

The Role of Resilience in Sexual Assault Revictimization

Sharon S. Wang

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William George

Jessica Blayney

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Sharon S. Wang

University of Washington

**Abstract**

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Sharon S. Wang

Chair of the Supervisory Committee:

William George

Department of Psychology

Prevalence rates for child sexual abuse (CSA), adolescent sexual assault, and adult sexual assault (ASA) range from 25-50%, and approximately 50% of CSA victim-survivors go on to experience ASA. Experiencing multiple sexual assaults has been linked with more severe outcomes, specifically post-traumatic stress symptoms (PTSS). Yet, 75% of individuals recover following sexual assault. It is possible that resilience factors may play a crucial role in facilitating recovery. However, relatively little is understood about how resilience might operate in the context of multiple victimizations, particularly across developmental time periods. This study examined the relationship between victimization across developmental time periods, resilience factors (emotion regulation, mindfulness, adaptive coping), and PTSS severity. We analyzed a sample of 503 cisgender community women to examine whether victimization across multiple developmental time periods was associated with more severe PTSS and whether resilience

factors individually and cumulatively moderate this association. Findings revealed a significant positive association between victimization at multiple time periods and PTSS severity.

Moderation analyses suggested that emotion regulation, mindfulness, and adaptive coping strategies (both individually and cumulatively) do not moderate this association. However, multiple regression analyses suggested that resilience factors individually and cumulatively exert a direct positive effect on PTSS severity, counteracting the negative effects of victimization.

Findings have important implications for clinicians and researchers, highlighting the importance of fostering resilience factors, such as emotion regulation, mindfulness, and adaptive coping strategies, to enhance recovery for multiply victimized individuals.

Over 50% of women in the United States will experience sexual assault in their lifetime (Centers for Disease Control and Prevention, 2022b), and approximately every 68 seconds, another individual is sexually assaulted (Rape, Abuse & Incest National Network, 2021). It is estimated that one in four girls experience child sexual abuse (CSA; Centers for Disease Control and Prevention, 2022a). Researchers estimate that roughly 50% of CSA victim-survivors go on to experience another victimization in their lifetime (i.e., revictimization; Walker et al., 2019). However, it is unclear when revictimization might occur, as studies often combine adolescent sexual assault (SA) with ASA (Dworkin et al., 2021). Revictimization is associated with increased depression, anxiety, and post-traumatic stress disorder (PTSD) compared to one-time victimization (Classen et al., 2005). For example, studies have found that individuals reporting CSA and adult sexual assault (ASA) experience more difficulties with post-traumatic stress symptoms (PTSS) and depression compared to individuals reporting CSA- or ASA-only (Filipas & Ullman, 2006; Najdowski & Ullman, 2009). It is clear that revictimization is associated with more negative mental health outcomes, and understanding factors that confer risk for or protection against negative mental health outcomes has important implications for targeted intervention development.

Despite the well-documented negative effects of victimization, some individuals will exhibit positive adaptation post-assault. In fact, Steenkamp et al. (2012) found that over 75% of victim-survivors had gradual improvement in PTSS over time, despite an initial disruption. Some have hypothesized that resilience, defined as an *ability* to maintain or regain mental health following adversity, can help explain this recovery trajectory (Bonanno, 2005; Herrman et al., 2011; Rutter, 1993). Resilience is sometimes framed as inherent and perhaps unchangeable. Others, however, have conceptualized resilience as a *process* by which individuals can overcome

or recover from adversity. More specifically, resilience factors may operate in one of two ways: (1) in a compensatory manner or (2) in a protective manner (see Figure 1; Fergus & Zimmerman, 2005). The compensatory framework suggests that resilience factors compensate, or counteract, the effect of a risk factor (e.g., sexual assault) on a negative outcome (e.g., PTSS). In this way, the resilience factor has a direct effect on the outcome and operates independently of the risk factor. On the other hand, the protective framework suggests that resilience factors moderate the relationship between a risk factor and negative outcome. Overall, conceptualizing resilience factors as a process allows for deeper examination of factors that promote or inhibit recovery.

A growing body of research suggests that factors such as emotion regulation, mindfulness, and adaptive coping may influence outcomes following sexual assault. While these factors can operate as protective (i.e., promoting recovery), most of the existing literature has examined these constructs as *deficits* (i.e., inhibiting recovery), including for the development or maintenance of PTSS. For example, a study of 275 female inmates found that revictimized women (i.e., CSA + ASA) reported greater emotion dysregulation compared to singly victimized women (Walsh et al., 2011). Emotion dysregulation has been shown to mediate the relationship between CSA and PTSS among ethnically-diverse revictimized women (Ullman et al., 2014). Similarly, low levels of mindfulness has been shown to act as a mediator between CSA and PTSS in a sample of 245 adolescents (Daigneault et al., 2016). Maladaptive coping, which does not address the source of stress itself, has also been studied in the context of post-assault outcomes. The self-medication hypothesis suggests that individuals turn to maladaptive strategies, such as substance use, to cope with trauma-related distress (Khantzian, 1997), and this can increase risk for revictimization (Filipas & Ullman, 2006). This can also contribute to greater PTSS among revictimized individuals (Ullman et al., 2014). While these maladaptive coping

strategies may alleviate trauma-related distress in the short-term, they have been found to exacerbate symptoms in the long-term (Volpicelli et al., 1999).

Relatively little literature has evaluated the protective effect that emotion regulation, mindfulness, and adaptive coping might have for multiply victimized individuals. Intervention studies have suggested that promoting skills in emotion regulation (Stappenbeck et al., 2022), mindfulness (Scott Tilley et al., 2023), and adaptive coping (Parcesepe et al., 2015) may help reduce PTSS in individuals with sexual assault histories. However, it is unclear whether these factors operate similarly for multiply victimized individuals. Understanding the protective impact that resilience factors might exert has important implications for prevention and intervention development.

### **The Present Study**

The present study aimed to examine the role of resilience in the relationship between victimization across developmental time periods (i.e., childhood, adolescence, adulthood) and PTSS severity. Using the Fergus & Zimmerman (2005) framework, we sought to elucidate whether factors such as emotion regulation, mindfulness, and adaptive coping might play a compensatory or protective role. First, based on a large body of research, we hypothesized there would be a positive relationship between victimization at multiple developmental time periods and PTSS severity (H1). After establishing this relationship, we examined whether resilience factors (i.e., emotion regulation, mindfulness, adaptive coping) were compensatory or protective. We predicted that each resilience factor would each play a protective role by moderating the association between victimization across developmental time periods and PTSS severity (H2). Finally, we assessed whether cumulative resilience (i.e., the combination of all resilience factors) might moderate this association to a greater extent. We hypothesized that, with high levels of

multiple resilience factors, individuals would be protected against greater PTSS severity, despite victimization at multiple time periods (H3). Given the mixed findings across multiple studies, we expected our results would lend support for the protective model of resilience.

## **Method**

### **Participants**

The present study examined participants from a sample of cisgender women aged 21-30 recruited for a larger study that comprised of an online baseline survey, 32 days of daily diary questionnaires, and one in-person lab visit involving questionnaires and alcohol administration. Eligibility criteria were: 1) no history of alcohol problems, 2) no medical condition or medications which contraindicate alcohol consumption, 3) engagement in unprotected intercourse with male partners at least once in the past year, 4) alcohol consumption at least 3 times per week in the past 30 days, and 5) sexual intercourse with a man at least 2 times in the past 30 days. Additionally, participants were required to report at least one other sexual risk indicator in the past year, such as previous STI diagnosis, having a new male sexual partner, having two or more male sexual partners, or having a risky male sexual partner (i.e., had a concurrent sexual relationship, had an STI, had ever been incarcerated, had ever used intravenous drugs, or had a history of sex with other men). Of the 600 participants in the larger study, the current study included those with data available from the baseline survey and the in-lab measures (N = 503; 83.8%). On average, participants were 25.00 years old (SD = 2.68). A total of 71.6% identified as White, 10.7% multi-racial, 8.5% Asian, 4.7% African American/Black, 2.3% Native American/American Indian/Alaskan Native, 2.2% another race, and 9.2% Hispanic or Latinx. Nearly 3/4 of the sample (74%) reported being employed and having an income under \$41,000 per year.

## Measures

### *Sexual Victimization History*

*Childhood sexual abuse.* CSA was assessed using the Computer Assisted Maltreatment Inventory (CAMI; DiLillo et al., 2006). The CAMI probes for whether any of the following happened: sexual kissing; fondling (by victim and perpetrator); masturbation (by victim and perpetrator); oral, anal, and/or vaginal penetration; and attempted or completed intercourse. Additionally, the CAMI assesses for whether the event(s) occurred with: anyone against an individual's will or when they did not consent, an immediate family member or other relative, and/or anyone who was more than 5 years older than an individual before the age of 14. The items are rated on a five-point scale ranging from 1 = *never happened* to 5 = *more than 10 times*. We operationalized CSA history (0 = *no*, 1 = *yes*) as any endorsement on the CAMI.

*Adolescent and adult sexual assault.* Sexual assault was assessed using the Sexual Experiences Revised (SES-R; Koss et al., 2007). The SES-R probes for the number of times each experience (e.g., sexual contact or attempted or completed oral, vaginal, or anal penetration) has happened to an individual (1) between the ages of 14 and 18 (adolescence) and (2) since they turned 18 to the time of the survey (adulthood). These items are each assessed on a four-point scale ranging from 0 = *never* to 3 = *3 or more times*. We operationalized adolescent sexual assault history (0 = *no*, 1 = *yes*) as any endorsement on the adolescent items (i.e., between ages of 14 and 18), and we operationalized adult sexual assault (0 = *no*, 1 = *yes*) as any endorsement on the adult items (i.e., since they turned 18).

### *Post-Traumatic Stress Symptoms*

The PTSD Checklist for DSM-5 (PCL-5) was used to assess PTSS severity (Blevins et al., 2015). The PCL-5 is comprised of 20 items rated on a five-point scale ranging from 1 = *not*

at all to 5 = *extremely*. Participants are asked to rate each item to indicate how much they have been bothered by that problem in the past month. The questionnaire assesses for symptoms across four domains: intrusive symptoms (e.g., “Repeated, disturbing dreams of the stressful experience”), avoidance symptoms (e.g., “Avoiding memories, thoughts, or feelings related to the stressful experience?”), altered cognition/mood symptoms (e.g., “Loss of interest in activities that you used to enjoy?”), and altered arousal/reactivity symptoms (e.g., “Feeling jumpy or easily startled?”). For this study, we used the total score (severity). Internal consistency was acceptable ( $\alpha = .76$ ).

### ***Emotion Regulation***

Emotion regulation was assessed using the Difficulties in Emotion Regulation Scale (DERS-36; Gratz & Roemer, 2003). The DERS-36 asks participants to indicate what they generally think when they experience negative or unpleasant events on a five-point scale ranging from 1 = *almost never* to 5 = *almost always*. The questionnaire includes items assessing emotional clarity (e.g., “I have no idea how I am feeling”), non-acceptance (e.g., “When I’m upset, I feel like I am weak”), emotional awareness (e.g., “I pay attention to how I feel”), goals (e.g., “When I am upset, I can still get things done”), impulse control difficulties (e.g., “When I’m upset, I feel out of control”), and emotion regulation strategies (e.g., “When I’m upset, I start to feel very bad about myself”). We used the reversed total score for this study and higher scores indicated better emotion regulation. Internal consistency was excellent ( $\alpha = .93$ ).

### ***Mindfulness***

Mindfulness was assessed using the Southampton Mindfulness Questionnaire (SMQ; Chadwick et al., 2008). The SMQ is comprised of 16 items rated on a 7-point scale ranging from 0 = *strongly disagree* to 6 = *strongly agree*. Participants are asked to indicate their response to

the prompt: “Usually when I experience distressing thoughts or feelings...”. The questionnaire included items such as “I feel calm soon after,” “I just notice them and let them go,” and “I lose myself in the thoughts/feelings.” For this study, we examined the total score where higher scores indicated more adaptive functioning. Internal consistency was good ( $\alpha = .87$ ).

### ***Coping Strategies***

Coping was assessed using the Coping Strategies Indicator (CSI; Amirkhan, 1990; Desmond et al., 2006). The CSI consists of 33 items rated on a three-point scale, ranging from 1 = *not at all* to 3 = *a lot*. Items are assessed across domains of social support (e.g., “Described your feelings to a friend”), problem solving (e.g., “Formed a plan in your mind”), and avoidance (e.g., “Tried to distract yourself from the problem”). We reverse-scored the Avoidance items and computed a total score where higher scores indicated more adaptive coping. Internal consistency was acceptable ( $\alpha = .74$ ).

### **Data Analysis**

All analyses were conducted in R with the lavaan package (Rosseel, 2012). First, we examined relevant descriptive statistics as well as assessed for outliers and non-normality. All variables were within acceptable limits of skew and kurtosis (Kline, 2015). Next, we created a victimization composite score: victimization was operationalized as absent (0) or present (1) at three developmental time periods (childhood, adolescence, adulthood), such that 0 = no victimization, 1 = *victimization at one time period*, 2 = *victimization at two time periods*, and 3 = *victimization at three time periods*. We then standardized (i.e., converted to z-score) all resilience factors. For Aim 1, a linear regression model was run with the victimization composite score predicting PTSS severity. For Aim 2, three separate path analyses were run to examine whether resilience factors (i.e., emotion regulation, mindfulness, adaptive coping) moderated the

association between victimization history and PTSS severity. For Aim 3, we created a cumulative score for resilience adding together the z-scores for emotion regulation, mindfulness, and adaptive coping to then run a final path analysis model. All reported coefficients are unstandardized.

## Results

### Descriptive Statistics

Means, standard deviations, and correlations were examined to characterize the sample (see Table 1). Regarding victimization history, 56.1% ( $n = 277$ ) of women reported no victimization experiences in their lifetime. A total of 28.4% ( $n = 143$ ) of participants reported experiencing CSA, 11.1% ( $n = 56$ ) adolescent sexual assault, and 21.5% ( $n = 108$ ) ASA. 29.4% ( $n = 145$ ) reported victimization at one developmental time period only, 11.4% ( $n = 56$ ) two time periods, and 3.1% ( $n = 15$ ) three time periods. As expected, all resilience factors were positively correlated with each other ( $r_s = .32-.49$ ), and negatively correlated with victimization experiences and PTSS severity.

### Victimization Experiences and PTSS Severity

First, we examined whether there was a relationship between the victimization composite score and PTSS severity. As hypothesized, results from the linear regression indicated a strong positive association,  $B = 6.08$ ,  $SE = .88$ , 95% CI [4.37, 7.80]. This suggested that, with every additional victimization time period endorsed, individuals reported an approximate 6-point increase in PTSS (see Figure 2).

### The Role of Resilience Factors

Next, we examined whether resilience factors (emotion regulation, mindfulness, and coping strategies) would individually moderate the association between the victimization

composite score and PTSS severity. These analyses were run as three separate models. Contrary to our hypothesis, we did not find any moderation effects (Model 1, emotion regulation:  $B = -.41$ ,  $SE = .79$ , 95% CI [-1.95, 1.14]; Model 2, mindfulness:  $B = -.27$ ,  $SE = .71$ , 95% CI [-1.66, 1.13]; Model 3, adaptive coping:  $B = -1.28$ ,  $SE = .73$ , 95% CI [-2.71, .15]). Thus, these results did not support resilience factors as protective. Though not originally proposed, we explored resilience within a compensatory framework, as Fergus & Zimmerman (2005) alternately suggested. We found significant main effects (Model 1, emotion regulation:  $B = -6.62$ ,  $SE = .55$ , 95% CI [-7.70, -5.55]; Model 2, mindfulness:  $B = -4.50$ ,  $SE = .58$ , 95% CI [-5.63, -3.37]; Model 3, adaptive coping:  $B = -3.53$ ,  $SE = .66$ , 95% CI [-4.82, -2.24]). Taken together, these models revealed that resilience factors play a compensatory role (rather than a protective role) to counteract the effect of victimization across developmental time periods on PTSS severity.

### **The Role of Cumulative Resilience**

Finally, we were interested in examining the cumulative role of resilience (i.e., the combined effects of emotion regulation, mindfulness, and adaptive coping). We hypothesized that higher levels of combined resilience would protect against PTSS severity, despite multiple victimization experiences. However, we did not find support for this hypothesis. Like the findings from individual resilience factors, cumulative resilience did not moderate the association between victimization and PTSS severity,  $B = -.52$ ,  $SE = .32$ , 95% CI [-1.15, .10]. However, in an exploratory model, results revealed cumulative resilience played a compensatory role,  $B = -2.74$ ,  $SE = .26$ , CI 95% [-3.24, -2.24]. This indicates that cumulative resilience also works in opposition to the effects of multiple victimization experiences on PTSS severity.

## **Discussion**

This study examined the relationships between victimization across developmental time periods, resilience factors, and PTSS. Consistent with previous studies (Classen et al., 2005; Filipas & Ullman, 2006; Najdowski & Ullman, 2009), we found a significant positive association between victimization and PTSS severity, such that individuals reporting multiple victimizations experienced more severe PTSS. This study also examined the role that resilience factors (emotion regulation, mindfulness, and adaptive coping) played in the relationship between victimization and PTSS severity. While we did not find resilience factors to serve a protective function, exploratory models revealed resilience factors counteracted the effect of victimization on PTSS severity, consistent with the compensatory framework (Fergus & Zimmerman, 2005). Finally, in our examination of cumulative resilience, results again indicated cumulative resilience serving in a compensatory role on PTSS severity.

These findings can inform our overall understanding post-assault recovery, particularly among individuals experiencing multiple victimization, particularly across time periods. The existing literature has shown that *lack* of emotion regulation, mindfulness, and adaptive coping exacerbates PTSS following sexual assault (Daigneault et al., 2016; Filipas & Ullman, 2006; Ullman et al., 2014; Walsh et al., 2011). However, it has been unclear what potentially positive effect these skills, when used or learned, might have for victim-survivors. Results from our study suggest that these factors exert a positive effect following victimization at multiple time periods. More specifically, emotion regulation, mindfulness, and adaptive coping can compensate for (but not entirely overcome) the negative effects of victimization across multiple time periods. It is likely these factors are one piece of the puzzle and should be considered alongside other factors in conceptualizations of post-assault adaptation. Specifically, it will be important to consider risk factors in tandem with resilience factors in future research.

Finally, our study is one of the first studies to isolate the effects of adolescent SA rather than combine it with CSA or ASA. Adolescent SA is an under-researched event occurring between crucial developmental time periods. Prior studies indicate that females aged 16-19 are four times more likely than women in all other age groups to experience sexual assault (Rickert & Wiemann, 1998). Adolescence is also a crucial time for sexual development and experiencing sexual assault can have devastating long-term effects that extend into young adulthood (Koch, 1993; Pharris & Nafstad, 2002). Our findings suggest that adolescent SA is meaningfully distinct from CSA (i.e., prior to 14) and ASA (i.e., 18 or after). Adolescence may be a particularly crucial time period for intervention efforts, as findings from intervention studies suggest that sexual education during adolescence can be effective for preventing sexual assault in adulthood (Santelli et al., 2018). Future research must continue to expand our understanding of adolescent SA and its long-term effects.

### **Limitations and Future Directions**

These findings should be interpreted in light of study limitations. One limitation is that this study was cross-sectional in nature and therefore precludes the determination of directionality and causality. The inclusion criteria for the broader study were geared to recruit women engaging in high-risk behaviors (i.e., sexual risk behaviors, risky substance use). It is possible that this study replicated with a more normative sample might result in different findings. Additionally, the assessment of CSA, adolescent SA, and ASA was done via retrospective self-reports, which introduces inherent issues, such as false recall of details or severity of violence (Burnam et al., 1988). Finally, this sample was exclusively female and the majority (~72%) were White. Experiences of PTSS and sexual assault can differ, particularly among marginalized individuals (Kammer-Kerwick et al., 2021; Porter & Williams, 2011), and

future research should examine these variables and relationships among more representative and inclusive populations. Furthermore, we were not able to assess for number of distinct victimization experiences within a developmental time period. The way the SES-R is structured, it is possible that a person may indicate multiple tactics and/or multiple outcomes that occurred within the same event and it is not possible to differentiate whether those were indeed the same or different events (Davis et al., 2014). Future research should address this issue to truly capture number of distinct victimization experiences.

Finally, this study focused exclusively on resilience factors within an individual. Studies have suggested that risk and resilience are two parts of the equation in understanding functioning following sexual assault, and that risk and resilience operate on both an individual and broader socio-ecological level (Ungar, 2013). A recent qualitative study suggests that coping adaptively with trauma is a complex and interrelated process involving both risk and resilience factors (Strickland et al., 2023). The framework put forth by (Fergus & Zimmerman, 2005) also suggests that there are two types of resilience factors: assets and resources. Assets reside within the individual (e.g., emotion regulation) whereas resources refer to outside factors (e.g., social support). This study evaluated resilience assets and results do not speak to the possibility of resources playing a significant role as well. For example, peer and family support have been shown to have a significant influence on outcomes following sexual assault (Hébert et al., 2014). Therefore, to truly capture functioning for individuals who have experienced multiple victimizations, future research should evaluate risk and resilience across multiple levels and in multiple domains.

### **Clinical Implications and Conclusions**

Collectively, results from this study contribute to the overall landscape of research regarding outcomes following sexual assault. This study sought to elucidate the role that resilience factors play post-assault in individuals reporting victimization across multiple time periods. Much of the literature, thus far, has examined risk factors for subsequent victimization experiences and risk factors that contribute to more severe negative outcomes (see Scoglio et al. (2021) for a review). Very few, if any, studies have focused on the factors that may facilitate recovery or “bouncing back” in multiply victimized individuals. This is one of the first known studies to show that resilience factors operate in a compensatory manner against the negative effects of multiple victimization experiences on PTSS severity.

Our findings suggest that fostering resilience factors, such as emotion regulation, mindfulness, and positive coping strategies, can play a vital role in supporting victim-survivors' healing and recovery. Interventions and treatment methods that incorporate these skills can complement existing evidence-based treatments for sexual assault-related PTSS, offering victim-survivors additional resources for managing their symptoms and fostering recovery. Furthermore, our study contributes to the growing body of research advocating for a strengths-based approach in the aftermath of sexual assault (Walker-Williams & Fouché, 2017). While resilience factors alone may not fully buffer the negative effects of multiple victimization experiences, clinicians and researchers should still consider the role they play in tandem with risk factors. This comprehensive perspective allows for a holistic understanding of victim-survivors' experiences and informs the development of tailored intervention.

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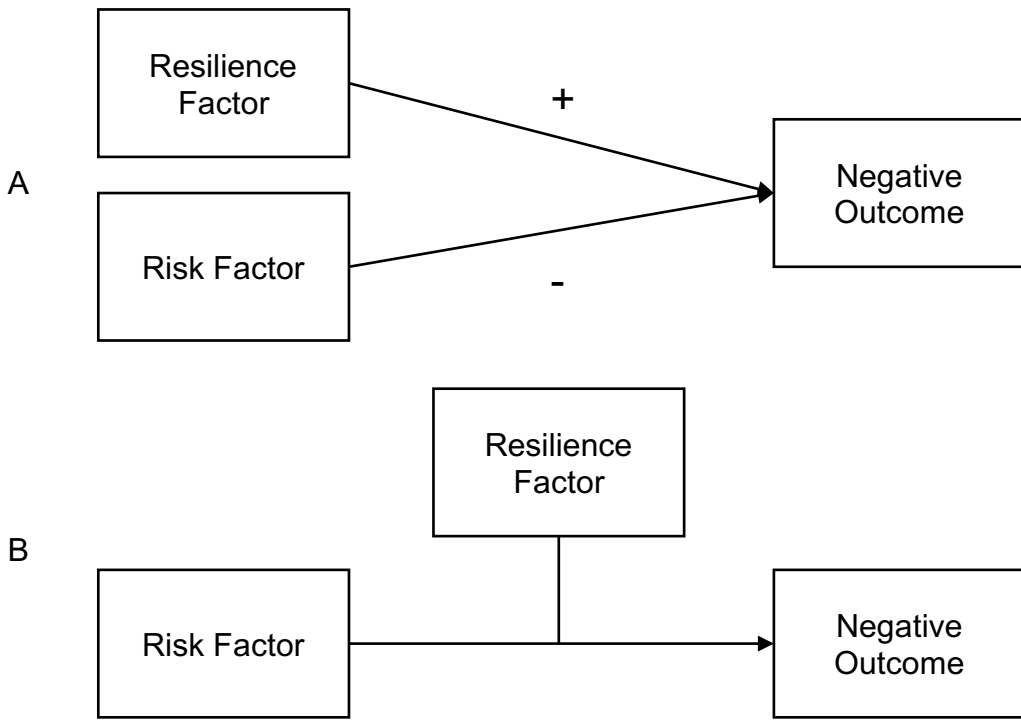
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**Figure 1**

*Theoretical Models for the Role of Resilience Factors*



*Note.* Model A represents the compensatory framework where resilience factors counteract the effects of the risk factor on the negative outcome. Model B represents the protective framework where resilience factors moderate the relationship between the risk factor and the negative outcome.

**Table 1**

*Descriptive Statistics and Correlations*

	Vic. history	PTSS severity	DERS	SMQ	CSI
Vic. history	--	.36*	-.08	-.03	-.11
PTSS severity	--	--	-.48*	-.31*	-.28*
DERS	--	--	--	.49*	.32*
SMQ	--	--	--	--	.38*
CSI	--	--	--	--	--

Mean	.61	15.94	-73.45	46.51	77.10
Std. dev.	.81	14.60	18.95	14.28	3.79
Range	0-3	0-77	-146- -36	9-86	62-86

Note. PTSS = post-traumatic stress symptoms. DERS = Difficulties in Emotion Regulation

Scale. SMQ = Southampton Mindfulness Questionnaire. CSI = Coping Strategies Inventory.

\*  $p < .001$ .

**Figure 2**

*The Relationship Between Victimization Time Periods and PTSS severity*

