

TRAIT MINDFULNESS AND NEGATIVE MOOD REGULATION EXPECTANCIES AS  
PREDICTORS OF POSTTRAUMATIC GROWTH AMONG INDIVIDUALS WHO HAVE  
EXPERIENCED SEXUAL COERCION

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## ABSTRACT

### TRAIT MINDFULNESS AND NEGATIVE MOOD REGULATION EXPECTANCIES AS PREDICTORS OF POSTTRAUMATIC GROWTH AMONG INDIVIDUALS WHO HAVE EXPERIENCED SEXUAL COERCION

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Trait mindfulness, which is the predisposition or tendency to pay attention in the present moment, nonjudgmentally, is associated with increased emotion regulation (Prakash et al., 2017) and decreased posttraumatic stress (PTS) symptoms (Boelen & Lenferink, 2018). In addition, lower trait mindfulness is associated with perpetration of interpersonal and sexual violence (Hesse et al., 2021; Ngo et al., 2018). Higher trait mindfulness is associated also with effective mood regulation and strengthened confidence in one's ability to regulate mood (e.g., negative mood regulation expectancies (NMRE); Jimenez et al., 2010), while lower trait mindfulness predicts higher psychological distress (Harnett et al., 2016). Additionally, trait mindfulness is linked to posttraumatic growth (PTG), or the experience of positive emotionality or renewed sense of gratitude after trauma, in survivors of sexual violence (Frazier et al., 1996). These concepts are also connected to PTG – for example, the disruption of one's worldview or core beliefs after a traumatic experience and the event's role in becoming central to one's identity are likely key factors in fostering PTG (Groleau et al., 2013; Tedeschi & Blevins, 2015). However, there exist gaps in the literature which require addressing. First, several studies examine state mindfulness and/or mindfulness-based interventions for survivors of sexual trauma, but few explore the role that trait mindfulness may play within this population. Second, the unique

contribution of negative mood regulation expectancies (NMRE) and trait mindfulness in the prediction of posttraumatic growth (PTG) among those who have experienced sexual coercion (i.e., victimization), warrant further exploration. Finally, while existing literature suggests that PTG is prompted by disruption to one's world view and/or core beliefs and predicted by having an event become central to one's identity, few studies have examined the degree to which emotional bother (continued impact of past trauma), predicts PTG (Groleau et al., 2013; Tedeschi & Blevins, 2015). Investigating these associations may foster better understanding of trait mindfulness, NMRE, and emotional bother and their roles in promoting PTG, and provide clinical implications for working with and bolstering PTG for survivors of sexual coercion.

## INTRODUCTION

Individual differences in personality traits, which are typically understood in the context of the Big Five model of personality, play a significant role in how people navigate life and face challenges (McCrae & Costa, 1997). Trait mindfulness, although not part of the Big Five, is the tendency to pay attention in the present moment nonjudgmentally (Banfi & Randall, 2002). Despite its association with improved emotion regulation (Prakash et al., 2017), decreased posttraumatic stress (PTS) symptoms (Boelen & Lenferink, 2018), and decreased likelihood of perpetration of interpersonal and sexual violence (Hesse et al., 2021; Ngo et al., 2018), trait mindfulness has received less attention in empirical psychological literature compared to state mindfulness, as it relates to survivors of trauma and mindfulness-based interventions. Additionally, few studies examine the impact of trait mindfulness on posttraumatic growth (PTG) among individuals who have experienced sexual trauma. Existing research instead investigates trait mindfulness as a predictor of perpetration of violence (Hesse et al., 2021; Ngo et al., 2018), rather than that of PTG. Furthermore, few studies have investigated the association

between trait mindfulness and negative mood regulation expectancies (NMRE), which are one's beliefs in one's ability to regulate negative mood. Instead, limited existing studies explore the connection between trait mindfulness and specific emotion regulation strategies, rather than beliefs about ability to regulate negative mood (Prakash et al., 2017). Additionally, current literature suggests that survivors of intimate partner violence – which may be considered a form of sexual coercion – report lower NMRE (Shepherd-McMullen et al., 2014) and that PTG is associated with both sexual trauma (Ulloa et al., 2016) and emotion regulation (Larsen & Berenbaum, 2015). Trait mindfulness may also play a role in improving emotion regulation through bolstering abilities to effectively regulate affect or mood (Zhang et al., 2019). Given this information and the existing gaps in the literature, the role of trait mindfulness and NMRE in predicting PTG among survivors of sexual coercion should be explored. This study aimed to investigate trait mindfulness and NMRE as predictors of PTG among survivors of sexual coercion. The hypothesis for this study was that both trait mindfulness and negative mood regulation expectancies (NMRE) would be positively associated with posttraumatic growth (PTG), and that the association would remain while controlling for emotional bother in a sample of sexual coercion survivors. Additionally, we hypothesized that emotional bother would be negatively associated with both NMRE and PTG among people who have experienced sexual coercion. Furthermore, it was hypothesized that emotional bother would be negatively associated with both NMRE and PTG among people who have experienced sexual coercion.

### **Big Five Model of Personality**

Personality traits are understood as “relatively enduring styles of thinking, feeling, and acting” (McCrae & Costa, 1997, p. 509) and serve as an evolving assortment of intrinsic tendencies, personalized adjustments, and narratives that define one's life, intricately embedded

within cultural and social contexts (McAdams & Pals, 2006). These traits are instrumental elements of individuals' perceptions of and approaches to living life and enduring challenge. Such traits vary across individuals – as no person is quite the same as anybody else. Personality is generally understood in the context of the widely accepted Big Five model of personality (McCrae & John, 1992). This five-factor model conceptualizes personality within a hierarchal structure, categorizing personality into five basic dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (McCrae & John, 1992). While definitions of each dimension may vary slightly, adjectives are best used to describe each of the big five dimensions (e.g., extraversion is described using adjectives like, “talkative”, “energetic”, “outgoing”, and “warm”). Individual differences observed in personality psychology have been found to be uniform across different cultures, indicating that the structure of personality traits is universal (McCrae & Costa, 1997). The Big Five is generally accepted as the primary psychological framework for understanding and studying personality, as evidenced by the discovery of the five personality dimensions in factor analyses of several personality questionnaires (McAdams & Pals, 2006; Saggino, 2000;). However, some researchers question the extent to which the five-factor model represents all of human personality, going so far as to investigate the presence of additional personality traits which may extend beyond the Big Five (Saggino, 2000). For example, Paul, Ashton and Lee (2007; 2022) propose that the Big Five overlooks an important dimension of personality, which they call Honesty-Humility, described as related to but distinct from agreeableness, and defined using adjectives like, “sincere”, “loyal”, “honest”, and “modest”. Conversely, Paulhus and Williams (2002) suggest the existence of three aversive personality traits that are not included with the five-factor model – Machiavellianism, which is associated with manipulative personality; narcissism, a personality



trait linked to grandiosity, entitlement, and dominance; and psychopathy, which is related to high impulsivity and thrill-seeking – altogether called the Dark Triad. Other researchers have investigated the concept of trait mindfulness – defined as “the tendency to pay attention to the present moment, in a non-judgmental manner” (Banfi & Randall, 2002, p. 1) and its potential connection to the Big Five model of personality (Giluk, 2009; Brown & Ryan, 2003).

### **Trait Mindfulness**

Mindfulness is defined as “awareness, cultivated by paying attention in a sustained and particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 2006, p. 1). As a psychological construct, mindfulness can be understood in two ways: 1) the practice of mindfulness via meditation or present-moment awareness, or *state* mindfulness, and 2) the tendency to “attend to the experience of the present moment in a non-judgmental way”, or *trait* mindfulness (Banfi & Randall, 2022, p. 1; Hanley & Garland, 2017). Whereas state mindfulness encompasses the fluctuations of mindfulness cognitive stages which occur during mindfulness practice, such as mindfulness meditation, trait mindfulness is a mindset or propensity that differs among individuals, like other Big Five personality traits such as extraversion or neuroticism (Baer et al., 2006; Banfi & Randall, 2022; Kiken et al., 2015).

Furthermore, psychological research has primarily focused on two different conceptualizations of mindfulness, which stem from diverse viewpoints and theoretical origins. The first school of thought is a Western perspective grounded in Buddhism and derived from Eastern philosophy, which defines mindfulness as the ability to pay attention in the moment, non-judgmentally and is also known as “meditative mindfulness” (Hart et al., 2013; Siegling & Petrides, 2014). Kabat-Zinn (2003; 2006) is credited with incorporating this perspective into scientific research and mainstream awareness (Siegling & Petrides, 2014). The second

conceptualization of mindfulness is a Western perspective which defines mindfulness as “a state in which one is open to novelty, alert to distinctions, sensitive to context, aware of multiple perspectives, and oriented in the present” (Bodner & Langer, 2000, p. 1) and championed by Langer (1989) (Siegling & Petrides, 2014). This conceptualization of mindfulness is also known as “creative mindfulness” (Hart et al., 2013). For the purpose of this study, I focus primarily on the concept of “meditative mindfulness” as defined by Kabat-Zinn (2003; 2006) when referring to trait mindfulness. Given that the definitions of “trait mindfulness” and “meditative mindfulness” incorporate a broader scope of tendencies and behaviors, such as generally paying attention to the present moment versus being open to new things, aware of subtle differences, and perceptive of environment, these concepts are more feasible to investigate within the context of a short-term thesis study. Additionally, assessing trait mindfulness is more feasible than investigating “state mindfulness” within the short timeframe of this project given that trait mindfulness can be investigated through self-report measures, for example, which are quicker and easier to analyze compared to staging mindfulness-based interventions and collecting data on outcomes before and after implementation of such interventions. As such, for the purposes of this study, trait mindfulness is assessed.

Researchers have identified mindfulness as a multilayered construct made up of five facets: observing, non-judging, acting with awareness, describing, and non-reactivity (Baer et al., 2006). Observing reflects attending to or noticing internal and external experiences, like thoughts, feelings or reactions to external stimuli; non-judging refers to the propensity to experience feelings, sensations, and thoughts without judgment; acting with awareness signifies paying attention in the present moment; describing indicates the ability to identify inner experiences with words; and non-reactivity reflects allowing inner experiences, like thoughts or

feelings, to occur without ruminating on them (Baer et al., 2006; Reffi et al., 2019). This facet structure has been empirically validated in several studies (Christopher et al., 2012; Siegling & Petrides, 2014). Additionally, studies have indicated that certain facets of mindfulness may be more closely associated with psychological symptoms and behaviors, such as posttraumatic stress symptoms (Reffi et al., 2019). For example, non-judging, non-reactivity, describing, and acting with awareness are each associated with decreased PTSD symptom severity, with non-judging acting as the primary facet in lessening PTSD symptoms (Reffi et al., 2019). Researchers have also discovered that acting with awareness predicts reduced anxiety symptoms among participants manipulated to suppress emotions when faced with a stressor, and that participants who engaged in describing their experiences were more likely to engage in other facets of trait mindfulness (Bullis et al., 2014). While some researchers have investigated the five facets of mindfulness in relation to psychological theories, others have scientifically explored trait mindfulness as a whole.

General trait mindfulness is also linked to a variety of psychological constructs and outcomes, including mood regulation expectancies, or beliefs in one's ability to regulate mood (Jimenez et al., 2010; Reffi et al., 2019; Zhang et al., 2019), trauma symptoms (Tubbs et al., 2017; Thompson et al., 2011; Boelen & Lenferink, 2017), resilience (Thompson et al., 2011), and posttraumatic growth (Hanley et al., 2014; Thompson et al., 2011). Jimenez and colleagues (2010) found that participants with higher levels of trait mindfulness experienced more positive emotions and greater mood regulation expectancies, which resulted in lower depressive symptoms. Additionally, a study examining the effect of trait mindfulness on trauma and anxiety symptoms among survivors of trauma suggests that increased trait mindfulness is associated with lower anxiety and depression symptom severity (Tubbs et al., 2017). Higher levels of trait

mindfulness are associated with greater adjustment following trauma, which may bolster trauma survivors' resilience and PTG (Thompson et al., 2011).

While several studies have found interventions targeting trait mindfulness to be efficacious in reducing negative affect and symptom severity for PTSD, anxiety, and depression (Boyd et al., 2017), there are still areas which these studies do not address. First, few researchers explore the association between trait mindfulness and sexual trauma or coercion; the limited studies that do instead examine trait mindfulness as a predictor of perpetration of sexual violence (Hesse et al., 2019; Ngo et al., 2018), rather than of PTG of survivors and victims. Second, while existing literature investigates the association between trait mindfulness and emotional regulation expectancies, there lacks research which does so with populations of survivors and victims of sexual coercion (Jimenez et al., 2010). Third, research which focuses on the relationship between trait mindfulness and PTG supports the idea that higher levels of trait mindfulness are associated with PTG (Hanley et al., 2014), but does not consider the role of negative mood regulation expectancies.

### **Sexual Coercion**

Sexual coercion is understood as an event in which an uninterested partner is coerced by another to engage in sexual activity through means such as unwanted touching, verbal pressure, or emotional manipulation (Broach & Petretic, 2006). Sexually coercive experiences may range from forcible rape by a stranger (Broach & Petretic, 2006) to sexual violence or coercion by an acquaintance (Arata & Burkhart, 2008) or intimate partner (Shepherd-McMullen et al., 2014). Some scholars opine that sexual coercion includes any type of coercive tactic which leads to completed sexual assault (DeGue & DiLillio, 2005), while others purport that consenting to unwanted sexual relations does not fall under the umbrella of sexual coercion (Crown & Roberts,

2007). However, multiple studies suggest that consent resulting from sexual coercion should not be considered freely given consent, given that several factors may be at play in providing that consent, such as gender-related power dynamics (Gavey, 2019; Pugh & Becker, 2018), consenting through fear of experiencing rape (Harned, 2005; Pugh & Becker, 2018), or consenting after refusing the sexual interaction through means like saying no, fighting, or crying (Beres, 2007; French & Neville, 2017; Pugh & Becker, 2018). Additionally, sexual coercion can be defined, operationalized and carried out through a range of means, including verbal tactics or physical methods, such as verbally pressuring a victim versus physically forcing a victim to engage in sexual activity (Pugh & Becker, 2018). Recent research indicates that sexual coercion may take digital forms through methods like electronic coercion, where a partner attempts to elicit explicit photo, video, or text content from another (Thulin et al., 2023). Overall, descriptions of sexual coercion vary, but the fundamental principle of each definition is that the individual experiencing sexual coercion lacks choice and faces a range of consequences – from physical and psychological to economic or emotional – if they do not consent (Cecil & Mason, 2006; Heise, Ellsberg & Gottemoeller, 1999).

Sexual coercion is prevalent across the world, in the United States, and on college campuses, and is linked to negative mental health outcomes, such as more prevalent experiences of depression, psychological distress, and emotion dysregulation (Chadwick et al., 2022; Salwen et al., 2015; Zerubavel & Messman-Moore, 2013). In a systematic review of international research on sexual assault, between 0-59.2% of women from Europe, Africa, Asia, Latin America, and the Middle East reported experiencing sexual assault (Dworkin et al., 2021). Basile and colleagues (2014) found that 32.1% of women and 13.3% of men reported experiencing at least one incident of unwanted sexual contact in their lifetime. On college campuses, one in five

women experience some form of sexual coercion (Muehlenhard et al., 2017; Smith et al., 2018). Additionally, underreporting is prevalent in cases of sexual coercion due to several factors, including stigma associated with sexual violence victimization, perceptions that victims will not be believed or that some events are “not serious enough” (Scurich, 2020, p. 537), mistrust in the system of justice, and uncertainty about what constitutes sexual coercion, among others (Felson & Paré, 2005; Scurich, 2020). As a result, incidents of sexual coercion are likely higher than current data suggests. Adults are not the only individuals affected by sexual coercion, either – the National Violence Against Women survey found that among women who reported experiencing rape, 32.4% of respondents indicated that the rape occurred when they were between 12 and 17 years old (Tjaden & Thoennes, 2000). Additionally, a systematic review of literature found that among 24 countries, between 8-31% of girls and 3-17% of boys experience sexual abuse in childhood (Barth et al., 2013).

Most studies investigating sexual coercion and trait mindfulness focus on trait mindfulness as a predictor of sexual violence perpetration, rather than victimization (Hesse et al., 2021; Ngo et al., 2018), in efforts to establish dating violence prevention programs or understand the role of alcohol or drug misuse in sexual coercive experiences. However, few studies examine trait mindfulness as a predictor of PTG in survivors and victims of sexual coercion. Additionally, one study investigating the relationship between sexual coercion – such as intimate partner violence (IPV) – and negative mood regulation expectancies (NMRE) suggests that victims of IPV reported lower NMRE, meaning that they had weaker beliefs in their ability to regulate their negative moods (Shepherd-McMullen et al., 2014). However, few studies investigate this relationship further or examine the role that trait mindfulness may play in predicting other outcomes, such as PTG, among survivors of sexual coercion.

In summary, both seminal and recent research indicates that sexual coercion – in all its forms – is prevalent throughout the lifetime and can have detrimental impacts on mental health, contributing to feelings of depression, emotion dysregulation, and psychological distress (Chadwick et al., 2022; Salwen et al., 2015; Zerubavel & Messman-Moore, 2013). Additionally, gaps in the literature suggest that further research is needed to better understand how victims of sexual coercion cope with the aftermath of the experience, and how other variables – such as trait mindfulness and negative mood regulation expectancies – may contribute to different posttraumatic outcomes.

### **Negative Mood Regulation Expectancies (NMRE)**

Negative mood regulation expectancies (NMRE) are an individual's beliefs in their ability to ease their negative moods via thought or action (Catanzaro & Mearns, 1990). The construct of NMRE stems from social learning theory (Rotter, 1954; Rotter et al., 1972), which posits that behavior can be predicted by three constructs: 1) generalized problem solving expectancies – the general expectations an individual has about their ability to solve problems, 2) situational expectancies – perceptions an individual has about how they would respond to a given situation, and 3) reinforcement values – desirability of a specific outcome (i.e., a thing or event which an individual is attracted to and wants to happen represents high reinforcement value; something an individual is repelled from and does not wish to happen represents low reinforcement value) (Catanzaro & Mearns, 1990; Rotter, 1966).

In the extant literature, NMRE have been linked to a variety of psychological constructs and outcomes. For example, low NMRE, or weak beliefs in one's ability to regulate negative mood, are associated with higher levels of negative affect, depression, and stress (Davis et al., 2005; Mazur-Socha & Przepiórka, 2021). Additionally, higher NMRE are associated with active

coping strategies, indicating that individuals who implement active strategies to cope with stressors report higher levels of NMRE (Catanzaro et al., 2000; Mazur-Socha & Przepiórka, 2021). While few studies have explored the relationship between NMRE and sexual coercion, Shepherd-McMullen and colleagues (2014) found that people who experienced intimate partner violence – including sexual coercion by an intimate partner – reported lower NMRE, meaning that they had weaker beliefs in their ability to regulate their negative moods. Yet, few researchers have investigated whether NMRE may predict specific outcomes – such as posttraumatic growth or depreciation – among survivors and victims of sexual coercion.

Trait mindfulness is also connected to mood regulation expectancies. Jimenez and colleagues (2010) found that higher levels of trait mindfulness are associated with better mood regulation expectancies, meaning that people who are better able to attend to the present moment non-judgmentally endorse stronger beliefs in their ability to regulate moods. Such beliefs could also potentially contribute to PTG, as suggested by research conducted by Wei and colleagues (2016). However, few studies have investigated these concepts further.

Overall, negative mood regulation expectancies (NMRE) contribute to several psychological constructs and outcomes and may play an important role in how individuals cope with life's stressors. However, few researchers examine the association between NMRE and trait mindfulness in individuals who have experienced sexual coercion and the ways that these constructs may uniquely predict posttraumatic growth or depreciation, indicating a need for additional research investigating these associations.

### **Posttraumatic Growth (PTG)**

Posttraumatic growth (PTG) is the experience of positive change after enduring a traumatic life event (Tedeschi & Calhoun, 1996). While trauma is typically associated with a



variety of negative psychological and physical symptoms and outcomes, like posttraumatic stress disorder (PTSD) (Yehuda et al., 2015), emotion dysregulation (Weis et al., 2022), and substance abuse (Dass-Brailsford & Myrick, 2010), Tedeschi and Calhoun (1996) are credited with positing the idea that trauma may be followed by growth as well. Shared elements within PTG are typically understood as three broad dimensions: changes in perception of the self, changes in interpersonal relationships, and changes in philosophy of life (Calhoun & Tedeschi, 1996; Taku et al., 2008). Changes in perception of the self reflects “a greater sense of personal strength, resiliency or self-reliance, coupled with developing a new path or opportunities” (Taku et al., 2008, p. 158). Changes in interpersonal relationships indicate a heightened sense of closeness in relationships or expanded feelings of compassion and/or altruism (Calhoun & Tedeschi, 1996; Taku et al., 2008). Changes in philosophy of life include increased appreciation for one’s existence, improved life perspectives, and, for some, changes in religious or spiritual beliefs (Calhoun & Tedeschi, 1996; Taku et al., 2008). Within these three broad dimensions, five distinct but related factors have been identified as key to PTG: relating to others, new possibilities, personal strength, appreciation of life, and spiritual and existential change (Calhoun & Tedeschi, 1996; Tedeschi et al., 2017). Relating to others involves being able to rely on others in times of need (“I accept needing others”) (Calhoun & Tedeschi, 1996, p. 460), feeling closeness with other people, and expressing compassion for other people. New possibilities include developing new interests, being open to attempting to change things or situations which require fixing and recognizing new opportunities that were not available before the traumatic event (“New opportunities are available which wouldn’t have been otherwise”) (Calhoun & Tedeschi, 1996, p. 460). Personal strength reflects feelings of self-reliance, confidence in one’s ability to handle difficulties, and newfound recognition of strength (“I discovered that I’m

stronger than I thought I was”) (Calhoun & Tedeschi, 1996, p. 460). Appreciation of life signifies greater gratitude for each day and potential shifts in priorities (“I changed my priorities about what is important in life”) (Calhoun & Tedeschi, 1996, p. 460). Spiritual change, which has been updated to reflect spiritual and existential change, indicates stronger faith in certain religions or spiritualities, improved ability to confront existential matters, and universal connection (“I feel more connected with all of existence”) (Tedeschi et al., 2017, p. 15).

PTG is related to a variety of constructs, including sexual trauma (Ulloa et al., 2016) mindfulness (Zhang et al., 2017), emotion regulation (; Larsen & Berenbaum, 2015; Wild & Paivio, 2004), psychological distress and event centrality (Boals et al., 2010; Groleau et al., 2013). Studies investigating how experiencing sexual violence may result in PTG suggest that victims and survivors of sexual violence report greater appreciation for life (Frazier et al., 1996), growth in interpersonal relationships, and strengthened social support from friends and family (Borja et al., 2006; Draucker et al., 2009; Ulloa et al., 2016). Survivors of sexual assault also reported increases in relationship satisfaction, particularly with their mothers, and greater empathy for others (Guerette & Caron, 2007). People who experienced rape also reported a stronger sense of self, particularly when they realized that the rape was not their fault (Guerette & Caron, 2007).

Some studies have also examined the relationship between trait mindfulness and PTG. Among police cadets, who face varying forms of traumatic events, Chopko and colleagues (2022) found that the observing factor of trait mindfulness predicted PTG. In the same population, non-judging was found to be the primary factor which predicted PTG (Chopko et al., 2009). Conversely, researchers like An and colleagues (2018) examined whether trait mindfulness predicts PTG among survivors of a natural disaster, and discovered this relationship

did not exist, meaning that trait mindfulness did not predict PTG in the trauma survivors. While this relationship has been explored among a variety of populations who encounter trauma, few studies have explored the association between trait mindfulness and PTG among survivors of sexual coercion, opting to investigate mindfulness-based interventions for this population instead (Gallegos et al., 2015). Perhaps experiences of individuals who have experienced sexual coercion may differ from those who have experienced other types of traumas given the personal element of sexual trauma and the tendency of those who endorse higher levels of trait mindfulness to notice and observe their emotions more deeply (Baer et al., 2012).

The association between emotional regulation and posttraumatic growth has also been investigated in several studies with mixed findings. For example, Wild and Paivio (2004) found that effective emotion regulation did not predict PTG among a sample of trauma survivors. Alternatively, research findings from Larsen and Berenbaum (2015) indicate that among adult women who had experienced a stressful or traumatic event in the past three years, several types of emotion regulation strategies, such as meaning-making, predicted PTG. However, these studies focused more on emotion regulation strategies – rather than negative mood regulation expectancies – in predicting PTG.

One of the important theoretical underpinnings of PTG comes from the concept of event centrality, which occurs when an event one experiences becomes central to one's identity (Groleau et al., 2013). Such an experience may contribute to disruption of one's worldview or core beliefs, as suggested by Tedeschi and Blevins (2015). In other words, the degree to which an individual is impacted by the trauma they have endured plays a role in predicting and/or contributing to the development of PTG. However, there exist few studies which specifically investigate emotional bother as a predictor of PTG among sexual coercion survivors. As such,

the degree to which one is bothered by a previous sexually coercive experience must be investigated as a predictor of PTG.

In summary, PTG is related to several psychological constructs and outcomes, and current literature suggests that survivors and victims of sexual coercion develop PTG. However, there remain areas of study which have not been addressed by existing research. First, most studies have investigated PTG in the context of state mindfulness, rather than trait mindfulness (Gallegos et al., 2015). Second, while mindfulness interventions have been conducted to investigate PTG among sexual trauma survivors (Ulloa et al., 2016), few studies have investigated this relationship in the context of trait mindfulness. Third, existing literature explores the association between PTG and specific emotion regulation strategies, rather than perceptions on one's ability to regulate negative moods. These findings suggest that additional research is needed which examines trait mindfulness, emotional bother, and NMRE as predictors of PTG among survivors of sexual coercion.

## PRESENT STUDY

The current study addressed this research problem by assessing trait mindfulness, emotional bother and negative mood regulation expectancies among survivors of sexual coercion. Studying trait mindfulness, negative mood regulation expectancies, and emotional bother as predictors of posttraumatic growth among individuals who have experienced sexual coercion is pivotal for several reasons. First, this research illuminated the psychological mechanisms that underpin resilience and recovery in the aftermath of sexual coercion, providing a deeper understanding of how survivors promote healing and growth. By examining how the ability to remain present and attentive (trait mindfulness) influences one's beliefs in abilities to regulate negative moods (NMRE) and the role of emotional distress in this process, we identified

key factors that facilitate or hinder posttraumatic growth. Such insights are invaluable for the development of mindfulness-based programs or interventions tailored specifically for individuals who have experienced sexual coercion. The findings of this study could aid in the design of interventions aimed at strengthening mindfulness skills, enhancing mood regulation expectancies, and addressing emotional distress in a supportive and therapeutic context. By identifying how these psychological constructs predict growth after trauma, this study aims to contribute not only to the academic literature but also to the practical realm of therapeutic approaches, offering survivors pathways toward resilience and growth. This research, therefore, holds the promise of informing more effective, evidence-based strategies that can be integrated into existing or new interventions to support the recovery and empowerment of those affected by sexual coercion.

The study was comprised of an online survey distributed on WCU SONA, a psychology research participation system operated through Western Carolina University, and on social media platforms including Facebook, Instagram, and Reddit. The survey included inclusion criteria for participants who reported at least one sexually coercive experience in their lifetime beginning at age 14 and were at least 18 years of age.

## HYPOTHESES

The hypothesis for this study was that both trait mindfulness and negative mood regulation expectancies (NMRE) would be positively associated with posttraumatic growth (PTG), and that the association would remain while controlling for emotional bother in a sample of sexual coercion survivors. Additionally, we hypothesized that emotional bother would be negatively associated with both NMRE and PTG among people who have experienced sexual coercion.

## METHODS

### **Participants and Procedure**

Statistical power, or the likelihood that a research study will yield results in favor of the research hypothesis, assuming the research hypothesis is accurate, was explored through an a priori analysis prior to conducting this study. Statistical power is a crucial construct to explore within the context of this study for several reasons. First, it allows for detection of effects in research investigating impacts, associations, or differences among variables or constructs, which is directly related to the purposes of this study. Second, higher statistical power reduces the risk of Type II errors, otherwise known as false negatives, when a study's findings fail to reject the null hypothesis when the alternative hypothesis is true. This element is crucial in drawing accurate conclusions about the associations found in psychological research. Third, assessing statistical power through a priori analysis allows for effective study design which increases the probability of obtaining significant results within available resources and decreases the likelihood of wasted resources due to insufficient sample sizes. Finally, such analyses provide increased confidence in the ability of a study's findings to be replicated in future research endeavors, which is both a foundation of empirical research and a key aspect of guiding future research (Collins & Watt, 2021; Yang et al., 2023).

To determine an appropriate sample size for this study, an a priori power analysis was conducted using the software G\*Power 3.1 (latest version 3.1.9.7; Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany; Faul et al., 2009). G\*Power produced a total sample size of 114 with these parameters, which determined our target sample size of 114 individuals.

Upon approval from the Institutional Review Board (IRB), participants for the study were recruited via Western Carolina University's Research Participation System (WCU SONA) and

via social media platforms including Facebook, Instagram, and Reddit. An IRB-approved synopsis of the study, eligibility criteria, and the link to the Qualtrics survey was posted on the WCU SONA system under the label “Mindfulness and Trauma Study”. Participants were granted 1 credit through the WCU SONA system. For recruiting on social media, IRB-approved synopses of the study and eligibility criteria, in addition to a link to the Qualtrics survey, were posted on the researchers’ personal Facebook and Instagram pages and on community Facebook group pages, including groups Academic Survey Exchange, Thesis/Survey Questionnaire Filling Group, Student Survey Exchange, and Gals in Psychology with permission from the administrators of each Facebook group. Additionally, the Qualtrics survey, eligibility information, and a synopsis of the study were posted on several Reddit threads with documented permission from each thread’s moderator, including threads r/SampleSize, r/SexualAssault, r/SexualAbuseSurvivors, r/Mindfulness, and r/Psychology. On each recruitment post made on social media, contact information for the primary investigator and masters’ thesis researcher was provided for potential participants to contact researchers with questions or concerns about the study. The voluntary nature of the study was also emphasized in the synopses shared to social media.

Once recruited, participants were provided with information about the risks and benefits of participation in the study and asked to complete informed consent electronically via Qualtrics. Next, participants who indicated consent were requested to complete an online Qualtrics survey comprised of a demographic form and each of the instruments listed in the ‘Measures’ section. Additional resources, including contact information for and links to WCU’s Counseling and Psychological Services Center, the Western NC 24-hour crisis line, the National Sexual Assault Hotline, the National Domestic Violence Hotline, the National Suicide Hotline, the Crisis Text

Line, and local legal aid were provided at both the beginning of the survey (with the consent form) and at the end of the survey (after completion) (see Appendix A). These resources were made available to provide support in the event that completing the survey caused emotional or other types of distress among participants. The online survey took approximately 30 minutes to complete. There were no direct benefits to participation in the study, with the exception of participants who completed the survey through WCU SONA who were provided with 1 credit after completion of the study. Some participants may have found it interesting to learn more about how research is conducted, and society may have benefited from expanded understanding of the effect of trait mindfulness on the impact of trauma and mood regulation. Participants were identified based on their lifetime experiences of sexual coercion (victimization), beginning at the age of 14. Such experiences ranged from consenting to unwanted sexual activity to being forced into sexual activity by a partner without providing consent or after already refusing. Participants who reported no experiences of lifetime sexual coercion were excluded from completion of the study and the analysis of the data. Additionally, participants under the age of 18 (and thus unable to provide informed consent) were also excluded from the data. Alternative assignments were offered for participants recruited from the WCU Psychology Department SONA Research Participant Pool.

Data collection took place between October 3, 2023, and March 19, 2024. During this time, a total of 204 participants consented to completing the Qualtrics survey after being recruited via WCU SONA and social media platforms. Participants were required to complete all measures, including the informed consent form, demographic form, and measures of sexual victimization, trait mindfulness, negative mood regulation expectancies, and posttraumatic growth. Participants were provided the option to endorse if a sexually coercive experience



continued to bother them emotionally and were provided the opportunity to report, in their own words, how this emotional bother manifested in their lives currently (e.g., through consistent nightmares related to the experience or avoiding stimuli related to the experience). However, several data issues were encountered which required data cleaning.

First, participants who only consented to the study but did not complete the remaining measures on the survey were eliminated from data analysis ( $N = 5$ ). Second, participants who only completed some of the required measures (e.g., those who completed measures of sexual victimization and trait mindfulness but did not complete measures of NMRE or PTG) were also eliminated from the data analysis, given that responses to all measures were required to conduct multiple regression analyses for each variable measured by the items on the surveys. The NMISS procedure in SPSS was utilized first to identify these partial responses and then to eliminate them from the dataset. For items on the sexual victimization survey, only missing responses to items 1, 2, 4, 5, and 7 were excluded because items 3 and 6 were skipped by individuals identifying as male given the description of sexual assault via vaginal penetration. Otherwise, participants were required to respond to all items on each measure to ensure that all subscales and factors on each measure could be calculated properly. Forty-three participants were excluded from data analysis for not responding to all items on the measure of sexual victimization. Thirty-eight additional participants' data were excluded for not responding to any items on the measure of trait mindfulness. An additional ten participants were excluded for not responding to any items on the measure of NMRE, and one participant was excluded from data analysis for not responding to any items on the measure of PTG. This left a total of 112 participants who responded to all items on each measure of the survey and whose responses were included in the data analysis. All participants endorsed experiencing some form of sexual coercion (e.g., unwanted touching,

threatened assault, forcible penetrative rape) occurring either in the past 12 months or since the age of 14. Treatment histories were not included as part of this study. Descriptive statistics of characteristics the 112 participants are included in Table 1.

**Table 1**

*Descriptive Statistics of Participant Characteristics*

Characteristic	<i>n</i>	%
<b>Gender</b>		
Female	81	72
Male	17	14
Agender	2	1.7
Bigender	1	0.8
Genderqueer	1	0.8
Transgender man	3	2.6
Self-identified gender	3	2.6
<b>Race</b>		
American Indian/Indigenous	1	0.8
Asian	4	3
Black/African American	8	7
Hispanic/Latino/a/x/Spanish	11	9
Native Hawaiian/Pacific Islander	1	0.8
White	96	85
Prefer not to say	1	0.8
<b>Highest education level</b>		

Characteristic	<i>n</i>	%
Less than high school diploma	1	0.8
High school diploma/GED	79	70.5
Associate's degree/certification	4	3.5
Bachelor's degree	16	14
Master's/professional degree	11	9
Graduate/professional degree	1	0.8
Household income in past 12 months		
Less than \$10,000	11	9
\$10,000 - \$19,999	8	7
\$20,000 - \$29,999	7	6
\$30,000 - \$39,999	18	16
\$40,000 - \$49,999	11	9
\$50,000 - \$59,999	7	6
\$60,000 - \$69,999	10	8
\$70,000 - \$79,999	2	1.7
\$80,000 - \$89,999	8	7
\$90,000 - \$99,999	5	4
\$100,000 or more	25	22

*Notes.* *N* = 112. Participants were on average 21.8 years old (*SD* = 6.83).

## MEASURES

The study utilized an online self-report questionnaire format. All participants were guaranteed anonymity because neither the informed consent form nor the survey included identifying information, and all survey responses were anonymized. Given that data was collected anonymously, there was no need to break confidentiality.

Participants were asked to include demographic information including age, location (either within or outside of the United States), racial/ethnic identity, gender identity, highest level of education completed, and household income in the past 12 months. All participants were provided with the same survey link which listed each measure in the following order: informed consent form and demographics form, followed by each measure below in the order in which each are listed. Examples of each measure, with items included, are listed in Appendices at the end of this paper.

### **Sexual Experiences Survey (Short Form-Victimization) (SES-SFV; Koss et al., 2007)**

A modified version of the Sexual Experiences Short Form Victimization survey (SES-SFV; Koss et al., 2007) was selected because it was designed to measure victimization and perpetration of unwanted sexual experiences. There exist two versions of the survey: one focused on sexual victimization and another focused on sexual perpetration. The victimization version of the survey was used. The survey asks participants to report the frequency of unwanted sexual experiences by providing how many times (0-3+) a specific event has occurred in the past 12 months and since age 14. An example item reads, “Someone had oral sex with me or made me have oral sex with them without my consent by: Threatening to physically harm me or someone close to me”. The SES survey has demonstrated high reliability and validity in samples of adults with an internal consistency coefficient of .74 in samples of women (Koss & Gidycz, 1985), a

test-retest reliability coefficient of .93 when administered one week apart (Koss & Gidycz, 1985), and a significant correlation ( $r = .73$ ) between self-reported experiences of sexual victimization on the survey and subsequent responses to interview questions (Broach & Petretic, 2006; Cecil & Matson, 2006; Koss & Gidycz, 1985). Previous researchers have not computed a Cronbach's alpha for the SES-SFV, providing a rationale that Cronbach's alpha computations are appropriate for latent or quantifiable constructs, whereas the SES-SFV measures behavioral experiences (Anderson & Delahanty, 2020). However, to assess the measure's internal consistency within the sample used for this project, Cronbach's alpha was computed and suggested excellent reliability across items ( $\alpha = .93$ ) in our sample of individuals who experienced sexual coercion. A modified version of this survey included an additional item under questions 8 and 9 which allowed participants to select 'non-binary' when reporting their sex and the perpetrator's sex. Additionally, an 11<sup>th</sup> question was included to ask participants to identify the perpetrator with a list of the following options: peer, parent, family member, friend, or 'other' with a blank where participants may type in a description of their perpetrator (see Appendix C).

#### **Five-Facet Mindfulness Questionnaire – 15 Item (FFMQ-15; Baer et al., 2012)**

The Five-Facet Mindfulness Questionnaire – 15 Item (FFMQ-15; Baer et al., 2012) was selected due to its measurement of five facets of trait mindfulness, which encompass varying elements of trait mindfulness including observing, non-judging, describing, present moment awareness, and non-reactivity. The questionnaire asks participants to rate the degree to which each statement is true for them on a scale of 1 (*never or very rarely true*) to 5 (*very often or always true*). An example item says, "I'm good at finding words to describe my feelings." The questionnaire has satisfactory reliability with internal coefficients ranging from .56 to .85 (Feliu-

Soler et al., 2021). Additionally, the measure's factor structure accurately measures five distinct but related aspects of trait mindfulness and strong test-retest reliability in a sample of Black Americans, with factor loadings of .73 for the awareness facet, .78 for the describe facet, .78 for the nonjudgment facet, .73 for the nonreactivity facet, and .64 for the observe facet (Okafor et al., 2023). In the same sample, Okafor and colleagues (2023) found the FFMQ-15 to have strong test-retest reliability with correlations of .70 for awareness, .71 for describe, .71 for nonjudgment, .52 for nonreactivity, and .70 for observe. The FFMQ-15 has also demonstrated validity in accurately measuring trait mindfulness among university students, with Cronbach's alpha values included .70 for the observing factor, .65 for the describing factor, .74 for the acting with awareness factor, .84 for the nonjudging factor, and .75 for the nonreactivity factor (Kim et al., 2023). Additionally, the internal consistency of the FFMQ-15 scales has been found to be good, with Cronbach's alphas ranging from .75 to .93 (Baer et al., 2008; Christopher et al., 2012; Shallcross et al., 2020). For this sample, Cronbach's alpha was determined to be acceptable ( $\alpha = .75$ ). Items on this measure specified with an "R" were reverse-coded before conducting statistical analyses (see Appendix D).

### **Negative Mood Regulation Expectancies Scale (NMR; Catanzaro & Mearns, 1990)**

The Negative Mood Regulation Expectancies scale (NMR; Catanzaro & Mearns, 1990) was selected because it was created to measure negative mood regulation expectancies, or the beliefs that individuals have about their ability to regulate negative moods. The scale asks participants to rate the degree to which they agree with 30 statements on a scale of 1 (*strong disagreement*) to 5 (*strong agreement*). An example item reads, "I can find a way to relax". The NMR scale has been found to have adequate to good test-retest reliability; when given between 2-3 weeks, the measure demonstrated good test-retest reliability with women ( $r = .74$ ) and men

( $r = .76$ ) and also when administered between 6-8 weeks with women ( $r = .78$ ) and men ( $r = .67$ ) (Catanzaro & Mearns, 1990). Research supports the measure's internal validity when compared with the Positive and Negative Affect Scale (PANAS) and Center for Epidemiological Studies Depression Scale (CES-D) with coefficients of above .80 for both scales ( $r = .83$  for PANAS and  $r = .89$  for CES-D) (Davis et al., 2005). Additionally, the same study found that the NMR scale demonstrates strong incremental validity when compared with the same scales, noting that NMR scale scores significantly predicted scores on CES-D, indicating that NMR sufficiently provides unique information about negative mood regulation expectancies (Davis et al., 2005). Additional researchers have found the NMR scale to demonstrate good reliability with Cronbach's alpha ranging from .85 to .88 (Ewing, 2018; Wang et al., 2017). Similarly, the Cronbach's alpha computed for this sample indicated excellent internal consistency ( $\alpha = .91$ ). Items on this measure specified with an "(n)" were reverse-coded before conducting statistical analyses (see Appendix E).

### **Posttraumatic Growth Inventory – Expanded (PTGI-X; Tedeschi et al., 2017)**

The Posttraumatic Growth Inventory – Expanded (PTGI-X; Tedeschi et al., 2017) was selected for its focus on measuring posttraumatic growth with the updated version including both spiritual and existential change. Participants were asked to rate the degree to which a certain statement occurred in their life as a result of a previous sexually coercive experience on a scale of 0 (*I did not experience this change as a result of my sexually coercive experience*) to 5 (*I experienced this change to a very great degree as a result of my sexually coercive experience*). An example item reads, "I am better able to accept the way things work out" (Tedeschi et al., 2017). Internal reliability for the scale is satisfactory with correlation of .97 for use in the United States (Tedeschi et al., 2017). Additionally, researchers have found the PTGI-X scale to

demonstrate excellent internal consistency with a variety of populations, with Cronbach's alphas ranging from .95 for Japanese participants, .96 for Turkish individuals, and .97 for American subjects. (Suzuki et al., 2023; Tedeschi et al., 2017). In this sample of individuals who have experienced sexual coercion, we calculated a similarly high Cronbach's alpha indicating excellent internal consistency ( $\alpha = .97$ ). In a confirmatory factor analysis, the PTGI-X was found to maintain the same 5-factor structure as the PTGI, indicating that the five factors of PTG detected in the original PTGI measure are preserved in the updated scale (Tedeschi et al., 2017). Specifically, this study found factor loadings of .82 for the appreciation of life dimension, .81 for the personal strength dimension, .79 for the new possibilities dimension, and .67 for the relating to others dimension (Tedeschi et al., 2017). For lists of items on the measure, see Appendix F.

#### **Maltreatment History and Impact Questionnaire (“Bother Scale”; Solomon et al., 2022)**

A modified version of the Maltreatment History and Impact Questionnaire (“Bother Scale”; Solomon et al., 2022) was selected because it provides a measure of the extent to which participants are bothered by a traumatic event that took place in their lives. Participants are asked to indicate the frequency to which they have experienced a sexually coercive experience event and the extent to which they are bothered by thoughts of the experience currently on a scale from 0 (*Never*) to 3 (*Often*). An example item reads, “Someone made me have oral sex with them”. Given the fact that a modified version of this measure was used to assess behavioral constructs, rather than latent or quantifiable constructs, calculating a Cronbach's alpha for this measure may not accurately reflect its internal consistency. However, the Cronbach's alpha for this sample suggests acceptable reliability ( $\alpha = .79$ ). Participants were given the option to share, in their own words, how emotional bother manifests for them through typing their responses in an open text box. For example, responses from participants include, “I will dissociate and think of what



happened over and over in my head. Blaming myself for something that was out of my control.”, “I have recurring nightmares and random intrusive thoughts. This most often happens during the time of year when these things happened.”, “It will just randomly pop up in my brain, but it doesn't bother me too much.”, and “I experience hypersexuality and the feeling that I always have to want sex whenever my partner does, even if I may not feel like it” (See Appendix G).

## RESULTS

### Correlations

First, each participants' scores were averaged to create mean scores for each measure (Baer et al., 2012; Koss et al., 2007; Solomon et al., 2022; Tedeschi et al., 2017;), and then each mean score was entered into a bivariate correlation equation in SPSS. In order to test our first hypothesis that NMRE and trait mindfulness would be significantly and positively associated with PTG while accounting for emotional bother, next, a correlation matrix was analyzed to first assess any bivariate associations between these variables (Table 1). These correlation analyses also served to investigate our second hypothesis that emotional bother would be negatively associated with both NMRE and PTG in our sample. Among individuals who experienced sexual coercion, NMRE correlated significantly and negatively with emotional bother ( $r = -.31; p < .001$ ) and positively with PTG ( $r = .29, p < .001$ ). NMRE also correlated significantly and positively with trait mindfulness ( $r = .68, p < .001$ ). Emotional bother and trait mindfulness correlated significantly and negatively with one another ( $r = -.35, p < .001$ ), and emotional bother correlated significantly and positively with PTG ( $r = .20, p = .035$ ). There was a positive but insignificant correlation between PTG and trait mindfulness ( $r = .10, p = .268$ ). These findings support our first hypothesis suggesting that trait mindfulness and NMRE are positively associated with PTG, and that the association would remain while controlling for emotional bother in a sample of

sexual coercion survivors. However, these findings do not fully support the second hypothesis of emotional bother being negatively associated with both NMRE and PTG among people who have experienced sexual coercion. Specifically, emotional bother was negatively and significantly associated with NMRE but positively and significantly associated with PTG in this sample. Overall, these findings suggest that significant associations exist between NMRE, emotional bother, and trait mindfulness, and that emotional bother and NMRE, but not trait mindfulness, are associated with PTG.

**Table 2**

*Descriptive Statistics and Correlations for NMRE, Bother, Trait Mindfulness, and PTG*

	M	SD	Correlations		
			1	2	3
1. Bother	2.44	0.77			
2. Trait Mindfulness	2.91	0.55	-.35***		
3. NMRE	3.20	0.60	-.31***	.68***	
4. PTG	2.93	1.32	.20**	.10	.29***

*Notes.*  $N = 112$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Given that significant correlations were discovered between PTG and both emotional bother and NMRE, additional correlation analyses were conducted to further understand the connection of these constructs to the five factors of PTG. Specifically, correlation matrixes were computed to assess the associations between emotional bother and the five factors of PTG (see Table 2). Emotional bother correlated positively and significantly with the relating to others factor ( $r = .20, p = .030$ ), the new possibilities factor ( $r = .21, p = .022$ ), and the appreciation of life factor ( $r = .19, p = .041$ ). Positive but insignificant correlations were discovered between

emotional bother and the personal strength facet ( $r = .12, p = .191$ ) and the spiritual change factor ( $r = .158, p = .097$ ). These findings suggest that increased emotional distress following sexually coercive experiences is associated with greater closeness with others, increased openness to new opportunities, and a deepened appreciation for life.

**Table 3**

*Descriptive Statistics and Correlations for Bother and Five Facets of PTG*

	M	SD	Correlations
			1
1. Bother	2.44	0.77	
2. Relating to Others	2.83	1.35	.20**
3. New Possibilities	3.05	1.51	.22**
4. Appreciation of Life	3.25	1.55	.19**
5. Personal Strength	3.42	1.54	.12
6. Spiritual Change	2.45	1.45	.16

*Notes.*  $N = 112$ . \*\*  $p < .01$ . \*\*\* $p < .001$ .

Next, to investigate the relationships between NMRE and the five factors of PTG, an additional correlation matrix was computed, and results are included in Table 3. Among individuals who experienced sexual coercion, NMRE correlated significantly and positively with all PTG factors, with two factors correlating to NMRE significantly at or below the 0.01 level. Specifically, NMRE correlated positively and significantly with the relating to others factor ( $r = .25; p = .006$ ) and the new possibilities factor ( $r = .19, p = .192$ ). A positive and significant correlation was found between NMRE and the spiritual change factor ( $r = .283, p = .003$ ). NMRE correlated significantly and positively with the appreciation of life factor ( $r = .33,$

$p < .001$ ) and the personal strength factor ( $r = .30, p = .001$ ). These findings suggest that among individuals who have experienced sexual coercion, increased confidence in the ability to regulate negative mood is associated with all five facets of growth after experiencing sexual trauma, and a particularly strong association is demonstrated between NMRE and a deeper appreciation for life and NMRE and an intensified sense of strength in oneself.

**Table 4**

*Descriptive Statistics and Correlations for NMRE and Five Factors of PTG*

	M	SD	Correlations
			1
1. NMRE	3.20	0.60	
2. Relating to Others	2.83	1.35	.25***
3. New Possibilities	3.05	1.51	.19**
4. Appreciation of Life	3.25	1.55	.33***
5. Personal Strength	3.42	1.54	.30***
6. Spiritual Change	2.45	1.45	.28**

*Notes.*  $N = 112$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

### Multiple Regression

Multiple regression analyses were conducted via SPSS to determine whether trait mindfulness, negative mood regulation expectancies (NMRE), and level of ‘bother’ individually and altogether predict PTG among survivors of sexual coercion. Multiple regression is appropriate when exploring the relationship between a continuous dependent variable (posttraumatic growth) and several continuous predictors (trait mindfulness, NMRE and level of bother). These analyses were utilized to answer three primary research questions: 1) Among survivors of sexual coercion, how well do levels of trait mindfulness, negative mood regulation

expectancies (NMRE) and the degree to which survivors are bothered by their past experiences predict posttraumatic growth (PTG)? 2) How much variance in PTG scores can be explained by scores on trait mindfulness, NMRE, and level of emotional bother? And 3) Which is the best predictor of posttraumatic growth: trait mindfulness, level of emotional bother, or NMRE?

Trait mindfulness and negative mood regulation expectancies (NMRE) were regressed onto posttraumatic growth while controlling for emotional bother (see Table 4) among a population of individuals who have experienced sexual coercion. When accounting for emotional bother, NMRE, and trait mindfulness, contributed significantly to the model,  $F(2, 109) = 6.28, p = .003$ , and the model accounted for 10.3% of the variance pertaining to PTG. This finding suggests that NMRE and trait mindfulness are significant predictors of PTG. When emotional bother is added into the regression, all predictors except for trait mindfulness continue to contribute significantly to the model,  $F(3, 108) = 8.14, p < .001$ . While the overall model is significant, only NMRE and emotional bother contributed significantly to the model. This discovery proposes that emotional bother is an additional significant predictor of posttraumatic growth among individuals who have experienced sexual coercion.

**Table 5**

*Regression Predicting PTG from Trait Mindfulness, NMRE, and Bother*

Predictor	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	95% CI for <i>B</i>	
						Lower	Upper
Step 1							
Trait Mindfulness	-0.42	0.29	-0.17	-1.42	.003	-1.01	0.17
NMRE	0.91	0.27	0.41	3.34	.001	0.37	1.45

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Step 2							
Trait Mindfulness	-0.22	0.29	-0.09	-0.77	.444	-0.80	0.35
NMRE	0.99	0.26	0.45	3.80	<.001	0.47	1.51
Bother	0.53	0.16	0.31	3.28	.001	0.21	0.84

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*Note.* CI = confidence interval.

### **Exploratory Analyses**

Given that our previous findings suggest that NMRE is the strongest predictor of PTG above and beyond emotional bother or trait mindfulness in a population of sexual coercion survivors, another important element to investigate as part of this study was whether a third factor, such as the interaction between NMRE and emotional bother or NMRE and trait mindfulness, changes how PTG is predicted. For example, investigating if the impact of NMRE on PTG changes depending on an individual's level of emotional bother may provide additional information about the relationships between NMRE, emotional bother, and PTG. Creating interaction terms allows for deeper understanding of how a third factor, like the interaction of NMRE and bother, may contribute to PTG among individuals who have experienced sexual violence. When interaction terms are statistically significant, further moderation analyses are appropriate. This is because significant interaction terms imply that the effect of a predictor on an outcome differs across levels of a moderator, suggesting that the interaction terms significantly contribute to the overall model. However, without significant interaction terms (i.e., if the interaction variables are found not to be statistically significant), moderation analyses are not appropriate. In such cases, there exists no statistical evidence that the moderator affects the strength or direction of the investigated relationship.

In order to assess how the impact of NMRE on PTG changes at different levels of emotional bother, an interaction term was created by multiplying NMRE scores by emotional bother scores, and this interaction term was added as the second step of this model (see Table 5). Adding the interaction term as the second step of this model accounted for 1.5% of the variance,  $\Delta R^2 = .015$ ,  $F(4, 107) = 6.67$ ,  $p < .001$ . However, the interaction term was not significantly associated with PTG,  $B = 0.318$ ,  $SE = 0.223$ ,  $\beta = 0.568$ ,  $t(107) = 1.424$ ,  $p = .157$ , 95% CI [-.125, .760]. To investigate how the impact of NMRE on PTG changes at different levels of trait mindfulness, a second interaction term was created by multiplying trait mindfulness scores by NMRE scores, and this interaction term was added as a second step to the second model (see Table 6). Including this second interaction term as a second step of the second model accounted for 1% of the variance,  $\Delta R^2 = .010$ ,  $F(5, 106) = 5.618$ ,  $p < .001$ . However, this interaction term was not associated with PTG either,  $B = 0.401$ ,  $SE = 0.350$ ,  $\beta = 1.002$ ,  $t(106) = 1.148$ ,  $p = .254$ , 95% CI [-.292, 1.09]. These findings suggest a nuanced relationship between emotional bother, NMRE, trait mindfulness, and PTG. For example, given that both interaction terms (bother multiplied by NMRE and trait mindfulness multiplied by NMRE) are significant in accounting for variance in the model, but are not significantly associated with PTG, perhaps this suggests that while the interaction terms improve the model's overall explanatory power, their predictive power or influence may be conditional or not strong across all variables. Additional explanations for these findings are reviewed in the Discussion section. Given that the interaction terms were not found to be significantly associated with posttraumatic growth, more in-depth moderation analyses are not appropriate and therefore were not conducted.

Additionally, a Bonferroni correction, which is a statistical adjustment sometimes used to reduce the likelihood of encountering Type I errors or false-positive results when conducting

multiple comparison analyses, was not used for this study. The rationale for not utilizing this correction is threefold. First, utilization of the Bonferroni correction assumes that predictors are independent (i.e., unrelated). Existing literature suggests that trait mindfulness, emotional bother, NMRE and PTG are potentially statistically interrelated, which would make the utilization of a Bonferroni correction examining these constructs overly conservative. Second, as noted by Rothman (1990) and Perneger (1998), the Bonferroni correction is not always considered necessary when conducting multiple comparisons due to an inherent flaw with the premise of Bonferroni corrections: assuming that a study's *P*-value is directly related to the null hypothesis. As Rothman writes, "The *P*-value is an indicator of the relative compatibility between the data and the null hypothesis, but it does not indicate whether the null hypothesis is a correct explanation for the data" (1990, p. 44). Thus, even if use of a Bonferroni correction resulted in findings indicating specific relationships between trait mindfulness, NMRE, emotional bother, and PTG with significant *P*-values, these findings would still need to be interpreted with caution. Third, while Bonferroni adjustments are purported to decrease Type I errors, such errors cannot decrease without the inflation of Type II errors, which some researchers claim to be equally as damaging – particularly when applied to real-world settings – as Type I errors (Perneger, 1998). Given that this study examines constructs which may impact future interventions or programs for individuals who have experienced sexual coercion, this ramification is relevant. Each of these elements contribute to the rationale for not utilizing a Bonferroni correction when interpreting the analyses of this study.

## **Table 6**

*Regression Predicting PTG from NMRE and Bother*



Predictor	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	95% CI for <i>B</i>	
						Lower	Upper
Step 1							
NMRE	0.87	0.20	0.39	4.32	<.001	0.47	1.27
Bother	0.55	0.16	0.32	3.52	<.001	0.24	0.86
Step 2							
NMRE	0.12	0.55	0.05	0.21	.834	-0.98	1.22
Bother	-0.42	0.69	-0.26	-0.61	.539	-1.79	0.94
NMRE x Bother	0.32	0.22	0.58	1.45	.149	-0.12	0.76

*Note.* CI = confidence interval.

**Table 7**

*Regression Predicting PTG from NMRE and Trait Mindfulness*

Predictor	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	95% CI for <i>B</i>	
						Lower	Upper
Step 1							
NMRE	0.91	0.27	0.41	3.35	.001	0.37	1.45
Trait Mindfulness	-0.42	0.29	-0.17	-1.42	.159	-1.01	0.168
Step 2							
NMRE	0.36	1.01	0.16	0.35	.722	-1.64	2.36
Trait Mindfulness	-1.05	1.14	-0.43	-0.92	.359	-3.30	1.21
Trait Mindfulness x NMRE	0.18	0.33	0.47	0.57	.571	-0.47	0.84

*Note.* CI = confidence interval.

## DISCUSSION

The present study investigated trait mindfulness, emotional bother and negative mood regulation expectancies (NMRE) as predictors of posttraumatic growth (PTG) in a sample of individuals who have experienced sexual coercion. Additionally, this study examined the relationships between each of these constructs in this specific population.

The discovery of significant positive correlations between NMRE and PTG and between NMRE and trait mindfulness suggest that increased confidence in one's ability to regulate negative mood is correlated with endorsement of growth after sexual trauma and a greater likelihood of naturally paying attention to the present moment and one's inner experiences. The positive association between trait mindfulness and NMRE have also been found in a study examining these constructs in a sample of college students (Jimenez et al., 2010), suggesting that these phenomena are found in additional populations besides those affected by sexual coercion. While few researchers have explicitly investigated the association between NMRE and PTG – with most researchers instead focusing on specific emotion regulation strategies and their associations with PTG – this first finding aligns with research suggesting that effective emotion regulation strategies are positively correlated with PTG (Larsen & Berenbaum, 2015; Mazur-Socha, Z., & Przepiórka, A., 2021; Thomas et al., 2020). The positive and significant associations between NMRE and all PTG factors, with particularly strong connections between NMRE and appreciation for life and personal strength, suggest that confidence in one's ability to regulate negative mood is associated with deeper gratitude for existence and a strengthened sense of inner resilience among survivors of sexual coercion. While limited studies have investigated the specific relationship between NMRE and factors of PTG, these findings align with previous research suggesting that NMRE is positively correlated with increased positive affect and

decreased feelings of loneliness (Catanzaro et al., 2014; Mazur-Socha & Przepiórka, 2021). Our first hypothesis was supported. NMRE was positively and significantly associated with PTG, and that association remained while controlling for emotional bother. Additionally, NMRE and emotional bother together significantly predicted PTG among survivors of sexual coercion, but only NMRE uniquely and strongly predicted PTG among this sample. Trait mindfulness did not serve as a significant predictor of PTG when accounting for emotional bother.

Additionally, the discovery of significant and positive correlations between emotional bother and PTG suggest that being more emotionally impacted by previous sexually coercive experiences is related to the endorsement of posttraumatic growth, which aligns with existing literature suggesting that posttraumatic growth emerges when one's worldview or core beliefs are disrupted by exposure to trauma (Tedeschi & Blevins, 2015). The findings indicating that emotional bother is correlated negatively and significantly with both NMRE and trait mindfulness suggest that endorsing higher levels of being bothered or distressed by a previous sexually coercive experience is associated with weaker beliefs in one's ability to regulate negative mood and a decreased likelihood of naturally attending to one's inner emotional experiences non-judgmentally in the present moment. This finding supports part of the second hypothesis of this study, indicating that higher levels of emotional bother are associated with weaker beliefs in one's confidence in the ability to regulate negative mood. This discovery is also supported by existing literature which found that NMRE is negatively associated with psychological distress (Ray-Yol & Altan-Atalay, 2022). Additionally, negative and significant correlations between emotional bother and trait mindfulness have been found in other studies investigating trait mindfulness and psychological distress, though these findings have not specifically pertained to a population of individuals who have experienced sexual coercion

(Brown & Ryan, 2003; Coutts-Smith & Phillips, 2023; Slonim et al., 2023). However, the hypothesis that emotional bother would be negatively associated with PTG among people who have experienced sexual coercion was not supported. Further associations found between emotional bother and three factors of PTG – relating to others, new possibilities, and appreciation of life – provide additional insight into how increased emotional distress following sexually coercive experiences may eventually foster greater closeness with others, increased openness to new opportunities, and a deepened appreciation for life.

Multiple regression analyses revealed negative mood regulation expectancies (NMRE), trait mindfulness, and emotional bother to be significant predictors of PTG when combined. These constructs contributed significantly to predicting posttraumatic growth (PTG) among a population of individuals who have experienced sexual coercion, but NMRE emerged as a particularly strong predictor of PTG above and beyond trait mindfulness or emotional bother. In other words, stronger beliefs in one's ability to regulate negative mood uniquely predicts PTG among individuals who have experienced sexual coercion. While few existing studies have specifically investigated NMRE as a unique predictor of PTG, several researchers have found that effective emotion regulation predicts positive outcomes after adversity, such as resilience, among those who have endured trauma (Mestre et al., 2017). Additionally, research findings suggest that victims and survivors of sexual violence report greater appreciation for life (Frazier et al., 1996), growth in interpersonal relationships, and strengthened social support from friends and family (Borja et al., 2006; Draucker et al., 2009; Ulloa et al., 2016). In another study, individuals who experienced rape also reported a stronger sense of self, particularly when they realized that the rape was not their fault (Guerette & Caron, 2007).

While the findings of the present study suggest that both emotional bother and NMRE serve as independent, significant predictors of PTG, the same was not found for trait mindfulness when combined with NMRE and emotional bother. However, trait mindfulness on its own significantly predicted PTG among this sample of sexual coercion survivors. Interestingly, our findings suggest that while trait mindfulness was not significantly correlated with PTG, it did significantly predict PTG when assessed with NMRE, but not when accounting for emotional bother. Perhaps this could be explained by the shared features of both NMRE and trait mindfulness – such as paying attention to or observing emotions and being able to describe them – and the ability of these qualities to foster growth after trauma by encouraging emotional awareness. In sum, our results suggest that trait mindfulness alone predicts PTG, but does not do so above and beyond emotional bother nor NMRE among individuals who have experienced sexual coercion. These findings reflect similar results from studies investigating trait mindfulness as a predictor of PTG among other individuals who face trauma. For example, An and colleagues (2018) examined whether trait mindfulness predicts PTG among survivors of a natural disaster, and discovered this relationship did not exist, meaning that trait mindfulness did not predict PTG in the trauma survivors. Perhaps these findings suggest that the natural inclination to non-judgmentally pay attention to the present moment and attend to one's inner experience on its own may effectively predict growth after trauma. Additionally, the positive and significant association between trait mindfulness and NMRE speaks to connection between paying attention to one's inner experiences and believing in one's ability to regulate negative mood. Such findings indicate that confidence in one's ability to regulate negative emotions and being especially emotionally affected by the previous traumatic experience is needed to foster posttraumatic growth.

Given the particular strength of NMRE in predicting PTG among sexual trauma survivors, the interaction of NMRE and trait mindfulness and NMRE and emotional bother were assessed to determine if either of those interactions moderated this outcome. Our results indicated that the interaction of NMRE with trait mindfulness and emotional bother improve the model's overall explanatory power but are not significant on their own. These findings suggest that the predictive power of NMRE, trait mindfulness, and emotional bother combined may be conditional or not strong across all variables. Perhaps, for example, increased confidence in one's ability to regulate negative mood is conditional on one's mood at the time of reporting their NMRE (Bower, 1981) or is related to additional factors not directly assessed in the context of this study, such as social support (Catanzaro & Greenwood, 1994). Maybe the significance of strong NMRE among individuals who have experienced sexual coercion in fostering PTG is related to the fact that these survivors have endured trauma already and believe in their abilities to face and even thrive after adversity. Given that this study examined a population of individuals who have faced sexual trauma, perhaps it is the individuals' knowledge that they "made it through" the sexually coercive experience that helps them to feel more confident in their ability to regulate negative mood – for example, following exposure to a traumatic event – which potentially acts as a mechanism for promoting posttraumatic growth. This could serve as one explanation for why participants in the present study cited feeling a deeper appreciation for life, stronger sense of personal strength, and strengthened connection to existential and spiritual ideas, as has been cited by sexual trauma survivors in previous studies (Borja et al., 2006; Draucker et al., 2009; Ulloa et al., 2016).

Another potential explanation for these findings may be related to coping. Stronger beliefs in one's ability to regulate negative mood is associated with engagement in healthier

coping skills and a decreased likelihood of engaging in unhealthy coping mechanisms (Mazur-Socha & Przepiórka, 2021; Shepherd-McMullen et al., 2014). Perhaps, among individuals who have endured previous sexual trauma, the ability to preemptively understand methods for coping with distress or trauma – or perhaps already knowing what types of coping mechanisms have worked for or against individuals in the past – bolsters individuals’ confidence in their abilities to regulate negative emotions, such as those that may arise during stressful or traumatic events.

### **Strengths and Limitations**

The present study displayed several strengths and limitations. One of the study’s strengths is its contribution of new insights – particularly regarding beliefs in the ability to regulate negative mood and its contribution to posttraumatic growth – to existing literature. Additionally, this study addressed gaps in the literature, including those which had failed to address the absence of empirical research investigating the role of trait mindfulness, NMRE and emotional bother among sexual coercion survivors, rather than perpetrators. Another gap in the literature addressed through this study included its focus on trait mindfulness, rather than mindfulness-based interventions, in contributing to PTG outcomes. Regarding study design, participants reported positive feedback about the array of gender identity terminology provided in the demographics form, noting that the options provided were “accessible and inclusive”.

While the study presented several strengths, it also demonstrated limitations. First, the use of retrospective self-report measures presents challenges given that participants’ recollection of past traumatic experiences may be influenced by their mood at the time of completing the survey (Bower, 1981; Frissa et al., 2016) or by traumatic recall bias (i.e., inconsistencies with memory associated with the traumatic event) (Krayem et al., 2021). Such factors may impact the reliability of participants’ retrospective reports of sexual coercion. Second, the sample analyzed

for this study included a majority of White participants, which is not reflective of nor applicable to the general population (Jensen et al., 2021; Pew Research Center, 2024). Similarly, due to the utilization of convenience sampling to recruit participants for this study, the results from this study are less likely to be generalizable or application to the population at large, and rather represent only a small subset of the general population (Andrade, 2021).

Additional limitations include challenges encountered via the use of specific measures. For example, utilizing the Sexual Experiences Survey – Short Form Victimization (SES-SFV) as a measure of sexual coercion may have contributed to fatigue among participants despite its shortened version, as forty-three participants failed to complete the entire measure and subsequently provided invalid data which was not included in data analysis. Given that the measure includes several items which repetitively present examples of types of sexual coercion and ask participants to indicate the presence of these experiences both in the past 12 months and since the age of 14, perhaps utilizing a measure which incorporates more straightforward or less repetitive examples of sexual coercion would prevent such fatigue among participants in future studies. Additionally, the SES-SFV presents opportunities to categorize participants by type of sexually coercive experience (e.g., sexual contact, attempted coercion, rape). However, this study did not utilize the opportunity to classify participants by type of sexual coercion experienced given that the study's hypotheses were focused on a population of individuals who experienced sexual coercion broadly, rather than on differences between individuals who have experienced distinctive types of sexual coercion. Another limitation includes the fact that all items on each measure were required to be answered by participants, resulting in the elimination of partial responses from data analysis (e.g., elimination of participants' data which included responses to all items on the SES-SFV measure but did not include responses to measures of trait



mindfulness, NMRE, or PTG). As a result, missing data was handled by utilizing the NMISS feature in SPSS to identify and eliminate incomplete responses. By requiring that participants respond to all items, other forms of handling missing data, such as calculating mean imputations, were not viable, and fewer participants' responses were included in the final data analysis, which was two responses shy of the sample size of 114 generated through an a priori power analysis.

### **Future Directions**

These findings offer several theoretical and practical implications for future research and applied science. First, the significance of emotional bother in both correlating to and predicting PTG reinforces current literature which suggests that, in order for PTG to develop, the traumatic event endured must deeply impact the individual through disruption of the individual's worldview or core beliefs and/or its emergence as a central aspect of the individual's identity (Groleau et al., 2013; Boals et al., 2010). Second, the strength of NMRE as a predictor of PTG above and beyond trait mindfulness and emotional bother contribute new insights to the field, suggesting that confidence in one's ability to regulate negative mood – rather than specific kinds of emotion regulation strategies – significantly contributes to the development of PTG among survivors of sexual coercion (Prakash et al., 2017). Third, our finding that NMRE, when combined with emotional bother, predicts PTG among individuals who have experienced sexual coercion more robustly than trait mindfulness, lays a foundation for practical implications in providing resources for victims of sexual violence. Offering opportunities for survivors of sexual coercion to hone their self-confidence in their ability to regulate negative mood, perhaps by utilizing mindfulness-based awareness to notice their inner experiences and level of psychological distress, may be one way to foster PTG in a real-world setting. These findings support those of previous studies suggesting that victims and survivors of sexual violence report

greater appreciation for life (Frazier et al., 1996) and a stronger sense of self (Guerette & Caron, 2007), and provide new information regarding how survivors of sexual trauma may also experience a renewed openness to spiritual or existential change, contributing new insights to existing literature. Perhaps providing opportunities for individuals who have experienced sexual coercion to share how they have developed PTG, rather than only requesting them to share how they experience emotional bother, would provide new insights into how to bolster PTG and promote confidence in one's mood-regulating abilities in future studies.

Additionally, in the future, researchers may address this study's limitations by utilizing random sampling to recruit participants and/or utilizing recruiting methods which incorporate the involvement of participants with a wider variety of ethnic and racial backgrounds, such as through community outreach efforts, paid advertising, or via the use of additional incentives for participation beyond the administration of credits through the WCU SONA system (e.g., monetary compensation) (Williams et al., 2013). Additionally, future researchers may consider investigating differences in outcomes among different types of sexual coercion survivors (e.g., survivors of rape versus survivors of sexual contact) and making responses to each item on each measure optional, accounting for missing data by calculating mean imputations. These strategies may allow for a larger subset of data to be analyzed and provide richer information about how predictors of PTG may differ among individuals who have experienced varying levels of sexual coercion. Additionally, future studies may benefit from incorporating both samples of individuals who have experienced sexual coercion and individuals who have not experienced sexual coercion, which may provide a broader understanding of how mental health outcomes, such as emotional bother, contribute to PTG differentially among these groups.

## CONCLUSION

This study examined the relationship between trait mindfulness, emotional bother, negative mood regulation expectancies (NMRE), and posttraumatic growth (PTG) among individuals who have experienced sexual coercion. Specifically, the purpose of this study was to investigate dispositional mindfulness, emotional bother, and NMRE as predictors of PTG among sexual coercion survivors. Our findings suggest the pivotal role of NMRE, demonstrating its strong prediction of PTG above and beyond the impact of trait mindfulness or emotional bother. This underscores how one's beliefs in one's ability to regulate negative mood is centrally important in fostering growth after sexual trauma, affirming the value of confidence in regulating negative moods. Although trait mindfulness did not independently predict PTG, its combination with NMRE pointed to a nuanced connection that merits further exploration. Moreover, this study highlights the dual nature of emotional bother: its negative correlation with NMRE and trait mindfulness, juxtaposed with its association with greater PTG, emphasizing findings from previous literature highlighting the importance of event centrality and disruption of worldview and/or core beliefs in bolstering PTG among survivors of trauma (Boals et al., 2010; Groleau et al., 2013; Tedeschi & Blevins, 2015).

The findings of this study contribute novel insights regarding NMRE's significance in sexual trauma recovery, addressing gaps in existing literature and extending our understanding of PTG dynamics in sexual coercion survivors. While mindful of the study's limitations – such as the reliance on retrospective self-reports and a predominantly White sample, reducing generalizability – these findings lay a foundation for future studies. For example, future analyses may investigate the mechanisms by which NMRE facilitates PTG among people who have experienced sexual coercion, the role of emotional bother in this process, and the potential

differences in PTG outcomes among those without sexual trauma histories and sexual trauma survivors.

By deepening an understanding of the connections between emotional bother, NMRE, trait mindfulness, and PTG, perhaps this study will inspire the investigation and development more effective, nuanced interventions designed to bolster sexual coercion survivors' resilience and capacity for posttraumatic growth. The findings of this study encourage further exploration into the ways individuals navigate and transcend the challenges of trauma, revealing new possibilities for understanding – and, hopefully, fostering – healing and positive change.

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## APPENDICES

### Appendix A

#### Informed Consent Form

##### Western Carolina University Consent Form to Participate in a Research Study

###### Key Information

**Study Purpose:** To learn more about how people cope with traumatic or stressful experiences.

**Major Requirements of Study:** Completion of a survey, maximum of 30 minutes in length.

**Significant Risks:** Potentially recounting traumatic/stressful events which may cause emotional discomfort or stress.

**Potential Benefits:** Helping other people who have also experienced trauma or stress (e.g., by improving education on these topics and providing insight on how to alleviate posttraumatic stress).

**Duration of Participation:** 30 minutes via completing an online survey.

You are being invited to participate in a research study on mindfulness and its effects on coping with stress or trauma. You were selected as a possible participant because you indicated that you have experienced stress or trauma in the past. We ask that you read this form and ask any questions you may have before agreeing to be in the study. Participation is completely voluntary.

**Project Title: The Effects of Trait Mindfulness on the Impact of Trauma**

**This study is being conducted by:** Kia Asberg, PhD (Principal Investigator) and Morgan Penberthy, BA.

**Description and Purpose of the Research:** You are invited to participate in a research study about the effects of mindfulness on the impact of trauma and stress. By doing this study we hope to learn how people cope with stress and trauma and how mindfulness contributes to coping.

**What you will be asked to do:** You will be asked to fill out a survey that asks about traumatic/stressful life experiences, specifically, experiences with sexual coercion/unwanted sexual experiences. It will take approximately 30 minutes in total to complete. No identifying information will be collected.

Since this survey asked about sensitive issues, it is possible you might feel distressed after completing the survey and being reminded of difficult events in your life. Most of the time, this distress is not severe and does not last very long. Other people find that answering questions about past stressful experiences encourages them to reach out for help. If you would like to talk to anyone further about your feelings or experiences, here are some free

resources you can access:

WCU Counseling & Psychological Services: 1-828-227-7469

Western NC 24-Hour Crisis Line: 1-888-315-2880

National Sexual Assault Hotline: 1-800-656-4673 or click [here](#) to chat online

National Domestic Violence Hotline: 1-800-799-7233 or click [here](#) to chat online

National Suicide Hotline: 1-800-273-8255, 988, or click [here](#) to chat online

Crisis Text Line: Text HOME to 741741 or visit <https://www.crisistextline.org/>

Local Legal Aid: Visit <https://legallaidnc.org/get-help/> for suggestions

You are also welcome to reach out to us directly if you would like to speak to a research team member, including about distressing feelings. You can email Morgan Penberthy at [jmpenberthy1@catamount.wcu.edu](mailto:jmpenberthy1@catamount.wcu.edu) and/or Dr. Kia Asberg at [kasberg@email.wcu.edu](mailto:kasberg@email.wcu.edu).

**Risks and Discomforts:** If you choose to participate, some of the questions we will ask you as part of this study may cause emotional discomfort or stress. You may refuse to answer any of the questions, take a break or stop your participation in this study at any time.

**Benefits:** There are no direct benefits to you for participating in this research study. The study may help us better understand how to help other people cope with experiences of trauma and stress (e.g., by improving education on these topics and providing insight on how to alleviate posttraumatic stress).

**Privacy/Confidentiality/Data Security:** The data collected in this study are anonymous. This means that not even the research team can match you to your data. We will collect your information through a survey, using the Qualtrics platform. This information will be stored in the Qualtrics secured cloud. The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual could gain access to your responses because you are responding online. This risk is similar to your everyday use of the Internet.

**Voluntary Participation:** Participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. If you choose not to participate or decide to withdraw, there will be no impact on your grades/academic standing or employment. To withdraw participation in this study, you may exit the survey at any time.

**Compensation for Participation:** There is no compensation for participation. If you are participating in this study via the WCU SONA Research Participation System, you may receive credit for completing this survey. Contact Information: For questions about this study, please contact Morgan Penberthy at [jmpenberthy1@catamount.wcu.edu](mailto:jmpenberthy1@catamount.wcu.edu). You may also contact Dr. Kia Asberg, the principal investigator and faculty advisor for this project, at [kasberg@email.wcu.edu](mailto:kasberg@email.wcu.edu). If you have questions or concerns about your treatment as a participant in this study, you may contact the Western Carolina University Institutional Review Board through the Office of Research Administration by calling 828-227-7212 or emailing [irb@wcu.edu](mailto:irb@wcu.edu). All reports or correspondence will be kept confidential to the extent possible.

## Appendix B

### Demographics Form

#### Demographic Information Questionnaire

Please tell us a little bit about yourself:

1. How old are you now? : \_\_\_\_\_
2. Do you live:  In the United States or  Outside of the United States?
3. With which racial group(s) do you identify? *Please select all that apply, and at least one option.*
  - American Indian or Indigenous or Alaska Native
  - Asian
  - Black or African American
  - Hispanic, Latino/a/x, or Spanish origin
  - Middle Eastern or North African
  - Native Hawaiian or other Pacific Islander
  - White
  - Another race or ethnicity not listed (please describe): \_\_\_\_\_

4. How do you describe your gender? Please select all that apply.

- Woman/Female
- Man/Male
- Nonbinary
- Transgender
- Cisgender
- Another gender not listed (please describe): \_\_\_\_\_

5. What is the highest level of education you have completed?

- Less than 9<sup>th</sup> grade
- Less than a high school diploma
- High school diploma or GED equivalent
- Associates Degree or Certification (technical college)
- Bachelor's Degree
- Master's or other professional Degree
- Graduate or Professional Degree (PhD, MD, JD, etc...)

6. What was your household income in the **past 12 months**? If you are not sure, just take your best guess.

- Less than \$10,000
- \$10,000 – \$19,999
- \$19,999 – \$29,999
- \$30,999 – \$39,999
- \$40,000 – \$49,999
- \$50,000 – \$59,999
- \$60,000 – \$69,999
- \$70,000 – \$79,999
- \$80,000 – \$89,999
- \$90,000 – \$99,999
- \$100,00 or more



## Appendix C

### Modified Sexual Experiences Survey – Short Form Victimization (SES-SFV; Koss et al., 2007)

#### SES-SFV

The following questions concern sexual experiences that you may have had that were unwanted. We know that these are personal questions, so we do not ask your name or other identifying information. Your information is completely confidential. We hope that this helps you to feel comfortable answering each question honestly. Place a check mark in the box  showing the number of times each experience has happened to you. If several experiences occurred on the same occasion--for example, if one night someone told you some lies and had sex with you when you were drunk, you would check both boxes a and c. The past 12 months refers to the past year going back from today. Since age 14 refers to your life starting on your 14<sup>th</sup> birthday and stopping one year ago from today.

<b>Sexual Experiences</b>		<b>How many times in the past 12 months?</b>				<b>How many times since age 14?</b>			
		0	1	2	3+	0	1	2	3+
1.	<b>Someone fondled, kissed, or rubbed up against the private areas of my body (lips, breast/chest, crotch or butt) or removed some of my clothes without my consent (but did not attempt sexual penetration) by:</b>								
	a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. Taking advantage of me when I was too drunk or out of it to stop what was happening.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d. Threatening to physically harm me or someone close to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<b>Someone had oral sex with me or made me have oral sex with them without my consent by:</b>								
	a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. Taking advantage of me when I was too drunk or out of it to stop what was happening.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d. Threatening to physically harm me or someone close to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.	<b>If you are a male, check box and skip to item 4</b> <input type="checkbox"/> <b>A man put his penis into my vagina, or someone inserted fingers or objects without my consent by:</b>	0 1 2 3+	0 1 2 3+
	a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	c. Taking advantage of me when I was too drunk or out of it to stop what was happening.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	d. Threatening to physically harm me or someone close to me.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.	<b>A man put his penis into my butt, or someone inserted fingers or objects without my consent by:</b>	0 1 2 3+	0 1 2 3+
	a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	c. Taking advantage of me when I was too drunk or out of it to stop what was happening.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	d. Threatening to physically harm me or someone close to me.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5.	<b>Even though it didn't happen, someone TRIED to have oral sex with me, or make me have oral sex with them without my consent by:</b>	0 1 2 3+	0 1 2 3+
	a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	c. Taking advantage of me when I was too drunk or out of it to stop what was happening.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	d. Threatening to physically harm me or someone close to me.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

		How many times in the past 12 months?	How many times since age 14?
		0 1 2 3+	0 1 2 3+
6.	<b>If you are male, check this box and skip to item 7.</b> <input type="checkbox"/> <b>Even though it didn't happen, a man TRIED to put his penis into my vagina, or someone tried to stick in fingers or objects without my consent by:</b>		
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
b.	Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
c.	Taking advantage of me when I was too drunk or out of it to stop what was happening.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
d.	Threatening to physically harm me or someone close to me.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
e.	Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

7.	<b>Even though it didn't happen, a man TRIED to put his penis into my butt, or someone tried to stick in objects or fingers without my consent by:</b>		
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
b.	Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
c.	Taking advantage of me when I was too drunk or out of it to stop what was happening.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
d.	Threatening to physically harm me or someone close to me.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
e.	Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

8. I am: Female  Male  My age is \_\_\_\_\_ years and \_\_\_\_\_ months.

9. Did any of the experiences described in this survey happen to you 1 or more times? Yes  No   
What was the sex of the person or persons who did them to you?

- Female only
- Male only
- Both females and males
- I reported no experiences

10. Have you ever been raped? Yes  No

### Scoring of the SES—Short Form Victimization

#### Scoring based on individual items

To estimate the frequency of each type of unwanted sexual victimization and/or the rate of each tactic used to compel unwanted sex, calculate the percentage of respondents who respond yes to each choice a through e for each item 1 through 7.

Modifications: additional item under questions 8 and 9 which allow participants to select either 'non-binary' when reporting their sex and the perpetrator's sex. Additionally, an 11<sup>th</sup> question is

included to ask participants to identify the perpetrator with a list of the following options: peer, parent, family member, friend, or 'other' with a blank where participants may type in a description of their perpetrator.



## Appendix D

### Five Facet Mindfulness Questionnaire – 15 Item (FFMQ-15; Baer et al., 2012)

Please use the 1 (never or very rarely true) to 5 (very often or always true) scale provided to indicate how true the below statements are of you. Circle the number in the box to the right of each statement which represents your own opinion of what is generally true for you. For example, if you think that a statement is often true of you, circle '4' and if you think a statement is sometimes true of you, circle '3'.

	Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true
1. When I take a shower or a bath, I stay alert to the sensations of water on my body.	1	2	3	4	5
2. I'm good at finding words to describe my feelings.	1	2	3	4	5
3. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.	1	2	3	4	5
4. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.	1	2	3	4	5
5. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.	1	2	3	4	5
6. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.	1	2	3	4	5
7. I have trouble thinking of the right words to express how I feel about things.	1	2	3	4	5
8. I do jobs or tasks automatically without being aware of what I'm doing.	1	2	3	4	5
9. I think some of my emotions are bad or inappropriate and I shouldn't feel them.	1	2	3	4	5
10. When I have distressing thoughts or images I am able just to notice them without reacting.	1	2	3	4	5
11. I pay attention to sensations, such as the wind in my hair or sun on my face.	1	2	3	4	5
12. Even when I'm feeling terribly upset I can find a way to put it into words.	1	2	3	4	5
13. I find myself doing things without paying attention.	1	2	3	4	5
14. I tell myself I shouldn't be feeling the way I'm feeling.	1	2	3	4	5
15. When I have distressing thoughts or images I just notice them and let them go.	1	2	3	4	5

### Scoring Information

\*Observing items: 1, 6, 11.

Describe items: 2, 7R, 12.

Acting with awareness items: 3R, 8R, 13R.

Non-judging items: 4R, 9R, 14R.

Non-reactivity items: 5, 10, 15.

Reverse-phrased items are denoted by 'R' after the item number, e.g. 14R.

\*Refer to the background information regarding recommendations for omitting the observing subscale score from comparisons of total scale/subscale scores before and after mindfulness interventions.

## Appendix E

### Negative Mood Regulation Expectancies Scale (NMR, Catanzaro & Mearns, 1990)

TABLE 1  
NMR Scale Items

- 
1. I can usually find a way to cheer myself up.
  2. I can do something to feel better.
  3. Wallowing in it is all I can do. (n)
  4. I'll feel okay if I think about more pleasant times.
  5. Being with other people will be a drag. (n)
  6. I can feel better by treating myself to something I like.
  7. I'll feel better when I understand why I feel bad.
  8. I won't be able to get myself to do anything about it. (n)
  9. I won't feel much better by trying to find some good in the situation. (n)
  10. It won't be long before I can calm myself down. (n)
  11. It will be hard to find someone who really understands. (n)
  12. Telling myself it will pass will help me calm down.
  13. Doing something nice for someone else will cheer me up.
  14. I'll end up feeling really depressed. (n)
  15. Planning how I'll deal with things will help.
  16. I can forget about what's upsetting me pretty easily.
  17. Catching up with my work will help me calm down.
  18. The advice friends give me won't help me feel better. (n)
  19. I won't be able to enjoy the things I usually enjoy. (n)
  20. I can find a way to relax.
  21. Trying to work the problem out in my head will only make it seem worse. (n)
  22. Seeing a movie won't help me feel better. (n)
  23. Going out to dinner with friends will help.
  24. I'll be upset for a long time. (n)
  25. I won't be able to put it out of my mind. (n)
  26. I can feel better by doing something creative.
  27. I'll start to feel really down about myself. (n)
  28. Thinking that things will eventually be better won't help my feel any better. (n)
  29. I can find some humor in the situation and feel better.
  30. If I'm with a group of people, I'll feel "alone in a crowd." (n)
- 

Note. All items have the same stem: "When I'm upset, I believe that. . . ." Items were rated on a 5-point scale ranging from *strong disagreement* (1) to *strong agreement* (5). Negative items are denoted by (n); scoring is reversed prior to computation of statistics.

## Appendix F

### Posttraumatic Growth Inventory – Expanded (PTGI-X; Tedeschi et al., 2017)

#### Posttraumatic Growth Inventory—Expanded (PTGI-X)

Indicate for each of the statements below the degree to which this change occurred in your life as a result of your crisis [**or researcher inserts specific descriptor here**], using the following scale.

- 0= I did not experience this change as a result of my crisis.  
1= I experienced this change to a very small degree as a result of my crisis.  
2= I experienced this change to a small degree as a result of my crisis.  
3= I experienced this change to a moderate degree as a result of my crisis.  
4= I experienced this change to a great degree as a result of my crisis.  
5= I experienced this change to a very great degree as a result of my crisis.

1. I changed my priorities about what is important in life. (V)
2. I have a greater appreciation for the value of my own life. (V)
3. I developed new interests. (II)
4. I have a greater feeling of self-reliance. (III)
5. I have a better understanding of spiritual matters. (IV)
6. I more clearly see that I can count on people in times of trouble. (I)
7. I established a new path for my life. (II)
8. I have a greater sense of closeness with others. (I)
9. I am more willing to express my emotions. (I)
10. I know better that I can handle difficulties. (III)
11. I am able to do better things with my life. (II)
12. I am better able to accept the way things work out. (III)
13. I can better appreciate each day. (V)
14. New opportunities are available which wouldn't have been otherwise. (II)
15. I have more compassion for others. (I)
16. I put more effort into my relationships. (I)
17. I am more likely to try to change things which need changing. (II)
18. I have a stronger religious faith. (IV)
19. I discovered that I'm stronger than I thought I was. (III)
20. I learned a great deal about how wonderful people are. (I)
21. I better accept needing others. (I)
22. I have a greater sense of harmony with the world. (IV)
23. I feel more connected with all of existence. (IV)
24. I feel better able to face questions about life and death. (IV)
25. I have greater clarity about life's meaning. (IV)

Note: Scale is scored by averaging all responses. Factors are scored by adding responses to items on each factor. Items to which factors belong are not listed on form administered to participants.

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## Appendix G

### Modified Maltreatment History and Impact Questionnaire (Bother Scale; Solomon et al., 2022)

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How often are you bothered by thoughts of this experience currently?

- 0 - Never
- 1 - Rarely
- 2 - Sometimes
- 3 - Often

---

If you are bothered by thoughts of this experience currently, please provide more detail below if you wish (ex: "I experience recurring nightmares nightly"; "I have intrusive thoughts when I encounter something that reminds me of the experience"). This section is optional.