Cloitre et al., 1997), hence making these individuals more prone to revictimization.

Trauma Load

The mediating role of trauma load (combined indirect interpersonal trauma and non-interpersonal trauma) found in the present study is supported by two studies examining the direct association between interpersonal and non-interpersonal trauma (Cougle et al., 2009; Lilly, 2011). However, it is in contrast with a previous study reporting the absence of a direct association between interpersonal and non-interpersonal trauma, and the presence of an indirect effect of non-interpersonal trauma on revictimization through PTSD (Jaffe et al., 2019), a pathway that was not found in our study. A possible explanation for the observed mediating effect of trauma load is that people with CM might suffer from higher general psychological distress (Lindhorst et al., 2009; Orcutt et al., 2005), which might enhance the likelihood of exposure to non-interpersonal trauma (i.e., leading to higher trauma load), which consequently can affect mental health in a cyclical pattern and result in further vulnerability to interpersonal victimization in adulthood. Further research is necessary to clarify the mediating role of trauma load in revictimization, particularly related to non-interpersonal trauma.

Loneliness

The mediating effect of loneliness observed in the current study was supported by a longitudinal study indicating an association between

victimization in childhood and feelings of loneliness in adolescence (Matthews et al., 2022), as well as by cross-sectional evidence regarding the association between adolescent victimization and loneliness (Cava et al., 2018). In addition, two studies showed a relationship between childhood sexual abuse and loneliness (Boyda et al., 2015; Gibson & Hartshorne, 1996) of which one indicated a relationship between intimate partner violence and loneliness (Boyda et al., 2015). People with a history of CM might experience loneliness due to insecure attachment styles (Akdoğan, 2017), which might make them less selective in choosing dating partners or result in staying in an abusive relationship due to stronger need to connect to others (Cava et al., 2018). The assumption about the association between loneliness and insecure attachment styles is further supported by a pathway from CM severity to anxious attachment and rejection schema domains in our study. Further research on the impact of loneliness for revictimization is critical since available evidence is limited to our findings.

Drug Use

The current findings are consistent with longitudinal evidence showing higher observed drug use among women who experienced incapacitated sexual revictimization compared to expected use in a Chi-square analysis (Messman-Moore et al., 2013) and with cross-sectional results indicating greater substance use in revictimized women compared to the ones who were not victimized or were victimized only once (Walsh et al., 2014). In contrast to our study, a longitudinal study did not find evidence for the mediational role of drug use in sexual revictimization (Lindhorst et al., 2009). However, in general, evidence on drug use appears inconsistent, which might be due to methodological differences, such as different populations and designs across studies. The mechanisms linking drug use to revictimization are not yet well analyzed, but it may well be that substance use serves as a coping mechanism to deal with negative emotions originating from CM and could subsequently increase exposure to potential perpetrators and consequently the risk of revictimization. In addition, intoxicated individuals might be perceived as more vulnerable to perpetrators (Messman-Moore & Long, 2003).

Impaired Autonomy Schemas

The mediating influence of impaired autonomy schemas in the present study, which indicated a negative association with adulthood victimization, is inconsistent with Young's theory (Young et al., 2003), and prior studies (Atmaca & Gençöz, 2016; Gay et al., 2013). Therefore, it is assumed that the negative mediational role could actually be a statistical artefact, and that these schemas do not have an inverse relationship with adulthood victimization. This explanation is in line with a positive association that was found between impaired autonomy and adulthood victimization ($r = .11$, $p < .001$), which shows that the combination of variables in the model might have switched the direction of association between these two variables.

Second-Order Mediators

The mediators linking CM to revictimization via other intervening variables included in the current research further our knowledge about developmental trajectories of revictimization and the mechanisms connecting first-order mediators to revictimization.

Attachment Styles

Unlike the avoidant attachment style, which did not show any association with revictimization, anxious attachment was an intervening variable between CM severity and adulthood victimization via loneliness, risky sex behavior, peritraumatic dissociation as well as a pathway that included the rejection schema domain, emotion dysregulation, and PTSD in a consecutive order. The role of anxious attachment in revictimization found in this study is in line with the findings of a study reporting that anxious, but not avoidant, attachment was related to sexual revictimization (Brenner & Ben-Amitay, 2015). In addition, two studies exclusively examined anxious attachment and supported its effect on revictimization (Bockers et al., 2014; Hocking et al., 2016). In contrast to these findings, another study did not find such an effect for anxious, neither for avoidant attachment (Gay et al., 2013). This inconsistency might be due to using a different measure and an exclusive focus on violence inflicted by intimate partners in Gay and colleagues (2013) study.

Two important hypotheses about the role of anxious attachment versus avoidant attachment on revictimization are proposed. One implies that anxious attachment, characterized by excessive proximity seeking to attachment figures, might encourage tolerating abusive relationships due to fear of rejection, while avoidant attachment is associated with more distant relationships (Hocking et al., 2016). Another possibility is that abusive men might have partner preference for women with anxious attachment, as supported by the study of Zayas and Shoda (2007) showing that men with perpetration experiences had a preference for women with an anxious attachment style. The first possibility explains victimization inflicted by known people, but does not justify victimization by unknown people, such as sexual victimization occurring in the context of sex with a stranger. Furthermore, based on our findings, anxious attachment seems to result in revictimization through maladaptive coping strategies including peritraumatic dissociation and risky sex behavior as well as feelings of loneliness. This evidence clarifies the findings of prior research by providing information on potential mechanisms by which insecure attachment increases the subsequent risk of revictimization through other mechanisms.

Early Maladaptive Schemas

The pathways consisting of attachment styles and schema domains show potential developmental trajectories of revictimization. Based on Young's Schema Theory (Young et al., 2003), individuals have various emotional needs such as secure attachment. Early life experiences, such as CM, hinder meeting of these basic psychological needs and influence the way people see others and themselves. Therefore, it is assumed that CM fosters insecure attachment, destructive cognitive and emotional patterns through which people (mis)interpret their self-worth and others' behaviors.

The pathways leading from CM severity to anxious attachment and then to the three schema domains support Young's theory (Young et al., 2003). In one pathway, CM severity was associated with higher anxious attachment, which led to the schemas of other-directedness (with themes of dependence on others, and prioritizing others' needs

and feelings to receive approval and nurture). Our findings suggest that proximity seeking and dependence, derived from anxious attachment style and other-directedness schemas, could provoke negative emotions that seem to be managed by dissociation at the time of trauma (i.e., interpersonal victimization). This process makes a person more vulnerable to further victimization since peritraumatic dissociation limits access to information related to threatening signals in previous trauma; information that can be used to prevent victimization in similar situations in the future (Chu, 1992; Irwin, 1999a).

Two other pathways through which anxious attachment led to revictimization consisted of both rejection and impaired autonomy domains, which were linked to emotion dysregulation and then to PTSD. These pathways imply that the rejection domain (with the themes of lack of reliable support and connection, mistrust, and low self-worth) and impaired autonomy (with the themes of dependence on and enmeshment with others), derived from an insecure attachment, result in difficulties to regulate negative emotions (i.e., limited access to emotion regulation strategies) and developing PTSD, which is a subsequent risk factor for revictimization. Supporting the development of emotion dysregulation due to these schemas, Young and colleagues (2003) assume that people use maladaptive coping to deal with negative schemas that maintain these schemas. For instance, one might avoid all triggers that activate the schemas, a coping mechanism that prevents people from acquiring skills that help them regulate their negative emotions. The association between insecure attachment and early maladaptive schemas (Platts et al., 2005; Simard et al., 2011), insecure attachment styles and emotion dysregulation (Oshri et al., 2015; Parada-Fernández et al., 2021), and between PTSD and emotion dysregulation (Pencea et al., 2020; Powers et al., 2015; Weiss et al., 2013) are consistent with findings from previous studies.

Meaning in Life

One pathway in the model implied that CM severity decreases perceived meaning in life, (i.e., cognitions about coherence of life experiences, having life's goals, and considering one's life as important; George

& Park, 2016), which limits access to strategies for regulating negative emotions. This, in turn, leads to increases in PTSD symptoms and then an increased risk for revictimization. This finding can be interpreted in the context of Shattered Assumptions Theory (Janoff-Bulman, 1985), proposing that negative early life experiences, including CM, shake people's view of self, others, and the world. Based on our findings, CM might shatter basic assumptions about the self (invulnerable, worthy), and the world (word as comprehensible, orderly and predictable), which in turn can challenge the perceived meaning in life of these victims (Janoff-Bulman, 1985).

The pathway from meaning in life to limited access to emotion regulation strategies is consistent with a prospective study that predicted poorer emotion regulation from diminished meaning-making in the context of life events (Cox & McAdams, 2014).

Drug Use

One pathway in the model clarified how drug use might increase the chance of revictimization through risky sex behavior, but this path might be most relevant for sexual victimization. It is crucial to understand the mechanism through which drug use leads to specific types of revictimization. The mechanism(s) linking drug abuse and risky sex behavior is not well-tested. Considering the high rate of drug use among university students in social gatherings (Bennett & Holloway, 2017; Nichter et al., 2010), this factor might lead to revictimization by increased exposure to potential perpetrators in such settings, especially when both parties (i.e., victims and potential perpetrators) might be under the influence of drugs.

Peritraumatic Dissociation

Our model also suggests a pathway that might explain how peritraumatic dissociation functions as a risk factor for revictimization. It seems that peritraumatic dissociation increases PTSD symptoms (a link that was also previously supported; Breh & Seidler, 2007; Lensvelt-Mulders et al., 2008), which in turn are related to using sexual activity as an emotion regulation strategy. Then, people with such a tendency are

more likely to engage in risky sex behavior increasing the likelihood of (sexual) revictimization. A literature review provided support for the link between PTSD and maladaptive emotion regulation strategies, such as substance use and disordered eating (Messman-Moore & Bhuptani, 2017); strategies that are probably used to deal with overwhelming trauma-related symptoms. Although research on sex motives is limited to only a few studies, this factor is shown to be related to risky sex behavior and (sexual) revictimization (Miron & Orcutt, 2014), but the observed indirect association with peritraumatic dissociation has not yet been reported elsewhere.

Mediators Functioning as Networks

The variables that were central in our study, such as anxious attachment, PTSD symptoms, and loneliness, might be those factors that play the most important roles in revictimization since they had critical roles in connecting other risk factors. Therefore, they might be important targets in prevention programs. This assumption can direct future research on the effectiveness of interventions on revictimization. To elaborate, it needs to be examined if focusing on insecure attachment, PTSD symptoms, and loneliness in prevention programs significantly decreases the risk of revictimization among CM survivors.

Factors without Observed Mediating Effects

We did not find support for the effects of specific risky sex behaviors (i.e., sex with strangers, a high number of sexual partners, and sexual assertiveness) given all other factors in the model. The small numbers related to the frequency of sex with strangers and the number of sexual partners (between one and two on average), in the current sample might explain these findings. In addition, having different forms of adulthood victimization might explain the results since risky sex behaviors are more specific to sexual victimization. The absence of an association between sexual sensation seeking and CM severity in the present model is in line with traumatic sexualization theory that proposes that sex is used for non-sexual goals, such as attention or approval seeking, in people with a history of childhood sexual abuse (Finkelhor & Browne, 1985). Sexual sensation seeking is more focused on sexual

pleasure, which might not be the main aim of sexual engagement for people with a history of sexual abuse in childhood based on this theory. Findings regarding somatoform dissociation are similar to another study (Dietrich, 2007). Although it is very early to reach any conclusion about this variable due to the scarcity of evidence, this factor might not be related to revictimization because manifesting dissociative symptoms through the body might not increase exposure to potential perpetrators or victims' vulnerability. Furthermore, peritraumatic (psychological) dissociation which was a first-order mediator might be better suited to test the association between dissociation and revictimization.

Coping was defined as using strategies such as wishful thinking and self-blame. Unlike previous studies that provided evidence on the association between coping strategies and revictimization (Arata, 1999; Gibson & Leitenberg, 2001; Mayall & Gold, 1995), we did not find such an association. Other concepts related to coping, namely using sex to reduce negative affect, and limited access to emotion regulation strategies, might be better in explaining the association between strategies used for dealing with negative emotional states and revictimization. They represent factors at the behavioral level, such as involvement in sexual activity, or using a passive approach towards emotions, like wallowing in negative emotions, that could directly increase the risk of further victimization, while wishful thinking or self-blame might not have such a proximate effect on revictimization. This hypothesis applies to null findings on the role of distress intolerance too.

Revictimization Model at a Glance

Taking a broader perspective on the model, three important observations stand out. First, the variables more proximal to CM were cognitive factors and/or patterns about the self and others (insecure attachment and negative schemas), while the variables positioned in the middle of the model were related to emotional domains, such as emotion dysregulation and reactivity. Variables pointing towards adulthood victimization at the bottom of the model referrred to the behavioral level, such as drug use and risky sex behavior. Therefore, the model

indicates that CM may result in the development of cognitive patterns that elicit emotional difficulties, for which people might then rely on maladaptive coping strategies that may potentially lead to revictimization. This patten suggests that interventions on behavioral risk factors for revictimization might have higher efficacy if the cognitive and emotional mechanisms underlying these behaviors are addressed as well. Second, the paths from CM to the proximal variables had higher beta coefficients compared to the ones proximal to adulthood victimization. It can be concluded that the adverse effects following CM are more predictable compared to victimization in adulthood.

Small effects found in the models of revictimization tested in prior studies, particularly the beta coefficients corresponding to the paths towards victimization in adulthood (Gay et al., 2013; Hocking et al., 2016) are comparable to our results, further underscoring the complexity of predicting revictimization. Lastly, various factors and interrelations between mediators are involved in revictimization, all of which have small effects in general. In addition, it can be argued that large individual variability in the risk factors adds to this complexity. In summary, the involvement of various factors, interrelations between them, and individual variability in the risk factors might explain small effect sizes (values between 005 and .01) related to pathways corresponding to first and second-order mediators. To further investigate potential reasons behind the differences between the results of this study and prior research, we compared the rates of CM, adulthood victimization, and revictimization in the current sample with previous samples. The rates of childhood sexual, physical and emotional abuse in the present study were within the confidence intervals of a meta-analysis reviewing studies on the prevalence of CM in Europe. However, physical neglect had a higher prevalence in our study (Mayall & Gold, 1995). In terms of adulthood victimization, the rate of physical violence in our study was significantly lower than in a study in European countries (European Union Agency for Fundamental Rights, 2014), while the rate of sexual victimization in our study was higher. The minor discrepancies in the frequencies of the various forms of adulthood victimization between these two studies might be explained by differences in the age range

and nationalities of included participants. Since evidence shows the differential effects of different types of CM on revictimization (Dias et al., 2017; Gama et al., 2021; Messing et al., 2012), the differences in the rates of CM and adulthood victimization in our study might explain discrepancies between our results and prior research. Nevertheless, comparable to previous studies (Arata, 2002; Jankowski et al., 2002; Van Bruggen et al., 2006), people with a history of CM were approximately three times more likely to be revictimized than people without such an experience in our sample.

Strengths

To our knowledge, this is the first study testing a model with various intrapersonal risk factors, allowing interrelations between them, using a data-driven approach. The comprehensive model, the largest model tested to date, displays how the interactions between cognitive, emotional and behavioral factors increase the risk of revictimization among CM-survivors and indicates the complexity of the phenomenon. In addition, the vast majority of the variables had large sample sizes. Another strength is that most available models focus exclusively on sexual revictimization, while we took a broader approach in our model in terms of forms of victimization in childhood and adulthood, which can be specified for different forms of revictimization in the future. Unlike most previous studies conducted in universities in the US (Walker et al., 2022), we recruited a sample predominantly German and Dutch as well as other nationalities. Furthermore, to deal with the missing values, analyses were conducted based on full information maximum likelihood estimation, which uses all available data of both measures to determine coefficients between pairs of variables. Moreover, for the final pathway model, a good model fit was obtained, and no evidence was found suggesting that model assumptions were not reasonable.

Limitations and Directions for Future Research

The findings of the present study need to be considered in light of several limitations. First, the cross-sectional nature of the study does not allow any conclusions regarding the causality of the relationships that were observed in our SEM-model(s). An important next step is to extend

this work by including prospective data that allows for testing the direction of the relationships. Second, although examining revictimization in female university students is relevant considering the high rates of adulthood victimization observed in this specific population (Clodfelter et al., 2008; Humphrey & White, 2000), the findings of the current research might not apply to populations including community and clinical samples, older populations, and men. Third, as discussed above, only intrapersonal factors were included in our model, while there is evidence that factors at the interpersonal level, such as partner selection (Gobin, 2012; Zayas & Shoda, 2007) and victim selection from the side of perpetrators might also influence the risk of revictimization (Book et al., 2013; Ritchie et al., 2019; Wheeler et al., 2009). In addition, Ecological System Theory suggests that factors at exosystem levels, such as neighborhood (e.g., areas with greater social and economic challenges), and macrosystem levels, such as societal values (e.g., victim-blaming) can increase the risk of revictimization (Grauerholz, 2000). In line with this theory, previous research showed that lower community cohesion (the extent to which a community communicates and provides support for its members; Obasaju et al., 2008) as well as factors at macrosystem level, like traditional gender roles (Herrero et al., 2018) are related to victimization, however, these factors were not included in the current model. The observed direct association between CM severity and adulthood victimization shows that other relevant factors are still missing from the model. This indicates the importance of the inclusion of factors at the exosystem-level in future research. Fourth, the model does not distinguish between different types of victimization in childhood and adulthood, while it might well be that the relevance of particular risk factors may vary across the various forms of revictimization. Further research with larger samples that allow for testing separate models for different types of revictimization would be important to get more detailed insight into factors involved in various types of revictimization. Fifth, the sexual orientation of participants was not assessed. It might be an important factor in revictimization since previous studies showed higher rates of cyberbullying (Zerach, 2016), childhood sexual abuse, and sexual revictimization in homosexual women compared to their heterosexual peers (Hughes et al., 2010). Sixth, the included variables

had different sample sizes in the current study, which could potentially affect the power of variables with smaller sample sizes. Finally, our approach to building the current model was to start with the null model, followed by creating the starting model, using MIs to obtain the final model, and selecting mediators with logistic regression and t-tests to make the final model more parsimonious. This approach was chosen to develop a data-driven model. However, one can argue that using different approaches might have led to different models and conclusions.

General Conclusion

The current study indicates that PTSD symptoms, loneliness, and drug use might be among the most significant risk factors for revictimization albeit they all showed small effects. In addition, peritraumatic dissociation emerged as a first and second-order mediator and it functioned as a network in the model, which highlights the importance of this factor in revictimization. Therefore, considering these factors (PTSD symptoms, loneliness, and drug use) as the first targets in preventive interventions might enhance the efficacy of such programs. In addition, the general impression of the model is that childhood maltreatment severity is associated with anxious attachment style and early maladaptive schemas, general cognitive patterns used for processing information about the self and others. These cognitive patterns are in turn related to emotion dysregulation and emotional reactivity, factors that probably lead to intense negative emotions, while people with a history of childhood maltreatment have limited sources to regulate them adaptively. Therefore, CM-survivors may employ dysfunctional strategies such as drug use and risky sex behavior, increasing the risk of further victimization. It should be acknowledged that focusing on intrapersonal risk factors of revictimization does not imply that victims are responsible for the violence inflicted on them and it does not overlook the salience of interventions targeting perpetrators. However, understanding individual risk factors for revictimization can help us design effective programs with the aim of women's empowerment and help prevent/mitigate the consequences of CM.

Chapter 3

Revictimization and Sex Motives in Online Dating

Abstract

Objective. While a significant association between childhood maltreatment and sexual victimization in adulthood has been established in previous research, it is unknown whether this also applies to the context of online dating. Therefore, we aimed to investigate whether revictimization is common in online users and which mechanisms mediate this risk. **Method.** The participants were 413 heterosexual women aged between 18 and 35 who used mobile dating applications in the year before the assessment. The participants reported information on using mobile dating applications, motives for engaging in casual sex, protective dating strategies and general motives for online dating. **Results.** Childhood maltreatment severity was positively related to both cyber and in-person sexual victimization severity. Motives related to regulating negative affect and self-esteem mediated the relationship between childhood maltreatment severity and in-person sexual victimization severity in adulthood. Furthermore, those motives moderated the association between cyber and in-person sexual victimization. The effect of cyber victimization on in-person sexual victimization was stronger at higher levels of affect/self-esteem regulatory sex motives compared to lower levels. The affect/self-esteem regulatory sex motives were not related to protective dating strategies. **Discussion.** The results of the study imply that a history of childhood maltreatment is a risk factor for sexual victimization in adulthood among young heterosexual women who use online dating. One of the factors linking these variables in this population might be affect/self-esteem regulatory sex motives. Future studies should aim at replicating these associations prospectively.

Based on:

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Childhood maltreatment is associated with a higher risk of revictimization in adulthood (Werner et al., 2016). In a large Dutch sample, 50% of women and 30% of men with a history of childhood sexual abuse reported sexual revictimization in adulthood (de Haas et al., 2012). A meta-analytic review also showed a positive relationship between childhood maltreatment and intimate partner violence victimization (Li et al., 2019). While the association between childhood maltreatment, including sexual abuse, and (sexual) victimization in adulthood is well established, it remains unclear whether it also translates to online dating. Childhood maltreatment might be associated with both cyber victimization (victimization via the internet or electronic technologies) and in-person victimization among online dating users. Addressing this question is important for three reasons. First, online dating is widely used. In a study, approx. half of the participants between the ages of 18-29, recruited via advertisements on Facebook, were currently using the online dating application Tinder (Timmermans & Courtois, 2018). Second, prior studies support high risk of sexual victimization in online dating. The risk of sexual victimization seems to be 2-3 times higher in online dating users compared to non-users in student samples (Choi et al., 2016; Shapiro et al., 2017). In addition, a study on people contacting sexual assault centers in the Netherlands between 2013 and 2020 reported that seven percent of the victims met the perpetrator via the internet (Hiddink-Til et al., 2021). Third, online dating users seem to show risky sex behavior more frequently than non-users. For instance, they report having a higher number of sexual partners (Choi et al., 2016), engaging more often in casual sex, exhibiting vague communication of sexual intentions, and using alcohol in sexual situations (Tomaszewska & Schuster, 2020). This risky sex behavior might explain the increased risk of sexual victimization among the users.

Importantly, prior studies show a relationship between childhood sexual abuse and risky sex behavior (Abajobir et al., 2017). One of the theories trying to explain this association is traumatic sexualization theory (Finkelhor, 1988). In this theory, it is presumed that people who have been victimized sexually in childhood use sex for meeting their non-sexual needs such as receiving other's attention. Similar to this for-

mulation, Orcutt and colleagues (2005) theorize that people with a history of childhood sexual abuse use sex as an emotion regulation strategy to reduce negative affect. This formulation differs from the deficit-focused conceptualization of revictimization (Messman-Moore & Long, 2003), which suggests that PTSD symptoms such as numbing or hyperarousal might interfere with risk detection and risk reaction, which in turn might result in revictimization. Instead, Orcutt et al. (2005) assume that the strong urge to reduce negative affect by engaging in risky sex behavior is consciously given priority in potentially risky situations, for example resulting in a higher probability of sex with strangers (Miron & Orcutt, 2014). Another motive for engaging in risky sex behavior could be the wish to boost one's self-esteem (Layh et al., 2020). These affect or self-esteem regulatory sex motives might be a factor linking childhood maltreatment with sexual victimization in the context of online dating, too, and are thus worth investigating.

Interestingly, in-person sexual victimization might be preceded by cyber victimization indicated by a previous study which detected a strong association between in-person and cyber sexual victimization in female adolescents (Zetterström Dahlqvist & Gillander Gådin, 2018). Thus, it will be informative to study whether cyber victims decide to meet their matches in person despite their awareness of the risk and whether this is moderated by affect/self-esteem regulatory sex motives. Victims of cyber victimization who engage in risky situations due to a stronger urgency to avoid negative feelings or feel better about themselves via sex might have an increased risk of in-person sexual victimization compared to victims with moderate or low levels of affect/self-esteem regulatory sex motives.

Although risky sex behavior such as casual sex is common in online dating (Bryant & Sheldon, 2017; Timmermans & Courtois, 2018), there is evidence that the users are aware of the risks of online dating, including the risk of sexual victimization (Couch et al., 2012). Therefore, people might apply protective strategies like sharing the meeting point of the first date with family or friends as an attempt to stay safe. Nevertheless, people with high affect/self-esteem regulatory sex motives might prioritize these motives in their decision-making and use fewer protective

strategies. Knowledge about the association between the frequency of employing such protective strategies and sex motives is one of the gaps in the literature.

The current study aims to further our knowledge about the predictors of adult sexual victimization and revictimization among online dating users by testing several hypotheses: a. based on the study by Zetterström and colleagues (2018), we hypothesize that cyber sexual victimization severity is positively related to in-person sexual victimization severity. b. based on previous studies, we assume that childhood maltreatment severity is positively related to both cyber and in-person sexual victimization severity in adulthood. c. we assume that affect/self-esteem regulatory sex motives will mediate the relationship between child maltreatment severity and in-person sexual victimization severity during adulthood, and these motives moderate the relationship between cyber sexual victimization severity and in-person sexual victimization severity. d. we hypothesize that affect/self-esteem regulatory sex motives are negatively associated with the use of protective dating strategies.

Method

Participants

Heterosexual women (N = 523) aged between 18 and 35 who had used mobile dating applications in the year before the assessment and met at least one of their matches in person were recruited by Qualtrics Company (N = 373) or a research platform at the University of Groningen (N = 150), the Netherlands. The former recruited participants from the general population and the latter university students. To assure that a proper number of people with a history of childhood maltreatment was included in the sample, only people indicating a positive history of childhood maltreatment via a dichotomous item ('Were you emotionally abused or neglected as a child (before the age of 15) or did you suffer any form of sexual or physical abuse during your childhood?') were included in the general population sample. In total, 110 responses were excluded (see more information in the data analysis section). The final sample included 413 participants (n = 276 general population and

n = 137 university students), of whom 83.8% (*n* = 346) were Dutch, 8% (*n* = 33) were German, and the remaining (*n* = 34, 8.2%) were from various countries. The mean age of the participants was 23.68 (*SD* = 3.62) years. The participants consented to the study before responding to the survey and received research credits or a monetary reward depending on the platform via which they participated. The survey took approximately 20 minutes. The study was approved by the Ethics Committee at the University of Groningen and preregistered at aspredicted.org under nr. 56818.

Measures

Demographic and Mobile Dating Applications Information. The participants reported their age, nationality, relationship status, main motivation for using mobile dating applications, the number of matches met in person, duration of application use, how often they engaged in sexual activities with a new partner on the first date, and the last time they met a match in person (see Table 1).

Table 1.

Demographic and Mobile Dating Applications Information

	n (%)		Not reported n (%)
Relationship status			29 (7)
Single	335 (81.1)		
In a relationship - partner knows one uses the apps	37 (9)		
In a relationship - partner does not know one uses the apps	12 (2.9)		
Motives for using the apps			9 (2.2)
Serious relationship	207 (50.1)		
Casual sex	54 (13.1)		
Meeting new people and making friends	143 (34.6)		
	Mean (*SD*)	**Range (mode)**	
Age	23.68 (3.62)	18 - 35 (25)	2
Duration on the apps (in month)	13.19 (14.38)	1 - 200 (12)	18
No of matches met in person	7.74 (8.51)	1 - 70 (3)	13
Last time dated a match in person (in days)	63.88 (104.57)	0 - 700 (10)	42
Sex on the first date	.91 (2.03)	0 - 20 (0)	13

Childhood Maltreatment. To measure childhood maltreatment, Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein et al., 2003) with 28 items was administered. This scale has five subscales of emotional abuse, emotional neglect, physical abuse, physical neglect and sexual abuse consisting of five items each. The participants were instructed to indicate how frequently they experienced these maltreatments before the age of 15 on a 5-point Likert scale (1 = never true to 5 = very often true). If they were not willing to report them, they could choose 'I do not wish to answer this question' option that was added to the scale. The CTQ-SF has shown proper psychometric features in different countries and populations (Bernstein et al., 2003; Gerdner & Allgulander, 2009; Thombs et al., 2009). The Cronbach's alpha of the scale in this sample was .94. Sum scores for each subscale were computed by summing up the values for the corresponding items and total scores for the whole scale were computed by summing up the 25 subscale items, leaving out three validity items. The cut-offs proposed by Walker et al. (1999), sexual abuse ≥ 8, physical abuse ≥ 8, physical neglect ≥ 8, emotional neglect ≥ 15, and emotional abuse ≥ 10, were used to understand the number of individuals with childhood abuse severity above the cut-off for each subscale.

Sexual Victimization in Adulthood. We created 10 items to measure sexual victimization in the context of online dating, two items for cyber sexual victimization and eight items for in-person victimization. The participants were instructed to indicate the number of cases in which they were victimized by their matches using a visual analogue scale (0 = 0% or never, 100 = 100% or in all cases). Examples of the items are 'My match sent me unwanted sexual texts although I had clearly told him I did not like that.' and 'My match kissed me although I had clearly told him I did not like that.' Sexual victimization ranged from non-consensual kissing to rape (see Table 2). The Cronbach's alpha of the scale was .95.

Table 2.

Frequency of Cyber and In-person Adult Sexual Victimization

	Mean	SD	n(%) of victims	Not reported
My match sent me unwanted sexual texts although I had clearly told him I did not like that.	27.52	30.30	195 (47.2)	120
My match sent me nudes although I had clearly told him I did not like that.	24.06	29.57	184 (44.6)	121
My match kissed me although I had clearly told him I did not like that.	17.92	27.37	166 (40.2)	122
My match touched a part of my body although I had clearly told him I did not like that.	18.58	26.34	160 (38.7)	122
My match encouraged me to use drugs and then had sex with me without my consent/ permission.	12.79	24.21	126 (30.5)	123
My match encouraged me to drink more than I wanted and then had sex with me without my consent/permission.	14.28	25.04	139 (33.7)	122
I had sex with my match because my match threatened me that he would leave me if I did not have sex with him.	11.72	23.07	131 (31.7)	125
My match made me have sex with him in a way that I did not want.	17.55	28.61	158 (38.3)	124
My match made me have sex with him without protection.	18.47	29.02	146 (35.4)	125
My match treated me in a way that made me feel really uncomfortable and went beyond what I had agreed to do.	18.99	28.26	139 (33.7)	123

To determine the number of people sexually victimized by their matches, cut-offs were created: indication of at least one percent on at least one of the corresponding items was considered as cyber-sexual or in-person victimization, respectively. To compute cyber and in-person sexual victimization severity in adulthood, the percentages on the corresponding items were summed up (Table 3). In addition, we divided the item of this scale with the highest percentage by the number of matches met in-person to determine the minimal number of separate incidents. The mean of separate incidents was 31.80 (SD = 34.55) with a range between 0 and 100.

Table 3.

Mean, Standard Deviations, Range, and the Number of Cases for the Study Variables

	Mean	SD	Range	n
Childhood maltreatment	46.78	19.38	25 - 105	350
Emotional abuse	11.12	5.38	5 - 25	407
Physical abuse	8.64	4.53	5 - 23	401
Sexual abuse	8.20	5.09	5 - 25	395
Emotional neglect	10.61	4.72	5 - 25	384
Phsical neglect	8.66	4.01	5 - 22	396
Sexual victimization severity during online dating				
Cyber victimization	51.64	56.92	0 - 200	292
In-person victimization	130.56	180.47	0 - 713	288
Approach-avoidance sex motives	461.92	251.01	3 - 1100	149
Protective dating strategies	15.91	3.49	7 - 20	407
Motives for online dating				
Entertainment	399	35.23	0 - 70	17.36
Social approval	398	27.85	0 - 60	15.07
Relationship seeking	401	26.90	0 - 50	12.81
Flirting	399	22.70	0 - 53	13.39
Socialization	400	18.96	0 - 40	9.97
Sexual experience	391	17.52	0 – 60	14.82
Peer pressure	399	9.71	0 - 30	7.92
Get over Ex	395	9.09	0 - 30	8.87

Affect/Self-Esteem Regulatory Sex Motives (SSOD). We used five items from the Motivations for Sexual Intercourse Scale (Cooper et al., 1998) to assess affect regulation motive and we added six custom-made items measuring self-esteem regulation motive. This measure was administered for the participants who indicated having casual sex with their matches (*n* = 158). The participants indicated the percentage of the cases in which they had casual sex with their matches with those motives on a visual analogue scale (*0* = 0% or never, 100 = 100% or in all cases). The examples of the items were "I have casual sex with matches because I would like to be adventurous" for self-esteem regulation motive and "I have casual sex to cope with upset feelings" for affect regulation motive. The Cronbach's alpha of the Motives for Casual Sex in Online Dating Scale in the sample was .91. To compute the total scores, we summed the values on the corresponding items (Table 3).

Protective Dating Strategies. Protective dating strategies were assessed by two sets of three items each which had some content overlap. Participants rated as the percentage of cases in which they used those strategies when meeting their matches in person on a visual analogue scale (*0* = 0% or never, 100 = 100% or in all cases). Of these, two items were adapted from the Dating Behavior Survey and were modified for online dating, while the remaining two items were custom made (see Table S1 in the Supplementary section). An example is "I shared my match's phone number with a friend or family before I met my match in person". Since it was not clear if the reported strategies were applied for the same or different dates, we recoded the values to 1-10. Items 1 to 3 and items 4 to 6 had overlaps in content. Thus, we selected the item with the highest values per item set (items 1-3 and 4-6). Next, the sum score of these two items was computed, which is presented in Table 3.

Motives for Dating. Motives for using mobile dating applications were measured by eight subscales of the Tinder Motives Scale (Timmermans & De Caluwé, 2017) i.e., Social Approval, Relationship Seeking, Sexual Experience, Flirting/Social Skills, Ex-Partner, Peer Pressure, Socializing, Pass Time/Entertainment consisting of 40 items. This scale has shown good psychometric properties (Timmermans & De Caluwé,

2017). The participants reported their motivations on a visual analogue scale (0 = 0% or never, 100 = 100% or in all cases) on statements such as, "I use online dating applications to get an ego boost". Sum scores were computed for each subscale (Table 3). The Cronbach's alpha of the subscales in our sample was ranging from .85 for Socialization to .95 for Ex-Partner.

Data Analysis

Data Cleaning. There were 79 participants who terminated their participation during the multi-step consent procedure. Since these participants did not provide any information, they were removed from further analyses. In total, 19 participants provided duplicate responses, of which only the first entry was always retained. In addition, we removed twelve participants who showed response patterns such as the same response to all items of a scale or consecutive numbers repetitively such as numbers from 1 to 5.

Imputation of Missing Values Estimation. No missing values were imputed, except for one item for adulthood sexual victimization of one participant that was imputed by the mean of nearby values, due to reasons explained below. Hence, participants were removed pairwise from the analyses depending on their missing values on each measure. Imputation of missing values was precluded by either missing not being random (Childhood Trauma Questionnaire and the SSOD), by more than 10% of the values missing per scale (Sexual Victimization in Adulthood Scale), or by inter-item correlations not being sufficiently large i.e., less than .20, indicating that the items are not good predictors of each other (Protective Dating Strategy Scale).

Assumption Check and Statistical Tests: The assumptions of linearity and independence of residuals for linear regression were met. The assumptions of homoscedasticity and normality of residuals for regression were not met for all variables. However, since the violations of these assumptions do not have severe consequences in large samples (Ernst & Albers, 2017), regression analyses were carried out. The Process Macro v3.5 (Hayes, 2012) was employed for mediation and moderation analyses with 10,000 bootstrapping samples. Data cleaning and

analyses were conducted in SPSS 25.

Results

Descriptive Results

The majority of participants were single (*N* = 335, 81.1%), approx. half of the participants (*N*= 207) were looking for a serious relationship in online dating and approx. 30% for meeting new people or finding new friends. At the time of the study, they had used mobile dating applications on average for 13.19 months (*SD* = 14.38). The number of matches met in person ranged from 1 to 70 with a mode of 3. The number of matches with whom participants engaged in sexual interactions on the first date ranged from 0 to 20 with the mode of 0. The two most common motives for using dating applications were passing time and receiving social approval from matches and the two least common motives were getting over one's ex-partner and peer pressure.

The percentage of people in the sample reporting emotional neglect was 20.1% (*n* = 83), emotional abuse 43.8% (*n* = 181), sexual abuse 32.2% (*n* = 133), physical abuse 37.0% (*n* = 153), and physical neglect 45.8% (n = 189). In total, 56.3% of the participants (*n* = 232) reported at least one type of childhood maltreatment.

In the whole sample, 49.2% (*n* = 203) reported at least one type of cyber sexual victimization and 52.1% (*n* = 215) at least one type of in-person sexual victimization in the context of online dating (see Table 2). Furthermore, 32% (*n* = 132) reported both childhood maltreatment and cyber-sexual victimization and 35.4% (*n* = 146) reported both childhood maltreatment and in-person sexual victimization. Any form of revictimization was reported by 36.8% (*n* = 152). Sexual revictimization, defined as sexual abuse in childhood and in-person sexual victimization in adulthood, was reported by 23% of the sample (*n* = 95).

Hypothesis Testing

As hypothesized, cyber sexual victimization severity was positively associated with in-person sexual victimization severity ($\beta = 2.28$, t (286) = 17.35, $p < .001$) with an effect size of $R^2 = .50$, F (1, 286) = 300.94, $p < .001$.

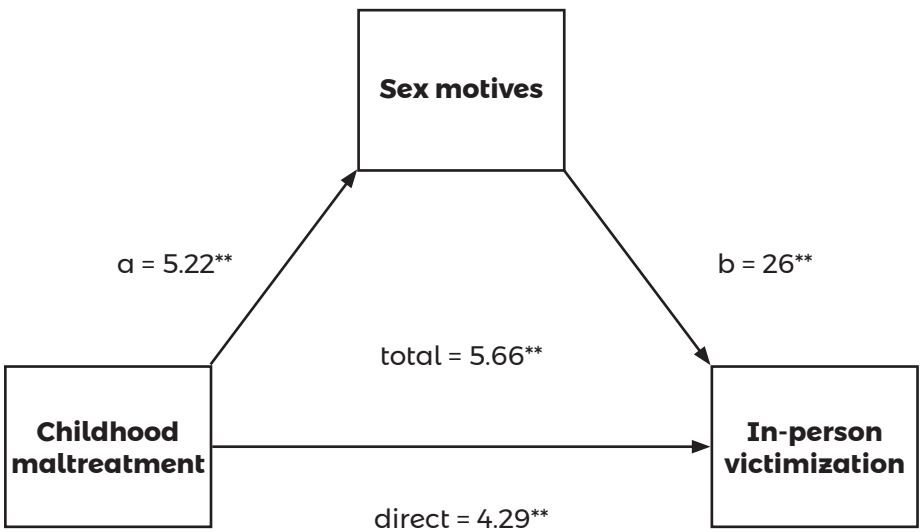
Childhood maltreatment severity was also positively related to cyber sexual victimization severity (β = 1.30, t (256) = 8.66, p < .001) with an effect size of R^2 = .23, F (1, 256) = 75, p < .001.

In line with previous studies, childhood maltreatment severity was positively related to in-person sexual victimization severity (β = 5.24, t (252) = 12.67, p < .001) with an effect size of R^2 = .39, F (1, 252) = 160.57, p < .001.

Affect/self-esteem regulatory sex motives mediated the relationship between childhood maltreatment severity and in-person sexual victimization severity (β = 1.37, 95% *CI* [.62, 2.26]). Figure 1 presents the paths of the model.

Figure 1.

Mediating Effect of Emotion/Self-Esteem Regulatory Sex Motives



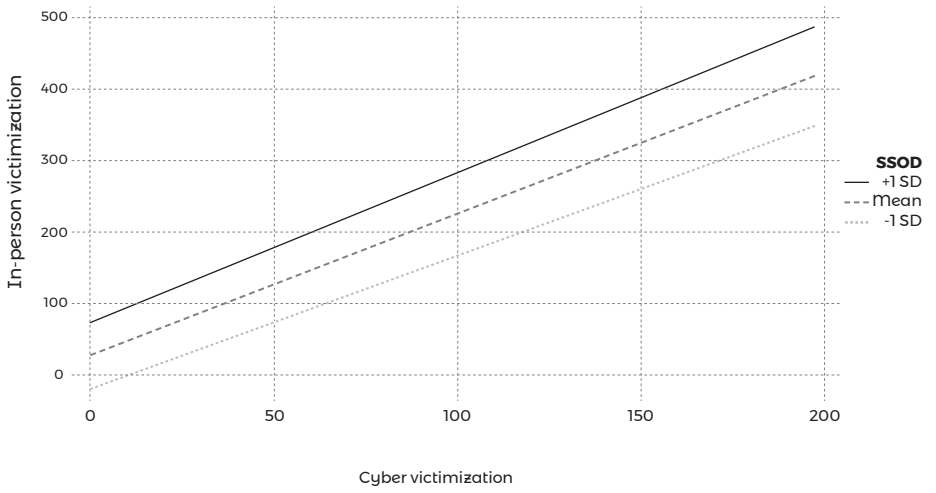
**p < .001

Affect/self-esteem regulatory sex motives moderated the association between cyber and in-person sexual victimization severity indicated by a significant interaction (β = .002, t (140) = 3.58, p < .001). The association between cyber and in-person sexual victimization was significant at

low (β = 1.02, t (140) = 4.08, p < .001), moderate (β = 1.66, t (140) = 9.20, p < .001) and high (β = 2.29, t (140) = 9.01, p < .001) levels of affect/self-regulatory sex motives. However, as these motives increase, the effect of cyber victimization on in-person sexual victimization becomes stronger as presented in Figure 2.

Figure 2.

Estimated Coefficients for Adult Sexual Victimization on Cyber Victimization by Levels of SSOD



The affect/self-esteem regulatory sex motives were not associated with protective dating strategies (β = -.002, t (147) = -1.69, F (1, 147) = 2.85, p = .09).

Discussion

The aim of the current investigation was to understand whether childhood maltreatment severity is related to sexual victimization in adulthood among mobile dating application users – and whether motives for casual sex mediate this association.

The findings indicate that childhood maltreatment is a risk factor for revictimization in online dating, too. Using sex to regulate negative

emotions and self-esteem links childhood maltreatment to sexual victimization in adulthood. Cyber victimization and affect/self-esteem regulatory sex motives show an interaction effect on in-person sexual victimization with a stronger effect of cyber victimization on in-person sexual victimization as the levels of those sex motives increase. In addition, affect/self-esteem regulatory sex motives were not associated with employing fewer protective strategies.

Associations between Childhood and Adulthood Victimization

Greater severity of childhood maltreatment was related to higher severity of both cyber and in-person sexual victimization in the present study. These findings are in line with previous studies showing a relationship between childhood maltreatment and victimization in adulthood (Draucker, 1997; Gidycz et al., 1993; Hocking et al., 2016). Thus, our results indicate that childhood maltreatment also increases the likelihood of sexual victimization in online dating similar to other contexts.

In addition, the association between victimization in childhood and adulthood was mediated by affect/self-esteem regulatory sex motives in the current study. Higher childhood maltreatment severity was related to higher affect/self-esteem regulatory sex motives, which in turn were related to higher severity of in-person sexual victimization. This replicates the finding by Miron and Orcutt (2014) that a need to regulate strong negative affect can be a motive to engage in casual sex and can thus act as a risk factor for revictimization.

These findings are also in line with the theoretical conceptualizations by Finkelhor (1988) and Orcutt et al. (2005) regarding sexual revictimization, which assume that the survivors of childhood maltreatment might engage in risky sex behaviors to meet non-sexual goals such as emotion regulation or interpersonal goals like receiving attention from others, which in turn might increase the risk of revictimization. Therefore, it seems important to further investigate the association between motives for active engagement in risky situations and revictimization since few studies have investigated this so far.

The Role of Non-Sexual Motives

The mechanism linking affect or self-esteem regulatory motives to sexual revictimization has not been extensively studied yet. Our findings could, for example, indicate that people with childhood maltreatment history who use sex to regulate their emotions or to boost their self-esteem might be less selective in their partner selection, might consciously accept certain risks, or might not become aware of indicators of risk. Miron and Orcutt (2014) found that the intervening factor between using sex to reduce negative affect and sexual victimization in adulthood was sex with strangers. In the current study, the main motivation for online dating was not casual sex and the majority of the sample did not report sex on the first date although online dating is commonly used for casual sex. Therefore, the mechanism in this sample might be through other risky sex behavior such as sex under the influence of alcohol/substance or higher number of sexual partners. These links need to be studied in future studies. In addition, since this study assessed exclusively intrapersonal motives for casual sex, it might be informative to examine whether social motives for casual sex proposed by Cooper et al. (1998), using sex to avoid social rejection or to feel connection with someone, mediate the association between childhood maltreatment and revictimization. In line with this assumption, the participants indicated using the applications for social motives, mainly for social approval and relationship seeking. Thus, affiliation might be a driving motivation for using online dating, which in turn might be related to affect and self-esteem regulation needs.

The Link between Cyber and In-person Victimization

The significant relationship between cyber and in-person sexual victimization found in this study indicates that women sexually victimized in the virtual environment are at risk of further sexual victimization in person. This evidence is in line with a prior study (Zetterström Dahlqvist & Gillander Gådin, 2018) reporting an association between in-person and cyber sexual victimization and extend the previous finding to an adult population. The association between these two forms of victimization could either be due to victim selection on the side of the

perpetrator, shared underlying mechanisms on the side of the victim, or an interaction of both. For instance, non-assertiveness or ambiguous communication in response to cyber victimization might signal to the perpetrator that a further transgression will meet little resistance and thus might be the shared factors linking victimization in cyber and in-person contexts.

Our findings showed that the associated between cyber and in-person sexual victimization is moderated by the affect/self-esteem regulatory sex motives. Cyber victimization was positively associated with in-person sexual victimization at different levels of affect/self-esteem regulatory sex motives. However, the association was stronger as those motives increased. It can be concluded that cyber victims are at the risk of in-person sexual victimization even when they use sex as an emotion/self-esteem regulatory strategy at the minimum level. Furthermore, higher levels of such motives might put cyber victims even at greater risk of in-person sexual victimization compared to lower levels. Therefore, cyber victims might decide to meet potential perpetrators in person due to urgent need to regulate negative emotions or boost self-esteem. Further research on victims being perpetrated by the same person in cyber and in-person contexts can test this assumption in future research.

Safety Measures

Higher affect regulatory sex motives were not significantly related to less effort to stay safe in online dating although the direction of association was negative. Since this is the first study conducted on this association, further research is needed to understand if those sex motives influence the extent to which people try to decrease the risk of sexual victimization in online dating. Future qualitative studies assessing protective strategies people use in online dating can result in designing a valid measure examining those strategies and, then their relationships with affect/self-esteem regulatory sex motives.

Strengths. This is the first study on the factors related to sexual victimization in online dating and it included both community and university student samples. Unlike most studies in the field of revictimization that had been conducted in the USA, the present study was conducted

in Europe. Another asset of the study was measuring the effect of self-esteem regulation as a sex motive while previous studies only measured affect regulatory motive of sex.

In our recruitment, we tried to artificially increase the proportion of participants with a history of childhood trauma in order to be able to establish the associations between trauma experiences and sex motives well. Our recruitment strategy was successful in this regard as indicated by a higher prevalence of childhood maltreatment in our sample (56.3%) than in the general population (35% in the Netherlands as reported by the the European Union Agency for Fundamental Rights (2014) for the combined prevalence of childhood physical, emotional and sexual abuse).

The overall revictimization rate in this study was 36.8%, the rate of sexual revictimization following sexual childhood abuse specifically was 23%. These rates are close to the 30% rate of sexual revictimization in a study by West and colleagues (2000), which examined a sample with documented history of child sexual abuse. However, the rate of sexual revictimization is lower in the present study compared to another study in the Netherlands with 50% rate of sexual revictimization in women (de Haas et al., 2012). The age range in their sample was larger (between 15 and 70 years old), which might have resulted in the higher rate.

Limitations. The sample of the study is limited to heterosexual women in early adulthood and the results are not generalizable to homosexual individuals, men or younger or older populations. In addition, the cross-sectional design of the study limits the interpretations about the causal relationship between the variables. For instance, it can be discussed that the affect/self-esteem regulatory sex motives are not only the precursor but also the results of sexual victimization in adulthood. The fact that we did not find a significant association between these motives and the use of protective strategies could be due to the fact that the latter were not assessed by a validated and comprehensive measure. Future studies should aim at developing such a measure and also assess to which extent users of dating apps have realistic risk estimates for the context of online dating.

We were not able to apply the same inclusion criteria in both subsamples, which could have led to a systematic effect on the composition of the group which scored above the cut-off for childhood trauma. However, we did not detect any significant differences regarding the duration of using the app, number of dates met in person, relationship status, or main motives for online dating, but we cannot rule out that there might be differences in sample composition on factors which we did not assess in the current study. A higher percentage of subjects with a history of childhood maltreatment reported sex on the first date than subjects below the cut-off for childhood maltreatment, but we cannot rule out that this was simply due to their slightly higher age (see Table S2 in the Supplementary section). However, as our main results are not based on a comparison of these subgroups, the difference in recruitment strategy should not have influenced our data very much. More importantly, we cannot ascertain that our sample is representative of the population as we do not have any data on subjects who were invited to participate (or saw the study description on the recruitment website) and declined due to the content of the study, which could have led to a recruitment bias. It is both conceivable that subjects with victimization experiences were particularly interested in the study as well as that they avoided exposure to this topic at a higher rate. Thus, a replication in a representative sample of app-users would be helpful.

General Conclusion. Heterosexual young women with a history of childhood maltreatment are at higher risk of sexual victimization in adulthood in the context of online dating. Using sex to reduce negative affect or to boost self-esteem is one of the factors linking childhood maltreatment to higher risk of revictimization. These sex motives play a moderating role in the relationship between cyber and in-person sexual victimization. Since this study was the first study exploring the factors related to sexual victimization in online dating, further investigation is needed. Future studies should aim at replicating these associations prospectively. If future studies show similar results, interventions addressing motives underlying online dating use, particularly for casual sex, might be able to decrease the risk of sexual victimization especially in individuals with a history of childhood maltreatment.

Chapter 4

Assessment of Affect/Self-Esteem Regulatory Sex Motives

Abstract

Objective. Risky sex behavior is common among online dating users. Understanding motives behind risky sex behavior might help identify suitable targets for prevention. **Method.** We developed the Self-regulatory Sex Motives Scale in Online Dating (SSOD) to assess sex motives for casual sex in online dating users. This study evaluated the psychometric properties of the SSOD and examined the relationship between sex motives indexed by the SSOD and risky sex behavior. **Results.** The new scale showed high internal consistency. Exploratory factor analysis suggested a one-factor solution. Sex motives were related to a higher frequency of having sex on the first date.

The rate of sexual victimization is high in community and university student populations. To illustrate, a longitudinal study with a community sample in the US showed that the rate of victimization over two years were 4% for sexual contact, and 9.4% for sexual coercion (Testa et al., 2007). The rates for attempted and completed rape were 1.2% and 3.3%, respectively. A cross-sectional study with a large sample recruited from 12 universities in the US reported a prevalence rate of 24.2% among female students (Jouriles et al., 2020).

One of the factors related to sexual victimization is risky sex behavior, any sexual encounter that increases the risk of sexual victimization (D'Abreu & Krahé, 2016). A study, employing ecological momentary assessment for 42 days, showed that risky sex behavior was a predictor of sexual victimization among college students (Yeater et al., 2020). In a longitudinal study with a six-month interval, greater expected engagement in risky sex behavior predicted sexual victimization in college students (Combs-Lane & Smith, 2002). Another study with a large sample of community and college student populations found that two risky sex behaviors i.e., exchanging sex for money and lower sexual assertiveness, were related to adulthood sexual victimization (Ullman & Vasquez, 2015).

Cooper and colleagues (1998) discuss that understanding motives behind risky sex behavior is important as they might be suitable targets for preventative intervention. To this end, they created a measure, the Motivations for Sexual Intercourse Scale (MSIS), to assess different sex motives including coping with negative emotions and self-affirmation i.e., confirming self-worth. These two motives overlap with self-regulation, defined as an ability to regulate different functions such as emotions and behavior (Raffaelli & Crockett, 2003). Self-regulation is an important factor related to risky sex behavior. For instance, a longitudinal study with a four-year interval (Raffaelli & Crockett, 2003) reported that low self-regulation in early adolescence predicted sexual risk taking in late adolescence. Another longitudinal study found that low self-regulation was associated with unprotected sex with non-exclusive dating partners in college students (Quinn & Fromme, 2010). Similarly, several studies provided evidence for subjects using sex as

a mean for self-regulation, for instance, to cope with negative emotions. This motive showed a positive association with the likelihood of engaging in sex with strangers (Miron & Orcutt, 2014). In addition, using sex for self-affirmation was related to risky sex behavior, sex with strangers, and impulsive sex (Layh et al., 2020). Together, the preliminary evidence points to the importance of self-regulatory sex motives in risky sex behavior. The relevance of these motives becomes even more prominent considering that engagement in risky sex behavior may in turn heighten the chance for sexual victimization (Miron & Orcutt, 2014). In line with this, self-regulatory sex motives have not only found to be related to risky sex, but also to adulthood sexual victimization (Miron & Orcutt, 2014; Myers et al., 2006).

Due to the advance of online dating applications, it might be relevant to study risky sex behavior and its link to sexual victimization in this specific context, too. Online dating is common in adults (31% in a British sample; Cabecinha et al., 2017), but already relevant in adolescence. In a study with a large sample from different countries, approximately 15% of adolescents and young adults reported use of online dating (Kaakinen et al., 2021). In terms of sexual risk taking among online dating users, Choi and colleagues (2016) reported that using online dating applications was related to casual and unprotected sex in a community sample. In another study (Beymer et al., 2014), the users of online dating applications were more likely to have two sexually transmitted diseases, gonorrhea and chlamydia, compared to people who used dating websites or met their sexual partners in person. Regarding sexual victimization, two studies reported that online dating use is associated with a two to three-fold increase in the risk of sexual victimization among students (Choi et al., 2016; Shapiro et al., 2017).

There is ample evidence that people with a history of childhood maltreatment are at heightened risk for sexual victimization in adulthood, a phenomenon called revictimization. Prior research suggests that childhood sexual abuse is associated with two to three-fold increase in the risk of sexual revictimization (Arata, 2002; Jankowski et al., 2002; Van Bruggen et al., 2006). A meta-analysis showed that approximately half of the people with a history of childhood sexual abuse experience sexual rev-

ictimization (Walker et al., 2017). Hence, childhood maltreatment might be a risk factor for adulthood sexual victimization in the context of online dating as well. Using sex to cope with negative emotions and to boost self-esteem is a risk factor linking childhood maltreatment to adulthood sexual victimization among online dating users (Fereidooni et al., 2022). This finding is consistent with the results reporting that childhood maltreatment was associated with depression, which in turn was related to adulthood sexual victimization through using sex to regulate negative emotions and expected sex with strangers (Miron & Orcutt, 2014).

Considering the popularity of online dating use, high rates of risky sex behavior and sexual victimization in online dating, the assessment of self-regulatory sex motives among online dating users is important as online dating provides higher chances to encounter potential perpetrators, potentially leading to sexual victimization. Nevertheless, no study, to our knowledge, has examined sex motives underlying risky sex behavior in online dating yet.

The MSIS can be a good candidate for such assessment as it has good psychometric properties (Jardin et al., 2017). However, it needs to be adapted for online dating: several items assess sex motives related to intimacy or connection with partners, while this does not apply to the context of online dating where people have sex with strangers. Furthermore, the items related to self-affirmation are mostly broad (e.g., using sex to feel better or enhance self-confidence) and do not specifically assess how sex helps people to regulate one's self-worth.

Based on these limitations, we opted to design a new scale to assess self-regulatory sex motives behind casual sex in online dating. We adopted five items corresponding to 'using sex to regulate negative emotions' motive from the MSIS and adjusted them for online dating. We also added six items to measure 'using sex for self-affirmation' motive. For the self-affirmation items, we specified how people might feel about themselves by sex with strangers. This was done by using positive adjectives related to sense of self, such as "cool", "brave" and, "adventurous". Thus, the first aim of the current study was to examine the psychometric properties and factor structure of this new measure, Self-regulatory Sex Motives Scale in Online Dating (SSOD). As a second

aim, we tested the hypothesis that higher scores on SSOD are positively correlated with risky sex behavior (i.e., frequency of having sex on the first date with a match).

Method

The present study was conducted on a database on risk factors of revictimization in online dating. The sample included university students recruited via research platforms and general population recruited by Qualtrics Company. First, the participants were informed about the content and potential risks of the study. After informed consent, they responded to the survey in exchange for monetary reward or research credits depending on the platforms they participated. At the end, the participants were debriefed about the aim and hypotheses of the study. The original study was approved by the ethics committee at the University of Groningen.

Participants

The current study is part of a larger project on mobile dating. The original sample consisted of 413 heterosexual women (n = 276 from community sample and *n* = 137 from university students) aged between 18 and 35 with mean age of 23.68 (*SD* = 3.62), who reported using mobile dating application at least one year prior to the study and met at least one match in person. The sample used in the current research consisted of 143 heterosexual women (*n* = 86 from the general population and *n* = 57 from university students) who all reported casual sex with their dating application matches. The inclusion criterion of "casual sex with matches" was critical for the purpose of this study as the aim was to assess sex motives behind casual sex with online dating matches, which can be considered as a risky sex behavior. In addition, we limited our sample to heterosexual women since sex motives for casual sex might differ based on sexual orientation and gender. For this first study, we therefore preferred a homogeneous sample of heterosexual women. The mean age of participants was 23.77 (*SD* = 4.26) in the present study. Screening the students based on their childhood maltreatment experiences on the university's research platforms was not allowed. To assure that people with a history of childhood maltreatment are well pre-

sented in our sample, we recruited an additional sample in general population with an additional eligibility criterion; an indication of a positive history of childhood maltreatment assessed by a Yes/No question.

Measures

Demographic Information and Information about Using Mobile Dating Applications

The participants reported their age, relationship status, nationality, main motive for using the dating applications, frequency of having sex on the first date with a match, duration of using the dating applications, and the number of matches met in person. Relationship status, nationality, and main motivation for using online dating were asked by multiple-choice questions. The remaining information, including the frequency of having sex on first dates (i.e., frequency of having sex on the first date across the matches), was collected by open-ended questions.

Self-Regulatory Sex Motives Scale

Eleven items were used to assess sex motives for casual sex in online dating. We adapted five items from the MSIS and adjusted them for online dating. The remaining items were custom made (see Table 1). For the custom-made items, we described how one feels when they use sex to regulate their self-affirmation with specific adjectives (e.g. brave, cool, and powerful). In addition, we added an item on engaging in sex to regulate self-affirmation despite being aware that it might be a risky behavior. The participants responded to the SSOD on a visual analogue scale (0 = 0% or never, 100 = 100% or in all cases). The means and standard deviations for the items and the whole scale are provided in Table 1.

Table 1.

Descriptive Statistics for the SSOD Items, Subscales, and Whole Scale

	Mean	SD	Min	Max
• I have casual sex with matches because I would like to be adventurous.	56.71	27.60	0	100
• I have casual sex with matches to cope with upset feelings	33.52	29.24	0	100
• I have casual sex with matches to help deal with disappointment.	33.58	32	0	100
• I have casual sex with matches because it helps me feel better when I am lonely.	48.31	29.57	0	100
• I have casual sex with matches because it helps me feel better when feeling low.	45.62	31.22	0	100
• I have casual sex with matches to cheer myself up.	45.90	30.20	0	100
• I have casual sex with matches because it makes me feel brave.	40.80	33.40	0	100
• I have casual sex with matches because it makes me feel powerful.	45.45	32.40	0	100
• I have casual sex with matches because it makes me feel in control of myself.	46.40	31	0	100
• I have casual sex with matches because it makes me feel cool.	36.75	32.26	0	100
• In the past, I have decided to engage in a sexual encounter with a match although I was acutely aware that it might be risky because I thought that it would make me feel adventurous or cool or brave.	40.37	31.17	0	100
Total score	473.38	248.26	3	1100

Childhood Maltreatment

Childhood maltreatment was assessed by Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein et al., 2003), that measures five forms of childhood maltreatment i.e., physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect. The participants reported these experiences before the age of 15 on a likert-scale (1 = never true to 5 = very often true). The prevalence of childhood maltreatment was calculated by cut-offs (sexual abuse ≥ 8, physical abuse ≥ 8, physical neglect ≥ 8, emotional neglect ≥ 15, and emotional abuse ≥ 10) recommended by Walker et al. (1999). Previous studies report proper validity and reliability of the CTQ-SF (Bernstein et al., 2003; Gerdner & Allgulander, 2009; Thombs et al., 2009). The internal consistency of the scale in the present sample was excellent α = .95.

Sexual Victimization in Online Dating

Sexual victimization in the context of online dating was measured by two items for cyber victimization (e.g., "My match sent me unwanted sexual texts although I had clearly told him I did not like that.") and eight items for in-person sexual victimization (e.g., "My match kissed me although I had clearly told him I did not like that."). The frequency of sexual victimization for each incident was reported on a visual analogue scale (0 = 0% or never, 100 = 100% or in all cases). The internal consistency of this scale was α = 90. Endorsement of at least one incident on any item was considered as sexual victimization.

Data Analysis

First, the assumptions of EFA were checked. The relationships between the items were linear and most of the inter-item relationships were sufficiently high ($r > .30$). The normality distribution assumption was not problematic such that the skewness and kurtosis values were in a proper range for all items, skewness ≤ 2.0 and kurtosis ≤ 7.0 as suggested by Watkins (2018) and no outliers were detected. The adequacy of the data for factor analysis was investigated by Bartlett's test of sphericity and Kaiser-Meyer-Olkin measure (KMO). The Bartlett's test of sphericity was significant ($X2$ (55) = 930.60, $p < .001$). The measure of

sampling adequacy (MSA) values for the set of items (*MSA* = .88) and for each item (ranging between .82 and .96) were higher than cut-off of .50. Therefore, the data was appropriate for EFA. To examine inter-item correlations, we used Pearson correlation and internal consistency was assessed by Cronbach's alpha. The analyses were conducted in R software environment, version 4.1.0. The significance threshold of $p < .05$ (two-sided) was used.

To test whether the sex motives are related to the frequency of having sex on the first date, we planned to conduct Pearson correlation. Assumption check showed that this variable had outliers. Therefore, we decided to run Kendal tau correlation analysis for this variable.

Results

Descriptive Statistics

In total, 72.02% (*n* = 103) were single, 20.27% (*n* = 29) in an open relationship, 2.8% (*n* = 4) in a relationship while their partners were not informed that they were using dating applications, and 4.90% (*n* = 7) did not report their relationship status. The majority of participants were from the Netherlands (79.72%, *n* = 114), 11.19% (*n*= 16) were German and the rest (9.09%, n = 13) was from various nationalities. The participants' main motivation for using the applications were finding a serious relationship (51.75%, *n* = 74), casual sex (30.80%, *n* = 44), and meeting new people or making friends (21%, *n* = 15%). The rest (2.8%, *n* = 4) did not report their main motivation. The participants reported that they had met on average 6.07 (*SD* = 7.43) matches in person. The average duration of the dating applications use in months was 11.92 (*SD* = 11.76). The average frequency of sex on the first date with matches was 2.19 (*SD* = 2.62) with the mode being 1.0.

In whole sample, 72.02% (*n* = 103) reported at least one type of childhood maltreatment. In addition, 74.12% (*n* = 106) reported cyber victimization and 83.22% (*n* = 119) reported in-person sexual victimization. The prevalence of general revictimization, childhood maltreatment accompanied by the indication of either cyber or in-person sexual victimization, was 62.24% (*n* = 89) in the whole sample.

Regarding the subsamples, 86% (*n* = 74) in the general population and 50.9% (*n* = 29) in student sample indicated at least one type of childhood maltreatment. The rate of cyber sexual victimization was reported by 80.2% (*n* = 69) and 64.9% (*n* = 37) in the general population and students, respectively. This rate was 87.2% (*n* = 75) in the general population and 77.2% (*n* = 44) for in-person victimization. The rate of general revictimization in the community sample and university students were 75.6% (*n* = 65) and 42.1% (*n* = 24), respectively. Table 2 provides information on the prevalence of each form of childhood maltreatment, sexual victimization and revictimization in the student sample and general population.

Table 2.

The Prevalence of Childhood Maltreatment, Adulthood Sexual Victimization and Revictimization in Whole Sample and Subgroups

Sample			
	Whole sample *n* (%)	**General *n* (%)**	**Student *n* (%)**
Childhood maltreatment			
Emotional abuse	90 (62.94)	68 (81)	22(38.6)
Physical abuse	74 (51.75)	65 (79.3)	9 (15.8)
Sexual abuse	67 (46.85)	63 (77.8)	4 (7)
Physical neglect	85 (59.44)	69 (83.1)	16 (29.1)
Emotional neglect	40 (27.97)	33 (40.7)	7 (12.5)
At least one type of childhood maltreatment	103 (72.02)	74 (86)	29 (50.9)
Sexual victimization			
Cyber	106 (74.12)	69 (80.2)	37 (64.9)
In-person	119 (83.22)	75 (87.2)	44 (77.2)
General	122 (85.31)	76 (88.4)	46 (80.7)

Revictimization			
Childhood and cyber victimization	79 (55.24)	59 (68.6)	20 (35.1)
Childhood and in-person victimization	88 (61.54)	64 (74.4)	24 (42.1)
General	89 (62.24)	65 (75.6)	24 (42.1)

Inter-item Correlations and Internal Consistency

The correlations between the items of the SSOD are provided in Table 3. The inter-item correlations ranged from $r = .23$ to $r = .74$. The majority of inter-item correlations were higher than .30. However, Item 1 and Item 2 showed inter-item correlations below .30. We did not exclude these items for further analysis solely based on their inter-item correlations. Exclusion of the items did not improve the internal consistency (see Table 3), which also shows good consistency among the items. Therefore, we did not remove any item in spite of the low inter-item correlations mentioned above considering that higher number of items decreases measurement error and potentially enhances criterion validity (Sarstedt & Wilczynski, 2009). The internal consistency for the SSOD was high ($\alpha = .91$, 95% CI [.89, .93]).

Exploratory Factor Analysis

First, parallel analysis was conducted to determine the number of factors to be retained in EFA. Both the screen plot and the eigenvalues (Table 4) suggested a one-factor solution. The results of the factor analysis showed that the factor loadings for all items were high ranging from .54 to .78.

Correlation Analysis

The results showed a small-sized positive relationship between the SSOD scores and the frequency of having sex on the first date ($r = .16$, $p = .01$, 95% CI [.04 , .27]).

Discussion

This study examined the psychometric properties of a newly developed scale for assessing self-regulatory motives for having casual sex within the context of online dating. The findings of the study supported the reliability of the SSOD, indexed by a high internal consistency. The results of the factor analysis suggested one-factor solution for the measure, indicating that the items for emotion and self-affirmation regulatory motives were best represented by a single factor. In line with this finding, an exploratory correlational analysis showed a strong association between the sum scores of the items for regulating negative emotions and the items for enhancing self-affirmation ($r = .65$, $p < .001$). The one-factor solution found in the current study is different than Cooper et al. (1998) findings. In their study, two separate factors in confirmatory factor analysis emerged for items related to coping with negative emotions and regulating self-affirmation.

Table 3.

Inter-item Correlation and Internal Consistency If An Item Deleted

	1	2	3	4	5	6	7	8	9	10	11	α if item deleted
• I have casual sex with matches because I would like to be adventurous.	-	-	-	-	-	-	-	-	-	-	-	.91
• I have casual sex with matches to cope with upset feelings	.23**	-	-	-	-	-	-	-	-	-	-	.91
• I have casual sex with matches to help deal with disappointment.	.33**	.74**	-	-	-	-	-	-	-	-	-	.90
• I have casual sex with matches because it helps me feel better when I am lonely.	.27**	.47**	.48**	-	-	-	-	-	-	-	-	.91
• I have casual sex with matches because it helps me feel better when feeling low.	.36**	.49**	.61**	.68**	-	-	-	-	-	-	-	.90
• I have casual sex with matches to cheer myself up.	.35**	.49**	.51**	.57**	.67**	-	-	-	-	-	-	.90

• I have casual sex with matches because it makes me feel brave.	.49**	.38**	.53**	.42**	.50**	.47**	-	-	-	-	-	.90
• I have casual sex with matches because it makes me feel powerful.	.45**	.27**	.36**	.44**	.55**	.56**	.69**	-	-	-	-	.90
• I have casual sex with matches because it makes me feel in control of myself.	.40**	.23**	.37**	.34**	.45**	.37**	.58**	.70**	-	-	-	.91
• I have casual sex with matches because it makes me feel cool.	.44**	.31**	.44**	.39**	.56**	.53**	.67**	.69**	.54**	-	-	.90
• In the past, I have decided to engage in a sexual encounter with a match although I was acutely aware that it might be risky because I thought that it would make me feel adventurous or cool or brave.	.42**	.46**	.61**	.49**	.50**	.44**	.61**	.51**	.48**	.62**	-	.90

** $p < .01$

Table 4.

Eigenvalues in Parallel Analysis and Factor Loadings in EFA

	Eigenvalues in parallel Analysis	Factor loadings in EFA
Item 1	5.38	.54
Item 2	.80	.56
Item 3	.30	.69
Item 4	.02	.64
Item 5	-0.01	.76
Item 6	-.03	.71
Item 7	-.09	.78
Item 8	-.12	.78
Item 9	-.24	.66
Item 10	-.24	.78
Item 11	.39	.74

However, the correlation coefficient between the two factors was similar to the one in the present study. The inconsistent findings might be due to difference in the samples in these two studies; overrepresentation of people with a history of childhood maltreatment in our study. Moreover, the motives for casual sex in online dating might differ from motives in other contexts.

We also found that higher levels of the self-regulatory sex motives were associated with a higher frequency of having sex on the first date

across the matches. This finding is in line with Miron and Orcutt (2014) results that showed a relationship between emotion regulation sex motive and higher likelihood of sex with strangers in a path analysis model. The association in the present study was weak. The frequency of having sex on the first date was low (between 0 and 1) in the majority of the sample (n = 61, 80.70%); the limited variance in this variable might also explain the relatively weak association between the frequency of having sex on the first date and the presence of sex motives. Both sex motives and risky sex behavior were examined cross-sectionally in this study. Therefore, it is important to understand how the sex motives in the SSOD would predict risky sex behavior in future prospective studies especially since sexual risk taking is a risk factor for revictimization (Krahé & Berger, 2017; Testa at al., 2010).

The results of the study should be interpreted with caution as we oversampled people with childhood maltreatment. This might have influenced the factor structure of the SSOD in the current sample. In addition, high prevalence of childhood maltreatment could result in less variation in sex motives and risky sex behavior which in turn might contribute to an underestimation of the relationship between sex motives and risky sex behavior (as reflected in a high frequency of having sex on the first date).

Limitations of the Study

The current study has some important limitations that need to be considered when interpreting the current findings. The psychometric assessment of the SSOD was limited to evaluating its factor structure and its internal consistency. To further our knowledge about the validity and reliability of the SSOD, research is needed on the convergent validity and test-retest reliability of the scale. Although the sample size of the study was adequate for factor analysis (de Winter et al., 2009), the sample was a combined sample consisting of individuals from the general population and university students. The factor structure and factor loadings might be different for these two populations. Invariance measurement can help us understand potential differences between these populations. However, due to limited sample size in each group,

measurement invariance could not be reliably assessed in the current study. Moreover, it should be acknowledged that implementing the inclusion criterion of "positive history of childhood maltreatment" in the community sample, but not in the student sample which might further hamper a meaningful comparison of both samples in our study. Future studies with similar inclusion criterion for both samples can resolve the issue. In addition, the sample of this study was limited to heterosexual women in their young adulthood and the results might not be generalizable to other populations. Examining the factor structure and psychometric properties of the SSOD in other populations can provide information about the relevance of this measure in different age, gender and sexual orientation groups.

Strengths of the Study

The current study has several strengths. To our knowledge, this is the first study examining the psychometric properties of a scale assessing motives for casual sex among online dating users. These motives might help us to understand why people engage in risky sex behavior in the context of online dating. Another strength of the study was assessing sex motives in a sample in which the majority of participants reported high severity of childhood maltreatment. Assessing psychometric properties and factor structure of the SSOD in such a sample is informative because risky sex behavior is prevalent among people with a history of childhood maltreatment (Wilson & Widom, 2008). Furthermore, inclusion of the items explaining how people might specifically feel about themselves using casual sex might give more precise information about self-regulatory sex motives, as the items provide specific positive adjectives for self-worth. This adjustment of the scale is an improvement compared to the original MSIS, in which the items provided a general and broad explanation of increasing self-esteem using sex. In addition, the new scale is shorter compared to the MSIS and, importantly, includes sex motives that are more relevant to the context of online dating.

General Conclusion

In sum, the findings of the study provide support for the internal consistency of the SSOD and suggest a one-factor solution for this measure. In addition, the findings provided preliminary support for the hypothesis that self-regulatory sex motives are associated with risky sex behaviors among online dating users. Together, the findings support the relevance of this brief 11-item scale as a measure of self-regulatory motives for having casual sex among online dating users. Future studies can further our knowledge about the validity and test-retest reliability of the scale as well as its factor structure in populations other than heterosexual women in their young adulthood.

Chapter 5

Victim Selection Based on Non-Verbal Cues

Abstract

Objective. Past sexual victimization has been found to be a risk factor for further victimization. This increased risk may be explained by non-verbal cues being interpreted as signs of vulnerability. This study investigated the perceived relevance of non-verbal cues as signals of past and future vulnerability to sexual victimization. In addition, we examined the associations between psychopathy, perceived vulnerability, and attention to non-verbal cues. **Method**. Heterosexual young adult males (N = 95) filled in the Levenson Self-Report Psychopathy Scale and watched five muted short video clips displaying women speaking about previous sexual victimization. Participants rated the likelihood of past and future vulnerability to sexual victimization, and provided written justification for their ratings. **Results.** Various cues, such as emotional facial expression, eye contact, and body posture, were reported in the justifications. Psychopathy was positively associated with higher past, but not with higher future vulnerability estimations, which might be due to reliance on different cues for these two estimations. The type and pattern of justifications were independent of the raters' level of psychopathy. There was a positive association between estimated past and future vulnerability, indicating that women perceived as having been victimized in the past were also judged as being more vulnerable to victimization in the future. **Discussion.** The findings point to cues signaling vulnerability, particularly the ones associated with (low) confidence, (non)assertiveness, and (low) self-defense as promising foci of prevention programs.

Previous studies showed that childhood/adolescence sexual abuse (CASA) is a risk factor for future sexual victimization (Livingston et al., 2007; Smith et al., 2003; Walker et al., 2017). The increased risk may be related to certain cues that promote being selected by perpetrators as a potential victim. A qualitative study assessing predatory rape techniques among inmates found that the inmates selected women with younger age, wearing heals, perceived as less defensive, and those who are sexually attractive to them (Stevens, 1994).

Body language cues may be used by perpetrators when selecting a potential victim since these cues may signal vulnerability to victimization. To illustrate, Parks and colleagues (2008) observed differences between women with and without a history of CASA in terms of body language cues in interaction with men, while drinking and while being intoxicated. While drinking, women with CASA showed less head movement and animation compared to women without such a history. While intoxicated, women with CASA frowned, covered their faces, and leaned forward more, in comparison to women without prior victimization. Although it is unlikely that potential perpetrators are explicitly aware of these subtle cues, they could still be influencing their choice in victims. Two studies found that women with short strides relative to height, slow walking speed, and lateral weight shifts were rated as easier targets for mugging or rape (Gunns et al., 2002; Sakaguchi & Hasegawa, 2006). Relatedly, perpetrators explicitly indicated that they use gait cues to estimate vulnerability to victimization (Book et al., 2013; Ritchie et al., 2019; Wheeler et al., 2009).

Although evidence on victim selection based on body language cues is still limited, it is assumed that they might communicate personality traits which in turn might be associated with increased risk of victimization (Book et al., 2013). In line with this hypothesis, a study showed that gesturing with hands and feet was associated with high scores on submissiveness, while gesturing with arms and leg swings was associated with high scores on dominance in women. The same study also indicated that men are more likely to select submissive women for sexual exploitation (Richards et al., 1991).

The findings above provide preliminary evidence that some body

language cues, such as hand movements and gait cues, might be used by perpetrators to select potential victims in addition to factors such as age and attractiveness. However, evidence is still scarce. Although it is important to include known potential cues such as gait, head or hand movement, and animation in future research, a bottom-up approach may provide a more comprehensive understanding of non-verbal cues perceived as indication of vulnerability to sexual victimization by perpetrators.

Some perpetrators may be more adept at using cues signaling vulnerability to sexual victimization. Perpetrators with psychopathy, being more instrumental in interpersonal relations (Hare & Neumann, 2005), may be especially attuned to body language and other non-verbal cues. To illustrate, Book and colleagues (2013) found in inmates that psychopathy was positively related to accurate victim identification. Their participants used a multitude of cues, namely fitness, body type, body posture, and clothing, but psychopathy, in particular Factor 1 characterized by glibness and lack of guilt/remorse (Miller et al., 2008), was related to the successful use of gait cues. Evidence consistently supports a positive association between psychopathy and superior victim identification (Book et al., 2013; Ritchie et al., 2018; Wheeler et al., 2009), although the findings on the underlying Factors 1 and 2 are inconsistent (Ritchie et al., 2019). For instance, Wheeler and colleagues (2009) found an association between psychopathy, Factor 1 in particular, and accurate estimation of past victimization to being robbed. Other studies employing a broader definition of victimization, including sexual abuse, found that psychopathy Factor 2, characterized by impulsivity and antisocial behavior (Harpur et al., 1989), was associated with more accurate victim identification (Ritchie et al., 2019; Ritchie et al., 2018). Conversely, Roney and colleagues (2018) found that psychopathy Factor 2 was related to less accurate victim identification. Regardless of the role of the two underlying factors, psychopathy in general does appear to be associated with superior victim identification. In order to know what cues are most important when assessing vulnerability to sexual victimization, it would be helpful to know to which cues individuals with (traits of) psychopathy pay attention. In addition, due to

inconsistent findings on the roles of underlying psychopathy factors in gauging vulnerability, further evidence is needed to understand the associations between these factors and estimations of vulnerability.

When assessing sexual victimization, it is important to differentiate between past victimization and potential future vulnerability to victimization. Even though past victimization has been found to be a risk factor for future victimization (Jankowski et al., 2002; Van Bruggen et al., 2006; Walker et al., 2017; Walker et al., 2022), it is unknown whether this finding transfers to perceived vulnerability, and if so, whether it is based on the same cues. To date, studies on victim selection have focused mostly on past victimization and occasionally perceived vulnerability to future victimization, but not both conjointly. Given that, it is unclear to what extent these estimates overlap and on which cues they are each based, research differentiating between past and predicted victimization is needed.

Based on the findings summarized above, the aims of the current study were to assess: i. which body language cues men use to estimate past sexual victimization and vulnerability to future victimization in women; ii. if there is an association between psychopathy (factors) and perceived past sexual victimization and perceived future victimization; iii. whether psychopathy and its underlying factors are positively associated with specific cues used for estimations of past and future victimization; and iv. whether perceived history of sexual victimization is positively associated with estimated vulnerability to future sexual victimization. To this end, we used five (muted) videos of women speaking about their experiences with sexual abuse and asked male raters to estimate the likelihood that the women in the videos had been sexually abused, would be sexually abused in the future, and their justifications for their estimates. For the first aim, a qualitative approach was used. Regarding the second aim, we expected a positive association between psychopathy and both the estimated probability of past and future sexual victimization since psychopathy is consistently shown to be related to more accurate victim identification in previous studies (Book et al., 2013; Ritchie et al., 2018; Wheeler et al., 2009). We did not have a priori hypothesis regarding the underlying factors of psychopathy due

to inconsistencies in the literature. For the third aim, we hypothesized that psychopathy and its underlying factors would positively relate to attention to non-verbal cues, for judging women's past and future victimization. For the last research question, we hypothesized a positive correlation between perceived likelihood of previous sexual victimization and future sexual victimization given that established evidence shows that a positive history of victimization is an important risk factor for further victimization (Livingston et al., 2007; Smith et al., 2003; Walker et al., 2017).

Method

Participants

Participants (N = 95) were heterosexual male students at the University of Groningen, who participated in the study in exchange for research credits or monetary reward. Approximately, half of the sample (n = 47) were aged between 20 and 24, 30.5% (n = 29) between 18 and 20, 16.80% (n = 16) between 24 and 28, 2.10 (n = 2) between 28 and 30, and 1.10% (n = 1) above 30. Of the whole sample, 63.20% (n = 60) were single, 33.70% (n = 32) were in an exclusive relationship, and 3.2% (n = 3) were in an open relationship. The majority of the sample (91.6%, n = 87) reported at least having one sexual partner in their lifetime, and 8.4% (n = 8) reported they never had a sexual partner. The average number of lifetime sexual partners was 6.43 (SD = 7.11, Range = 1 - 38).

Measures and Materials

Demographics

The participants reported their age and relationship status by multiple-choice questions. For the number of lifetime sexual partners, the participant could report this information by inserting the corresponding number or they could choose the option 'I have not had any sexual partner yet'.

Video Stimuli

Five short clips from videos of young women talking about their sexual victimization in the past were selected from YouTube, in accordance with YouTube's fair use guidelines for non-commercial and educational pur-

poses. No control videos of women speaking about other topics were used since it is unknown whether these women were abused or not. The women in the YouTube videos were all estimated to be in their early 20's and filmed in a seated position. In all videos, the upper body and faces were shown, except for one video, which also included the lower part of the body down to the knees. All videos lasted between 99 to 103 seconds and were displayed muted to the participants to eliminate the influence of voice and content. After displaying each video, participants rated the likelihood that the woman in the video had a history of sexual abuse on a visual analogue scale (History, 0 = not likely at all to 7 = very likely), followed by two open-ended questions assessing justifications for their ratings. The first follow-up question asked what observations influenced their estimations and the second specifically asked if any observed non-verbal body language cues influenced their estimations. As a next step, they were instructed to imagine themselves as a hypothetical serial rapist and rate to what extent they would consider each of the women in the videos as an easy target (Target, 0 = not likely at all to 7 = very likely), followed by the same two open-ended questions regarding their justifications. The descriptive information of the ratings for History and Target is presented in Table 1.

Table 1.

Descriptive Statistics for History and Target Estimations

	Mean (SD)	Min	Max	Range
History	3.64 (1.06)	.60	5.80	5.20
Target	3.40 (.83)	.20	5.00	4.80

Psychopathy

The Levenson Self-Report Psychopathy Scale (LSRP) was used to measure psychopathy (Levenson at al., 1995). The LSRP consists of 26 items scored on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) and has two underlying factors. Factor 1 (16 items) includes interpersonal and affective characteristics of psychopathy and Factor 2 (10

items) includes social deviance traits and behaviors. An example item for Factor 1 is 'I often admire a really clever scam', and for Factor 2 'I am often bored'. The measure has shown good psychometric properties in previous research (Hauck-Filho & Teixeira, 2014; Miller at al., 2008; Sellbom, 2011). In the current study, the internal consistency (Cronbach's alpha) of the whole scale was α = .82, and α = .85 and α = .65 for Factors 1 and 2, respectively. Higher sum scores reflect higher levels of psychopathy.

Attention to Body Language Cues

To measure to what extent the participants attend to a specific non-verbal cue to estimate women's vulnerability in the past or future, we counted the number of times each cue, derived from thematic and inductive analyses (see Qualitative Data Analysis section), was mentioned in the justifications for the vulnerability estimations.

Procedure

After receiving information about the study and their rights as participants, the participants signed informed consent forms and completed questionnaires on demographics and psychopathy in a lab at the university. After completing the questionnaires, each participant completed the video task. The study was approved by the ethics committee at the University of Groningen.

Data Analysis

Qualitative Data Analysis

For qualitative analyses on the nature of the cues used (research question 1), cues provided in the justifications for likelihood of positive history (LPH) and negative history (LNH) as well as higher and lower vulnerability for future sexual victimization were identified and coded via thematic analysis (Maguire & Delahunt, 2017) using Atlas.ti 8.3.20. The analysis was a combination of theoretical thematic and inductive analyses. Based on the theoretical analysis, we searched for themes based on our research questions about body language cues. For the inductive analysis, we searched for themes other than body language cues, such as personality traits or physical attractiveness that were reported by

the participants, but were not explicitly reflecting body language cues.

Based on the reported justifications, two sets of codes containing cues used for estimates were created by one of the authors and reviewed by another author, after which the codebook was finalized. In total, 11 codes were created for History and 12 for Target. Then, these codes were used to analyze the data in Atlas.ti. The codes were modified in the coding process (i.e., open-coding procedure), which allows changes agreed on by the two coders. The two coders independently coded the responses for the first 15 cases. Afterward, the codes assigned to the 15 cases were compared and the coders reached a consensus about the discrepancies in the codes. Then, the two coders independently coded the remaining responses. Again, the discrepancies were discussed and consensus reached for these responses. Finally, the codes of the two coders were merged in Atlas.ti.

Quantitative Data Analysis

To test the second to the last hypotheses, Pearson correlations were planned, based on cues provided in justifications across the five videos. For the second hypothesis, the assumptions of linearity was met. However, the frequency in which cues were used was not normally distributed, violating the assumption of normality. The frequency variables also had outliers, which were not removed as the outliers were unlikely to be errors and the sample size was relatively small. In addition, the dependent variables (the frequency of each cue category used) were definite count variable ranging from 0 to 6 and more similar to ordinal data. Therefore, Kendall's Tau B analysis (with 1000 bootstrap samples and 95% confidence intervals; *CIs) was used.*

For the third and fourth hypotheses, the assumption of linearity was met. However, the assumption of normality was not met for some of the History and Target estimations. Furthermore, most variables showed outliers. Similar to the second hypothesis, Kendall correlation, as a non-parametric analysis for these hypotheses was conducted (95% CI using 1000 bootstrap samples).

Considering the exploratory nature of the study, we first ran the analyses based on p-value of < .05 (two-tailed) to find potential sig-

nificant associations. However, to decrease the inflated Type-I error, Holm-Bonferroni corrections were applied to the analyses in a second step. All the quantitative analyses were conducted in SPSS [25].

Results

Qualitative Results

The cue categories and their corresponding quotes for History and Target questions are presented in Table S1 in the supplementary section and discussed below. The superscripted numbers in each cue category section below show the numbers corresponding to the quotes presented in Table S1.

Across videos, the total number of cues used to estimate History was on average 9.00 (SD = 3.86) and the total number of cues used to estimate Target was on average 8.08 (SD = 4.10). In total, the participants used on average 4.98 (SD = 1.94, Range = 0-10) different cue categories in their justifications for History and 4.95 (SD = 1.99, Range = 0-10) for Target. Descriptive information for each cue category is presented in Table 2.

Table 2.

Descriptive Statistics for History and Target Cues

	n (%)	Mean (*SD*)	Min	Max
Cues used to estimate History				
Animation	22 (23.20)	.35 (.72)	0	4
Body posture	51 (53.70)	.70 (.74)	0	3
Clothing	41 (43.20)	.60 (.82)	0	3
Distance from camera	7 (7.40)	.07 (.26)	0	1
Eye contact	69 (72.60)	1.50 (1.25)	0	5
Emotional facial expression	86 (90.50)	2.35 (1.40)	0	5

Hand movement	43 (45.30)	.77 (1.00)	0	3
Movement with eyes	8 (8.40)	.08 (.30)	0	1
Sighing	16 (16.80)	.21 (.52)	0	3
Speech characteristics	27 (28.40)	.34 (.58)	0	2
Touching hair	30 (31.60)	.40 (.70)	0	4
Personality traits	73 (76.80)	1.63 (1.35)	0	5
Cues used to estimate Target				
Age	6 (6.30)	.08(.40)	0	3
Animation	14 (14.70)	.26(.77)	0	5
Eye contact	37 (38.90)	.55(.83)	0	4
Emotional facial expression	41 (43.20)	.82(1.17)	0	4
Feminine behavior	27 (28.40)	.29(.48)	0	2
Hand movement	18 (18.90)	.30 (.71)	0	3
Physical attraction	36 (37.90)	.58 (.91)	0	4
Physical characteristics	61 (64.20)	1.21(1.23)	0	4
Speech characteristics	6 (6.30)	.06 (.24)	0	1
Touching hair	18 (18.90)	.19 (.39)	0	1
Resistance	51 (53.70)	1.20 (1.40)	0	5
Personality traits	82 (86.30)	2.53 (1.64)	0	6

Note. This table provides descriptive information about the number of cues in History and Target estimations.

History of Sexual Abuse

Facial Expressions. The majority of participants (*n* = 86) justified their ratings based on women's emotional facial expressions, including crying, tearing in eyes, and smiling. Emotions perceived as positive (e.g., happiness) or lack of negative emotions (e.g., sadness, anger, and anxiety) were considered indicative of LNH[1], while the presence of negative emotions were considered as a sign of LPH[2]. Positive facial expressions that were perceived as fake, such as a fake smile, were also considered as signs of LPH.

Eyes and Eyebrows. Many participants (*n* = 69) included eye contact or gaze direction in their justifications. Looking straight into the camera was considered an indicator of LNH, whereas looking up, down, or to the sides were considered as indicating LPH[3]. A few participants (*n* = 8) mentioned raised eyebrows in their justifications, interpreted as either a sign of LPH[4] (associated with instability or sadness), or as a sign of a LNH (associated with confidence).

Body Position and Movement

Body Posture. Approximately half of the participants (*n* = 51) referred to body posture in their responses. They reported "open body" and "closed body" postures as indications of LNH and LPH[5], respectively. Participants specifically indicated crossed legs/arms, raised shoulders, and arms crossed over the chest as LPH.

Hand/Arm Movement & Hand Position. Close to half of the participants (n = 43) reported hand movements and/or position in their responses. The justifications in this category referred to the frequency of hand movements, position of the hands, and quality of hand movements. Frequent hand movements were considered an indication of both LPH and LNH. The low frequency of hand movements was consistently considered as LPH[6]. Regarding the position of the hands, putting hands on the lips or in front of the mouth, clasping hands together or behind one's back were interpreted as indicating LPH. The same was true for abrupt and shaking hand movements.

Touching Hair. Approximately one-third of the participants (*n* =

30) reported this cue in their responses. The interpretations were inconsistent. Touching or playing with hair was considered as indicating either LPH[7] or LNH.

Animation. Animation, defined as the level of movements, was shown in some participants' justifications (*n* = 22). Low animation was considered as indicating LPH[8] and high level as indicating LNH. However, inverse interpretations were reported too i.e., high animation as LPH and low animation as LNH.

Distance from Camera. A few participants (*n* = 7) indicated that being close to the camera shows LNH[9].

Paralanguage

Non-Auditory Speech Characteristics (Speech Rate and Speech Pauses). Non-auditory speech characteristic cues were reported by approximately one fourth of participants (*n* = 27). Pauses in speech were consistently considered a sign of LPH[10]. Regarding the speed of talking, slow speech was consistently interpreted as LPH[11], while fast speech was interpreted as both LPH and LNH.

Sighing/Swallowing. Few participants (*n* = 16) consistently assumed that sighing or swallowing while talking is a sign that the women were talking about a sad topic, which might be their sexual victimization experiences[12].

Clothing, Tattoos, Piercings, and Make-up. Many participants (*n* = 41) indicated clothing cues in their justifications. Piercing and hair coloring were consistently considered as LPH[13]. Tattoos were considered an indication of LPH, with the exception of one participant who rated them as indicating LNH. Wearing heavy make-up was considered as LPH and interpreted as insecurity and an effort to hide real self/emotions. However, it was also assumed it is in contrast with (negative) emotions associated with previous sexual abuse and might show LNH. Plain clothes or clothes covering most of the body were assumed to be a sign of LPH[14].

Personality Traits. Many participants (*n* = 73) referred to personality traits in their justifications. Personality traits associated with LNH were confidence, emotional/mental stability, and assertiveness/inde-

pendence[15]. Lack of these traits and shyness were considered as LPH.

Target for Future Victimization

Physical Appearance

Physical Characteristics. Many participants (n = 61) estimated women's vulnerability based on their estimated physical strength and weight. It was assumed that higher weight is associated with less vulnerability as an over-weight person was thought to be harder to control[16]. However, it was also hypothesized that higher weight decreases the ability for resistance or might be associated with low self-esteem, which in turn can increase vulnerability. High physical strength was thought to be associated with greater likelihood of self-defense.

Physical Attractiveness. Approximately, one-third of the participants (n = 36) rated women's vulnerability based on their perceived physical attractiveness, higher attractiveness associated with higher vulnerability.

Facial Expression. In total, 41 participants based potential vulnerability to future victimization on women's facial expression. Negative emotional expressions, such as sadness and anxiety, were assumed as indications of vulnerability[17]. However, an opposite interpretation about negative emotions was also reported. It was suggested that people experiencing negative emotions would not trust other people and that would decrease the risk of victimization in the future. One participant assumed that aggression is a sign of low vulnerability.

Eye Contact, Movement and Position. In total, 37 participants justified their estimations based on cues related to eyes. Less eye contact or looking away from the camera was considered as insecurity or shyness[18] and consequent high vulnerability. Maintaining eye contact was interpreted as confidence and sexual assertiveness; therefore low vulnerability.

Feminine Behavior and Make-up. Approximately, one-third of the participants (n = 27) justified women's vulnerability based on what they considered feminine behavior and appearance (e.g., 'really girly') or make-up. Overly feminine behavior/appearance was considered as a

sign for potential vulnerability. One participant considered excessive feminine behavior as a sign of sexual insecurity. Heavy make-up was thought to signal insecurity, low self-esteem, and attention seeking, leading to increased vulnerability[19].

Body Movement

Hand/Arm Movement. Some participants (*n* = 18) based their justifications on hand movements. Frequent hand movements were interpreted in three different ways: indicative of flirting or invitation for sexual advances, which might increase the likelihood of rape, or a sign of confidence or fighting back in case of rape[20], which might decrease the chance of being chosen as a target, or indicative of shyness or anxiety, which might increase vulnerability to rape.

Touching Hair. Some participants (*n* = 18) used this cue in their responses. The participants interpreted personality traits ranging from confidence[21] to insecurity based on this cue, which were assumed to decrease or increase vulnerability to rape, respectively.

Animation. A few participants (*n* = 14) mentioned level of movement in their justifications. It was indicated that greater animation shows that the person might actively defend themselves[22], while less animation was interpreted as passivity, making the woman an "easy target". In contrast, greater animation was sometimes interpreted as a sign of shyness or anxiety, which might increase vulnerability.

Speech Characteristics (Speech Rate & Speech Pauses). Six participants mentioned speech rate or pauses in their responses. The participants interpreted a large amount of speech and fast speech as signs of assertiveness[23] and ability to resist. Pauses in speech were interpreted as indication of weakness, increasing risk.

Personality Traits. Many participants (*n* = 82) justified their ratings on perceived personality traits. The personality traits associated with vulnerability to rape were mostly insecurity and low confidence[25]. The participants also perceived passivity and submissiveness as vulnerable. Introversion and extroversion traits were both interpreted as vulnerable to future victimization.

Resistance/Help Seeking. Approximately, half of the participants (n = 51) gauged vulnerability based on estimated resistance by the women. If the participants expected any self-defense, fight, (verbal or physical) resistance, and help-seeking behavior during potential rape (e.g., screaming) or after (e.g., reporting to the police/others), they considered them as less vulnerable to victimization[24].

Age. Six participants justified their estimations based on women's age[26]. Perceived younger age was associated with naivety and thereby vulnerability to rape.

Quantitative Results

Descriptive information on psychopathy and its factors are provided in Table 3.

Table 3.

Descriptive Statistics for Psychopathy Scores

Psychopathy	Mean (SD)	Max	Min
Psychopathy	57.72 (11.65)	91	36
Factor 1	32.80 (8.62)	60	17
Factor 2	23.00 (5.22)	35	11

Psychopathy and History/Target Estimations

The results for the association between psychopathy and History and Target estimations are provided in Table 4. As shown in this Table, based on significance level of .05, psychopathy and Factor 1 were positively related to History estimations and remained significantly correlated after p-value correction of .01. For target estimations, no significant association with psychopathy and its factors were found.

Table 4.

Associations between Psychopathy, Psychopathy Factors, and History and Target estimations

	History estimation		Target estimation	
	r (*p*-value)	*CI*	*r* (*p*-value)	*CI*
Psychopathy	.17* (.02)	.03 - .32	.04 (.56)	-.10 - .20
Psychopathy Factor 1	.22* (.003)	.06 - .36	.04 (.61)	-.11 - .19
Psychopathy Factor 2	.02 (.81)	-.13 - .16	.09 (.24)	-.09 - .24

CI = Confidence interval, *r* = Correlation coefficient

*$p < .05$

**$p < .01$

Psychopathy and Body Language Cues

As presented in Table 5, psychopathy and its underlying factors were not significantly related to the use of any cues to estimate history of abuse based on significance level of .05. For Target cues, a negative significant association was found between psychopathy and use of resistance based on the conventional significance level of .05, which was however not significant based on the corrected p-value of .001. Factor 1 was positively significantly correlated with the use of physical characteristics and negatively significantly related to the use of resistance cues based on significance level of .05, which both were not significant based on the corrected p-value of .001. Factor 2 was not significantly associated with any Target cues based on the significance level of .05.

History and Target Estimations

The overall positive association between History and Target estimations was statistically significant (r = .18, p = .01, 95% CI = .02-.33) with a confidence interval indicating a weak to moderate correlation.

Discussion

The purpose of the current study were fourfold. First, the study aimed to understand what type(s) of body language and other non-verbal cues men use to judge women's vulnerability to sexual victimization in both the past and the future. In addition, the relationship between psychopathy (factors) and perceived past as well as future vulnerability to sexual victimization was tested. Another purpose of the study was to examine the association between psychopathy (factors) and cues used for past and future estimations. Furthermore, the study investigated the association between perceived probability of past sexual victimization and anticipated future vulnerability to sexual victimization. The cues used to estimate past and future sexual victimization converged to facial expression, eye contact, hand/arm movement, touching hair, general animation, non-auditory speech characteristics, and make up. Psychopathy, particularly Factor 1, was positively associated with estimations for history of abuse, suggesting that participants higher in psychopathy were more likely to (accurately) think women had been abused in the past. However, psychopathy and its factors were not related to estimated future vulnerability. After p-values correction, psychopathy was not significantly associated with the use of specific cues. Finally, estimated history of sexual victimization was positively related to estimated vulnerability to sexual victimization.

Table 5.

Psychopathy and Body Language Cues for History and Target Justifications

	Psychopathy		Factor 1		Factor 2	
	r (p-value)	**CI**	**r (p-value)**	**CI**	**r (p-value)**	**CI**
Cues for estimated History						
Animation	-.05 (.58)	-.23 - .14	-.08 (.36)	-.25.12	-.04 (.68)	-.20 - .16
Body posture	.07 (.38)	-.10 - .25	.10 (.20)	-.07-.27	-.05 (.53)	-.21 - .13
Clothing	.10 (.24)	-.07 - .24	.15 (.07)	-.01-.30	-.01 (.88)	-.18 - .16
Distance from camera	-.07 (.41)	-.24 - .11	-.12 (.15)	-.26-.01	.01 (.88)	-.15 - .20
Eye contact	.09 (.23)	-.06 - .24	.12 (.12)	-.03-.28	.03 (.71)	-.12 - .18
Emotional facial expression	.04 (.64)	-.10 - .17	.07 (.38)	-.07 - .21	-.02 (.83)	-.16 - .13
Hand movement	.08 (.32)	-.08 - .24	.08 (.35)	-.09 - .25	.05 (.54)	-.11 - .20
Movement with eyebrows	-.04 (.64)	-.21 - .13	.05 (.59)	-.14 - .22	-.15 (.09)	-.28 - -.00
Sighing	.01 (.91)	-.16 - .18	.03 (.72)	-.16 - .21	.02 (.79)	-.15 - .19
Speech characteristics	.12 (.16)	-.05 - .28)	.13 (.13)	-.04 - .28	.07 (.42)	-.10 - .23

Touching hair	-.04 (.65)	-.18 - .12	-.05 (.59)	-.22 - .12	-.01 (.89)	-.18 - .15
Personality traits	-.10- (.20)	-.25 - .05	-.02 (.82)	-.16 - .14	-.14 (.08)	-.27 - .02
Cues for estimated Target						
Age	.10 (.24)	-.02 -. 23	.12 (.16)	-.02 - .26	.01 (.88)	-.12 - .14
Animation	-.08 (.34)	-.25 -. 10	-.02 (.86)	-.20 - .16	-.12 (.16)	-.28 - .05
Eye contact	-.12 (.16)	-.27 - .04	-.09 (.28)	-.24 - .07	-.07 (.42)	-.23 - .08
Emotional facial expression	.09 (.28)	-.07 - .26	.10 (.24)	-.07 - .27	.07 (.38)	-.08 - .22
Feminine behavior	-.05 (.59)	-.21 - .12	-.03 (.76)	-.19 - .13	.00 (.97)	-.17 - .18
Hand movement	-.11 (.21)	-.26 - .06	-.10 (.25)	-.26 - .07	-.08 (.33)	-.26 - .08
Physical attractiveness	.06 (.44)	-.09 - .22	.03 (.69)	-.13 - .19	.04 (.61)	-.12 - .20
Physical characteristics	.13 (.10)	-.05 - .29	.16* (.04)	.00 - .31	.09 (.26)	-.07 - .25
Speech characteristics	.01 (.94)	-.19 - .17	.07 (.40)	-.05-.18	-.05 (.58)	-.30 - .20
Touching hair	-.01 (.94)	-.21 - .18	-.01 (.91)	-.21-.20	-.03 (.76)	-.19 - .14
Resistance	-.20* (.01)	-.37 - -.05	-.19* (.02)	-.34--.04	-.10 (.19)	-.27 - .06
Personality traits	.03 (.73)	-.13 - .19	.06 (.47)	-.11-.22	-.02 (.82)	-.17 - .13

CI = Confidence interval, *r* = Correlation coefficient

*$p < .05$

Body Language Cues to Estimate Past and Future Vulnerability

Regarding non-verbal cues used in the justifications for the history of sexual abuse, four observations stood out. First, the most common cues were, in order, facial expression, eye contact, body posture, hand movements, clothing, and piercing and tattoos. Second, some cues seemed to be interpreted similarly across participants, while other cues were more ambiguous. To illustrate, facial expressions, eye contact, body posture, and pauses in speech, were consistently interpreted as indications of either a positive or negative history, whereas the interpretation of other cues, such as frequency of hand movement, touching hair, and general animation, varied. Third, one of the most common themes was personality traits, which is a general interpretation based on all body language cues. Four, the cues used exclusively for judging past vulnerability were body posture, distance from camera, and movement with eyes/eyebrows. Non-verbal cues reported by participants as signals of a negative history should be interpreted with caution, as the videos were chosen based on reported victimization.

Similar observations apply to the cues used for estimating vulnerability to future victimization. Consistent interpretations were found for eye contact, feminine behavior/make up, and speech pace, while negative emotional expression, hand movements, touching hair, and animation were interpreted differently by different participants. The most common used cues were physical characteristics, emotional facial expression, eye contact, and physical attraction in order. Lastly, three cues, other than body language cues, were used: age, perceived resistance, and personality traits. The cues used for exclusively estimating future vulnerability were age, physical characteristics and attractiveness, and perceived resistance.

Based on these findings, it seems that men in the current sample tended to rely mostly on body language cues signaling women's emotions and confidence when judging their potential history of sexual victimization. However, when assessing vulnerability to future victimization, physical features such as body strength (as indication of potential resistance) and attractiveness were used as well. The commonality of cues used to estimate both past experiences of abuse and potential

future abuse suggests that perpetrators may use these cues for an overall assessment of vulnerability of the person, regardless of time. The additional cues that are used for the assessment of future abuse seem to indicate an additional cost and benefit analysis pertaining to the success of intended abuse. However, it must be taken into consideration that the current sample consisted of students and that results may differ for perpetrators with actual intentions of sexual abuse.

In addition, since personality traits associated with vulnerability were found in justifications for both past and future vulnerability, it is important to examine the body language cues associated with these traits. If these cues are interpreted in the same way by perpetrators, these in turn can be a focus for prevention interventions. Considering that some cues were interpreted differently across participants, further research is needed to understand which interpretations of these cues are more accurate in terms of victim identification. In addition, it is critical to understand what other psychological factors, such as non-verbal decoding skills, i.e., gauging others' emotional and cognitive states based on non-verbal cues (Roney et al., 2018), or social factors, such as cultural differences, influence interpretations.

We observed some similarities with other studies regarding non-body language cues for future vulnerability to sexual abuse, that is, age, attractiveness, appearance, and personality traits. A qualitative study assessed predatory rape techniques among inmates and found that the inmates approached or selected younger women and those who are sexually attractive to them (Stevens, 1994). In another study, male students reported that women with feminine qualities and physical attractiveness are more likely to be targets of sexual advances (Sakaguchi & Hasegawa, 2006). These findings are in line with the current study, although age was not among common cues in our study. In general, it seems that physical characteristics, such as physical attraction, weight and body strength, and age are important factors in selecting potential victims considering that these cues were reported by both inmates in previous research (Book et al., 2013; Stevens, 1994) and the participants of the present study as criteria for victim selection. It is not surprising that physical attraction may function as selection criterion

for sexual acts, even for a forced sexual activity. Women with younger age might be selected because men might consider them as more naïve and thereby easy to deceive or manipulate. In addition, interpreting less hand movement and lower animation as indications of positive history of sexual victimization in our study is consistent with Parks and colleagues (2008) findings. This evidence may show that including gestures with movements, particularly in hands, could be important in empowerment training as it might imply the level of body movements aiming for resistance or escape in case of any sexual assault. Gauging women's past and future vulnerability based on personality trait of assertiveness in our study is consistent with the evidence that men would approach submissive women for sexual abuse as shown by Richards and colelaguess (1991). In the present study, low assertiveness was considered as likelihood of positive sexual abuse history and vulnerability to rape in the future. This result is also consistent with the effectiveness of assertiveness training programs in reducing the risk of sexual victimization (Rowe et al., 2015; Rowe et al., , 2012). Nevertheless, as mentioned before, it is crucial to test if perpetrators would also prefer submissive women for sexual exploitation.

Psychopathy, Vulnerability Estimates, and Body Language Cues

Higher scores on the whole psychopathy scale as well as on its Factor 1 subscale were associated with higher perceived likelihood of a sexual abuse history in the victim. In the absence of objective evidence for a history of abuse in the women displayed in the videos, this result cannot be interpreted with certainty as victim identification accuracy needs to be considered as primary evidence. Unlike perceived likelihood of past abuse, psychopathy (factors) did not show a significant relationship with future vulnerability estimations. The difference in the association between psychopathy and vulnerability estimations for past versus future could potentially be due to two factors. First, judgement about future vulnerability required the participants to put themselves in the shoes of a serial rapist and estimate the extent to which the displayed women are easy targets for rape, whereas judgment about past vulnerability did not. Higher levels of psychopathy (not detected in the current sample based on the self-report instrument) might be needed to real-

istically engage in considering whether a woman would be an easy target. In contrast, speculation about any previous sexual abuse would not necessitate such deliberations and thus might be less contingent on the level of psychopathy. Second, participants likely considered the perceived attractiveness of the women when judging their future vulnerability, which was not controlled in the analyses. For instance, some participants reported that they would not consider a woman for rape because the woman is not 'their type', which influences the vulnerability estimations. Controlling for the attractiveness of the women to the participants could have led to different results. Not explicitly included as a variable in the current study, the women's perceived attractiveness should be assessed in the future research. Nevertheless, our finding highlights the importance of making a distinction between past and future vulnerability when considering the association between victim identification and psychopathy (factors).

The null findings on the association between psychopathy (factors) and attention to specific body language cues might show that individuals high in psychopathy may not use different body language cues than those low in psychopathy. Alternatively, they may make more use of cues located below the waist, which were not included in the current study. Book et al. (2013) found that only using gait cues as justification for estimated vulnerability in the past, but not clothing, attractiveness, and body posture, was associated with Factor 1. In addition, our findings rely on self-report and thus on explicit evaluation, of which all participants may not be equally aware or willing to disclose. Another explanation would be that level of psychopathy might be low in a university sample compared to inmates and sex offenders, which may make it difficult to discern an effect on vulnerability estimations and cues used to this end.

Past Sexual Abuse and Future Rape Vulnerability Estimations

Higher past vulnerability estimation was associated with greater future vulnerability estimation, which is consistent with previous research reporting higher risk of victimization among people with a history of victimization (e.g., Livingston et al., 2007; Smith et al., 2003;

Walker et al., 2017). However, the strength of the association was weak to moderate based on the confidence intervals, which indicates that people estimate future risk in a more nuanced way than expecting that past victimization simply signals future vulnerability. As discussed before, some participants considered the effects of victimization in the past on future vulnerability, for example, some participants expected depression and consequently mistrust to strangers in people with a history of victimization, and therefore less vulnerability in the future. In addition, the aforementioned additional attention to attractiveness and factors influencing the outcome of a current attempt may explain the difference between past and future vulnerability estimates.

Strengths

Unlike most previous studies that assessed only one specific non-verbal body language cue, e.g., walking style, as a signal for vulnerability to victimization, the present study bottom-up investigated various body language cues and other non-verbal cues to understand what cues men might use to estimate women's vulnerability. In addition, prior research used a broad definition of victimization ranging from mugging to sexual abuse, while our research limited the definition of victimization to sexual abuse and rape. Furthermore, unlike comparable studies, we explicitly asked the participants to report the body language cues they used instead of only asking for general justifications, which may have increased the information provided, particularly regarding body language cues.

Another strength of the study was distinguishing between past and future vulnerability, while previous research mostly assessed vulnerability in the past as an indicator of future vulnerability. While previous victimization is indeed a risk factor for future victimization (Walker et al., 2017), this study shows that these are two separate estimates and rely on different cues. Such a differentiation is important since people with a history of sexual abuse are not necessarily considered vulnerable to further abuse by perpetrators. In support of this, female victims who learned self-defense skills have been perceived as less vulnerable compared to victims without such skills as well as to women without

any victimization experience (Roney et al. 2018). On the one side, the findings of the study highlights the importance of addressing body language cues, particularly the cues that indicate assertiveness, resistance/self-defense, in preventive or empowerment programs. On the other, our results show that men might have stereotypes about women's vulnerability based on their appearance such as clothing, make-up, piercing/tattoo or their feminine behavior, an assumption that needs to be tested in future research to clarify whether they are stereotypes that men have about women vulnerable to sexual victimization or they are actually predictive of such vulnerability. It is also important to emphasize that addressing women's assertiveness and self-defense in preventive programs does not imply that victims are responsible for interpersonal violence occurring to them. Obviously, the perpetrators are always accountable for their actions and preventive programs targeting them is significant in reducing the risk of violence against women.

Limitations and Future Research

The findings of the study should be interpreted in light of several limitations. First, objective information about the childhood abuse history of the women in the video clips was not available and the women in the video clips were not followed up. Therefore, it is unknown to what extent the estimations for history of sexual abuse and future estimates are correct, over, or underestimated. Second, as the study was exploratory, many analyses were conducted and correction for multiple analyses were necessary. This has likely resulted in reduction of power regarding analyses involving psychopathy. Future studies focusing on the most prevalent cues used may be better suited to examine the relationship of the reported cues and psychopathy. In these studies, the inclusion of a population with higher expected psychopathy ranges and sexual perpetration experiences would be preferable. Third, attention to non-verbal body language cues for past and future vulnerability to sexual victimization was measured via self-report, which is vulnerable to both awareness and impression management issues (Paulhus, & Vazire, 2007). This limitation could be partially addressed by providing options, based on the literature, from which participants can

choose, but they would still be limited to self-reported data observed in prior research. Although we found an association between past and future vulnerability, we cannot make any inferences about whether these two show an underlying vulnerability or that vulnerability in the past increases future vulnerability due to lack of access to objective information on past sexual victimization of women displayed in the videos or victimization further in their life. Furthermore, considering the relatively low prevalence of sexual perpetration among male university students (Campbell et al., 2017; Gámez-Guadix et al., 2011), the findings of the study might not be applicable to sex offenders. Another limitation narrowing the generalizability of the findings is that the videos were of women willing to talk publicly about their experiences with abuse. Results based on this subgroup may not generalize to the larger group of women who experienced abuse, i.e., those who do not share their experiences online. Relatedly, the current study might have missed cues present in victimized women who do not come forward. In addition, a control-group, consisting of non-victimized women, was not included in the present study. Hence, some non-verbal cues might have been missed because the selected videos were overly uniform, depicting victimized women only. Finally, the findings of the study is not generalizable to victim selection in LGBTQ populations since the sample was limited to heterosexual males.

General Conclusion

The qualitative results showed that the participants of the study used various body language cues ranging from eye contact to animation to estimate past and future vulnerability to sexual victimization. Several cues including facial expression, eye contact or movements, and hand or arm movement were common cues used to estimate both sexual abuse history and future vulnerability. Other non-verbal cues such as age, physical characteristics and attractiveness, and resistance were used exclusively as justifications for future vulnerability. Psychopathy and its factors were not associated with greater attention to specific cues. Psychopathy did not show an association with estimated vulnerability to future abuse either, but was positively related to estimated past abuse. Finally, higher estimated sexual abuse history was associ-

ated with higher estimated future vulnerability. Given the explorative nature of the study, multiple tests were conducted and power was limited. Differentiation between past and future vulnerability, exclusive focus on vulnerability to sexual victimization, and assessment of body language cues in justification are among the strengths of the study. Victim selection might occur based on an overall assessment derived from various body language cues, which might have different informative weights. In addition, perceived past vulnerability is not simply considered as vulnerability to further victimization since a cost-benefit analysis might be implemented for target selection.

General Discussion

General Discussion

The current dissertation project aimed to enhance our knowledge about risk factors of revictimization among people with a history of childhood maltreatment by addressing several important caveats in the available literature. More specifically, most previous attempts for integrating the existing literature were limited to non-systematic reviews on a particular form of revictimization, sexual revictimization, and are now outdated. Therefore, **Chapter 1** provided a systematic review on various forms of revictimization to integrate the more recent findings and identify relevant gaps in the field. In **Chapter 2**, the purpose was to explore the interrelations between risk factors for revictimization and propose a data-driven model explaining the factors connecting childhood maltreatment to victimization in adulthood. This chapter addressed a major gap in the literature: the dearth of data-driven comprehensive models examining the interrelations between a wide variety of known risk factors and several relevant factors with little or no evidence that are thus far largely ignored in empirical research. **Chapter 3** investigated risk factors for revictimization in a modern context: online dating. The examination of the risk factors in such a context is important for two reasons. Given the increasing popularity of online dating (Rosenfeid et al., 2019; Rosenfeld & Thomas, 2012), it is essential to understand if childhood maltreatment enhances the risk of revictimization in this context as well. In addition, online dating is used for risky sex behavior (Choi et al., 2016) such as casual sex with strangers. Therefore, it provides an opportunity to examine motives behind risky sex behavior and the roles of these motives in revictimization. Another aim of Chapter 3 was to understand if motives for engagement in sexual risk-taking would be associated with the extent to which people implement protective strategies to decrease the chance of sexual victimization in online dating. To this end, I developed a new instrument for the assessment of motives underlying risky sex behavior in online dating. The examination of the internal consistency and factor structure of the scale was presented in **Chapter 4**. While chapter 1 to 4 focused on intrapersonal risk factor as victims' characteristics, **Chapter 5** aimed to understand how potential perpetrators gauge victims' vulnerability to sexual victimization and the

role of psychopathy in this judgement. Since previous studies focused on gait, as a cue for vulnerability to mugging or combined sexual victimization and mugging, Chapter 5 investigated other non-verbal cues located in upper body, such as hand movements and facial expressions signaling vulnerability to sexual victimization. The main findings of each study and their implications will be discussed in this chapter.

Main findings

A Systematic Literature Review on Revictimization

The systematic review presented in **Chapter 1** integrates the findings of 71 studies of which 48 were cross-sectional, 21 longitudinal and two had mixed designs. The available longitudinal data provide convincing evidence that the symptom severity of PTSD, depression, and general psychological distress each increases vulnerability to revictimization. Although evidence was in general in favor of the association between PTSD and revictimization, the available findings for dissociation (trait and state) as another trauma-related symptom are contradictory. In line with longitudinal data, cross-sectional studies showed the important role of psychological symptoms as well as difficulties with emotion regulation in revictimization. These findings suggest that psychological symptoms might be promising foci in prevention programs. However, the mechanism through which these symptoms lead to revictimization are not clear yet. Overwhelming negative emotions resulting from childhood maltreatment might lead to engagement in maladaptive coping strategies such as substance abuse and risky sex behavior. In turn, these might further increase their vulnerability by compromising risk recognition and reaction to risk or by enhancing exposure to potential perpetrators. In line with this hypothesis, the reviewed cross-sectional studies point to the role of sexual risk-taking in sexual revictimization. Nevertheless, longitudinal findings on the effects of substance abuse, using sex to reduce negative affect, and number of sexual partners on revictimization are inconsistent such that some studies point to the potential effects of these factors on revictimization, while other studies report null findings. The discrepancies might be due to differences in the samples, measures, durations of the studies, and levels of sexual activity among

people with a history of childhood (sexual) abuse.

Several major limitations were observed. First, most studies are cross-sectional which limit interpretations about temporal relationships between revictimization and its risk factors. Second, the majority of studies were conducted on a very specific population, (Caucasian) female university students in the US. Therefore, information on other populations, such as men and general population is scarce. Third, most studies examined risk factors for sexual revictimization and overlooked other forms of revictimization. Fourth, several risk factors, such as attachment styles, early maladaptive schemas, and partner selection have not yet been investigated extensively, although available data suggest these factors might play an important role in revictimization. In addition, evidence on the differential effects of various attachment styles and early maladaptive schemas is scarce, which encourages further investigation. Relatedly, it is not clear how attachment and early maladaptive schemas, developed in reaction to adverse childhood experiences (Young et al., 2003), might foster psychological symptoms such as PTSD, dissociation, and depression as risk factors for revictimization. Other factors that might be related to revictimization, but not examined in the reviewed studies were impulsivity, sexual sensation seeking, emotional reactivity, and meaning in life. Impulsivity and sexual sensation seeking are shown to be related to risky sex behavior (Charnigo et al., 2013; Curry et al., 2018). Regarding emotional reactivity, it is informative to understand how dimensions of emotional responses (e.g., intensity and duration) would be related to risky sex behavior, and potentially revictimization. Further, theoretical accounts (e.g., Janoff-Bulman, 1985) focus on the importance of meaning in life on people's response to traumatic events, no study has focused on this factor in revictimization. Finally, a limited number of risk factors were included in each study that precludes a comprehensive insight (and specificity) of the factors involved.

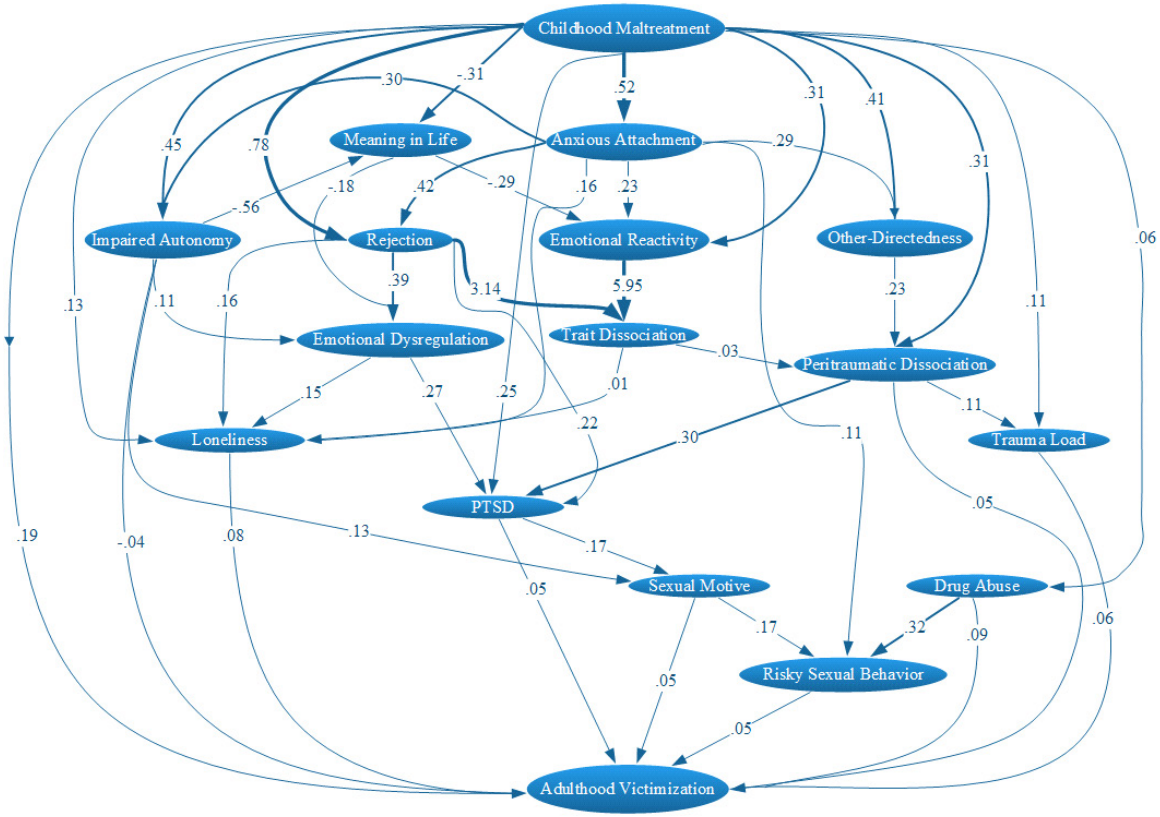
Interrelations between Risk Factors in a Data-Driven Model

To enhance our understanding of the mechanisms underlying revictimization, **Chapter 2** proposed a more comprehensive data-driven model clarifying the interrelations among risk factors of revictimization based on cross-sectional data derived from a longitudinal multi-wave study. The participants were first-year female university students (N = 2156, M_{age} = 19.94, SD = 2.89) recruited from five universities in the Netherlands and one university in New Zealand who responded to a battery of questionnaires and performed two computer tasks. First, a data-driven model with 31 candidate mediators were developed using structural equation modelling with modification indices, which is presented in Figure 2 in Chapter 2. The candidate mediators for the model were selected based on the studies reviewed in Chapter 1 including PTSD, dissociation, risky sex behavior, attachment, early maladaptive schemas, and risk recognition are among these mediators. Some additional factors were selected because they were either related to adulthood sexual victimization (e.g., sexual sensation seeking) or risky sex behavior (e.g., impulsivity). Finally, some factors, such as meaning in life and loneliness were included because they seemed conceptually relevant to revictimization.

Although the built model based on 31 factors fit the data well, it was very complex. In the next step, the association between each candidate risk factor and revictimization was assessed by logistic regression analyses and t-tests. In total, 24 variables with significant association with revictimization were chosen to be entered into the second model. The same procedure, structural equation modelling with modification indices, was used to build a new model (see Figure 1a below). The new model fit the data well too. Important pathways in the final model will be discussed next.

Figure 1a.

Data-Driven Model of Revictimization



First-order mediators. Several factors, PTSD symptom severity, peritraumatic dissociation (dissociation during the most lifetime stressful or traumatic events as perceived by participants), drug use, trauma load, and loneliness were first-order mediators (i.e., mediators that are the only mediator in a pathway). As reported in Chapter 1, PTSD symptoms have received most attention in this field and most studies provided support for the role of PTSD symptoms in revictimization (Jaffe et al., 2019; Papalia et al., 2016; Walker et al., 2022), which is in line with the findings of Chapter 2.

Reaching a conclusion about the effects of peritraumatic dissociation on revictimization is difficult considering the scarcity and inconsistency of the available data. The mediating role of peritraumatic dissociation in Chapter 2 was inconsistent with two reviewed studies in Chapter 1 (Hetzel & McCanne, 2005; Irwin, 1999a) although all used the same measure. Since these earlier studies relied on relatively small samples compared to the sample in my study, these apparent discrepancies might be due to limited power of the prior studies. The effect of this variable is small in Chapter 2, and such a small effect can only be reliably detected with a large sample size. It is noteworthy that the association between these two trauma-related symptoms (i.e., PTSD and peritraumatic dissociation) was significant in the model, which is in line with a meta-analysis that showed a moderate relationship between these two factors based on quasi-retrospective studies (r = .36, 95% *CI* [.31,.40]; Breh & Seidler, 2007). Although this can also be seen as further support for the validity of my model, it should be acknowledged that the pathway in my study is based on cross-sectional data and does not allow any firm conclusion about the role of peritraumatic dissociation as a risk factor for PTSD in the model. Regardless, some authors assume that peritraumatic dissociation is an associate of PTSD, but not a risk factor. For instance, a systematic review (van der Velden & Wittmann, 2008) with more strict inclusion criteria (e.g., inclusion of only peer-reviewed papers and prospective studies with at least three-month follow-ups), compared to the meta-analysis of Breh and Seidler (2007), reported that out of 17 prospective studies, 11 showed null findings and six showed an association between peritraumatic dissociation

and PTSD. Half of the studies with positive findings had relatively small sample sizes and all the studies showed small associations/effects for peritraumatic dissociation.

Based on the available evidence on the association between peritraumatic dissociation and other psychological problems prior to traumatic events, van der Velden and Wittmann (2008) concluded that the relationship between peritraumatic dissociation and PTSD found in some studies might imply an underlying vulnerability for developing mental symptoms rather than peritraumatic dissociation being an independent risk factor for PTSD. Taking together, the relationship between these two factors does not seem straightforward and needs further investigation.

Even though Chapter 2 provided data in support of drug use (e.g., Ullman et al., 2009), this factor has not been studied extensively and the evidence for this factor is inconsistent. As discussed in Chapter 1, differences in samples, using various measures and pathway models with different risk factors across prior studies might explain the contradictory findings on drug use. Unlike drug use, alcohol use did not show a mediating effect in Chapter 2. The existing literature on the relationship between alcohol use and revictimization is contradictory as well based on the reviewed studies in Chapter 1. Further research is needed to understand to what extent and in which contexts drug and alcohol use function as a risk factor for revictimization.

The observed effect of trauma load in Chapter 2 (i.e., non-interpersonal trauma and witnessing interpersonal trauma) shows how these types of traumatic events might contribute to revictimization by probably enhancing psychological distress, which is shown to be related to revictimization (Cascardi, 2016; Lindhorst et al., 2009; Orcutt et al., 2005). However, this preliminary conclusion needs further investigation since only few studies (Cougle et al., 2009; Jaffe et al., 2019; Lilly, 2011) to date have examined the role of non-interpersonal trauma in revictimization. The existing data on the association between loneliness and revictimization is limited to the study in Chapter 2. We assume that feelings of loneliness may derive from insecure attachment styles (Akdoğan,

2017) and may affect partner selection such that people would be less selective regarding their dating partners or they continue relationships with abusive partners because their priority is to avoid loneliness. In addition, loneliness might be due to perceived lack of reliable support and connection (schemas characteristics of the rejection domain) and staying with potentially abusive partners might be in favor of schema perpetuation e.g., staying in situations that confirms the schemas. The pathway from rejection domain schemas to loneliness in the model provides preliminary support for the potential role of these schemas in loneliness. Despite lack of extensive and consistent data with regard to some of the first-order mediators identified in this study (see Figure 1a), it can be concluded that the first-order risk factors of PTSD symptoms, drug use, loneliness, and impaired autonomy schemas might be promising candidates for prevention programs since they are directly related to both childhood maltreatment and revictimization. Peritraumatic dissociation lies in the past and cannot be intervened in therapy. However, it may indicate how an individual might engage in dissociation in future stressful/traumatic events. As dissociation at the time of stress can interfere with risk recognition or reaction to risk, improving coping mechanisms might help decreasing dissociation at the time of stress in the future.

Second-Order Mediators. Five factors (attachment styles, early maladaptive schemas, meaning in life, drug use, and peritraumatic dissociation) functioned as second-order mediators (i.e., mediators involved in pathways with more than one mediator) in the model (see Figure 1 a).

The pathways consisting of anxious attachment style suggest that this factor increases the risk of revictimization by developing maladaptive coping strategies (i.e., peritraumatic dissociation and risky sex behavior) and loneliness. In addition, it was shown that anxious attachment style fosters early maladaptive schemas that promote mistrust, feeling of lack of connection (rejection schemas), dependence on others (impaired autonomy schemas) and prioritizing others' needs over one's own needs and desires (other-directedness schemas), which in turn are related to PTSD symptoms, difficulties with emotion regulation, and maladaptive coping strategies (i.e., peritraumatic dissociation

and using sex as emotion and self-esteem regulation strategy) that subsequently can increase vulnerability to revictimization. The association between insecure attachment and early maladaptive schemas is in line with Young's theory (Young et al., 2003) and findings from earlier empirical studies (Platts et al., 2005; Simard et al., 2011). Furthermore, these results contribute to the existing data for attachment and early maladaptive schemas, as reviewed in Chapter 1, such that they indicate potential mechanisms (i.e., emotion dysregulation and maladaptive coping strategies) connecting these cognitive factors to revictimization. However, one question remains regarding the role of attachment styles in revictimization. It is not clear why anxious, but not avoidant attachment, emerged in the model as a risk factor for revictimization. It seems logical that avoidant attachment as a form of insecure attachment would be a risk factor for revictimization as well, considering the evidence on the relationship between avoidant attachment and interpersonal difficulties such as (un)assertiveness, (Turner & Langhinrichsen-Rohling, 2011) and (in) competence in interpersonal communication (Anders & Tucker, 2000), which can potentially function as risk factors for revictimization. One explanation might be that differences in the characteristics of the two attachment styles might lead to this result. Anxious attachment associated with excessive proximity seeking might result in continuing abusive relationships, while avoidance of intimacy associated with avoidant attachment might interfere with forming intimate relationship in which people might be abused (Hocking et al., 2016). It is feasible that therefore avoidant attachment is not a risk factor for adulthood victimization occurring in the context of long-term relationships. Rather, people with avoidant attachment might be vulnerable to sexual victimization inflicted by strangers since they avoid intimate relationships. In that case, a model linking avoidant attachment following childhood maltreatment to (sexual) revictimization via risk-taking in sexual encounters with strangers might clarify the association between avoidant attachment and (sexual) revictimization. Another explanation points to the role of perpetrators such that perpetrators might have a preference for women with anxious attachment (Zayas and Shoda, 2007). Further research is critical to understand the roles of anxious and avoidant attachment styles in revictimization.

In addition to attachment and maladaptive schemas, another cognitive factor, meaning in life, had a second-order mediating role in revictimization. The model showed that childhood maltreatment, as a traumatic event, negatively influences the perception of coherence of life events, life importance as well as life goals. These cognitions limit access to emotion regulation skills, which in turn can lead to PTSD symptoms, and then to revictimization. This observed path is in line with Shattered Assumptions Theory (Janoff-Bulman, 1985) explaining the development of PTSD following a traumatic event. According to this theory, traumatic events including childhood maltreatment shake fundamental assumptions about self, others, and the world. The core of these basic assumptions is the invulnerability of self and benevolence or justice in the world, which would be questioned by traumatic events. Therefore, the sense of vulnerability would lead to vexing distress and consequently the development of PTSD (Janoff-Bulman, 1992), which in turn can escalate the chance of revictimization. However, the role of meaning in life in revictimization needs further research to understand the impact of this factor.

The pathway from drug use to risky sex behavior explains how drug use can potentially increase the risk of revictimization. To elaborate, drug use is associated with increased risky sex behavior, which in turn can potentially enhance the chance of exposure to perpetrators. The pathway directing from drug use to risky sex is consistent with previous studies. In a cross-sectional study, a positive association was found between drug use and having multiple sex partners in college students (Caldeira et al.). In addition, a meta-analysis covering 87 studies on the association between drug use and risky sex behavior among adolescents reported a mean effect size of r = .22 with confidence interval of small (r = .18) to moderate (r = .26) effect sizes (Ritchwood et al., 2015). Similar to drug use, peritraumatic dissociation had first and second-order mediator functions in the model. It seems what connects childhood maltreatment to revictimization by peritraumatic dissociation is a chain of risk factors. The model showed that peritraumatic dissociation enhances PTSD symptoms. Then, people use sex to regulate the negative emotions related to PTSD symptoms, which in turn increases

engagement in risky sex behavior leading to revictimization. Although the links between the factors in this pathway, such as the relationship between peritraumatic dissociation and PTSD (Breh & Seidler, 2007; Lensvelt-Mulders et al., 2008), and the association between emotion regulatory sex motives and risky sex behavior (Miron & Orcutt, 2014), are supported by previous studies, the whole pathway has not been studied in the past, which seeks further attention.

In sum, the observed first-order and second-order mediators in this study provided support for the hypothesis that victims' characteristics are one of the factors exposing people with childhood maltreatment to victimization in adulthood. Furthermore, the pathways corresponding to the second-order mediators show the importance of interrelations between the risk factors for revictimization at least at the intrapersonal level. The interrelations between risk factors are crucial to consider because they would influence the impact of the risk factors on revictimization. The importance of taking interrelations into consideration is also illustrated by the results of a study on college students indicating that a higher number of sexual partners only increased the chance of verbal sexual coercion when the levels of sexual assertiveness were low. In other words, a high number of sexual partners might act as a risk factor for revictimization only in the context of sexual unassertiveness (Walker et al., 2011). That might also explain the observed inconsistencies across studies regarding the association between risky sex behavior and revictimization in Chapter 1.

Mediators with Networking Roles. Some mediators with a direct link with childhood maltreatment had a networking role in the model. Two to six pathways passed through these mediators. These mediators were anxious attachment, meaning in life, rejection and impaired autonomy domains, PTSD symptoms, peritraumatic dissociation, and loneliness. These risk factors fall into two categories. The first category consists of cognitive patterns (i.e., anxious attachment, meaning in life, rejection and impaired autonomy domains, and loneliness) by which people define/perceive themselves, relationships, and the world. The other category includes trauma-related symptoms (i.e., PTSD symptoms and peritraumatic dissociation). These two categories might be

particularly important in revictimization since they connect other risk factors. In addition, it seems the risk factors in the first category include internal working models that develop as a result of childhood maltreatment, which makes people vulnerable to trauma-related symptoms; the risk factors in the second category. Among these variables, peritraumatic dissociation showed first and second-order mediating effect in the model as discussed above. It also functioned as a network. This observation highlights the importance of this factor in revictimization even more. This observation is in line with explanations that consider this variable as a determining factor in revictimization, as proposed in the *Betrayal Trauma Theory (Freyd, 1996).*

It seems that dissociation at the time of trauma directs how people process threatening signals or react in risky situation further in life. Since peritraumatic dissociation is an avoidant coping strategy, the continuation of this strategy prevents learning new skills to cope with risky situations. It is interesting that trait dissociation did not emerge as an important factor relative to peritraumatic dissociation. In other words, trait dissociation was not among first-order mediators. Although it emerged as a second-order mediator in the model, the pathways directing from this variable to other variables (e.g., loneliness) had a small effect. In general, the evidence on the relationship between trait dissociation and revictimization is not convergent in previous longitudinal as well as cross-sectional studies, as observed in the literature review in Chapter 1. Besides the methodological differences such as, different populations and duration of follow-ups in longitudinal studies, the inconsistency might be attributable to the measure that has been used in the available studies, Dissociative Experience Scale-II. This measure assesses both pathological and non-pathological dissociation (Irwin, 1999b). It is plausible that the level of pathological dissociation would be higher in some samples compared to others. The levels of trait dissociation were not high in the sample in Chapter 2. Only 12.9% of the sample reported dissociation at a clinical level (based on the cut-off of > 30; Hocking et al., 2016), which might explain why this factor did not emerge as an important risk factor for revictimization in Chapter 2.

Deficiency versus Agency-Oriented Account. The findings in Chapter 2 provided support for the agency-oriented assumption of revictimization (Miron & Orcutt, 2014). In the model, emotion/self-esteem regulatory motives for engagement in sexual encounters connected childhood maltreatment to revictimization by risky sex behavior, while risk recognition did not show a significant association with revictimization and, thus, was not entered into the model. Therefore, the current study did not find evidence in favor of deficiency in risk recognition. The findings regarding the effects of risk recognition on revictimization are contradictory across prior studies (Volkert et al. , 2013). Several explanations can be provided for this inconsistency. First, various samples and designs might have led to different findings. Second, revictimized people might be heterogeneous in terms of risk detection and this would lead to the inconsistent findings. Third, other intrapersonal factors might influence risk recognition and the results would depend on the inclusion of these factors in the studies at hand. Supporting the last hypothesis, a study showed that revictimized people did not differ from non-victimized and victimized only once based on risk recognition, but a difference was found when the arousal level was taken into account such that revictimized people showed delayed risk recognition compared to non-victims when perceived arousal level was high (Volkert et al., 2013). In addition, there is evidence that PTSD symptoms influence risk recognition, although the direction of the association between PTSD and risk recognition is contradictory. A study reported a negative association between PTSD symptoms and risk recognition and concluded that PTSD symptoms might act as a buffer against revictimization (Wilson et al., 1999). However, another study showed that PTSD symptoms were positively associated with latency in risk recognition (Volkert et al., 2005). Regardless of the direction of the relationship between PTSD and risk recognition, it seems that the levels of PTSD symptoms in samples at hand can influence the findings on risk recognition in revictimization.

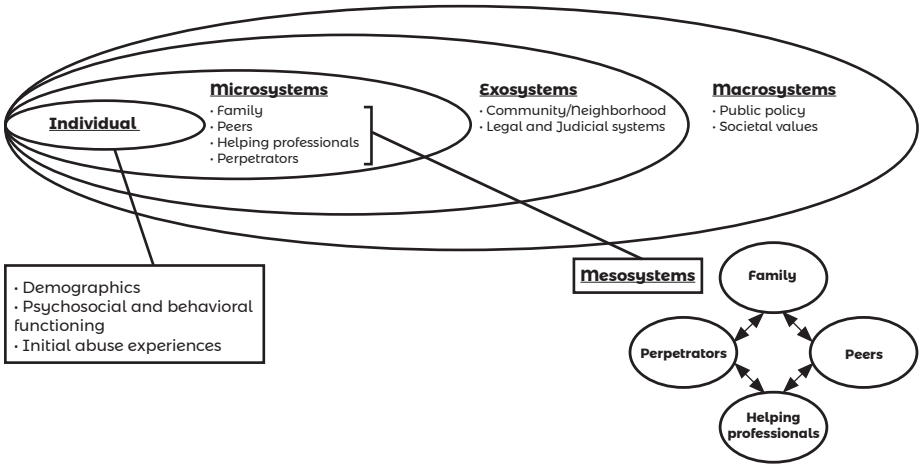
In this dissertation project, I did not only consider risk recognition, but also examined individual's reaction to risk as indexed by sexual assertiveness. This variable did not have any mediating effect in the model. Lower levels of sexual assertiveness was associated with higher

levels of other-directedness schemas, which shows that people might stay in risky situations because they prioritize others' needs or seek approval. However, sexual assertiveness was not connected to childhood maltreatment and adulthood victimization neither directly nor indirectly which collides with prior findings (Santos-Iglesias & Sierra, 2012; Ullman & Vasquez, 2015). The difference between the current and previous studies is that they focused on sexual revictimization while the present study relied on a broader definition of revictimization. Sexual assertiveness might be a risk factor that is especially relevant to *sexual revictimization*.

Direct association between childhood maltreatment and revictimization. The direct path from childhood maltreatment to adulthood victimization was statistically significant, which could indicate that other potential risk factors are missing. To speculate, the included risk factors in the model were all at intrapersonal level, while other factors beyond individual levels might influence revictimization as well. These potential additional factors and their relations with factors at individual level are well explained by the Ecological System Theory of revictimization (Pittenger et al., 2016) see Figure 2a below). As shown in this figure, the first layer includes factors at individual levels, such as victim's increased vulnerability by PTSD. The next layer (microsystem) includes the contexts in which abusive experiences occur, such as family, peers, and perpetrators. Interactions between two microsystems, such as interactions between family and peers, is defined as mesosystems. The third layer, exosystems, consists of the contexts with which an individual may not directly interact, but they influence individuals or microsystems. Financial and social resources in a neighborhood or laws against abuse are examples of exosystems. The last layer represents macrosystems consisting of main beliefs and values in a society that can influence microsystems, such as gender stereotypes or rape myths acceptance. Supporting the Ecological System Theory, social factors, such as level of support in a community (Obasaju et al., 2008) and traditional gender roles in a society (Herrero et al., 2018) were shown to influence the levels of violence, which eventually can have an impact on the risk of revictimization.

Figure 2a.

Ecological System Theory of Revictimization



Note. Adapted from 'Applying ecological systems theory to sexual revictimization of youth: A review with implications for research and practice' by Samantha L. Pittenger, Terrence Z. Huit, David J. Hansen, 2016, Aggression and Violent Behavior, 26, p. 38.

A General Perspective on the Revictimization Model. The proposed model in **Chapter 2** indicates developmental trajectories from childhood maltreatment to adulthood victimization. The model suggests that childhood maltreatment results in cognitive patterns about self, others, and interactions between self and others (e.g., insecure attachment and early maladaptive schemas). In turn, these factors may then foster difficulties with coping with emotions (e.g., emotion dysregulation and emotional reactivity). Due to this deficiency, people rely on maladaptive coping strategies at behavioral level (e.g., drug use and risky sex behavior), which potentially can increase the risk of further revictimization. These coping strategies, particularly drug use, might interfere with proper reaction to risk. For instance, it might be difficult to flee or resist while intoxicated. Since these observations are based on cross-sectional data, the assumptions about the temporal associations between the cognitive, emotional, and behavioral factors need to

be corroborated with longitudinal data. Ultimately, another general impression of the model was that the pathways directing from childhood maltreatment to the candidate mediators had higher beta coefficients compared to the pathways corresponding to mediators more proximal to adulthood victimization. Apparently, the consequences of childhood maltreatment are easier to predict than adulthood victimization following childhood maltreatment.

Revictimization and Sex Motives in Online Dating

Chapter 3 examined vulnerability to revictimization in the context of online dating among young heterosexual adult women (N = 413; n = general population, n = 137 university students, mean $_{age}$ = 23.68, SD = 3.62) who had used mobile dating applications in the year prior to the study and had met at least one match in person. An additional inclusion criterion was considered for the general population, which was an indication of childhood abuse/and or neglect. This criterion was added to oversample people with a history of childhood maltreatment. Approximately, one third of the sample reported revictimization, defined as childhood maltreatment combined with cyber/and or in-person sexual victimization. The findings delineate the vulnerability to cyber and in-person sexual victimization in online dating among women with a history of childhood maltreatment. This vulnerability increased with the severity of childhood maltreatment. These results add empirical evidence for the observed relationship between childhood maltreatment and victimization in adulthood (Walker et al., 2017, 2022). The link between childhood maltreatment and in-person sexual victimization in the present study was via emotion/self-esteem regulatory sex motives. Relatedly, the association between cyber and in-person sexual victimization increased as the level of these sex motives increased. Taken together, these findings provided further support for the agency-oriented assumption of revictimization because they suggest that women with a history of childhood maltreatment who experience cyber victimization might be acting in accordance with their motives of fostering self-esteem and regulating negative emotions. Prioritizing these motives seems to lead them to overlook the impli-

cations of such cyber victimization and decide to meet the perpetrator in person. In addition, these findings are in line with two studies reviewed in Chapter 1 (Miron & Orcutt, 2014; Reid, 2009) as well as the pathway model in Chapter 2 indicating emotion regulatory sex motive as second-order mediator of revictimization. In general, these results show the importance of investigating potential motives behind sexual risk-taking among the survivors of childhood maltreatment. As the next step, it is crucial to understand what factors can potentially promote such motives. For instance, it is important to examine if people with anxious attachment, other-directness schemas, and loneliness use sex as a way to connect with others and reduce perceived rejection or loneliness. Furthermore, it would be helpful to investigate further if survivors of childhood maltreatment are perhaps inclined to use sex to deal with mental distress induced by PTSD symptoms.

In contrast with our hypotheses, higher levels of the sex motives were not associated with the employment of fewer protective strategies for in-person dating. The null findings might be due to the characteristics of the sample (i.e., high prevalence of childhood maltreatment) which might have limited the variance in the assessed protective dating strategies. Our use of a custom-made measure (not yet validated) to assess the protective dating strategies might be another explanation of this finding. The findings of this study should be interpreted in light of its limitations. Since this study used a cross-sectional design, it remains to be tested in future research if these observed associations reflect a potential causal relationship. In addition, the findings are applicable only to young heterosexual female adults, but not to men, LGBTQ+ populations or older samples.

Assessment of Affect/Self-Esteem Regulatory Sex Motives

Since the measure used for the assessment of the sex motives for sexual risk-taking in online dating (Self-regulatory Sex Motives Scale in Online Dating; SSOD) in Chapter 3 was custom-made, it was important to assess its psychometric properties. The psychometric evaluation is described in **Chapter 4**. In addition, the relationship between the sex motives and risky sex behavior was examined. Out of the original

sample (N = 413) used in Chapter 3, 143 women (n = 86 from the general population and n = 57 from university students, $mean_{age}$ = 23.77, SD = 4.26) were selected for Chapter 4. The selection was based on the indication of having casual sex with online dating matches. The majority of the sample (72.02%) reported at least one form of childhood maltreatment. This was to be expected because an indication of a history of childhood maltreatment was one of the inclusion criteria in this subsample of the general population. The findings supported the reliability of the scale, indexed by high Cronbach's alpha (α = .91, 95% CI [.89, .93]). Further, the results of exploratory factor analysis suggested a one-factor solution for the SSOD. The SSOD scores were positively related to the frequency of having sex on the first date, but the strength of the relationship was small. The one-factor solution of the SSOD and the high association between the two sex motives (i.e., emotion regulation and self-affirmation) can be attributed to a broader concept; self-regulation which is considered as a general ability to regulate various emotions and behavior (Raffaelli & Crockett, 2003). To elaborate, the underlying latent factor behind using sex for the motives of emotion regulation and self-esteem boost might be related to self-regulation abilities. Other aspects of self-regulation (i.e., impulsivity and risk-taking) were included in the model in Chapter 2 of which impulsivity was not related to revictimization, but sexual risk-taking was. The null finding for impulsivity might be due to low levels of this factor in the sample, indicated by the mean (M = 2.02, Range = 1- 4).

It should be acknowledged, however, that the observed one-factor solution in the present study was not consistent with the results of Cooper and colleagues (1998) study that found evidence for different sex motives including emotion and self-regulatory motives and found two separate factors for these two motives by confirmatory factor analysis. The contradicting results might be due to differences in the samples (i.e., oversampling people with a history of childhood maltreatment in the current study), and the context (i.e., online dating in our study).

In addition, higher SSOD scores were related to higher frequency of having sex on the first date as predicted on the basis of the available data (Miron & Orcutt, 2014), however, the association was weak.

This finding suggests that higher levels of self-esteem/emotion regulatory motives are associated with elevated levels of sexual risk-taking in online dating, which is having sex on the first date with strangers. The high prevalence of childhood maltreatment in the sample might have resulted in a uniformity in terms of risky sex behavior and consequently in decreased variance in the frequency of having sex on the first date.

Victim Selection Based on Non-Verbal Cues

Unlike the studies in Chapter 1 to 4 with focus on victims' characteristics, **Chapter 5** focused on potential perpetrators to understand how vulnerability to victimization perceived by males, based on non-verbal cues, could increase the risk of sexual revictimization in people with a history of sexual abuse. In addition, the role of psychopathy in estimating the vulnerability and attention to non-verbal cues used for gauging the vulnerability were examined. Ultimately, the relationship between perceived history of sexual abuse and anticipated vulnerability to future abuse was tested. The study with a mixed design, qualitative and quantitative, sampled heterosexual young male students (N = 95). Approximately, half of the sample was between 20 and 24 years old and the majority of the sample was between 18 and 30 years old. The participants watched five muted YouTube videos of women speaking about sexual abuse in the past. The videos displayed the upper body, except for one video that showed the lower part down to the knees. The participants estimated the likelihood that the women had been abused in the past and then provided justifications for the estimations. The same procedure was implemented for estimating future vulnerability to sexual victimization, with the difference that participants were first instructed to put themselves in the shoes of a serial rapist and rate if they would consider the women as 'easy' targets for rape.

Non-verbal Cues Used for Estimating Vulnerability. The findings indicated that participants tend to attend to a variety of non-verbal cues converging to facial expression, eye contact, hand/arm movement, touching hair, general animation, non-auditory speech characteristics, and make up for gauging vulnerability to past and future abuse. Therefore, these cues were employed independent of the time of the

abuse. Several cues were used specifically for perceived past victimization, such as facial expression, eye contact and posture, cues indicating emotions and confidence in the women. In a similar vein, some cues were used specifically for predicting vulnerability in the future. These cues were age, physical characteristics (i.e., weight and strength), and perceived attractiveness and resistance. Attention to cues for forecasted vulnerability indicates a cost-benefit analysis (perceived attractiveness and resistance). Another observation was that the interpretation of several cues for past abuse and predicted vulnerability in future (i.e., frequency of hand movement and general animation, and touching hair) collide across participants such that some participants considered them as signs of vulnerability in the past or future, while others interpreted them otherwise. Objective data on the history of abuse in women was lacking and the women were not followed up. Therefore, it was not feasible to explore which interpretations were more accurate. Another pattern found in the justifications was inferring personality traits, such as confidence, assertiveness, and shyness based on a full range of observed non-verbal cues. Among the personality traits, low confidence, emotional instability, and unassertiveness were interpreted as vulnerable to sexual abuse in the past. The personality traits related to predicted sexual abuse were insecurity, low confidence and perceived submissiveness/passivity. In line with this, the studies on victims' characteristics reviewed in Chapter 1, showed that low sexual assertiveness and self-esteem were associated with a heightened probability of revictimization. In addition, emotional instability indicated by men as a signal for vulnerability might refer to psychological symptoms (e.g., PTSD, depression, and general psychological distress) observed as risk factors for revictimization in Chapter 1 and 2. Together, these results show how victims' characteristics, reflected in non-verbal cues, might be perceived as indications of vulnerability to victimization, the hypothesis formulated by Messman and Long (2003).

Comparing our results with previous findings point to the importance of cues related to physical characteristics (i.e., weight, strength, and perceived attractiveness) and age in victim selection since these cues emerged in prior research on inmates (Book et al., 2013; Stevens, 1994).

Another important cue might be level of animation, marked by hand movements since another study also provided evidence for lower levels of animation in women with a history of childhood sexual abuse compared to their peers without such a history (Parks et al., 2008). Therefore, targeting animation in empowerment interventions might be beneficial in mitigating the risk of victimization since greater animation might indicate the capacity for resistance in case of sexual abuse incidents. Another relevant target for prevention programs might be assertiveness training. In the current sample, traits of assertiveness were considered as a protective factor against sexual abuse. In line with this finding, submissive women are considered as more vulnerable to sexual abuse by men (Richards et al.,1991) and extant data support the effectiveness of assertiveness training programs in reducing the risk of sexual victimization (Rowe et al., 2015; Rowe et al., 2012).

Psychopathy and Vulnerability Estimations. Participants with higher psychopathy levels, particularly Factor 1, reported higher past abuse estimations for the women in the videos. This association cannot be interpreted as accurate victim identification with certainty due to the dearth of objective information about the women's abuse history. However, the result regarding past abuse is in keeping with the literature that shows the association between superior victim identification and psychopathy (Book et al., 2013; Ritchie et al., 2018; Wheeler et al., 2009). The levels of psychopathy and its factors did not show a significant relationship with future sexual victimization estimations. The observed different role of psychopathy in past versus future victimization estimations can be explained with two hypotheses. First, a higher level of psychopathy (not detected in the present sample) might be needed for realistic estimation of women's vulnerability to sexual victimization in the future. Participants had to imagine themselves as a serial rapist and consider the women for sexual exploitation, a process that might be more facilitated in the context of high levels of psychopathy. Another possibility is that participants considered women's perceived attractiveness while choosing women as 'targets'. Thus, lower perceived attractiveness would result in lower estimations for future vulnerability, regardless of the level of psychopathy.

Psychopathy and Attention to Non-Verbal Cues. Our results failed to provide evidence in support of instrumental use of non-verbal cues for gauging women's vulnerability in the context of psychopathy. The null findings might be due to the selection of videos in which only non-verbal cues in the upper body could be observed, while psychopaths might rely more on cues positioned in the lower body, such as gait cues (Book et al., 2013). Available data, although not extensive, showed an association between psychopathy and use of gait cues in the context of victim identification (Book et al., 2013; Ritchie et al., 2019). Moreover, in the current dissertation research, psychopathy was indexed by a self-report measure. Because such self-report measure is viable to bias, this might have influenced our findings with regard to the association between psychopathy and use of the cues as well.

Past and Future Vulnerability to Sexual Victimization. The observed positive relationship between the estimated vulnerability to sexual abuse in the past and anticipated vulnerability in the future delineated that participants found women with higher vulnerability in the past at higher risk of victimization in the future, but the association was weak to moderate. It seems that a history of abuse was not simply considered as vulnerability to victimization in the future. Instead, participants took other factors into account, such as the impacts of previous victimization incident(s) on current interpersonal relationship in terms of mistrust. They also attended to perceived physical attractiveness and potential resistance, while estimating vulnerability.

Theoretical Model of Revictimization

Following up the purpose of the current dissertation, a data-driven theoretical model is proposed based on the findings of the five studies reported in Chapter 1 to 5 (see Figure 3a below). The model presents intrapersonal factors, the relations between them, and their influences on perpetrators. The model proposes that childhood maltreatment (childhood abuse and neglect) results in cognitive changes that function as internal working models (i.e., negative schemas and insecure attachment, and meaning in life) by which people interpret their relationships, self-worth, and their life as a whole. These negative cognitive

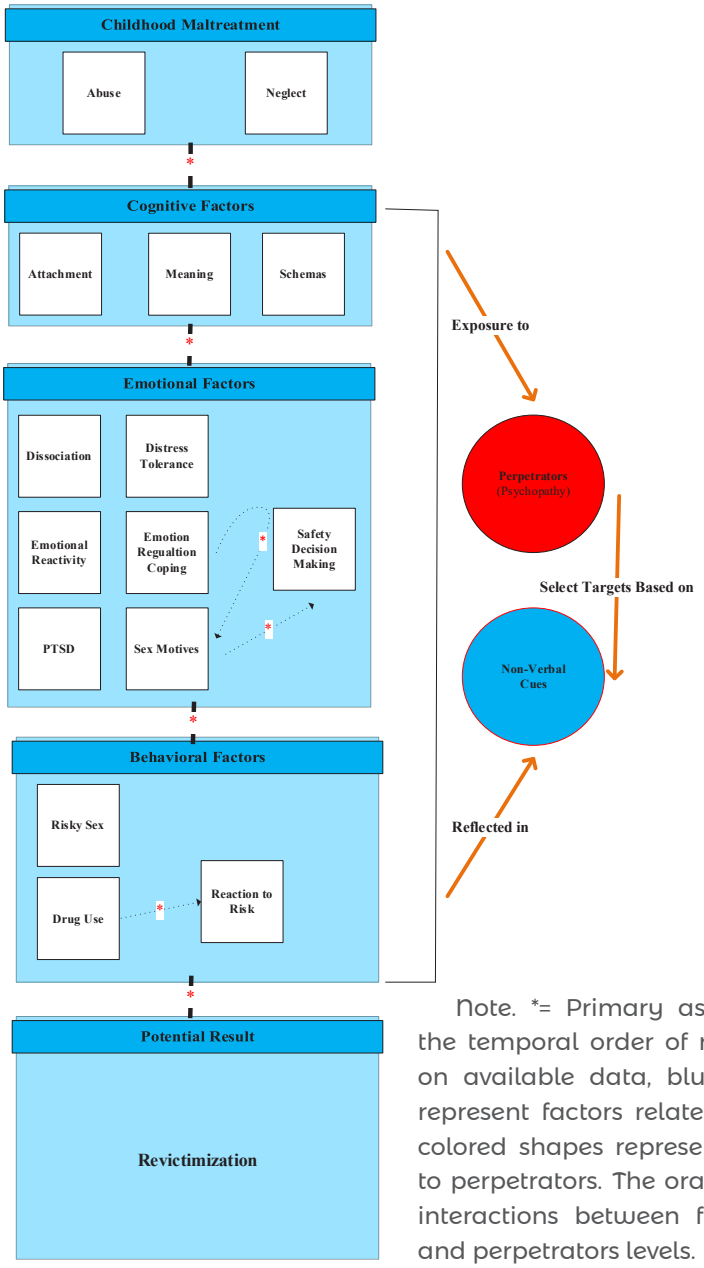
patterns might promote psychological symptoms such as PTSD, which in turn can increases the risk of revictimization. In addition, people might engage in risky behavior to deal with negative emotions associated with these maladaptive cognitive patterns. In parallel, people might engage in dissociation during stressful events including childhood maltreatment. This tendency can have manifold consequences for emotional processing such that it interferes with emotional processing (e.g., an inability to regulate emotions, and lack of tolerance for negative emotions) or they can potentially lead to vexing symptoms of PTSD. Since one's self is threatened in such a condition, people may rely on various strategies to alleviate the negative emotions. For instance, individuals might engage in risky sex behavior to regulate unpleasant emotions and negative self-appraisals. The habitual dissociation and drug use might be other strategies to mitigate overwhelming emotions. These behaviors can lead to revictimization in at least four ways. First, they increase victims' vulnerability. For instance, drug use and dissociation might prohibit proper reactions to risky situations, such as assertive responses or escaping. Second, the urgency to seek approval or to reduce negative emotions might compromise safety decision-making regarding the selection of sexual partners. Third, the increased vulnerability due to drug use and urgency for emotion/self-regulation might be reflected in non-verbal cues, such as facial expression, level of animation, and body posture whereby potential perpetrators might exploit these cues to approach vulnerable people as targets. Lastly, engagement is risky behaviors such as picking up strangers from bars while both parties are likely to be intoxicated increases the chance of exposure to potential perpetrators.

The proposed model in Figure 3a should be interpreted in light of available support. First, the suggested temporal order between the risk factors is based on cross-sectional data and should therefore be interpreted with caution. The evidence for the cognitive factors (attachment and early maladaptive schema) are limited to a handful of studies in Chapter 1 and the findings of Chapter 2. The suggested path from cognitive to emotional factors are solely based on Chapter 2. The inclusion of meaning in life in this category is based on Chapter

2, which calls for further research. Among the emotional factors, PTSD and emotion dysregulation have more support based on relatively fair support indicated in Chapter 1 and 2, but longitudinal evidence is still restricted/limited. In this category, peritraumatic dissociation is included based on Chapter 1 and 2, but the inclusion of emotional reactivity and distress tolerance is supported only by Chapter 2. The link between emotional and behavioral factors are backed up by Chapter 2 as well as (limited) evidence from Chapter 1. At this level, both factors of drug use and sexual risk-taking are included based on supporting evidence from Chapter 1 and 2. However, their contribution to revictimization is not clear yet due to inconsistencies in the literature. Additionally, the association between emotion dysregulation and emotion/self-esteem regulatory sex motives is supported by Chapter 2.

Figure 3 a.

Data-Driven Theoretical Model of Revictimization



Note. *= Primary assumptions about the temporal order of risk factors based on available data, blue-colored shapes represent factors related to victims, red-colored shapes represent factors related to perpetrators. The orange arrows show interactions between factors at victims and perpetrators levels.

The suggested link between the sex motives and reaction to risk is based on the findings of Chapter 3 i.e., the mediating role of sex motives in the association between cyber and in-person sexual victimization. The pathways demonstrating the effects of victims' characteristics, as risk factors signaling vulnerability, on victim selection by perpetrators as well as the reflection of this vulnerability in non-verbal cues are based on Chapter 5 and previous studies. However, these paths definitely need more support, particularly by longitudinal data. For instance, it is interesting to examine the prospective risk of sexual victimization for people perceived as vulnerable at the moment and test which non-verbal cues are accurate indicators of vulnerability and what victims' characteristics and interrelations between them would predict prospective victimization.

Clinical Implications

The revictimization model highlights the importance of addressing a multitude of intrapersonal factors in prevention programs. It seems essential to focus on adverse childhood experiences to change the cognitive patterns formed in childhood. Patterns that were at the service of one's survival in childhood, but impair healthy psychological functioning further in life. For instance, Young Schema Therapy (Young et al., 2003) could be an effective candidate treatment to work on these patterns. In this type of therapy, the main aim is to help clients acknowledge their basic emotional needs such as attachment and to learn how to meet these needs in healthy ways or regulate frustration when these needs are not met. This happens by changes in maladaptive schemas and coping strategies (Fassbinder et al., 2016). Experiential techniques such as chair dialogs and imagery re-scripting may help clients to feel the emotions corresponding to their schemas in a safe environment where another technique (limited parenting) offers care, protection, and empathy which aims to heal the traumatic scars and provide "corrective emotional experiences" (Fassbinder et al., 2016). A single case series study with six participants with a history of lifetime sexual abuse showed PTSD and depression symptoms significantly decreased following Schema Therapy. However, no study has investigated the effec-

tiveness of Schema Therapy on the prevention of revictimization yet, a question that can be addressed in the future (Korkmaz, & Soygut, 2023).

In addition, the model shows that disruption in self/emotion regulation due to childhood maltreatment plays an important role in the cycle of revictimization as they can result in risk-taking behaviors. Thus, interventions focused on emotion regulation, such as Dialectical Behavior Therapy (Linehan, 1993) could be potentially helpful. DBT aims to enhance the repertoire of strategies by which emotions can be regulated. Emotion regulation skills are presented in four modules: Mindfulness, Emotion Regulation, Interpersonal Effectiveness, and Distress Tolerance (for more information, read Linehan, 1993). The core purpose of these modules is to increase the awareness of emotions and attend to them without judgement (Fassbinder et al., 2016), which decrease emotional and experiential avoidance and open space for employing adaptive coping skills. Regardless of the differences in the treatments discussed above, the ultimate aim of both therapies is to enhance emotion regulation (Fassbinder et al., 2016) which might be particularly relevant in the context of revictimization. To clarify, a review was conducted on the effects of childhood maltreatment on PTSD and its comorbidities, such as substance use disorder and eating disorders. Based on the findings, the authors concluded that emotion regulation might be a "coalescent factor in the nexus of child maltreatment, PTSD, and other comorbidities" (Messman-Moore & Bhuptani, 2017), which highlight the importance of targeting emotion regulation in revictimized people. There is lack of research on the effectiveness of DBT as a means to reduce the risk of revictimization, which encourages research in the future. If dissociation is indeed a risk factor for revictimization, such treatment might be effective as a preventive intervention via adjusting this maladaptive coping strategy.

The results regarding the contribution of emotion/self-regulatory sex motives to revictimization imply the importance of focusing on these motives while addressing risky sex behaviors since these behaviors are at the service of meeting those motives. Awareness of such motives and addressing them by more adaptive strategies could prevent further victimization. Follow-up treatment in crisis/help centers where

people attend after rape incidents might consider the assessment of these motives in clients, especially when the incidents occur in the context of risky sex behavior such as sex with strangers via online dating applications.

Furthermore, since vulnerability to victimization might be reflected in non-verbal cues, which in turn communicate such vulnerability with potential perpetrators, it is important to focus on these non-verbal cues in prevention programs. For instance, people at risk can be informed what non-verbal cues are perceived as signs of vulnerability by potential perpetrators and can encourage them to approach individuals perceived as easy targets. A study indicating that learning self-defense skills was associated with less perceived vulnerability among people with a history of victimization (Roney et al., 2018) provides support for the potential efficacy of such interventions. However, interventions on victims would not be sufficient since the cause of interpersonal violence are the perpetrators. Obviously, factors contributing to perpetration should be the focus of interventions as well. For instance, addressing rape myths (Schwendinger & Schwendinger, 1974), consent training for sex, and bystander training are among potential prevention interventions for large institutions, such as high schools, colleges, and universities since these organizations have the opportunity to reach a large segment of young adults. Available evidence supports the effectiveness of such programs in high schools (Santelli et al., 2018) and colleges/universities (Kettrey & Marx, 2019; Senn et al., 2017; Vladutiu et al., 2011; Zapp et al., 2018)

Limitations and Directions for Future Research

The studies included in the present dissertation are subject to several limitations. Common limitations in the investigations covered in Chapter 2 to 4 were sampling young women, particularly university students. Chapter 3 and 4 were less problematic in this matter since they included women from the general population too, but they were still limited to heterosexual women. Relatedly, Chapter 5 exclusively focused on heterosexual young men in university. Another shared limitation across Chapter 2 to 4 were cross-sectional designs. In addition,

except for Chapter 5, other chapters exclusively tested the intrapersonal risk factors of revictimization, while available data support the importance of social factors as well (Obasaju et al., 2008; Herrero et al., 2018). Therefore, the proposed model of revictimization is applied mostly to (heterosexual) women in young adulthood and it is essential to test the model in other populations as well in future research. For instance, further research on revictimization in men is crucial because previous studies, limited to a couple of studies, generated convergent results supporting relatively high rate of revictimization, approximately between 11% (Charak et al., 2019) and 17% (Aosved et al., 2011) among men. The risk of revictimization in men was lower than women in a study, but still an approximately two-to- five-fold risk was found for men with a history of childhood maltreatment compared to their peers without such a history (Desai et al., 2002). LGBTQ+ individuals are similarly overlooked in this arena, while extant evidence indicates that a history of childhood sexual abuse increases the risk of sexual revictimization in this population by approximately two fold (Balsam et al., 2011).

In addition, prospective data can afford an opportunity to examine if the model is valid for such data as well. The prospective model is being built based on the data collected as a part of a larger (longitudinal) project, but it is not included in the present dissertation since it is still in progress. Another issue in Chapter 1 to 4 was that the characteristic of childhood maltreatment including specific forms of childhood maltreatment, experiencing multiple forms of childhood maltreatment, duration of maltreatment, age of onset, and relationship with perpetrator(s) were not considered. A prospective study showed that among different forms of childhood maltreatment, sexual abuse had the highest risk for revictimization, while physical abuse had the lowest risk. In addition, polyvictimization (i.e., experiencing more than one form of childhood maltreatment) had an impact on the risk of revictimization. For instance, sexual abuse exclusively increased the risk of revictimization by fourfold, whereas combined sexual abuse and psychological violence/neglect increased the risk by approximately 22-fold (Stroem et al., 2019). Various forms of childhood maltreatment and combinations of childhood maltreatment types might develop differential risk fac-

tors for revictimization. Furthermore, previous studies found that other characteristics of childhood maltreatment, such as the nature of childhood sexual abuse (i.e., fondling versus (attempted) rape), use of force at the time of childhood sexual abuse experiences (Classen et al., 2005) and the relationship of the perpetrator with victim (Stroem et al., 2019) influence the risk of revictimization. These characteristics might have predictive value and adding them to models might help us improve our knowledge about risk factors for revictimization.

Besides these common issues, each chapter also had specific limitations. In Chapter 1, the systematic review provided a broad perspective on intrapersonal risk factors for revictimization such that studies with different forms of childhood maltreatment and adulthood victimization, and various populations were included. This approach showed that the importance of risk factors might vary based on the populations and forms of victimization. Future reviews can contribute to the integration of the existing knowledge by focusing on risk factors specific to each population or types of victimization, which might be a challenge because most studies conducted so far prominently focus on female university students and sexual victimization. This indicates the need for the investigation of other populations such as community samples, men, and LGBTQ+, and other forms of victimization such as physical, emotional abuse/and or neglect. Another limitation in this review was different definitions for victimization in childhood and adulthood, even when the studies examined similar forms of victimization. For instance, the definition of sexual abuse was not consistent across the studies. Thus, the next logical step would be consensus on the definitions of various forms of victimization, which can help reduce inconsistencies in future research. The predominance of cross-sectional studies was another limitation of the review, which simultaneously represent the ongoing issue in the arena of revictimization. Longitudinal studies can generate more reliable data in the years to come.

In Chapter 2, several measures were custom-made. The measures showed proper reliability in the sample (indexed by Cronbach's alphas), but validated measures might have provided more reliable data. Furthermore, additional inclusion criterion regarding the indi-

cation of childhood maltreatment used for recruiting general population might have resulted in the formation of a group with history of childhood maltreatment with high severity levels. Although we did not find any significant difference between participants below and above the cut-offs for childhood maltreatment severity regarding their use of dating applications, relationship status, and main motives for online dating, potential differences in factors not assessed in the study cannot be ruled out. The additional inclusion criteria also resulted in oversampling individuals with a history of childhood maltreatment in the study presented in Chapter 4. Therefore, the reliability and factor-structure of the scale was assessed in a specific sample, people with a high severity of childhood maltreatment. Furthermore, the study included general population and university student samples while factor loadings and factor-structure of the scale might be different in these two populations. A larger sample size can be used to assess measurement invariance and clarify potential differences between these two populations.

The findings of the study in Chapter 5 need to be interpreted in light of several limitations. First, the participants were students that have shown to have a relatively low rate of sexual perpetration (Campbell et al., 2017; Gámez-Guadix et al., 2011), which limits the generalizability of the findings to offenders. Second, a comparison group with women with a negative history of sexual abuse was lacking in the study. Some cues might have not reported since the selected videos were excessively uniform. Relatedly, the selected videos belonged to women who were willing to publicly speak about their experiences, which might form a group with specific non-verbal cues not applicable to women who do not come forward in such a way. Further, since the women in the videos reported a history of sexual abuse, the cues considered as signs of a negative history of sexual abuse should be interpreted with caution. To address the limitations in this study regarding the used videos, the author conducted an observational study in which women's interaction with a man was recorded while the women were in a standing position. The women's history of sexual abuse during childhood and adulthood was assessed as well. The videos will be used in another study to further understand victim selection based on non-verbal cues.

Access to information regarding the history of abuse would give an opportunity to overcome the limitations of the study in Chapter 5, particularly regarding the accuracy of victim identification.

The author of this dissertation cannot emphasize more that the examination of victims' characteristics increasing the chance of revictimization does not imply that victims are responsible for their safety. Understanding these characteristics would offer opportunities for empowerment and prevention programs. In parallel, research on perpetration and interventions on perpetrators are even more important because the perpetrators are the ultimate cause.

Concluding Remarks

Revictimization is a multifaceted phenomenon. At the individual level, various cognitive, emotional and behavioral factors are involved. Interactions between these intrapersonal factors are influential in the potential occurrence of revictimization as well. Interventions on sexual risk-taking requires the assessment of motives behind risky sex behavior given that available evidence indicate a tendency to regulate negative emotions and seek approval using sex which can increase the risk of exposure to potential partners. Although factors at interpersonal level, such as the effects of victims' characteristics on victim selection by perpetrators, have not been studied well, the existing data delineate how perpetrators, particularly the ones with psychopathic traits, can estimate victims' vulnerability reflected in non-verbal cues. Further research on the impact of perpetrators on the risk of revictimization is critical. In addition, it is essential to explore the differential effects of different forms of childhood maltreatment on different types of adulthood victimization in order to understand if specific risk factors are more relevant to one form of victimization compared to others. Relatedly, the impact of characteristics of childhood maltreatment on revictimization is another limitation in the literature that needs further exploration. Since the extant data has been predominantly collected from female university students, attention to other populations, such as general population, men and LGBTQ+ is needed to further our knowledge. Another caveat in the field is longitudinal evidence since most studies have been

conducted cross-sectionally. Finally, there is an urgent need for investigations on non-verbal cues perceived as indication of vulnerability to sexual victimization in samples with a history of sexual offence.

Samenvatting (summary in Dutch)

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Het aantal gevallen van kindermishandeling is wereldwijd zorgwekkend. Volgens een rapport van de Centers for Disease Control and Prevention [CDC]) was in 2021 één op de zeven kinderen in de Verenigde Staten het slachtoffer van kindermishandeling of -verwaarlozing. Onderzoek heeft laten zien dat kindermishandeling een belangrijke risicofactor is voor slachtofferschap op volwassen leeftijd, een fenomeen dat revictimisatie wordt genoemd (Walker et al., 2017; Walker & Wamser-Nanney, 2022). Eerdere studies lieten een twee- tot drievoudige toename van de kans op (seksuele) revictimisatie zien bij slachtoffers van kindermishandeling (Arata, 2002; Jankowski et al., 2002; Van Bruggen et al., 2006). Gezien het verhoogde risico op revictimisatie op volwassen leeftijd is het belangrijk te begrijpen welke factoren ten grondslag liggen aan de verhoogde kwetsbaarheid voor verder slachtofferschap. Uit de beschikbare gegevens blijkt dat verschillende risicofactoren verband houden met recidive zoals de ernst van de posttraumatische stresssstoornissymptomen (Ullman, 2016; Littleton & Ullman, 2013; Ullman et al, 2009; Noll et al., 2003), het ervaren van dissociatie (Zamir et al., 2018; Noll et al., 2003), depressiesymptomen (Miron & Orcutt, 2014; Cusack et al., 2021; Najdowski & Ullman, 2011), en emotiedisregulatie (Lilly et al., 2014; Messman-Moore et al., 2013). Aangenomen wordt dat deze factoren interfereren met het vermogen om risicovolle situaties op te sporen (Messman-Moore & Long, 2003). Een andere verklaring is echter dat iemand kan besluiten om zich in risicovolle situaties te blijven begeven of er in betrokken te blijven worden, ondanks het detecteren van signalen die dreiging indiceren, of vanwege andere factoren zoals het zoeken naar goedkeuring of angst voor afwijzing (Macy, 2007).

In een reeks overzichtsartikelen hebben onderzoekers getracht de bestaande gegevens over risiscofactoren voor revictimisatie te integreren (Arata, 2002; Breitenbecher, 2001; Classen et al., 2005; Messman-Moore & Long, 2003). Op één uitzondering na (Walker & Wamser-Nanney, 2022) richtten al deze reviews zich echter op een specifieke vorm van revictimisatie (namelijk seksuele revictimisatie) en hebben ze geen betrekking op relevant onderzoek dat in de laatste twee decennia is gedaan. Bovendien zijn alle reviews tot nu toe niet-sys-

tematisch. Het is dus duidelijk dat er dringend behoefte is aan een systematisch review dat een breed perspectief biedt op risicofactoren voor revictimisatie en waarin ook de meer recente bevindingen op dit gebied zijn geïntegreerd.

Voor een beter begrip van revictimisering is het ook van belang meer inzicht te krijgen in de wijze waarop de bekende risicofactoren met elkaar samenhangen. Tot nu toe hebben onderzoeken naar de kenmerken van slachtoffers de risicofactoren afzonderlijk onderzocht (Bockers et al., 2014; Noll et al., 2003; Risser et al., 2006) of in relatie tot een zeer beperkt aantal andere kandidaat-risicofactoren (DePrince, 2008; Messman-Moore et al., 2010; Ullman, 2016; Ullman et al., 2009). Hierdoor valt niet uit te maken hoe het volledige scala van geïdentificeerde risicofactoren met elkaar in verband staat en mogelijk op elkaar inwerken. Daarom zou een uitgebreider datagedreven model dat ook ingaat op onderlinge relaties tussen risicofactoren voor revictimisatie zeer behulpzaam zijn om het inzicht te bevorderen in hoe de verschillende geïdentificeerde risicofactoren gezamenlijk kunnen bijdragen aan revictimisatie.

Om onze kennis over de mechanismen achter revictimisatie te vergroten, is het bovendien van cruciaal belang om meer inzicht te krijgen in de contexten waarin mensen met een verleden van kindermishandeling kwetsbaar zijn om ook later wederom slachtoffer te worden van mishandeling en/of misbruik. Eén van deze contexten is het moderne daten waarbij mensen hun datingpartners online ontmoeten, bijvoorbeeld via mobiele datingapplicaties, zoals Tinder (Rosenfeld et al., 2019; Rosenfeld & Thomas, 2012). Dit zou belangrijke informatie kunnen opleveren, aangezien er aanwijzingen zijn dat het gebruik van online dating mensen meer in het algemeen kwetsbaar maakt voor seksueel slachtofferschap (Choi et al, 2016; Shapiro et al., 2017). Tot op heden heeft geen enkele studie de kwetsbaarheid voor revictimisatie in de context van online dating onderzocht bij mensen met een verleden van kindermishandeling. Daarom is het cruciaal onderzoek te doen naar de mate van revictimisatie en haar potentiële risicofactoren bij online dating. Daarnaast is online dating een relevante context om motieven te onderzoeken die ten grondslag liggen aan risicovol seksueel gedrag,

gezien het hoge percentage van dergelijk gedrag in deze context.

Om het aantal gevallen van revictimisatie te verminderen, moet ook worden onderzocht hoe daders hun slachtoffers selecteren en op welke signalen zij zich baseren om de kwetsbaarheid van hun beoogde slachtoffer te peilen. Gegevens over daders zijn nog steeds schaars. Er zijn echter twee belangrijke bevindingen uit eerder onderzoek. Ten eerste schatten individuen met een hoger niveau van psychopathie iemands kwetsbaarheid voor slachtofferschap nauwkeuriger in (Book et al., 2013; Ritchie et al., 2018; Wheeler et al., 2009). Ten tweede lijken ze hun inschattingen te baseren op non-verbale signalen, zoals de manier waarop mensen zich bewegen (Book et al., 2013; Ritchie et al., 2019). Tot op heden waren de meeste studies gericht op loopstijl die kwetsbaarheid voor beroving of de combinatie van beroving en seksueel misbruik signaleert. Vooralsnog is onduidelijk in hoeverre ook andere lichamelijke signalen, zoals handbewegingen en lichaamshouding, bijdragen aan het signaleren van kwetsbaarheid en daarmee de kans op (seksueel) slachtofferschap verhogen.

Om de hierboven besproken lacunes in de literatuur aan te pakken, zijn in het kader van dit proefschrift vijf studies uitgevoerd die in de hoofdstukken 1 tot en met 5 zijn beschreven.

Hoofdstuk 1:
Systematisch literatuuronderzoek naar risicofactoren voor revictimisatie

Hoofdstuk 1 geeft een systematisch overzicht van empirische studies die mogelijke psychologische factoren onderzoeken die kindermishandeling koppelen aan slachtofferschap op volwassen leeftijd en belicht kritieke hiaten in de literatuur. Volgens het PRISMA-protocol werden 71 originele studies geanalyseerd (48 cross-sectionele, 21 longitudinale, 2 mixed design) met een totale steekproef van N = 31.633 deelnemers. De ernst van de symptonen voor de verschillende trauma-gerelateerde stoornissen, emotie disregulatie, en riskant seksueel gedrag kwamen naar voren als potentiële voorspellers van revictimisatie. Hoewel deze potentiële risicofactoren de relatie tussen kindermishandeling en slach-

tofferschap op volwassen leeftijd mediëren, was het bewijs voor aanvullende factoren zoals sociale steun, hechtingsstijlen, maladaptieve schema's en risicodetectie zeer beperkt.

Bovendien werden verschillende belangrijke beperkingen in de literatuur vastgesteld. Ten eerste waren de meeste studies cross-sectioneel, waardoor interpretaties over temporele relaties tussen revictimisatie en de bijbehorende risicofactoren beperkt zijn. Ten tweede werden de meeste studies uitgevoerd op een zeer specifieke populatie, namelijk (blanke) vrouwelijke universiteitsstudenten in de VS. Daarom is informatie over andere populaties, zoals mannen en de algemene bevolking, schaars. Ten slotte werd in elke studie een beperkt aantal risicofactoren opgenomen, wat een volledig inzicht (ook m.b.t. specificiteit) van de betrokken factoren uitsluit.

Hoofdstuk 2:
Interrelaties tussen risicofactoren in een data-gestuurd model

In hoofdstuk 2 werd een data-gedreven theoretisch padmodel getest, bestaande uit 33 variabelen (en hun associaties) die mogelijk het begrip van factoren die revictimisatie verklaren kunnen vergroten. De kandidaat-factoren voor het model werden geselecteerd op basis van de in hoofdstuk 1 besproken studies, waaronder PTSS, dissociatie, risicovol seksueel gedrag, gehechtheid, vroege maladaptieve schema's en risicoherkenning. Sommige bijkomende factoren werden geselecteerd omdat ze gerelateerd zijn aan seksueel slachtofferschap op volwassen leeftijd (bv. seksuele sensatie zoeken) of risicovol seksueel gedrag (bv. impulsiviteit). Ten slotte werden sommige factoren, zoals ervaren zin/betekenis van het leven en eenzaamheid opgenomen omdat ze conceptueel relevant leken voor revictimisatie. Voor dit onderzoek werden cross-sectionele gegevens uit een studie met meerdere metingen gebruikt. De deelnemers (N = 2156, leeftijdmean = 19,94, SD = 2,89) waren vrouwelijke eerstejaarsstudenten psychologie in Nederland en Nieuw-Zeeland, die een batterij vragenlijsten invulden en twee computeropdrachten uitvoerden. Het padmodel gecreëerd door structurele vergelijkingsmodellering met modificatie-indices liet zien dat peritraumatische dissociatie, PTSS-symptomen, traumabelast-

ing, eenzaamheid en drugsgebruik belangrijke mediatoren waren. Gehechtheidsstijlen, maladaptieve schema's, betekenis van het leven, en seksmotieven verbonden kindermishandeling met slachtofferschap op volwassen leeftijd via andere factoren (PTSS-symptomen, riskant seksueel gedrag, eenzaamheid, ontregeling van emoties, en seksmotieven).

Het voorgestelde model geeft ontwikkelingslijnen aan van mishandeling in de kindertijd tot slachtofferschap op volwassen leeftijd. Het model suggereert dat mishandeling in de kindertijd leidt tot cognitieve patronen over zichzelf, over anderen en interacties tussen zichzelf en anderen (bijvoorbeeld onveilige gehechtheid en vroege maladaptieve schema's). Deze factoren versterken moeilijkheden bij het omgaan met emoties (bv. emotiedisregulatie en emotionele reactiviteit). Als gevolg van deze tekortkoming vertrouwen mensen op maladaptieve copingstrategieën op gedragsniveau (bv. drugsgebruik en riskant seksueel gedrag), die mogelijk het risico op verdere revictimisatie kunnen vergroten. Deze copingstrategieën, met name drugsgebruik, kunnen een juiste reactie op risico's in de weg staan. Er zij op gewezen dat ook de opzet van deze studie cross-sectioneel was en dat de hierboven veronderstelde temporele volgorde van risicofactoren met de nodige voorzichtigheid moet worden gehanteerd. Voorts bleek uit het model dat motieven voor risicovol seksueel gedrag (d.w.z. seks gebruiken om negatieve emoties te reguleren en het gevoel van eigenwaarde te vergroten) de relatie tussen mishandeling in de kindertijd en revictimisatie (deels) medieerde. Moeilijkheden met het detecteren van risicovolle signalen in een seksuele interactie kwamen in het model echter niet naar voren als een mediërende factor. Deze bevindingen impliceren dat het onderliggende mechanisme achter revictimisatie niet noodzakelijkerwijs slechte risicoherkenning is. In plaats daarvan zouden mensen riskant gedrag kunnen vertonen, ongeacht het bewustzijn van de risico's, omdat het voldoen aan de motieven op dat moment prioriteit heeft.

Dit hoofdstuk leverde verdere ondersteuning voor de mogelijke effecten van PTSS, peritraumatische dissociatie, risicovol seksueel gedrag en alcoholgebruik, en motieven achter het nemen van seksuele risico's op revictimisatie, en bevestigde daarmee de bevindingen

in hoofdstuk 1. Bovendien liet het zien hoe factoren waarvoor in hoofdstuk 1 weinig bewijs werd gevonden -vroege maladaptieve schema's en gehechtheid- via andere emotionele en gedragsfactoren kunnen bijdragen aan de kans op revictimisatie.

Hoofdstuk 3:
Revictimisatie en seksmotieven bij onlinedating

De in hoofdstuk 3 gepresenteerde studie onderzocht of revictimisatie veel voorkomt bij online-dateapp-gebruikers en welke mechanismen dit risico mediëren. De deelnemers waren 413 heteroseksuele vrouwen (n = 276 algemene bevolking, n = 135 universiteitsstudenten), tussen 18 en 35 jaar oud, die in het jaar voorafgaand aan de beoordeling mobiele datingapplicaties gebruikten. De deelnemers rapporteerden informatie over het gebruik van mobiele datingapplicaties, motieven voor het aangaan van casual seks, beschermende datingstrategieën en algemene motieven voor online dating. Ernstige mishandeling in de kindertijd was positief gerelateerd aan de ernst van zowel cyber- als persoonlijke seksuele victimisatie. Motieven met betrekking tot het reguleren van negatief affect en eigenwaarde mediëerden de relatie tussen de ernst van de mishandeling in de kindertijd en de ernst van het persoonlijk seksueel slachtofferschap op volwassen leeftijd. Bovendien matigden deze motieven de associatie tussen cyber- en persoonlijke seksuele victimisatie. Het effect van cyberslachtofferschap op persoonlijk seksueel slachtofferschap was sterker bij hogere niveaus van affect/zelfbeeld regulerende seksmotieven dan bij lagere niveaus. De affect/zelfbeeld regulerende seksmotieven waren niet gerelateerd aan beschermende datingstrategieën.

De resultaten van de studie impliceren dat bij jonge heteroseksuele vrouwen die online dating gebruiken, een geschiedenis van kindermishandeling een risicofactor is voor seksueel slachtofferschap op volwassen leeftijd. Eén van de factoren die deze variabelen in deze populatie met elkaar verbinden, zouden de motieven voor betrokkenheid bij risicovol seksueel gedrag kunnen zijn (seks gebruiken om negatief affect te verminderen en het gevoel van eigenwaarde te vergroten). Het moderende effect van affect/zelfrespect regulerende seksmotieven op de

associatie tussen cyber- en in-person slachtofferschap suggereert dat mensen die seksueel slachtoffer worden via de datingapplicaties de dader nog steeds persoonlijk ontmoeten. Zij zouden kunnen besluiten hun veiligheid in gevaar te brengen vanwege de prioriteit van motieven. De resultaten van dit hoofdstuk sluiten aan bij de bevindingen van hoofdstuk 1 en 2 over de rol van motieven achter het nemen van seksuele risico's bij revictimisatie.

Hoofdstuk 4:
Beoordeling van affectie /zelfbeeld regulerende seksuele motieven

Voor de in hoofdstuk 3 gepresenteerde studie is een vragenlijst ontwikkeld om seksmotieven voor casual seks bij gebruikers van online dating te beoordelen; de zogenaamde Self-regulatory Sex Motives Scale in Online Dating (SSOD). De studie die in hoofdstuk 4 wordt gepresenteerd, evalueerde de psychometrische eigenschappen van de SSOD en onderzocht de relatie tussen seksmotieven die door de SSOD worden geïndexeerd en risicovol seksueel gedrag. De SSOD vertoonde een hoge interne consistentie. Exploratieve factoranalyse suggereerde een één-factor oplossing. Seksmotieven waren gerelateerd aan een hogere frequentie van seks tijdens de eerste date.

De één-factor oplossing van de SSOD kan worden toegeschreven aan een breder concept -zelfregulatie- dat wordt beschouwd als een algemeen vermogen om verschillende emoties en gedragingen te reguleren (Raffaelli & Crockett, 2003). De onderliggende latente factor achter het gebruik van seks voor de motieven van emotieregulatie en het vergroten van het gevoel van eigenwaarde zou kunnen samenhangen met een meer algemeen verminderd vermogen tot zelfregulatie.

Hoofdstuk 5: Slachtofferselectie op basis van non-verbale signalen

De studie waarvan in hoofdstuk 5 verslag wordt gedaan, onderzocht de waargenomen relevantie van non-verbale signalen als signalen van vroegere en toekomstige kwetsbaarheid voor seksueel slachtofferschap. Bovendien werden de verbanden onderzocht tussen psychopathie, ervaren kwetsbaarheid en aandacht voor non-verbale

signalen. Heteroseksuele jongvolwassen mannen (N = 95) vulden de Levenson Self-Report Psychopathy Scale in en bekeken vijf korte videoclips (zonder geluid) met vrouwen die spraken over eerdere seksuele victimisatie. De deelnemers beoordeelden de waarschijnlijkheid van kwetsbaarheid voor seksueel slachtofferschap in het verleden en in de toekomst, waarbij ze hun beoordeling schriftelijk moeste onderbouwen. Uit hun onderbouwing kwamen verschillende signalen naar voren die werden gebruikt bij het beoordelen van de kwetsbaarheid voor seksueel slachtofferschap in het verleden en in de toekomst waaronder emotionele gezichtsuitdrukking, oogcontact en lichaamshouding. Psychopathie was positief geassocieerd met hogere schattingen van kwetsbaarheid in het verleden, maar niet met hogere schattingen van kwetsbaarheid in de toekomst, wat te wijten zou kunnen zijn aan de afhankelijkheid van verschillende signalen voor deze twee schattingen. Aandacht voor cues voor voorspelde kwetsbaarheid duidt op een kosten-batenanalyse (waargenomen aantrekkelijkheid en weerstand), terwijl verschillende cues die specifiek werden gebruikt voor waargenomen slachtofferschap in het verleden (gezichtsuitdrukking, oogcontact en lichaamshouding) cues waren die duidden op emoties en vertrouwen in de vrouwen. Bovendien werd de kwetsbaarheid voor seksueel slachtofferschap geschat op basis van afgeleide persoonlijkheidskenmerken. Weinig zelfvertrouwen, emotionele instabiliteit en nonassertiviteit werden geïnterpreteerd als kwetsbaarheid voor seksueel misbruik in het verleden. De persoonlijkheidskenmerken die verband hielden met voorspeld seksueel misbruik in de toekomst waren onzekerheid, weinig zelfvertrouwen en waargenomen onderdanigheid/passiviteit. In overeenstemming hiermee bleek uit de in hoofdstuk 1 besproken studies naar de kenmerken van slachtoffers, dat lage seksuele assertiviteit en een laag gevoel van eigenwaarde samenhingen met een verhoogde kans op revictimisatie. Samen laten deze resultaten zien hoe kenmerken van slachtoffers, die ook tot uiting kunnen komen in non-verbale signalen, kunnen worden opgevat als aanwijzingen voor kwetsbaarheid voor slachtofferschap.

Theoretisch model van revictimisatie

In aansluiting op het doel van het huidige proefschrift wordt een datagedreven theoretisch model voorgesteld op basis van de bevindingen van de vijf in hoofdstuk 1 tot en met 5 gerapporteerde studies (zie onderstaande figuur).

Het model presenteert intrapersoonlijke factoren, de relaties daartussen en hun invloeden op daders. Het model stelt dat kindermishandeling (kindermisbruik en verwaarlozing) leidt tot cognitieve veranderingen die fungeren als interne werkmodellen (d.w.z. negatieve schema's, onzekere gehechtheid, en ervaren zingeving in het leven) waarmee mensen hun relaties, eigenwaarde, en hun leven als geheel interpreteren. Tegelijkertijd kunnen mensen gedissocieerd raken tijdens stressvolle gebeurtenissen, zoals mishandeling in de kindertijd. Deze neiging kan de emotionele verwerking verstoren (bv. onvermogen om emoties te reguleren en gebrek aan tolerantie voor negatieve emoties) en kunnen leiden tot symptomen van PTSS. Onder deze omstandigheden kunnen mensen op verschillende (disfunctionele) strategieën terugvallen om de impact van de ervaren negatieve emoties te verminderen en negatieve zelfbeoordelingen te reguleren zoals riskant seksueel gedrag, dissociatie en drugsgebruik. Deze gedragingen kunnen op minstens vier manieren tot revictimisatie leiden. Ten eerste vergroten ze de kwetsbaarheid van het slachtoffer. Drugsgebruik en dissociatie kunnen bijvoorbeeld verhinderen dat adequate reacties op risicovolle situaties worden ingezet, zoals assertief reageren of ontsnappen. Ten tweede kan de drang om goedkeuring te krijgen of negatieve emoties te verminderen de veiligheidsbeslissing over de keuze van seksuele partners in gevaar brengen. Ten derde kan de verhoogde kwetsbaarheid als gevolg van drugsgebruik en de drang naar emotie/zelfregulering tot uiting komen in non-verbale signalen, zoals gelaatsuitdrukking, mate van animatie en lichaamshouding, waarbij potentiële daders deze signalen kunnen uitbuiten om kwetsbare mensen als doelwit te benaderen. Ten slotte verhoogt betrokkenheid bij risicovol gedrag, zoals het oppikken van vreemden aan de bar terwijl beide partijen waarschijnlijk dronken zijn, de kans op blootstelling aan potentiële daders.

Slotopmerkingen

Revictimisatie is een verschijnsel met vele facetten. Op individueel niveau spelen verschillende cognitieve, emotionele en gedragsfactoren een rol. Interacties tussen deze intrapersoonlijke factoren zijn ook van invloed op het mogelijk optreden van revictimisatie. Interventies met betrekking tot het nemen van seksuele risico's vereisen een beoordeling van de motieven achter risicovol seksueel gedrag, aangezien de beschikbare gegevens wijzen op een tendens om negatieve emoties te reguleren en goedkeuring te zoeken door middel van seks, wat het risico op blootstelling aan gevaarlijke seks-partners kan verhogen. Hoewel factoren op interpersoonlijk niveau, zoals de effecten van slachtofferkenmerken op de selectie van slachtoffers door daders, niet goed zijn bestudeerd, geven de bestaande gegevens aan hoe daders, met name degenen met psychopathische trekken, de kwetsbaarheid van slachtoffers kunnen inschatten die tot uiting komt in non-verbale signalen. Verder onderzoek naar de invloed van daders op het risico van revictimisatie is van cruciaal belang.

Aangezien de bestaande gegevens voornamelijk zijn verzameld onder vrouwelijke universiteitsstudenten, is aandacht voor andere populaties nodig (zoals de algemene bevolking en mannen) om een meer omvattend inzicht te krijgen in de factoren die kunnen bijdragen aan revicitimisatie en hoe die mogelijk variëren als functie van het type populatie. Daarnaast is het van groot belang om meer in te zetten op longitudinaal (naast cross-sectioneel) onderzoek om meer finale conclusies te kunnen trekken over de relevantie van de voorgestelde factoren als risico factor voor revictimisatie. Tenslotte is er dringend behoefte aan nader onderzoek naar niet-verbale signalen die worden waargenomen als indicatie van kwetsbaarheid voor seksueel slachtofferschap in steekproeven met een verleden van seksueel misbruik.

Summary (in English)

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The rate of childhood maltreatment worldwide is concerning. In the United States, one in seven children suffered from child abuse or neglect in 2021 based on a report by Centers for Disease Control and Prevention [CDC]). Established evidence shows that childhood maltreatment is a significant risk factor for victimization in adulthood, a phenomenon called revictimization (Walker et al., 2017; Walker & Wamser-Nanney, 2022). Previous studies suggested two-to-threefold increase in the chance of revictimization, particularly sexual revictimization (Arata, 2002; Jankowski et al., 2002; Van Bruggen et al., 2006). Given the elevated risk of victimization in adulthood among the survivors of childhood maltreatment, it is important to understand what factors underlie the increased vulnerability to further victimization. Available data shows that various risk factors are associated with revictimization. For instance, posttraumatic stress disorder severity (Ullman, 2016; Littleton & Ullman, 2013; Ullman et al, 2009; Noll et al., 2003), dissociation (Zamir et al., 2018; Noll et al., 2003), depression symptom severity (Miron & Orcutt, 2014; Cusack et al., 2021; Najdowski & Ullman, 2011), and emotion dysregulation (Lilly et al., 2014; Messman-Moore et al., 2013) are among the risk factors for revictimization. It is assumed that these factors interfere with the ability to detect risky situations (Messman-Moore & Long, 2003). However, another explanation argues that one might decide to stay or engage in risky situations, despite detecting threatening signals, due to other factors such as approval seeking or fear of rejection (Macy, 2007).

While evidence on risk factors for revictimization is amassing, researchers have attempted to integrate existing data by literature reviews (Arata, 2002; Breitenbecher, 2001; Classen et al., 2005; Messman-Moore & Long, 2003). However, with one exception (Walker & Wamser-Nanney, 2022), all reviews focused on a specific form of revictimization (i.e., sexual revictimization) and they do not cover relevant research that was done in the last two decades. In addition, all reviews to date are non-systematic. Clearly then, a systematic review that provides a broad perspective on risk factors for revictimization and also integrates the more recent findings in this field is

urgently needed.

To further our understanding of revictimization, it is also important to enhance insight in how the known risk factors interrelate. Thus far, studies on victims' characteristics examined risk factors either in isolation (Bockers et al., 2014; Noll et al., 2003; Risser et al., 2006) or in relation to a very limited number of other candidate risk factors (DePrince, 2008; Messman-Moore et al., 2010; Ullman, 2016; Ullman et al., 2009). This precludes the opportunity to examine how the full range of identified risk factors relate and may interact. Therefore, a more comprehensive data-driven model also addressing interrelations between risk factors for revictimization would be very helpful to advance insight in how the various identified risk factors may jointly contribute to revictimization.

Furthermore, to enhance our knowledge about the mechanisms behind revictimization, it is pivotal to improve our understanding of the contexts in which the survivors of childhood maltreatment might be exploited. One of these contexts is modern dating in which people meet their dating partners online, for instance by mobile dating applications, such as Tinder (Rosenfeid et al., 2019; Rosenfeld & Thomas, 2012). This would provide valuable information given that evidence shows that using online dating is associated with sexual victimization (Choi et al, 2016; Shapiro et al., 2017). To date, no study has investigated vulnerability to revictimization in the context of online dating among people with a history of childhood maltreatment. Therefore, it is crucial to examine revictimization rate and its potential risk factors in online dating. In addition, online dating is a relevant context to examine motives underlying risky sex behavior given the high rate of such behavior in this context.

To decrease the rate of revictimization, we also need to investigate how perpetrators select their victims and examine the cues on which they rely to gauge their candidate targets' vulnerability. Evidence on perpetrator's side is still scarce. However, two main findings are observed across prior research. First, individuals with higher psychopathy levels gauge one's vulnerability to victimization with greater

accuracy (Book et al., 2013; Ritchie et al., 2018; Wheeler et al., 2009). Second, they seem to base their estimations on non-verbal cues, such as gait cues (Book et al., 2013; Ritchie et al., 2019). To date, most studies focused on walking style signaling vulnerability to mugging or the combination of mugging and sexual abuse. It remains therefore to be examined to what extent other body language cues, such as hand movements and body posture may be taken to signal vulnerability and thereby heightening the probability of (sexual) victimization.

To address the gaps in the literature discussed above, the present dissertation project conducted five studies that are presented in Chapter 1 to 5.

Chapter 1:

Systematic Literature Review on Risk Factors for Revictimization

Chapter 1 presents a systematical review of empirical studies examining potential psychological factors linking childhood maltreatment to victimization in adulthood and highlights critical gaps in the literature. Following PRISMA protocol, 71 original studies (48 cross-sectional, 21 longitudinal, 2 mixed design) consisting of a total sample of N = 31,633 participants were analyzed. Symptom severity for various trauma-related disorders, emotion dysregulation, and risky sexual behaviors emerged as potential predictors of revictimization. While these potential risk factors mediated the relationship between childhood maltreatment and adulthood victimization, evidence for additional factors such as social support, attachment styles, maladaptive schemas, and risk detection was very limited.

In addition, several major limitations in the literature were observed. First, most studies were cross-sectional which limit interpretations about temporal relationships between revictimization and its risk factors. Second, the majority of studies were conducted on a very specific population, (Caucasian) female university students in the US. Therefore, information on other populations, such as men and general population is scarce. Lastly, a limited number of risk factors were included in each study that precludes a comprehensive insight (and

specificity) of the factors involved.

Chapter 2:

Interrelations between Risk Factors in a Data-Driven Model

Chapter 2 tested a data-driven theoretical path model consisting of 33 variables (and their associations) that could potentially enhance understanding of factors explaining revictimization. The candidate mediators for the model were selected based on the studies reviewed in Chapter 1 including PTSD, dissociation, risky sex behavior, attachment, early maladaptive schemas, and risk recognition are among these mediators. Some additional factors were selected because they were either related to adulthood sexual victimization (e.g., sexual sensation seeking) or risky sex behavior (e.g., impulsivity). Finally, some factors, such as meaning in life and loneliness were included because they seemed conceptually relevant to revictimization. Cross-sectional data derived from a multi-wave study were used for this investigation. Participants (N = 2156, age mean = 19.94, SD = 2.89) were first-year female psychology students in the Netherlands and New Zealand, who responded to a battery of questionnaires and performed two computer tasks. The path model created by structural equation modelling using modification indices showed that peritraumatic dissociation, PTSD symptoms, trauma load, loneliness, and drug use were important mediators. Attachment styles, maladaptive schemas, meaning in life, and sex motives connected childhood maltreatment to adulthood victimization via other factors (i.e., PTSD symptoms, risky sex behavior, loneliness, emotion dysregulation, and sex motives). The proposed model indicates developmental trajectories from childhood maltreatment to adulthood victimization. The model suggests that childhood maltreatment results in cognitive patterns about self, others, and interactions between self and others (e.g., insecure attachment and early maladaptive schemas). These factors foster difficulties with coping with emotions (e.g., emotion dysregulation and emotional reactivity). Due to this deficiency, people rely on maladaptive coping strategies at behavioral level (e.g., drug use and risky sex behavior), which potentially can increase the risk of further

revictimization. These coping strategies, particularly drug use, might interfere with proper reaction to risk. It is noteworthy that also the design of this study was cross-sectional and the temporal order of risk factors assumed above should be considered with caution hence, this requires corroboration with prospective research before reaching more firm conclusions about critical mediators. Furthermore, the model showed that motives for risky sex behavior (i.e., using sex to regulate negative emotions and to boost self-esteem) link childhood maltreatment to revictimization. However, difficulties with detecting risky signals in a sexual interaction did not emerge as a mediating factor in the model. These findings imply that the underlying mechanism behind revictimization might not be poor risk recognition necessarily. Instead, people might engage in risky behavior, regardless of awareness of the risks, because meeting the motives are in priority at the time.

This chapter provided further support for the potential effects of PTSD, peritraumatic dissociation, risky sex behavior and alcohol use, and motives behind sexual risk-taking on revictimization thereby corroborating the findings presented in Chapter 1. Furthermore, it showed how factors with limited evidence in Chapter 1, early maladaptive schemas and attachment, could contribute to revictimization through other emotional and behavioral factors.

Chapter 3:

Revictimization and Sex Motives in Online Dating

The study presented in Chapter 3 examined whether revictimization is common in online users and which mechanisms mediate this risk. The participants were 413 heterosexual women (n = 276 general population, n = 135 university students), aged between 18 and 35 who used mobile dating applications in the year before the assessment. The participants reported information on using mobile dating applications, motives for engaging in casual sex, protective dating strategies and general motives for online dating. Childhood maltreatment severity was positively related to both cyber and in-person sexual

victimization severity. Motives related to regulating negative affect and self-esteem mediated the relationship between childhood maltreatment severity and in-person sexual victimization severity in adulthood. Furthermore, those motives moderated the association between cyber and in-person sexual victimization. The effect of cyber victimization on in-person sexual victimization was stronger at higher levels of affect/self-esteem regulatory sex motives compared to lower levels. The affect/self-esteem regulatory sex motives were not related to protective dating strategies. The results of the study imply that a history of childhood maltreatment is a risk factor for sexual victimization in adulthood among young heterosexual women who use online dating. One of the factors linking these variables in this population might be motives for engagement in risky sex behavior (using sex to reduce negative affect and boost self-esteem). The moderating effect of affect/self-esteem regulatory sex motives on the association between cyber and in-person victimization suggest that people being sexually victimized on the dating applications still meet the perpetrator in person. They might decide to compromise their safety due to priority of the motives. The results of this chapter are in line with findings of Chapter 1 and 2 on the role of motives behind sexual risk-taking in revictimization.

Chapter 4:

Assessment of Affect/Self-Esteem Regulatory Sex Motives

For the study presented in Chapter 3, a custom-made measure, the Self-regulatory Sex Motives Scale in Online Dating (SSOD), was developed to assess sex motives for casual sex in online dating users. The study presented in Chapter 4 evaluated the psychometric properties of the SSOD and examined the relationship between sex motives indexed by the SSOD and risky sex behavior. The new scale showed high internal consistency. Exploratory factor analysis suggested a one-factor solution. Sex motives were related to a higher frequency of having sex on the first date.

The one-factor solution of the SSOD can be attributed to a broader

concept; self-regulation which is considered as a general ability to regulate various emotions and behavior (Raffaelli & Crockett, 2003). To elaborate, the underlying latent factor behind using sex for the motives of emotion regulation and self-esteem boost might be related to impaired self-regulation abilities.

Chapter 5:

Victim Selection Based on Non-Verbal Cues

The study reported in Chapter 5 investigated the perceived relevance of non-verbal cues as signals of past and future vulnerability to sexual victimization. In addition, it examined the associations between psychopathy, perceived vulnerability, and attention to non-verbal cues. Heterosexual young adult males (N = 95) filled in the Levenson Self-Report Psychopathy Scale and watched five muted short video clips displaying women speaking about previous sexual victimization. Participants rated the likelihood of past and future vulnerability to sexual victimization, and provided written justification for their ratings. Various cues, such as emotional facial expression, eye contact, and body posture, were reported in the justifications. Psychopathy was positively associated with higher past, but not with higher future vulnerability estimations, which might be due to reliance on different cues for these two estimations. Attention to cues for forecasted vulnerability indicates a cost-benefit analysis (perceived attractiveness and resistance), while several cues used specifically for perceived past victimization (facial expression, eye contact and posture) were cues indicating emotions and confidence in the women. In addition, vulnerability to sexual victimization was estimated based on inferred personality traits. Low confidence, emotional instability, and unassertiveness were interpreted as vulnerable to sexual abuse in the past. The personality traits related to predicted sexual abuse were insecurity, low confidence and perceived submissiveness/passivity. In line with this, the studies on victims' characteristics reviewed in Chapter 1, showed that low sexual assertiveness and self-esteem were associated with a heightened probability of revictimization. Together, these results show how victims' characteristics, reflected in

non-verbal cues, might be perceived as indications of vulnerability to victimization.

Theoretical Model of Revictimization

Following up the purpose of the current dissertation, a data-driven theoretical model is proposed based on the findings of the five studies reported in Chapter 1 to 5. The model presents intrapersonal factors, the relations between them, and their influences on perpetrators. The model proposes that childhood maltreatment (childhood abuse and neglect) results in cognitive changes that function as internal working models (i.e., negative schemas, insecure attachment, and meaning in life) by which people interpret their relationships, self-worth, and their life as a whole. In parallel, people might engage in dissociation during stressful events including childhood maltreatment. This tendency can have manifold consequences for emotional processing such that it interferes with emotional processing (e.g., an inability to regulate emotions, and lack of tolerance for negative emotions) or they can potentially lead to vexing symptoms of PTSD. Since one's self is threatened in such a condition, people may rely on various strategies to alleviate the negative emotions. For instance, individuals might engage in risky sex behavior to regulate unpleasant emotions and negative self-appraisals. The habitual dissociation and drug use might be other strategies to mitigate overwhelming emotions. These behaviors can lead to revictimization in at least four ways. First, they increase victims' vulnerability. For instance, drug use and dissociation might prohibit proper reactions to risky situations, such as assertive responses or escaping. Second, the urgency to seek approval or to reduce negative emotions might compromise safety decision-making regarding the selection of sexual partners. Third, the increased vulnerability due to drug use and urgency for emotion/self-regulation might be reflected in non-verbal cues, such as facial expression, level of animation, and body posture whereby potential perpetrators might exploit these cues to approach vulnerable people as targets. Lastly, engagement is risky behaviors such as picking up strangers from bars while both parties are likely to be intoxicated increases the chance of

exposure to potential perpetrators.

Limitations and Directions for Future Research

The studies included in the present dissertation are subject to several limitations. Common limitations in the investigations covered in Chapter 2 to 4 were sampling young women, particularly university students. Chapter 3 and 4 were less problematic in this matter since they included women from the general population too, but they were still limited to heterosexual women. Relatedly, Chapter 5 exclusively focused on heterosexual young men in university. Another shared limitation across Chapter 2 to 4 were cross-sectional designs. In addition, except for Chapter 5, other chapters exclusively tested the intrapersonal risk factors of revictimization, while available data support the importance of social factors as well (Obasaju et al., 2008; Herrero et al., 2018). Therefore, the proposed model of revictimization is applied mostly to (heterosexual) women in young adulthood and it is essential to test the model in other populations as well in future research. For instance, further research on revictimization in men is crucial because previous studies, limited to a couple of studies, generated convergent results supporting relatively high rate of revictimization, approximately between 11% (Charak, Eshelman, & Messman-Moore, 2019) and 17% (Aosved, Long, & Voller, 2011) among men. In addition, prospective data can afford an opportunity to examine if the model is valid for such data as well.

References

References

Abajobir, A. A., Kisely, S., Maravilla, J. C., Williams, G., & Najman, J. M. (2017). Gender differences in the association between childhood sexual abuse and risky sexual behaviours: A systematic review and meta-analysis. *Child Abuse & Neglect, 63*, 249-260. doi:https://doi.org/10.1016/j.chiabu.2016.11.023

Akdoğan, R. (2017). A model proposal on the relationships between loneliness, insecure attachment, and inferiority feelings. *Personality and Individual Differences, 111*, 19-24. doi:10.1016/j.paid.2017.01.048

Alloway, R., & Bebbington, P. (1987). The buffer theory of social support – a review of the literature. *Psychological Medicine, 17*(1), 91-108. doi:10.1017/S0033291700013015

Angelakis, I., Gillespie, E. L., & Panagioti, M. (2019). Childhood maltreatment and adult suicidality: a comprehensive systematic review with meta-analysis. *Psychological Medicine, 49*(7), 1057-1078. doi:10.1017/S0033291718003823

Andersson, T., Pettersson, R., & Jacobsson, M. (2020). Women and men sexually violated by closely related perpetrators over a lifespan. Prevalence, revictimization, and association to adverse childhood conditions and experiences. *Children and Youth Services Review, 113*, 104897. doi:doi.org/10.1016/j.childyouth.2020.104897

Aosved, A. C., Long, P. J., & Voller, E. K. (2011). Sexual revictimization and adjustment in college men. *Psychology of Men & Masculinity, 12*(3), 285-296. https://doi.org/10.1037/a0020828

Arata, C. M. (1999a). Coping With Rape: The Roles of prior sexual abuse and attributions of blame. *Journal of Interpersonal Violence, 14*(1), 62-78. https://doi.org/10.1177/088626099014001004

Arata, C. M. (1999b). Repeated sexual victimization and mental disorders in women. *Journal of Child Sexual Abuse, 7*(3), 1-17.

https://doi.org/10.1300/J070v07n03_01

Arata, C. M. (1999c). Sexual Revictimization and PTSD: An exploratory study. *Journal of Child Sexual Abuse, 8*(1), 49-65. https://doi.org/10.1300/J070v08n01_04

Arata, C. M. (2000). From Child Victim to Adult Victim: A Model for Predicting sexual Revictimization. *Child Maltreatment, 5*(1), 28-38. https://doi.org/10.1177/1077559500005001004

Arata, C. M. (2002). Child sexual abuse and sexual revictimization. *Clinical Psychology: Science and Practice, 9*(2), 135-164. doi:10.1093/clipsy.9.2.135

Arata, C. M., & Lindman, L. (2002). Marriage, child Abuse, and sexual revictimization. *Journal of Interpersonal Violence, 17*(9), 953-971.

Arboleda-Flórez, J., & Wade, T. J. (2001). Childhood and adult victimization as risk factor for major depression. *International Journal of Law and Psychiatry, 24*(4-5), 357–370. https://doi.org/10.1016/S0160-2527(01)00072-3

Atmaca, S., & Gençöz, T. (2016). Exploring revictimization process among Turkish women: The role of early maladaptive schemas on the link between child abuse and partner violence. *Child Abuse & Neglect, 52*, 85-93. doi: 10.1016/j.chiabu.2016.01.00

Arata, C. M., & Lindman, L. (2002). Marriage, child Abuse, and sexual revictimization. *Journal of Interpersonal Violence, 17*(9), 953-971.

Arboleda-Flórez, J., & Wade, T. J. (2001). Childhood and adult victimization as risk factor for major depression. *International Journal of Law and Psychiatry, 24*(4-5), 357–370. https://doi.org/10.1016/S0160-2527(01)00072-3

Atmaca, S., & Gençöz, T. (2016). Exploring revictimization process among Turkish women: The role of early maladaptive schemas on the link between child abuse and partner vio-

lence. *Child Abuse & Neglect, 52*, 85-93. doi: 10.1016/j.chiabu.2016.01.004

Baca, S. A., Crawford, J. N., & Allard, C. B. (2021). PTSD, depression, and suicidality among survivors of childhood sexual trauma (CST), military sexual trauma (MST), and sexual revictimization (CST + MST). *Psychological Trauma: Theory, Research, Practice, and Policy*. doi:10.1037/tra0001149

Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (1994). The Twenty-item Toronto Alexithymia scale—II. Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research, 38*(1), 33-40. doi:https://doi.org/10.1016/0022-3999(94)90006-X. https://doi.org/10.1016/0022-3999(94)90005-1

Balsam, K. F., Lehavot K Fau - Beadnell, B., & Beadnell, B. (2011). Sexual revictimization and mental health: A comparison of lesbians, gay men, and heterosexual women. Journal of Interpersonal Violence, *26* (9), 1798-814. doi: 10.1177/0886260510372946

Banyard, V. L., Williams, L. M., & Siegel, J. A. (2001). The long-term mental health consequences of child sexual abuse: An exploratory study of the impact of multiple traumas in a sample of women. *Journal of Traumatic Stress, 14*(4), 697-715. https://doi.org/10.1023/A:1013085904337

Barnes, J. E., Noll, J. G., Putnam, F. W., & Trickett, P. K. (2009). Sexual and physical revictimization among victims of severe childhood sexual abuse. *Child Abuse & Neglect, 33*(7), 412-420. https://doi.org/10.1016/j.chiabu.2008.09.013

Barrios, Y. V., Gelaye, B., Zhong, Q., Nicolaidis, C., Rondon, M. B., Garcia, P. J., . . . Williams, M. A. (2015). Association of childhood physical and sexual abuse with intimate partner violence, poor general health and depressive symptoms among pregnant women. *PLoS ONE, 10* (1). doi: doi.org/10.1371/journal.pone.0122573

Basu, A., McLaughlin, K. A., Misra, S., & Koenen, K. C. (2017). Child-

hood maltreatment and health impact: The examples of cardiovascular disease and type 2 diabetes mellitus in adults. *Clinical Psychology: Science and Practice, 24*(2), 125-139. doi: 10.1111/cpsp.12191

Bates, D., Mächler, M., Bolker, B., Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software, 67*(1), 1–48. doi:10.18637/jss.v067.i01

Batten, S. V., Aslan, M., Maciejewski, P. K., & Mazure, C. M. J. T. J. o. c. p. (2004). Childhood maltreatment as a risk factor for adult cardiovascular disease and depression. *Clinical Psychology, 65*(2), 2569. doi: 10.4088/jcp.v65n0217

Bell, K. M., & Naugle, A. E. (2008). The role of emotion recognition skills in adult sexual revictimization. *The Journal of Behavior Analysis of Offender and Victim Treatment and Prevention, 1*(4), 93-118. http://dx.doi.org/10.1037/h0100459

Bellis, M. A., Hughes, K., Leckenby, N., Hardcastle, K. A., Perkins, C., & Lowey, H. (2015). Measuring mortality and the burden of adult disease associated with adverse childhood experiences in England: a national survey. *Journal of Public Health, 37*(3), 445-454. doi:10.1093/pubmed/fdu065

Bennett, T., & Holloway, K. (2017). Motives for illicit prescription drug use among university students: A systematic review and meta-analysis. *International Journal of Drug Policy, 44*, 12-22. doi:10.1016/j.drugpo.2017.02.012

Bernstein, D. P., Ahluvalia, T., Pogge, D., & Handelsman, L. (1997). Validity of the Childhood Trauma Questionnaire in an adolescent psychiatric population. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*(3), 340-348. doi:10.1097/00004583-199703000-00012

Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *The Journal of Nervous and Mental Disease, 174*(12).

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ah-

luvalia, T., . . . Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 27*(2), 169-190. doi:10.1016/S0145-2134(02)00541-0

Bertele, N., Talmon, A., Gross, J. J., Schmahl, C., Schmitz, M., & Niedtfeld, I. (2022). Childhood maltreatment and borderline personality disorder: The mediating role of difficulties with emotion regulation. *Journal of Personality Disorders, 36*(3), 264-276. doi:10.1521/pedi.2022.36.3.264

Beymer, M. R., Weiss, R. E., Bolan, R. K., Rudy, E. T., Bourque, L. B., Rodriguez, J. P., & Morisky, D. E. (2014). Sex on demand: Geosocial networking phone apps and risk of sexually transmitted infections among a cross-sectional sample of men who have sex with men in Los Angeles county. *Sexually Transmitted Infections, 90*(7), 567. doi:10.1136/sextrans-2013-051494

Bockers, E., Roepke, S., Michael, L., Renneberg, B., & Knaevelsrud, C. (2014). Risk recognition, attachment anxiety, self-efficacy, and state dissociation predict revictimization. *PLoS ONE, 9*(9), e108206-e108206. doi:10.1371/journal.pone.0108206

Bolstad, B. R., & Zinbarg, R. E. (1997). Sexual victimization, generalized perception of control, and posttraumatic stress disorder symptom severity. *Journal of Anxiety Disorders, 11*(5), 523-540. https://doi.org/10.1016/S0887-6185(97)00028-5

Book, A., Costello, K., & Camilleri, J. A. (2013). Psychopathy and victim selection: The use of gait as a cue to vulnerability. *Journal of Interpersonal Violence, 28*(11), 2368-2383. doi:10.1177/0886260512475315

Bowlby, J. (1973). Attachment and Loss: Seperation (Vol. 2). New York: Basic Books.

Boyda, D., McFeeters, D., & Shevlin, M. (2015). Intimate partner violence, sexual abuse, and the mediating role of loneliness on psychosis. *Psychosis, 7*(1), 1-13. doi:10.1080/17522439.2014.917433

Breh, D. C., & Seidler, G. H. (2007). Is peritraumatic dissociation a risk factor for PTSD? *Trauma and Dissociation, 8*(1), 53-69. doi:10.1300/J229v08n01_04

Brenner, I., & Ben-Amitay, G. (2015). Sexual revictimization: The impact of attachment anxiety, accumulated trauma, and response to childhood sexual abuse disclosure. *Violence and Victims, 30*(1), 49-65. doi:10.1891/0886-6708.VV-D-13-00098

Breitenbecher, K. H. (2008). The convergent validities of two measures of dating behaviors related to risk for sexual victimization. *Journal of Interpersonal Violence, 23*(8), 1095-1107. doi:10.1177/0886260507313974

Breitenbecher, K. H. (2001). Sexual revictimization among women: A review of the literature focusing on empirical investigations. *Aggression and Violent Behavior, 6*(4), 415-432. doi:https://doi.org/10.1016/S1359-1789(00)00014-8

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*, 513-531. doi:10.1037/0003-066X.32.7.513

Bryant, K., & Sheldon, P. (2017). Cyber dating in the age of mobile apps: Understanding motives, attitudes, and characteristics of users. *American Communication Journal, 19*(2), 1-15.

Cabecinha, M., Mercer, C. H., Gravningen, K., Aicken, C., Jones, K. G., Tanton, C., . . . Field, N. (2017). Finding sexual partners online: Prevalence and associations with sexual behaviour, STI diagnoses and other sexual health outcomes in the British population. *Sexually Transmitted Infections, 93*(8), 572. doi:10.1136/sextrans-2016-052994

Caetano, R., & Cunradi, C. (2003). Intimate partner violence and depression among Whites, Blacks, and Hispanics. *Annals of epidemiology, 13*(10), 661-665. doi:https://doi.org/10.1016/j.annepidem.2003.09.002

Caldeira, K. M., Arria Am Fau - O'Grady, K. E., O'Grady Ke Fau - Zarate, E. M., Zarate Em Fau - Vincent, K. B., Vincent Kb Fau

- Wish, E. D., & Wish, E. D. (2009). Prospective associations between alcohol and drug consumption and risky sex among female college students. *Journal of Alcohol and Drug Education, 53*(2), 71–92

Campbell, J. C., Sabri, B., Budhathoki, C., Kaufman, M. R., Alhusen, J., & Decker, M. R. (2017). Unwanted sexual acts among university students: Correlates of victimization and perpetration. *Journal of Interpersonal Violence, 36*(1-2), NP504-NP526. doi:10.1177/0886260517734221

Campbell R., Sefl, T., & Ahrens, C. (2004.) The impact of rape on women's sexual health risk behaviors. Health Psychology, 23, 67–74. https://doi.org/10.1037/0278-6133.23.1.67

Carlson, G. C., & Duckworth, M. P. (2019). Sexual victimization and benefit expectations of risky behavior among female college students. *Journal of interpersonal violence, 34*(8), 1543-1562. doi:10.1177/0886260516651626

Cascardi, M. (2016). From violence in the home to physical dating violence victimization: The mediating role of psychological distress in a prospective study of female adolescents. *Journal of Youth and Adolescence, 45*, 777-792. doi:10.1007/s10964-016-0434-1

Cava, M.-J., Buelga, S., & Tomás, I. (2018). Peer victimization and dating violence victimization: The mediating role of loneliness, depressed mood, and life satisfaction. *Journal of Interpersonal Violence, 36*(5-6), 2677-2702. doi:10.1177/0886260518760013

Cascardi, M. (2016). From violence in the home to physical dating violence victimization: The mediating role of psychological distress in a prospective study of female adolescents. *Journal of Youth and Adolescence, 45*(4), 777-792. https://doi.org/10.1007/s10964-016-0434-1

Celsi, L., Paleari, F. G., & Fincham, F. D. (2021). Adverse childhood experiences and early maladaptive schemas as predictors of cyber dating abuse: an actor-partner interdependence medi-

ation model approach. *Frontiers in Psychology, 12*, e623646. doi:10.3389/fpsyg.2021.623646

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control (2008). Childhood maltreatment and surveillance: Uniform definitions for public health and recommended data elemnets.

Charak, R., Eshelman, L. R., & Messman-Moore, T. L. (2019). Latent classes of childhood maltreatment, adult sexual assault, and revictimization in men: Differences in masculinity, anger, and substance use. *Psychology of Men & Masculinities, 20*, 503-514. doi:10.1037/men0000185

Charnigo, R., Noar, S. M., Garnett, C., Crosby, R., Palmgreen, P., & Zimmerman, R. S. (2013). Sensation seeking and impulsivity: Combined associations with risky sexual behavior in a large sample of young adults. *The Journal of Sex Research, 50*(5), 480-488. doi:10.1080/00224499.2011.652264

Choi, E. P. H., Wong, J. Y.-H., Lo, H. H.-M., Wong, W., Chio, J. H.-M., & Fong, D. Y.-T. (2016). The impacts of using smartphone dating applications on sexual risk behaviours in college students in Hong Kong. *PLoS ONE, 11*(11), e0165394-e0165394. doi:10.1371/journal.pone.0165394

Choi, E. P. H., Wong, J. Y. H., & Fong, D. Y. T. (2016). An emerging risk factor of sexual abuse: The use of smartphone dating applications. *Sexual Abuse, 30*(4), 343-366. doi:10.1177/1079063216672168

Chu, J. A. (1992). The revictimization of adult women with histories of childhood abuse. *Journal of Psychotherapy Practice & Research, 1*, 259-269.

Chu, A. T., DePrince, A. P., & Mauss, I. B. (2014). Exploring revictimization risk in a community sample of sexual assault survivors. *Journal of Trauma & Dissociation, 15*(3), 319-331. doi:10.1080/15299732.2013.853723

Cividanes, G., Mello, A., & Mello, M. (2019). Revictimization as a high-

risk factor for development of posttraumatic stress disorder: a systematic review of the literature. *41*(2019). *Brazilian Psychiatric Association*, *41* (1), 82-89.

Classen, C., Field, N. P., Koopman, C., Nevill-Manning, K., & Spiegel, D. (2001). Interpersonal problems and their relationship to sexual revictimization among women sexually abused in childhood. *Journal of Interpersonal Violence, 16*(6), 495-509. https://doi.org/10.1177/088626001016006001

Classen, C., Nevo, R., Koopman, C., Nevill-Manning, K., Gore-Felton, C., Rose, D. S., & Spiegel, D. (2002). Recent stressful life events, sexual revictimization, and their relationship with traumatic stress symptoms among women sexually abused in childhood. *Journal of Interpersonal Violence, 17*(12), 1274-1290. https://doi.org/10.1177/088626002237856.

Classen, C. C., Palesh, O. G., & Aggarwal, R. (2005). Sexual Revictimization: A review of the empirical literature. *Trauma, Violence, & Abuse, 6*(2), 103-129. https://doi.org/10.1177/1524838005275087

Classen, C. C., Palesh, O. G., & Aggarwal, R. (2005). Sexual revictimization: a review of the empirical literature. *Trauma, Violence &Abuse, 6*(2), 103-129. doi:10.1177/1524838005275087

Clodfelter, T. A., Turner, M. G., Hartman, J. L., & Kuhns, J. B. (2008). Sexual harassment victimization during emerging adulthood: A test of routine activities theory and a general theory of crime. *Crime & Delinquency, 56*(3), 455-481. doi:10.1177/0011128708324665

Cloitre, M., Scarvalone, P., & Difede, J. (1997). Posttraumatic stress disorder, self- and interpersonal dysfunction among sexually retraumatized women. *Journal of Traumatic Stress, 10*(3), 437-452. https://doi.org/10.1002/jts.2490100309

Cloitre, M., & Rosenberg, A. (1998). Sexual revictimization: Risk factors and prevention. In *Cognitive-Behavioral Therapies for Trauma.* (pp. 278-304). New York, NY, US: The Guilford Press.

Combs-Lane, A. M., & Smith, D. W. (2002). Risk of sexual victimization in college women: The role of behavioral intentions and risk-taking behaviors. *Journal of Interpersonal Violence, 17*(2), 165-183. doi:10.1177/0886260502017002004

Compier-de Block, L. H. C. G., Alink, L. R. A., Linting, M., van den Berg, L. J. M., Elzinga, B. M., Voorthuis, A., . . . Bakermans-Kranenburg, M. J. (2017). Parent-child agreement on parent-to-child maltreatment. *Journal of Family Violence, 32*(2), 207-217. doi:10.1007/s10896-016-9902-3

Cooper, M. L., Shapiro, C. M., & Powers, A. M. (1998). Motivations for sex and risky sexual behavior among adolescents and young adults: A functional perspective. *Journal of Personality and Social Psychology, 75*(6), 1528-1558. doi:10.1037/0022-3514.75.6.1528

Couch, D., Liamputtong, P., & Pitts, M. (2012). What are the real and perceived risks and dangers of online dating? Perspectives from online daters. *Health, Risk & Society, 14*(7-8), 697-714. doi: 10.1080/13698575.2012.720964

Cougle, J. R., Resnick, H., & Kilpatrick, D. G. (2009). A prospective examination of PTSD symptoms as risk factors for subsequent exposure to potentially traumatic events among women. *Journal of Abnormal Psychology, 118*, 405-411. doi:10.1037/a0015370

Cox, K., & McAdams, D. P. (2014). Meaning making during high and low point life story episodes predicts emotion regulation two years later: How the past informs the future. *Journal of Research in Personality, 50*, 66-70. doi:10.1016/j.jrp.2014.03.004

Crawford, E., & Wright, M. O. D. (2007). The impact of childhood psychological maltreatment on interpersonal schemas and subsequent experiences of relationship aggression. *Journal of Emotional Abuse, 7*(2), 93-116. https://doi.org/10.1300/J135v07n0206

Culatta, E., Clay-Warner, J., Boyle, K. M., & Oshri, A. (2017). Sexual rev-

ictimization: A routine activity theory explanation. *Journal of Interpersonal Violence*, 35(15-16):2800-2824. https://doi.org/10.1177/0886260517704962

Curry, I., Luk, J. W., Trim, R. S., Hopfer, C. J., Hewitt, J. K., Stallings, M. C., . . . Wall, T. L. (2018). Impulsivity dimensions and risky sex behaviors in an at-risk young adult sample. *Archives of Sexual Behavior, 47*(2), 529-536. doi:10.1007/s10508-017-1054-x

Cusack, S. E., Bourdon, J. L., Bountress, K., Saunders, T. R., Kendler, K. S., Dick, D. M., & Amstadter, A. B. (2021). Prospective predictors of sexual revictimization among college students. *Journal of interpersonal violence, 36*(17-18), 8494-8518. doi:10.1177/0886260519849680

Danese, A., & Tan, M. (2014). Childhood maltreatment and obesity: Systematic review and meta-analysis. *Molecular Psychiatry, 19*(5), 544-554. doi:10.1038/mp.2013.54

D'Abreu, L. C. F., & Krahé, B. (2016). Vulnerability to sexual victimization in female and male college students in Brazil: Cross-sectional and prospective evidence. *Archives of Sexual Behavior, 45*(5), 1101-1115. doi:10.1007/s10508-014-0451-7

Davidov, D. M., Larrabee, H., & Davis, S. M. (2015). United States Emergency Department Visits Coded for Intimate Partner Violence. *The Journal of Emergency Medicine, 48*(1), 94-100. doi:https://doi.org/10.1016/j.jemermed.2014.07.053

de Haas, S., van Berlo, W., Bakker, F., & Vanwesenbeeck, I. (2012). Prevalence and characteristics of sexual violence in the Netherlands, the risk of revictimization and pregnancy: Results from a national population survey. *Violence and Victims, 27*(4), 592-608. doi:10.1891/0886-6708.27.4.592

DePrince, A. P. (2008). Social Cognition and Revictimization Risk. *Journal of Trauma & Dissociation, 6*(1), 125-141. doi:10.1300/J229v06n01_08

Desai, S., Arias, I., Thompson, M. P., & Basile, K. C. Childhood victimization and subsequent adult revictimization as-

sessed in a nationally representative sample of women and men (2002). *Violence Vict*(6), 639-653. doi:10.1891/vivi.17.6.639.33725

Devries, K. M., Mak, J. Y. T., Bacchus, L. J., Child, J. C., Falder, G., Petzold, M., . . . Watts, C. H. (2013). Intimate partner violence and incident depressive symptoms and suicide attempts: A systematic review of longitudinal studies. *Public Library of Science medicine, 10*(5), e1001439-e1001439. doi: https://doi.org/10.1371/journal.pmed.1001439

de Waal, M., Christ, C., Messman, T., & Dekker, J. (2019). Changes in risk perception after sexual victimization: Are we following the right track? *Journal of interpersonal violence, 37*. doi:10.1177/0886260519848790

de Winter, J. C. F., Dodou, D., & Wieringa, P. A. (2009). Exploratory factor analysis with small sample sizes. *Multivariate Behavioral Research, 44*(2), 147-181. doi:10.1080/00273170902794206

Dias, A., Sales, L., Mooren, T., Mota-Cardoso, R., & Kleber, R. (2017). Child maltreatment, revictimization and post-traumatic stress disorder among adults in a community sample. *International Journal of Clinical and Health Psychology, 17*(2), 97-106. doi:10.1016/j.ijchp.2017.03.003

Dietrich, A. (2007). Childhood Maltreatment and Revictimization: The Role of affect dysregulation, interpersonal relatedness difficulties and posttraumatic stress disorder. *Journal of Trauma & Dissociation, 8*(4), 25-51. https://doi.org/*10*.1300/J229v08n04_03

Draucker, C. B. (1997). Early family life and victimization in the lives of women. *Research in Nursing & Health, 20*(5), 399-412. https://doi.org/10.1002/(SICI)1098-240X(199710)20:5<399::AID-NUR4>3.0.CO;2-J

Engstrom, M., El-Bassel, N., Go, H., & Gilbert, L. (2008). Childhood sexual abuse and intimate partner violence among women in methadone treatment: A direct or mediated relation-

ship? *Journal of Family Violence, 23*(7), 605-617. https://doi.org/10.1007/s10896-008-9183-6

Ernst, A. F., & Albers, C. J. (2017). Regression assumptions in clinical psychology research practice—a systematic review of common misconceptions. *PeerJ*. doi:http://dx.doi.org/10.7717/peerj.3323

European Union Agency for Fundamental Rights (2014). Violence against women: An EU-wide survey. Publication Office of the European Union.

Fargo, J. D. (2008). Pathways to adult sexual revictimization: Direct and indirect behavioral risk factors across the lifespan. *Journal of Interpersonal Violence, 24*(11), 1771-1791. https://doi.org/10.1177/0886260508325489

Farley, M., Lynne, J., & Cotton, A. J. (2005). Prostitution in Vancouver: Violence and the colonization of first nations women. *Transcultural Psychiatry, 42*, 242-271. doi:10.1177/1363461505052667

Fassbinder, E., Schweiger, U., Martius, D., Brand-de Wilde, O., & Arntz, A. (2016). Emotion regulation in Schema Therapy and Dialectical Behavior Therapy. *Frontiers in Psychology, 7*.

Fereidooni, F., Daniels, J., & Lommen, M. (2022). Predictors of Revictimization in Online Dating. Journal of Interpersonal Violence, 08862605211073715. doi:10.1177/08862605211073715

Field, N. P., Classen, C., Butler, L. D., Koopman, C., Zarcone, J., & Spiegel, D. (2001). Revictimization and information processing in women survivors of childhood sexual abuse. *Journal of Anxiety Disorders, 15*(5), 459-469. https://doi.org/10.1016/S0887-6185(01)00076-7

Filipas, H. H., & Ullman, S. E. (2006). Child sexual abuse, coping responses, self-blame, posttraumatic stress disorder, and adult sexual revictimization. *Journal of interpersonal violence, 21*(5), 652-672. doi:10.1177/0886260506286879

Finkelhor, D., & Browne, A. (1985). The traumatic impact Of child

sexual abuse: A conceptualization. *American Journal of Orthopsychiatry, 55*(4), 530-541. doi:https://doi.org/10.1111/j.1939-0025.1985.tb02703.x

Finkelhor, D. (1979). Sexually Victimized children. New York: Free Press.

Filson, J., Ulloa, E., Runfola, C., & Hokoda, A. (2009). Does powerlessness explain the relationship between intimate partner violence and depression? *Journal of Interpersonal Violence, 25*(3), 400-415. doi:10.1177/0886260509334401

Fitzgerald, M., & Gallus, K. (2020). Emotional support as a mechanism linking childhood maltreatment and adult's depressive and social anxiety symptoms. *Child Abuse & Neglect, 108*, 104645. doi:https://doi.org/10.1016/j.chiabu.2020.104645

Fortier, M. A., DiLillo, D., Messman-Moore, T., Peugh, J., DeNardi, K. A., & Gaffey, K. J. (2009). Severity of child sexual abuse and revictimization: The mediating role of coping and trauma symptoms. *Psychology of Women Quarterly*. *Psychology of Women Quarterly, 33*(3), 308-320. https://doi.org/10.1111/j.1471-6402.2009.01503.x

Fragkaki, I., Roelofs, K., Stins, J., Jongedijk, R. A., & Hagenaars, M. A. (2017). Reduced freezing in posttraumatic stress disorder patients while watching affective pictures. *Frontiers in psychiatry, 8*, 39. doi: http://europepmc.org/abstract/MED/28352237

Freyd, J. (1994). Betrayal Trauma: Traumatic amnesia as an adaptive response to childhood abuse. *Ethics & Behavior, 4*, 307-329. doi:10.1207/s15327019eb0404_1

Freyd, J. J., Deprince, A. P., & Gleaves, D. H. (2007). The state of betrayal trauma theory: Reply to McNally—Conceptual issues, and future directions. *Memory, 15*(3), 295-311. doi:10.1080/09658210701256514

Frugaard Stroem, I., Aakvaag, H. F., & Wentzel-Larsen, T. (2019). Characteristics of different types of childhood violence and the risk of revictimization. *Violence Against Women, 25*(14), 1696-1716.

doi:10.1177/1077801218818381

Gallego, G., Cuevas, C., Mohedano, R., & García, N. (2013). On the Mahalanobis distance classification criterion for multidimensional normal distributions. *IEEE Transactions on Signal Processing, 61*(17), 4387-4396. doi:10.1109/TSP.2013.2269047

Gallo, E. A. G., Munhoz, T. N., Loret de Mola, C., & Murray, J. (2018). Gender differences in the effects of childhood maltreatment on adult depression and anxiety: A systematic review and meta-analysis. *Child Abuse & Neglect, 79*, 107-114. doi:10.1016/j.chiabu.2018.01.003

Gama, C. M. F., Portugal, L. C. L., Gonçalves, R. M., de Souza Junior, S., Vilete, L. M. P., Mendlowicz, M. V., . . . Pereira, M. G. (2021). The invisible scars of emotional abuse: a common and highly harmful form of childhood maltreatment. *BMC Psychiatry, 21*(1), 156. doi:10.1186/s12888-021-03134-0

Gámez-Guadix, M., Straus, M. A., & Hershberger, S. L. (2011). Childhood and adolescent victimization and perpetration of sexual coercion by male and female university students. *Deviant Behavior, 32*(8), 712-742. doi:10.1080/01639625.2010.514213

Gay, L. E., Harding, H. G., Jackson, J. L., Burns, E. E., & Baker, B. D. (2013). Attachment style and early maladaptive schemas as mediators of the relationship between childhood emotional abuse and intimate partner violence. *Journal of Aggression, Maltreatment & Trauma, 22*(4), 408-424. doi:10.1080/10926771.2013.775982

George, L. S., & Park, C. L. (2016). Meaning in life as comprehension, purpose, and mattering: Toward integration and new research questions. *Review of General Psychology, 20*(3), 205-220. doi:10.1037/gpr0000077

Gerdner, A., & Allgulander, C. (2009). Psychometric properties of the Swedish version of the Childhood Trauma Questionnaire—Short Form (CTQ-SF). *Nordic Journal of Psychiatry, 63*(2), 160-170. doi:10.1080/08039480802514366

Gewirtz-Meydan, A. (2022). Sexual Dysfunction Among Childhood Sexual Abuse Survivors: The "Functional" Dysfunction? *Journal of Sex & Marital Therapy*, 1-12. doi:10.1080/0092623X.2022.2044944

Gibson, R. L., & Hartshorne, T. S. (1996). Childhood sexual abuse and adult loneliness and network orientation. *Child Abuse & Neglect, 20*(11), 1087-1093. doi:10.1016/0145-2134(96)00097-X

Gibson, L. E., & Leitenberg, H. (2001). The impact of child sexual abuse and stigma on methods of coping with sexual assault among undergraduate women. *Child Abuse & Neglect, 25*(10), 1343-1361. https://doi.org/10.1016/S0145-2134(01)00279-4

Gidycz, C. A., Coble, C. N., Latham, L., & Layman, M. J. (1993). Sexual assault experience in adulthood and prior victimization experiences: A prospective analysis. *Psychology of Women Quarterly, 17*(2), 151-168. https://doi.org/10.1111/j.1471-6402.1993.tb00441.x

Gidycz, C. A., Hanson, K., & Layman, M. J. (1995). A Prospective analysis Of the relationships among sexual assault experiences: An extension of previous findings. *Psychology of Women Quarterly, 19*(1), 5-29. https://doi.org/10.1111/j.1471-6402.1995.tb00276.x

Gidycz, C. A., McNamara, J. R., & Edwards, K. M. (2006). Women's risk perception and sexual victimization: A review of the literature. *Aggression and Violent Behavior, 11*(5), 441-456. doi:10.1016/j.avb.2006.01.004

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *The Lancet, 373*(9657), 68-81. doi:https://doi.org/10.1016/S0140-6736(08)61706-7

Gobin, R. L., & Freyd, J. J. (2009). Betrayal and revictimization: Preliminary findings. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*(3), 242–257. doi: https://doi.org/10.1037/a0017469

Gobin, R. L. (2012). Partner preferences among survivors of betrayal trauma. *Journal of Trauma & Dissociation, 13*(2), 152-174. https://doi.org/10.1080/15299732.2012.642752

Godbout, N., Daspe, M.-È., Runtz, M., Cyr, G., & Briere, J. (2019). Childhood maltreatment, attachment, and borderline personality–related symptoms: Gender-specific structural equation models. *Psychological Trauma: Theory, Research, Practice, and Policy, 11*, 90-98. doi:10.1037/tra0000403

Gold, S. R., Sinclair, B. B., & Balge, K. A. (1999). Risk of sexual revictimization: A theoretical model. *Aggression and Violent Behavior, 4*(4), 457-470. https://doi.org/10.1016/S1359-1789(98)00024-X

Goodman, L. A., Corcoran, C., Turner, K., Yuan, N., & Green, B. L. (1998). Assessing traumatic event exposure: General issues and preliminary findings for the Stressful Life Events Screening Questionnaire. *Journal of Traumatic Stress, 11*(3), 521-542. doi:10.1023/A:1024456713321

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation Scale. *Journal of Psychopathology & Behavioral Assessment, 26*(1), 41-54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Grauerholz, L. (2000). An ecological approach to understanding sexual revictimization: Linking personal, interpersonal, and sociocultural factors and processes. *Child Maltreatment, 5*(1), 5-17. doi:10.1177/1077559500005001002

Grewal, R., Cote, J. A., & Baumgartner, H. (2004). Multicollinearity and measurement error in structural equation models: Implications for theory testing. *Marketing Science, 23*(4), 519–529. 10.1287/mksc.1040.0070

Gunns, R. E., Johnston, L., & Hudson, S. M. (2002). Victim selection and kinematics: A point-light investigation of vulnerability to attack. *Journal of Nonverbal Behavior, 26*(3), 129-158.

doi:10.1023/A:1020744915533

Hannan, S. M., Orcutt, H. K., Miron, L. R., & Thompson, K. L. (2017). Childhood sexual abuse and later alcohol-related problems: Investigating the roles of revictimization, PTSD, and drinking motivations among college women. *Journal of interpersonal violence, 32*(14), 2118-2138.

Hare, R. D., & Neumann, C. S. (2005). Structural models of psychopathy. *Current Psychiatry Reports, 7*(1), 57-64. doi:10.1007/s11920-005-0026-3

Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1*(1), 6-17. doi:10.1037/1040-3590.1.1.6

Hauck-Filho, N., & Teixeira, M. A. P. (2014). Revisiting the psychometric properties of the Levenson Self-Report Psychopathy Scale. *Journal of Personality Assessment, 96*(4), 459-464. doi:10.1080/00223891.2013.865196

Hébert, M., Lapierre, A., MacIntosh, H. B., & Ménard, A. D. (2021). A review of mediators in the association between child sexual abuse and revictimization in romantic relationships. *Journal of child sexual abuse, 30*(4), 385-406. doi:10.1080/10538712.2020.1801936

Heidt, J. M., Marx, B. P., & Gold, S. D. (2005). Sexual revictimization among sexual minorities: A preliminary study. *Journal of Traumatic Stress, 18*(5), 533-540. https://doi.org/10.1002/jts.20061

Herrero, J., Torres, A., & Rodríguez, F. J. (2018). Child abuse, risk in male partner selection, and intimate partner violence victimization of women of the European Union. *Prevention Science, 19*(8), 1102-1112. doi:10.1007/s11121-018-0911-8

Hetzel, M. D., & McCanne, T. R. (2005). The roles of peritraumatic dissociation, child physical abuse, and child sexual abuse in the

development of posttraumatic stress disorder and adult victimization. *Child Abuse & Neglect, 29*(8), 915-930. https://doi.org/10.1016/j.chiabu.2004.11.008

Hiddink-Til, A., Teunissen, T. A. M., & Lagro-Janssen, A. L. M. (2021). Trends in victim, incident and care characteristics of a Dutch sexual assault center. *Journal of forensic and legal medicine*, 102183. doi:https://doi.org/10.1016/j.jflm.2021.102183

Higgins, D. J., & McCabe, M. P. (2003). Maltreatment and family dysfunction in childhood and the subsequent adjustment of children and adults. *Journal of Family Violence, 18*(2), 107-120. doi:10.1023/A:1022841215113

Hocking, E. C., Simons, R. M., & Surette, R. J. (2016). Attachment style as a mediator between childhood maltreatment and the experience of betrayal trauma as an adult. *Child Abuse & Neglect, 52*, 94-101. https://doi.org/10.1016/j.chiabu.2016.01.001

Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55. doi:10705519909540118

Huang, S., Trapido, E., Fleming, L., Arheart, K., Crandall, L., French, M., . . . Prado, G. (2011). The long-term effects of childhood maltreatment experiences on subsequent illicit drug use and drug-related problems in young adulthood. *Addictive Behaviors, 36*(1), 95-102. doi:https://doi.org/10.1016/j.addbeh.2010.09.001

Hughes, T. L., Szalacha, L. A., Johnson, T. P., Kinnison, K. E., Wilsnack, S. C., & Cho, Y. (2010). Sexual victimization and hazardous drinking among heterosexual and sexual minority women. *Addictive Behaviors, 35*(12), 1152-1156. doi:10.1016/j.addbeh.2010.07.004

Humphrey, J. A., & White, J. W. (2000). Women's vulnerability to sexual assault from adolescence to young adulthood. *Journal of Adolescent Health, 27*(6), 419-424. doi:10.1016/S1054-139X(00)00168-3

Humphreys, K. L., LeMoult, J., Wear, J. G., Piersiak, H. A., Lee, A., & Gotlib, I. H. (2020). Child maltreatment and depression: A meta-analysis of studies using the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 102*, 104361. doi:https://doi.org/10.1016/j.chiabu.2020.104361

Ihongbe, T. O., & Masho, S. W. (2018). Child sexual abuse and intimate partner violence victimization in adulthood: Sex-differences in the mediating influence of age of sexual initiation. *Journal of Child Sexual Abuse, 27*(1), 53-69. https://doi.org/10.1080/10538712.2017.1361496

Irwin, H. J. (1999a). Violent and nonviolent revictimization of women abused in childhood. *Journal of Interpersonal Violence, 14*(10), 1095-1110. https://doi.org/10.1177/088626099014010006

Irwin, H. J. (1999b). Pathological and nonpathological dissociation: The relevance of childhood trauma. *The Journal of psychology, 133*(2), 157-164. doi:10.1080/00223989909599730

Jaffe, A. E., DiLillo, D., Gratz, K. L., & Messman-Moore, T. L. (2019). Risk for revictimization following interpersonal and noninterpersonal trauma: Clarifying the role of posttraumatic stress symptoms and trauma-related cognitions. *Journal of Traumatic Stress, 32*(1), 42-55. doi:10.1002/jts.22372

Jakobsen, J. C., Gluud, C., Wetterslev, J., & Winkel, P. (2017). When and how should multiple imputation be used for handling missing data in randomised clinical trials – a practical guide with flowcharts. *BMC medical research methodology, 17*(1), 162. doi:10.1186/s12874-017-0442-1

Jankowski, M. K., Leitenberg, H., Henning, K., & Coffey, P. (2002). Parental caring as a possible buffer against sexual revictimization in young adult survivors of child sexual abuse. *Journal of Traumatic Stress, 15*(3), 235-244. doi:https://doi.org/10.1023/A:1015259412746

Janoff-Bulman, R. (1985). The aftermath of victimization: Rebuilding shattered assumptions. In C. R. Figley (Ed), *Trauma and its*

wake. Brunner/Mazel

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. Free Press.

Jardin, C., Garey, L., & Zvolensky, M. J. (2017). Measuring sexual motives: A test of the psychometric properties of the Sexual Motivations Scale. *The Journal of Sex Research, 54*(9), 1209-1219. doi:10.1080/00224499.2016.1238031

Jia, H., & Lubetkin, E. I. (2020). Impact of adverse childhood experiences on quality-adjusted life expectancy in the U.S. population. *Child Abuse & Neglect, 102*, 104418. doi:https://doi.org/10.1016/j.chiabu.2020.104418

Jouriles, E. N., Nguyen, J., Krauss, A., Stokes, S. L., & McDonald, R. (2020). Prevalence of sexual victimization among female and male college students: A methodological note with data. *Journal of Interpersonal Violence, 37*(11-12), NP8767-NP8792. doi:10.1177/088626052097819

Kaakinen, M., Koivula, A., Savolainen, I., Sirola, A., Mikkola, M., Zych, I., . . . Oksanen, A. (2021). Online dating applications and risk of youth victimization: A lifestyle exposure perspective. *Aggressive Behavior, 47*(5), 530-543. doi.org/10.1002/ab.21968

Kaltman, S., Krupnick, J., Stockton, P., Hooper, L., & Green, B. L. (2005). Psychological impact of types of sexual trauma among college women. *Journal of Traumatic Stress, 18*(5), 547-555. https://doi.org/10.1002/jts.20063

Katz, J., May, P., Sörensen, S., & DelTosta, J. (2010). Sexual revictimization during women's first year of college: Self-blame and sexual refusal assertiveness as possible mechanisms. *Journal of Interpersonal Violence, 25*(11), 2113-2126. https://doi.org/10.1177/0886260509354515

Kessler, B. L., & Bieschke, K. J. (1999). A retrospective analysis of shame, dissociation, and adult victimization in survivors of childhood sexual abuse. *Journal of Counseling Psychology, 46*(3), 335-341. https://doi.org/10.1037/0022-0167.46.3.335

Kettrey, H. H., & Marx, R. A. (2019). The effects of bystander programs on the prevention of sexual assault across the college years: A systematic review and meta-analysis. *Journal of Youth and Adolescence, 48*(2), 212-227. doi:10.1007/s10964-018-0927-1

Klinger-König, J., Streit, F., Erhardt, A., Kleineidam, L., Schmiedek, F., Schmidt, B., . . . Grabe, H. J. (2022). The assessment of childhood maltreatment and its associations with affective symptoms in adulthood: Results of the German National Cohort (NAKO). *The World Journal of Biological Psychiatry*, 1-12. doi:10.1080/15622975.2021.2011406

Klumparendt, A., Nelson, J., Barenbrügge, J., & Ehring, T. (2019). Associations between childhood maltreatment and adult depression: a mediation analysis. *BMC Psychiatry, 19*(1), 36. doi:10.1186/s12888-019-2016-8

Koo, T., & Mae, L., (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine,* 15, 155-163. doi:10.1016/j.jcm.2016.02.012

Korkmaz, B., & Soygut, G. (2023). The psychotherapeutic change process in women who have been sexually assaulted: An examination of the schema therapy model. *Counselling and Psychotherapy Research*, 23, 359– 377. https://doi.org/10.1002/capr.12526

Krahé, B., & Berger, A. (2017). Gendered pathways from child sexual abuse to sexual aggression victimization and perpetration in adolescence and young adulthood. *Child Abuse & Neglect, 63*, 261-272. https://doi.org/10.1016/j.chiabu.2016.10.004

Kramer, L. A., & Berg, E. C. (2003). A Survival Analysis of Timing of Entry into Prostitution: The Differential Impact of Race, Educational Level, and Childhood/Adolescent Risk Factors. *Sociological Inquiry, 73*(4), 511-528. doi:https://doi.org/10.1111/1475-682X.00069

Lalor, K., & McElvaney, R. (2010). Child sexual abuse, links to later

sexual exploitation/high-risk sexual behavior, and prevention/treatment programs. *Trauma, Violence, & Abuse, 11*(4), 159-177. https://doi.org/10.1016/j.chiabu.2016.10.004

Lau, M., & Kristensen, E. (2010). Sexual revictimization in a clinical sample of women reporting childhood sexual abuse. *Nordic Journal of Psychiatry, 64*(1), 4-10. https://doi.org/10.3109/08039480903191205

Layh, M., Rudolph, K., & Littleton, H. (2020). Sexual risk behavior and sexual satisfaction among rape victims: Examination of sexual motives as a mediator. *Journal of Trauma & Dissociation, 21*(1), 73-86. doi:10.1080/15299732.2019.1675112

Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology, 68*(1), 151-158. doi:10.1037/0022-3514.68.1.151

Lensvelt-Mulders, G., van der Hart, O., van Ochten, J. M., van Son, M. J. M., Steele, K., & Breeman, L. (2008). Relations among peritraumatic dissociation and posttraumatic stress: A meta-analysis. *Clinical Psychology Review, 28*(7), 1138-1151. doi:10.1016/j.cpr.2008.03.006

Lei, M., & Lomax, R. G. (2005). The effect of varying degrees of nonnormality in structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal, 12*(1), 1-27. doi:10.1207/s15328007sem1201_1

Li, S., Zhao, F., & Yu, G. (2019). Childhood maltreatment and intimate partner violence victimization: A meta-analysis. *Child Abuse & Neglect, 88*, 212-224. doi:https://doi.org/10.1016/j.chiabu.2018.11.012

Lilly, M. M., & Graham-Bermann, S. A. (2010). Intimate partner violence and PTSD: The moderating role of emotion-focused coping. *Violence & Victims 25* (5), 604-616. doi:10.1891/0886-6708.25.5.604

Lilly, M. M. (2011). The Contributions of interpersonal trauma expo-

sure and world assumptions to predicting dissociation in undergraduates. *Journal of Trauma & Dissociation, 12*(4), 375-392. doi:10.1080/15299732.2011.573761

Lilly, M. M., London, M. J., & Bridgett, D. J. (2014). Using SEM to examine emotion regulation and revictimization in predicting PTSD symptoms among childhood abuse survivors. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*, 644-651. doi:10.1037/a0036460

Lindhorst, T., Beadnell, B., Jackson, L. J., Fieland, K., & Lee, A. (2009). Mediating pathways explaining psychosocial functioning and revictimization as sequelae of parental violence among adolescent mothers. *American Journal of Orthopsychiatry, 79*(2), 181-190. https://doi.org/10.1037/a0015516

Linehan, M. M. (2018). *Cognitive-behavioral treatment of borderline personality disorder.* Guilford Publications: United States.

Littleton, H., & Ullman, S. E. (2013). PTSD symptomatology and hazardous drinking as risk factors for sexual assault revictimization: Examination in European American and African American women. *Journal of Traumatic Stress, 26*(3), 345-353. doi:https://doi.org/10.1002/jts.21807

Liu, R. T. (2019). Childhood maltreatment and impulsivity: A meta-analysis and recommendations for future study. *Journal of Abnormal Child Psychology, 47*(2), 221-243. doi:10.1007/s10802-018-0445-3

Livingston, J. A., Testa, M., & VanZile-Tamsen, C. (2007). The Reciprocal relationship between sexual victimization and sexual assertiveness. *Violence Against Women, 13*(3), 298-313. https://doi.org/10.1177/1077801206297339

Macy, R. J. (2007). A coping theory framework toward preventing sexual revictimization. *Aggression and Violent Behavior, 12*(2), 177-192. doi:https://doi.org/10.1016/j.avb.2006.09.002

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching schol-

ars. *All Ireland Journal of Higher Education*, *9*(3).

MaloneBeach, E. E., & Zarit, S. H. (1995). Dimensions of social support and social conflict as predictors of caregiver depression. *International Psychogeriatrics, 7*(1), 25-38. doi:10.1017/S1041610295001827

Manchikanti Gómez, A. (2010). Testing the cycle of violence hypothesis: Child abuse and adolescent dating violence as predictors of intimate partner violence in young adulthood. *Youth & Society, 43*(1), 171-192. doi:10.1177/0044118X09358313

Marx, B. P., & Gross, A. M. (1995). An analysis of two contextual variables. *Behavior Modification, 19*, 451-463. doi:10.1177/01454455950194003

Marx, B. P., & Soler-Baillo, J. M. (2005). The relationships among risk recognition, autonomic and self-reported arousal, and posttraumatic stress symptomatology in acknowledged and unacknowledged victims of sexual assault. *Psychosomatic Medicine, 67*(4). doi:10.1097/01.psy.0000171809.12117.79

Matlow, R. B., & DePrince, A. P. (2013). The influence of victimization history on PTSD symptom expression in women exposed to intimate partner violence. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*(3), 241-250. https://doi.org/10.1037/a0027655

Matthews, T., Caspi, A., Danese, A., Fisher, H. L., Moffitt, T. E., & Arseneault, L. (2022). A longitudinal twin study of victimization and loneliness from childhood to young adulthood. *Development and Psychopathology, 34*(1), 367-377. doi:10.1017/S0954579420001005

Mayall, A., & Gold, S. R. (1995). Definitional issues and mediating variables in the sexual revictimization of women sexually abused as children. *Journal of Interpersonal Violence, 10*(1), 26-42. https://doi.org/10.1177/088626095010001002

McHugh, L., & Egan, J. (2023). Psychological and somatic manifestations of dissociation: The role of childhood trauma, attachment,

and alexithymia. *European Journal of Trauma & Dissociation, 7*(1), 100316. doi:https://doi.org/10.1016/j.ejtd.2023.100316

Merrill, L. L., Guimond, J. M., Thomsen, C. J., & Milner, J. S. (2003). Child Sexual Abuse and Number of Sexual Partners in Young Women: The Role of Abuse Severity, Coping Style, and Sexual Functioning. *Journal of Consulting and Clinical Psychology, 71*(6), 987-996. doi:10.1037/0022-006X.71.6.987

Messing, J. T., La Flair, L., Cavanaugh, C. E., Kanga, M. R., & Campbell, J. C. (2012). Testing posttraumatic stress as a mediator of childhood trauma and adult intimate partner violence victimization. *Journal of Aggression, Maltreatment & Trauma, 21*(7), 792-811. doi:10.1080/10926771.2012.686963

Messman-Moore, T. L., Long, P. J., & Siegfried, N. J. (2000). The revictimization of child sexual abuse survivors: An examination of the adjustment of college women with child sexual abuse, adult sexual assault, and adult physical abuse. *5*(1), 18-27. https://doi.org/10.1177/1077559500005001003

Messman-Moore, T. L., & Long, P. J. (2002). Alcohol and substance use disorders as predictors of child to adult sexual revictimization in a sample of community women. *Violence and Victims, 17*(3), 319-340. https://doi.org/10.1891/vivi.17.3.319.33662

Messman-Moore, T. L., & Long, P. J. (2003). The role of childhood sexual abuse sequelae in the sexual revictimization of women: An empirical review and theoretical reformulation. *Clinical Psychology Review, 23*(4), 537-571. doi:https://doi.org/10.1016/S0272-7358(02)00203-9

Messman-Moore, T. L., Brown, A. L., & Koelsch, L. E. (2005). Posttraumatic symptoms and self-dysfunction as consequences and predictors of sexual revictimization. *Journal of Traumatic Stress, 18*(3), 253-261. https://doi.org/10.1002/jts.20023

Messman-Moore, T. L., & Brown, A. L. (2006). Risk perception, rape, and sexual revictimization: A prospective study of college women. *Psychology of women quarterly, 30*(2), 159-172. doi:

10.1111/j.1471-6402.2006.00279.x

Messman-Moore, T. L., Ward, R. M., & Brown, A. L. (2009). Substance use and PTSD symptoms impact the likelihood of rape and revictimization in college women. *Journal of Interpersonal Violence, 24*(3), 499-521. https://doi.org/10.1177/0886260508317199

Messman-Moore, T. L., Walsh, K. L., & DiLillo, D. (2010). Emotion dysregulation and risky sexual behavior in revictimization. *Child Abuse & Neglect, 34*(12), 967-976. doi:https://doi.org/10.1016/j.chiabu.2010.06.004

Messman-Moore, T. L., Ward, R. M., & Zerubavel, N. (2013). The role of substance use and emotion dysregulation in predicting risk for incapacitated sexual revictimization in women: Results of a prospective investigation. *Psychology of Addictive Behaviors, 27*(1), 125-132. doi:10.1037/a0031073

Messman-Moore, T. L., & Bhuptani, P. H. (2017). A review of the long-term impact of child maltreatment on posttraumatic stress disorder and its comorbidities: An emotion dysregulation perspective. *Clinical Psychology: Science and Practice, 24*, 154-169. doi:10.1111/cpsp.12193

Miller, J. D., Gaughan, E. T., & Pryor, L. R. (2008). The Levenson Self-Report Psychopathy Scale: An examination of the personality traits and disorders associated with the LSRP factors. *Assessment, 15*(4), 450-463. doi:10.1177/1073191108316888

Miron, L. R., & Orcutt, H. K. (2014). Pathways from childhood abuse to prospective revictimization: Depression, sex to reduce negative affect, and forecasted sexual behavior. *Child Abuse & Neglect, 38*(11), 1848-1859. doi:https://doi.org/10.1016/j.chiabu.2014.10.004

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and metal-analyses: The PRISMA Statement. *PLoS Med, 6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097

Mokma, T. R., Eshelman, L. R., & Messman-Moore, T. (2016). Contributions of child sexual abuse, self-blame, posttraumatic stress symptoms, and alcohol use to women's risk for forcible and substance-facilitated sexual assault. *Journal of Child Sexual Abuse, 25*(4), 428-448. https://doi.org/10.1080/10538712.2016.1161688

Molendijk, M. L., Hoek, H. W., Brewerton, T. D., & Elzinga, B. M. (2017). Childhood maltreatment and eating disorder pathology: a systematic review and dose-response meta-analysis. *Psychological Medicine, 47*(8), 1402-1416. doi:10.1017/S0033291716003561

Moody, G., Cannings-John, R., Hood, K., Kemp, A., & Robling, M. (2018). Establishing the international prevalence of self-reported child maltreatment: A systematic review by maltreatment type and gender. *BMC Public Health, 18*(1), 1164. doi:10.1186/s12889-018-6044-y

Moore, C. D., & Waterman, C. K. (1999). Predicting self-protection against sexual assault in dating relationships among heterosexual men and women, gay men, lesbians, and bisexuals. *Journal of College Student Development, 40*(2), 132–140.

Muldoon, K. A., Denize, K. M., Talarico, R., Fell, D. B., Sobiesiak, A., Heimerl, M., & Sampsel, K. (2021). COVID-19 pandemic and violence: Rising risks and decreasing urgent care-seeking for sexual assault and domestic violence survivors. *BMC medicine, 19*(1), 20. doi:10.1186/s12916-020-01897-z

Myers, H. F., Wyatt, G. E., Loeb, T. B., Carmona, J. V., Warda, U., Longshore, D., Rivkin, I., Chin, D., Liu, H. (2006). Severity of child sexual abuse, post-traumatic stress and risky sexual behaviors among HIV-positive women. *AIDS and Behavior, 10*(2), 191. https://doi.org/10.1007/s10461-005-9054-6

Najdowski, C. J., & Ullman, S. E. (2011). The effects of revictimization on coping and depression in female sexual assault victims. *Journal of Traumatic Stress, 24*(2), 218-221. doi:https://doi.

org/10.1002/jts.20610

Nichter, M., Nichter, M., Carkoglu, A., & Lloyd-Richardson, E. (2010). Smoking and drinking among college students: "It's a package deal". *Drug and Alcohol Dependence, 106*(1), 16-20. doi:10.1016/j.drugalcdep.2009.07.025

Nixon, R. D. V., Resick, P. A., & Nishith, P. (2004). An exploration of comorbid depression among female victims of intimate partner violence with posttraumatic stress disorder. *Journal of Affective Disorders, 82*(2), 315-320. doi:https://doi.org/10.1016/j.jad.2004.01.008

Noll, J. G., Horowitz, L. A., Bonanno, G. A., Trickett, P. K., & Putnam, F. W. (2003). Revictimization and self-harm in females who experienced childhood sexual abuse: Results from a prospective study. *Journal of Interpersonal Violence, 18*(12), 1452-1471. doi:10.1177/0886260503258035

Obasaju, M. A., Palin, F. L., Jacobs, C., Anderson, P., & Kaslow, N. J. (2008). Won't you be my neighbor?: Using an ecological approach to examine the impact of community on revictimization. *Journal of Interpersonal Violence, 24*(1), 38-53. doi:10.1177/0886260508314933

Orcutt, H. K., Cooper, M. L., & Garcia, M. (2005). Use of sexual intercourse to reduce negative affect as a prospective mediator of sexual revictimization. *Journal of Traumatic Stress, 18*(6), 729-739. https://doi.org/10.1002/jts.20081

Oshri, A., Sutton, T. E., Clay-Warner, J., & Miller, J. D. (2015). Child maltreatment types and risk behaviors: Associations with attachment style and emotion regulation dimensions. *Personality and Individual Differences, 73*, 127-133. doi:10.1016/j.paid.2014.09.015

Pahl, K., Williams, S. Z., Lee, J. Y., Joseph, A., & Blau, C. (2020). Trajectories of violent victimization predicting PTSD and comorbidities among urban ethnic/racial minorities. *Journal of Consulting and Clinical Psychology, 88*(1), 39.

Paivio, S. C., & Cramer, K. M. (2004). Factor structure and reliability of the Childhood Trauma Questionnaire in a Canadian undergraduate student sample. *Child Abuse & Neglect, 28*(8), 889-904. doi:10.1016/j.chiabu.2004.01.011

Papalia, N., Mann, E., & Ogloff, J. R. P. (2020). Child sexual abuse and risk of revictimization: Impact of child demographics, sexual abuse characteristics, and psychiatric disorders. *Child Maltreatment, 26*(1), 74-86. doi:10.1177/1077559520932665

Parada-Fernández, P., Herrero-Fernández, D., Oliva-Macías, M., & Rohwer, H. (2021). Analysis of the mediating effect of mentalization on the relationship between attachment styles and emotion dysregulation. *Scandinavian Journal of Psychology, 62*(3), 312-320. doi:10.1111/sjop.12717

Parkhill, M. R., Norris, J., & Davis, K. C. (2014). The role of alcohol use during sexual situations in the relationship between sexual revictimization and women's intentions to engage in unprotected sex. *Violence and Victims, 29*, 492-505. doi:10.1891/0886-6708.VV-09-183

Parks, K. A., Hequembourg, A. L., & Dearing, R. L. (2008). Women's social behavior when meeting new men: The influence of alcohol and childhood sexual abuse. *Psychology of Women Quarterly, 32*(2), 145-158. doi:10.1111/j.1471-6402.2008.00419.x

Paulhus, D. L., & Vazire, S. (2007). The self-report method. In robins, R. W., Fraley, R. C., & Krueger (Eds.), Handbook of research methods in personality psychology (pp. 224-239). The Guilford Press.

Patwardhan, I., Hurley, K. D., Thompson, R. W., Mason, W. A., & Ringle, J. L. (2017). Child maltreatment as a function of cumulative family risk: Findings from the intensive family preservation program. *Child Abuse & Neglect, 70*, 92-99. doi:https://doi.org/10.1016/j.chiabu.2017.06.010

Pencea, I., Munoz, A. P., Maples-Keller, J. L., Fiorillo, D., Schulte-braucks, K., Galatzer-Levy, I., . . . Powers, A. (2020). Emotion

dysregulation is associated with increased prospective risk for chronic PTSD development. *Journal of Psychiatric Research, 121*, 222-228. doi:10.1016/j.jpsychires.2019.12.008

Pilkington, P. D., Noonan, C., May, T., Younan, R., & Holt, R. A. (2021). Early maladaptive schemas and intimate partner violence victimization and perpetration: A systematic review and meta-analysis. *Clinical Psychology & Psychotherapy, 1-13*. https://doi.org/10.1002/cpp.2558

Pittenger, S. L., Huit, T. Z., & Hansen, D. J. (2016). Applying ecological systems theory to sexual revictimization of youth: A review with implications for research and practice. *Aggression and Violent Behavior, 26*, 35-45. doi:https://doi.org/10.1016/j.avb.2015.11.005

Platts, H., Mason, O., & Tyson, M. (2005). Early maladaptive schemas and adult attachment in a UK clinical population. *Psychology and psychotherapy, 78*(Pt 4), 549-564. doi:10.1348/147608305x41371

Powers, A., Cross, D., Fani, N., & Bradley, B. (2015). PTSD, emotion dysregulation, and dissociative symptoms in a highly traumatized sample. *Journal of Psychiatric Research, 61*, 174-179. doi:10.1016/j.jpsychires.2014.12.011

Pittenger, S. L., Huit, T. Z., & Hansen, D. J. (2016). Applying ecological systems theory to sexual revictimization of youth: A review with implications for research and practice. *Aggression and Violent Behavior, 26*, 35-45. doi:https://doi.org/10.1016/j.avb.2015.11.005

Proulx, J., Koverola, C., Fedorowicz, A., & Kral, M. (1995). Coping strategies as predictors of distress in survivors of single and multiple sexual victimization and nonvictimized controls. *Journal of Applied Social Psychology, 25*(16), 1464-1483. https://doi.org/10.1111/j.1559-1816.1995.tb02627.x

Quinn, P. D., & Fromme, K. (2010). Self-regulation as a protective factor against risky drinking and sexual behavior. *Psychology of*

Addictive Behaviors, 24(3), 376-385. doi:10.1037/a0018547

Raffaelli, M., & Crockett, L. J. (2003). Sexual risk taking in adolescence: The role of self-regulation and attraction to risk. *Developmental Psychology, 39*(6), 1036–1046. doi.org/10.1037/0012-1649.39.6.1036

Richards, L., Rollerson, B., & Phillips, J. (1991). Perceptions of submissiveness: Implications for victimization. *The Journal of Psychology: Interdisciplinary and Applied, 125*(4), 407-411. doi:10.1080/00223980.1991.10543302

Reichert, E., Segal, C., & Flannery-Schroeder, E. (2015). Trauma, attentional biases, and revictimization among young adults. *Journal of Trauma & Dissociation, 16*(2), 181-196. https://doi.org/10.1080/15299732.2014.975308

Reid, J. A. (2009). A model of vulnerability for adult sexual victimization: The impact of attachment, child maltreatment, and scarred sexuality. *Violence and Victims, 24*(4), 485. https://doi.org/10.1891/0886-6708.24.4.485

Richards, L., Rollerson, B., & Phillips, J. (1991). Perceptions of submissiveness: Implications for victimization. *The Journal of Psychology: Interdisciplinary and Applied, 125*(4), 407-411. doi:10.1080/00223980.1991.10543302

Riso, L. P., Froman, S. E., Raouf, M., Gable, P., Maddux, R. E., Turini-Santorelli, N., Penna, S., Blandini, J. A., Jacob, C. H., & Cherry, M. (2006). The long-term stability of early maladaptive schemas. *Cognitive Therapy and Research, 30*(4), 515–529. https://doi.org/10.1007/s10608-006-9015-z

Risser, H. J., Hetzel-Riggin, M. D., Thomsen, C. J., & McCanne, T. R. (2006). PTSD as a mediator of sexual revictimization: The role of reexperiencing, avoidance, and arousal symptoms. *Journal of Traumatic Stress, 19*(5), 687-698. doi:https://doi.org/10.1002/jts.20156

Ritchie, M. B., Blais, J., Forth, A. E., & Book, A. S. (2018). Identifying vulnerability to violence: The role of psychopathy and gender.

Journal of Criminal Psychology, 8(2), 125-137. doi:10.1108/JCP-06-2017-0029

Ritchie, M. B., Blais, J., & Forth, A. E. (2019). "Evil" intentions: Examining the relationship between the Dark Tetrad and victim selection based on nonverbal gait cues. *Personality and Individual Differences, 138*, 126-132. doi:https://doi.org/10.1016/j.paid.2018.09.013

Ritchwood, T. D., Ford, H., DeCoster, J., Sutton, M., & Lochman, J. E. (2015). Risky sexual behavior and substance use among adolescents: A meta-analysis. *Children and Youth Services Review, 52*, 74-88. doi:https://doi.org/10.1016/j.childyouth.2015.03.005

Roney, D. J. L., Falkenbach, D. M., & Aveson, O. (2018). Psychopathy and victim selection: Does nonverbal decoding or empathy impact vulnerability ratings? *Journal of Interpersonal Violence, 36*(3-4), NP1698-1719NP. doi:10.1177/0886260517742914

Rosenfeld, M. J., Thomas, R. J., & Hausen, S. (2019). Disintermediating your friends: How online dating in the United States displaces other ways of meeting. *PNAS Proceedings of the National Academy of Sciences of the United States of America, 116*, 17753-17758. doi:10.1073/pnas.1908630116

Rosenfeld, M. J., & Thomas, R. J. (2012). Searching for a mate: The rise of the internet as a social intermediary. *American Sociological Review, 77*(4), 523-547. doi:10.1177/0003122412448050

Rowe, L. S., Jouriles, E. N., McDonald, R., Platt, C. G., & Gomez, G. S. (2012). Enhancing women's resistance to sexual coercion: A randomized controlled trial of the DATE program. *Journal of American College Health, 60*(3), 211-218. doi:10.1080/07448481.2011.587068

Rowe, L. S., Jouriles, E. N., & McDonald, R. (2015). Reducing sexual victimization among adolescent girls: A Randomized Controlled Pilot Trial of My Voice, My Choice. *Behavior Therapy, 46*(3), 315-327. doi:https://doi.org/10.1016/j.beth.2014.11.003

Russell, D.E.H. (1986). The Secret Trauma: Incest in the Lives of Girls and Women. New York: Basic Books.

Rosseel, Y., (2012). Lavaan: A brief user's guide. Retrieved from https://users.ugent.be/~yrosseel/lavaan/lavaan2.pdf.

Sakaguchi, K., & Hasegawa, T. (2006). Person perception through gait information and target choice for sexual advances: Comparison of likely targets in experiments and real life. *Journal of Nonverbal Behavior, 30*(2), 63-85. doi:10.1007/s10919-006-0006-2

Sandberg, D., Lynn, S. J., & Green, J. P. (1994). Sexual abuse and revictimization: Mastery, dysfunctional learning, and dissociation. In S. J. Lynn & J. W. Rhue (Eds.), *Dissociation: Clinical and theoretical perspectives* (pp. 267–242). The Guilford Press.

Sandberg, D. A., Matorin, A. I., & Lynn, S. J. (1999). Dissociation, posttraumatic symptomatology, and sexual revictimization: A prospective examination of mediator and moderator effects. *Journal of Traumatic Stress, 12*(1), 127-138. doi:10.1023/A:-1024702501224Schumm, J. A., Hobfoll, S. E., & Keogh, N. J. (2004). Revictimization and interpersonal resource loss predicts PTSD among women in substance-use treatment. *Journal of Traumatic Stress, 17*(2), 173-181. doi:https://doi.org/10.1023/B:JOTS.0000022624.53181.21

Santelli, J. S., Grilo, S. A., Choo, T.-H., Diaz, G., Walsh, K., Wall, M., . . . Mellins, C. A. (2018). Does sex education before college protect students from sexual assault in college? *PLoS ONE, 13*(11), 1-18. doi:10.1371/journal.pone.0205951

Santos-Iglesias, P., & Sierra, J. C. (2012). Sexual victimization among Spanish college women and risk factors for sexual revictimization. *Journal of Interpersonal Violence, 27*(17), 3468-3485. https://doi.org/10.1177/0886260512445383

Sarstedt, M., & Wilczynski, P. (2009). More for Less? A Comparison of Single-item and Multi-item Measures. *Die Betriebswirtschaft, 69*, 211-227.

Schumm, J. A., Briggs-Phillips, M., & Hobfoll, S. E. (2006). Cumulative interpersonal traumas and social support as risk and resiliency factors in predicting PTSD and depression among inner-city women. *Journal of Traumatic Stress, 19*(6), 825-836. https://doi.org/10.1002/jts.20159

Schwendinger, J. R., & Schwendinger, H. (1974). Rape myths: In legal, theoretical, and everyday practice. *Crime and Social Justice, 0*(1), 18.

Scoglio, A. A. J., Kraus, S. W., Saczynski, J., Jooma, S., & Molnar, B. E. (2019). Systematic review of risk and protective factors for revictimization after child sexual abuse. *Trauma, Violence, & Abuse, 22*(1), 41-53. doi:10.1177/1524838018823274

Scott, S., & Babcock, J. C. (2009). Attachment as a moderator between intimate partner violence and PTSD Symptoms. *Journal of Family Violence, 25*(1), 1. doi:10.1007/s10896-009-9264-1

Scott, K. M., McLaughlin, K. A., Smith, D. A. R., & Ellis, P. M. (2012). Childhood maltreatment and DSM-IV adult mental disorders: Comparison of prospective and retrospective findings. *The British Journal of Psychiatry, 200*(6), 469-475. doi:10.1192/bjp.bp.111.103267

Sellbom, M. (2011). Elaborating on the construct validity of the Levenson Self-Report Psychopathy Scale in incarcerated and non-incarcerated samples. *Law and Human Behavior, 35*(6), 440-451. doi:10.1007/s10979-010-9249-x

Senn, C. Y., Eliasziw, M., Hobden, K. L., Newby-Clark, I. R., Barata, P. C., Radtke, H. L., & Thurston, W. E. (2017). Secondary and 2-Year outcomes of a sexual assault resistance program for university women. *Psychology of Women Quarterly, 41*(2), 147-162. doi:10.1177/0361684317690119

Shapiro, G. K., Tatar, O., Sutton, A., Fisher, W., Naz, A., Perez, S., & Rosberger, Z. (2017). Correlates of Tinder use and risky sexual behaviors in young adults. *Cyberpsychology, Behavior, and Social Networking, 20*(12), 727-734. doi:10.1089/cyber.2017.0279

Shi, D., Lee, T., & Maydeu-Olivares, A. (2019). Understanding the model size effect on SEM fit indices. *Educational and Psychological Measurement, 79*(2), 310–334. doi: 10.1177/0013164418783530

Shapiro, G. K., Tatar, O., Sutton, A., Fisher, W., Naz, A., Perez, S., & Rosberger, Z. (2017). Correlates of Tinder use and risky sexual behaviors in young adults. *Cyberpsychology, Behavior, and Social Networking, 20*(12), 727-734. doi:10.1089/cyber.2017.0279

Shin, S. H., Jiskrova, G. K., & Wills, T. A. (2019). Childhood maltreatment and alcohol use in young adulthood: The role of self-regulation processes. *Addictive Behaviors, 90*, 241-249. doi:https://doi.org/10.1016/j.addbeh.2018.11.006

Simard, V., Moss, E., & Pascuzzo, K. (2011). Early maladaptive schemas and child and adult attachment: A 15-year longitudinal study. *Psychology and psychotherapy, 84*(4), 349-366. doi:10.1111/j.2044-8341.2010.02009.x

Simmel, C., Postmus, J. L., & Lee, I. (2012). Sexual revictimization in adult women: Examining factors associated with their childhood and adulthood experiences. *Journal of Child Sexual Abuse, 21*(5), 593-611. https://doi.org/10.1080/10538712.2012.690836

Sistad, R. E., Simons, R. M., Mojallal, M., & Simons, J. S. (2021). The indirect effect from childhood maltreatment to PTSD symptoms via thought suppression and cognitive reappraisal. *Child Abuse & Neglect, 114*, 104939. doi:https://doi.org/10.1016/j.chiabu.2021.104939

Smith, P. H., White, J. W., & Holland, L. J. (2003). A longitudinal perspective on dating violence among adolescent and college-age women. *American Journal of Public Health, 93*(7), 1104-1109. doi:10.2105/AJPH.93.7.1104

Stevens, D. J. (1994). Predatory rapists and victim selection techniques. *The Social Science Journal, 31*(4), 421-433. doi:https://doi.org/10.1016/0362-3319(94)90033-7

Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R. A., & van Ijzendoorn, M. H. (2015). The Prevalence of Child Maltreatment across the Globe: Review of a Series of Meta-Analyses. *Child Abuse Review, 24*(1), 37-50. doi:https://doi.org/10.1002/car.2353

Streiner, D. L. (2005). Finding our way: An introduction to path analysis. *The Canadian Journal of Psychiatry, 50*(2), 115-122. doi:10.1177/070674370505000207

Strøm, I. F., Kristian Hjemdal, O., Myhre, M. C., Wentzel-Larsen, T., & Thoresen, S. (2017). The Social context of violence: A study of repeated victimization in adolescents and young adults. *Journal of Interpersonal Violence, 35*(11-12), 2210-2235. doi:10.1177/0886260517696867

Struck, N., Krug, A., Feldmann, M., Yuksel, D., Stein, F., Schmitt, S., . . . Brakemeier, E.-L. (2020). Attachment and social support mediate the association between childhood maltreatment and depressive symptoms. *Journal of Affective Disorders, 273*, 310-317. doi:https://doi.org/10.1016/j.jad.2020.04.041

Struck, N., Krug, A., Yuksel, D., Stein, F., Schmitt, S., Meller, T., . . . Brakemeier, E.-L. (2020). Childhood maltreatment and adult mental disorders – the prevalence of different types of maltreatment and associations with age of onset and severity of symptoms. *Psychiatry Research, 293*, 113398. doi:https://doi.org/10.1016/j.psychres.2020.113398

Sundin, E. C., & Baguley, T. (2015). Prevalence of childhood abuse among people who are homeless in Western countries: a systematic review and meta-analysis. *Social Psychiatry and Psychiatric Epidemiology, 50*(2), 183-194. doi:10.1007/s00127-014-0937-6

Testa, M., VanZile-Tamsen, C., & Livingston, J. A. (2007). Prospective prediction of women's sexual victimization by intimate and nonintimate male perpetrators. *Journal of Consulting and Clinical Psychology, 75*(1), 52-60. doi:10.1037/0022-

006X.75.1.52

Testa, M., Hoffman, J. H., & Livingston, J. A. (2010). Alcohol and sexual risk behaviors as mediators of the sexual victimization-revictimization relationship. *Journal of Consulting and Clinical Psychology, 78*(2), 249-259. https://doi.org/10.1037/a0018914

Thombs, B. D., Bernstein, D. P., Lobbestael, J., & Arntz, A. (2009). A validation study of the Dutch Childhood Trauma Questionnaire-Short Form: Factor structure, reliability, and known-groups validity. *Child Abuse & Neglect, 33*(8), 518-523. doi:10.1016/j.chiabu.2009.03.001

Timmermans, E., & De Caluwé, E. (2017). Development and validation of the Tinder Motives Scale (TMS). *Computers in Human Behavior, 70*, 341-350. doi:https://doi.org/10.1016/j.chb.2017.01.028

Tomaszewska, P., & Schuster, I. (2020). Comparing sexuality-related cognitions, sexual behavior, and acceptance of sexual coercion in dating app users and non-users. *Sexuality Research and Social Policy, 17*(2), 188-198. doi:10.1007/s13178-019-00397-x

Tonmyr, L., Thornton, T., Draca, J., & Wekerle, C. (2010). A review of childhood maltreatment and adolescent substance use relationship. *Current Psychiatry Reviews, 6*(3), 223-234. doi:10.2174/157340010791792581

Turner, L. A., & Langhinrichsen-Rohling, J. Attachment, relationship beliefs, and partner-specific assertiveness and psychological aggression among college students (2011). *Partner Abuse*(4), 387-403. doi:10.1891/1946-6560.2.4.387

Ullman, S. E., Najdowski, C. J., & Filipas, H. H. (2009). Child sexual abuse, post-traumatic stress disorder, and substance use: Predictors of revictimization in adult sexual assault survivors. *Journal of child sexual abuse, 18*(4), 367-385. doi:10.1080/10538710903035263

Ullman, S. E., & Peter-Hagene, L. C. (2014). Longitudinal relationships of social reactions, PTSD, and revictimization in sexual assault

survivors. *Journal of Interpersonal Violence, 31*(6), 1074-1094. doi:10.1177/0886260514564069

Ullman, S. E., & Vasquez, A. L. (2015). Mediators of sexual revictimization risk in adult sexual assault victims. *Journal of Child Sexual Abuse, 24*(3), 300-314. https://doi.org/10.1080/10538712.2015.1006748

Ullman, S. E. (2016). Sexual revictimization, PTSD, and problem drinking in sexual assault survivors. *Addictive Behaviors, 53*, 7-10. doi:https://doi.org/10.1016/j.addbeh.2015.09.010

Ullman, S. E., & Peter-Hagene, L. C. (2016). Longitudinal relationships of social reactions, PTSD, and revictimization in sexual assault survivors. *Journal of Interpersonal Violence, 31*(6), 1074-1094. https://doi.org/10.1177/0886260514564069

United Nations Children's Fund (2017). A familiar face: Violence in the lives of children and adolescents. UNICEF, Data and Analytics Section.

Valenstein-Mah, H., Larimer, M., Zoellner, L., & Kaysen, D. (2015). Blackout drinking predicts sexual revictimization in a college sample of binge-drinking women. *Journal of Traumatic Stress, 28*(5), 484-488. doi:https://doi.org/10.1002/jts.22042

Van Bruggen, L. K., Runtz, M. G., & Kadlec, H. (2006). Sexual revictimization: The role of sexual self-esteem and dysfunctional sexual behaviors. *Child Maltreatment, 11*(2), 131-145. doi:10.1177/1077559505285780

van der Feltz-Cornelis, C. M., Potters, E. C., van Dam, A., Koorndijk, R. P. M., Elfeddali, I., & van Eck van der Sluijs, J. F. (2019). Adverse childhood experiences (ACE) in outpatients with anxiety and depressive disorders and their association with psychiatric and somatic comorbidity and revictimization. Cross-sectional observational study. *Journal of Affective Disorders, 246*, 458-464. doi:https://doi.org/10.1016/j.jad.2018.12.096

van der Kolk, B. A. (1989). The Compulsion to repeat the trauma: Re-enactment, revictimization, and masochism. *Psychiatric*

Clinics of North America, 12(2), 389-411. doi:10.1016/S0193-953X(18)30439-8

van der Velden, P. G., & Wittmann, L. (2008). The independent predictive value of peritraumatic dissociation for PTSD symptomatology after type I trauma: A systematic review of prospective studies. *Clinical Psychology Review, 28*(6), 1009-1020. doi:https://doi.org/10.1016/j.cpr.2008.02.006

Verona, E., Murphy, B., & Javdani, S. (2016). Gendered pathways: Violent childhood maltreatment, sex exchange, and drug use. *Psychology of Violence, 6*, 124-134. doi:10.1037/a0039126

Vladutiu, C. J., Martin, S. L., & Macy, R. J. (2011). College- or university-based sexual assault prevention programs: A review of program outcomes, characteristics, and recommendations. *Trauma, violence & abuse, 12*(2), 67-86. doi:10.1177/1524838010390708

Volkert, J., Randjbar, S., Moritz, S., & Jelinek, L. (2012). Risk recognition and sensation seeking in revictimization and posttraumatic stress disorder. *Behavior Modification, 37*(1), 39-61. doi:10.1177/0145445512449647

Vonderlin, R., Kleindienst, N., Alpers, G. W., Bohus, M., Lyssenko, L., & Schmahl, C. (2018). Dissociation in victims of childhood abuse or neglect: a meta-analytic review. *Psychological Medicine, 48*(15), 2467-2476. doi:10.1017/S0033291718000740

Wager, N. M. (2013). Sexual revictimization: Double betrayal and the risk associated with dissociative amnesia. *Journal of Child Sexual Abuse, 22*(7), 878-899. https://doi.org/10.1080/10538712.2013.830666

Walker, E. A., Gelfand, A., Katon, W. J., Koss, M. P., Von Korff, M., Bernstein, D., & Russo, J. (1999). Adult health status of women with histories of childhood abuse and neglect. *The American Journal of Medicine, 107*(4), 332-339. doi:10.1016/S0002-9343(99)00235-1

Walker, D. P., Messman-Moore, T. L., & Ward, R. M. (2011). Number

of sexual partners and sexual assertiveness predict sexual victimization: Do more partners equal more risk? *Violence Vict*(6), 774-787. doi:10.1891/0886-6708.26.6.774

Walker, H. E., Freud, J. S., Ellis, R. A., Fraine, S. M., & Wilson, L. C. (2017). The Prevalence of sexual revictimization: A meta-analytic review. *Trauma, Violence, & Abuse, 20*(1), 67-80. doi:10.1177/1524838017692364

Walker, H. E., Freud, J. S., Ellis, R. A., Fraine, S. M., & Wilson, L. C. (2019). The prevalence of sexual revictimization: A meta-analytic review. *Trauma, Violence, & Abuse, 20*(1), 67-80. doi:10.1177/1524838017692364

Walker, H. E., & Wamser-Nanney, R. (2022). Revictimization risk factors following childhood maltreatment: A literature review. *Trauma, Violence, & Abuse*, 15248380221093692. doi:10.1177/15248380221093692

Walsh, K., DiLillo, D., & Scalora, M. J. (2011). The cumulative impact of sexual revictimization on emotion regulation difficulties. *Violence Against Women, 17*(8), 1103-1118. https://doi.org/10.1177/1077801211414165

Walsh, K., Danielson, C. K., McCauley, J. L., Saunders, B. E., Kilpatrick, D. G., & Resnick, H. S. (2012). National prevalence of posttraumatic stress disorder among sexually revictimized adolescent, college, and adult household-residing women. *Archives of General Psychiatry, 69*(9), 935-942. doi:10.1001/archgenpsychiatry.2012.132

Walsh, K., DiLillo, D., Klanecky, A., & McChargue, D. (2013). Posttraumatic stress disorder symptoms: A mechanism in the relationship between early sexual victimization and incapacitated/drug-or-alcohol-facilitated and forcible rape. *Journal of Interpersonal Violence, 28*(3), 558-576. https://doi.org/10.1177/0886260512455511

Walsh, K., Messman-Moore, T., Zerubavel, N., Chandley, R. B., DeNardi, K. A., & Walker, D. P. (2013). Perceived sexual control,

sex-related alcohol expectancies and behavior predict substance-related sexual revictimization. *Child Abuse & Neglect, 37*(5), 353-359. https://doi.org/10.1016/j.chiabu.2012.11.009

Walsh, K., Resnick, H. S., Danielson, C. K., McCauley, J. L., Saunders, B. E., & Kilpatrick, D. G. (2014). Patterns of drug and alcohol use associated with lifetime sexual revictimization and current posttraumatic stress disorder among three national samples of adolescent, college, and household-residing women. *Addictive Behaviors, 39*(3), 684-689. doi:https://doi.org/10.1016/j.addbeh.2013.12.006

Watkins, M. W. (2018). Exploratory factor analysis: A guide to best practice. *Journal of Black Psychology, 44*(3), 219-246. doi:10.1177/0095798418771807

Wegman, H. L., & Stetler, C. (2009). A meta-analytic review of the effects of childhood abuse on medical outcomes in adulthood. *Psychosomatic Medicine, 71*(8). doi: 10.1097/PSY.0b013e3181bb2b46

Weiss, N. H., Tull, M. T., Lavender, J., & Gratz, K. L. (2013). Role of emotion dysregulation in the relationship between childhood abuse and probable PTSD in a sample of substance abusers. *Child Abuse & Neglect, 37*(11), 944-954. doi:10.1016/j.chiabu.2013.03.014

Werner, K. B., McCutcheon, V. V., Challa, M., Agrawal, A., Lynskey, M. T., Conroy, E., . . . Nelson, E. C. (2016). The association between childhood maltreatment, psychopathology, and adult sexual victimization in men and women: Results from three independent samples. *Psychological Medicine, 46*(3), 563-573. doi:10.1017/S0033291715002056

West, C. M., Williams, L. M., & Siegel, J. A. (2000). Adult sexual revictimization among black women sexually abused in childhood: A prospective examination of serious consequences of abuse. *Child Maltreatment, 5*(1), 49-57. https://doi.org/10.1177/1077559500005001006

West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling*. Guilford Press.

Wheeler, S., Book, A., & Costello, K. (2009). Psychopathic traits and perceptions of victim vulnerability. *Criminal Justice and Behavior, 36*(6), 635-648. doi:10.1177/0093854809333958

White, M. E., & Satyen, L. (2015). Cross-cultural differences in intimate partner violence and depression: A systematic review. *Aggression and Violent Behavior, 24*, 120-130. doi:https://doi.org/10.1016/j.avb.2015.05.005

Widom, C. S., Czaja, S. J., Kozakowski, S. S., & Chauhan, P. (2018). Does adult attachment style mediate the relationship between childhood maltreatment and mental and physical health outcomes? *Child Abuse & Neglect, 76*, 533-545. doi:https://doi.org/10.1016/j.chiabu.2017.05.002

Wilson, A. E., Calhoun, K. S., & Bernat, J. A. (1999). Risk recognition and trauma-related symptoms among sexually revictimized women. *Journal of Consulting and Clinical Psychology, 67*, 705-710. doi:10.1037/0022-006X.67.5.705

Wilson, H. W., & Widom, C. S. (2008). An examination of risky sexual behavior and HIV in victims of child abuse and neglect: A 30-year follow-up. *Health Psychology, 27*(2), 149-158.

Wilson, L. C., & Newins, A. R. (2018). The Indirect effect of child maltreatment severity on adult PTSD symptoms through anxiety sensitivity. *Journal of child sexual abuse, 27*(6), 682-698. doi:10.1080/10538712.2018.1488333

World Health Organization. (2020, June 8). "Child Maltreatment". Retrived from https://www.who.int/news-room/fact-sheets/detail/child-maltreatment#:~:text=It%20includes%20all%20types%20of,of%20responsibility%2C%20trust%20or%20power.

Wu, Q., Chi, P., Lin, X., & Du, H. (2018). Child maltreatment and adult depressive symptoms: Roles of self-compassion and gratitude.

Child Abuse & Neglect, 80, 62-69. doi:https://doi.org/10.1016/j.chiabu.2018.03.013

Yeater, E. A., Witkiewitz, K., Testa, M., & Bryan, A. D. (2020). Substance use, risky sex, and peer interactions predict sexual assault among college women: An ecological momentary assessment (EMA) study. *Journal of Interpersonal Violence, 37*(7-8), NP5094-NP5115. doi:10.1177/0886260520958720

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema Therapy: A Practitioner's Guide*. New York, NY, US: Guilford Press.

Young-Wolff, K. C., Kendler, K. S., Ericson, M. L., & Prescott, C. A. (2011). Accounting for the association between childhood maltreatment and alcohol-use disorders in males: a twin study. *Psychological Medicine, 41*(1), 59-70. doi:10.1017/S0033291710000425

Young, D. A., Shumway, M., Flentje, A., & Riley, E. D. (2017). The relationship between childhood abuse and violent victimization in homeless and marginally housed women: The role of dissociation as a potential mediator. *Psychological Trauma: Theory, Research, Practice, and Policy, 9*(5), 613-621. https://doi.org/10.1037/tra0000288

Zamir, O., & Lavee, Y. (2014). Psychological mindedness as a protective factor against revictimization in intimate relationships. *Journal of Clinical Psychology, 70*(9), 847-859. https://doi.org/10.1002/jclp.22061

Zamir, O., Szepsenwol, O., Englund, M. M., & Simpson, J. A. (2018). The role of dissociation in revictimization across the lifespan: A 32-year prospective study. *Child Abuse & Neglect, 79*, 144-153. doi:https://doi.org/10.1016/j.chiabu.2018.02.001

Zapp, D., Buelow, R., Soutiea, L., Berkowitz, A., & Dejong, W. (2018). Exploring the potential campus-level impact of online universal sexual assault prevention education. *Journal of interpersonal violence,36* (5-6), NP2324–NP2345. doi: 10.1177/0886260518762449

Zayas, V., & Shoda, Y. (2007). Predicting preferences for dating partners from past experiences of psychological abuse: Identifying the psychological ingredients of situations. *Personality and Social Psychology Bulletin, 33*(1), 123-138. doi:10.1177/0146167206293493

Zerach, G. (2016). Pathological narcissism, cyberbullying victimization and offending among homosexual and heterosexual participants in online dating websites. *Computers in Human Behavior, 57*, 292-299. doi:10.1016/j.chb.2015.12.038

Zetterström Dahlqvist, H., & Gillander Gådin, K. (2018). Online sexual victimization in youth: Predictors and cross-sectional associations with depressive symptoms. *European Journal of Public Health, 28*(6), 1018-1023. doi:10.1093/eurpub/cky1

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About the author

Fatemeh was born on the 14th of April, 1987 in Iran. Fatemeh finished her bachelor's degree in Clinical Psychology in Shiraz University in 2009, and then moved to Tehran to pursue her master's degree in Clinical Psychology at Tehran University of Medical Sciences. She developed an interest in emotion regulation when she was attending an obesity clinic as a part of her effort to expand her knowledge about diagnostic interview with clients in medical settings. She studied cognitive and emotional factors in women candidates for bariatric surgery for her master's degree. She finished the program in 2012. She did her internship in Shiraz and worked there as a clinical psychologist for three years. Although she enjoyed working with clients, she was eager to become a researcher. She moved to Texas where she completed her master's degree in an experimental psychology program at Texas State University-San Marcos in 2018. The thesis of the second master's thesis focused on emotion regulation in non-suicidal self-injury. She moved to Groningen to do her PhD at the University of Groningen under the supervision of Professor dr. Judith K. Daniels where she worked on revictimization. She is now a post-doctoral researcher at the University of Groningen since August 2023 and works on the project "Swiping Risk" funded by NWO in collaboration with Dr. Julie Karsten. The new project will investigate the role of partner preference in sexual victimization in the context of online dating. Outside work, Fatemeh enjoys workout, dancing, and travelling.

Publications

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F. Fereidooni, J.K. Daniels, & M.J.J. Lommen (2023). "The Predictors of Revictimization: A Systematic Literature Review". *Trauma, Violence & Abuse Journal*. Doi: 10.1177/15248380221150475

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H. Doos Ali Vand, F. Ahmadian, B. Birashk, M. Habibi, K. Sadeghniiat Haghighi, & **F. Fereidooni** (2018). "Validity and Reliability of Dysfunctional Beliefs and Attitudes about Sleep Scale-10 in Iranian Clinical Population". *Iranian Journal of Psychiatry and Behavioral Sciences*.

F. Fereidooni, M.K. Atef-Vahid, F.F Lavasani, R.J. Orak, E.D. Klonsky, & A. Pazooki. (2014). "Are Iranian Obese Women Candidate for Bariatric Surgery Different Cognitively, Emotionally and Behaviorally from Their Normal Weight Counterparts?, "*Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 20 (*3*). Doi: https://doi.org/10.1007/s40519-014-0168-6

All the supplementary materials can be found:

via this link: https://osf.io/9w8ca