Love, Resilience, and the Past:
The Role of Positive Emotion Regulation in Overcoming Childhood Maltreatment and Building Strong Romantic Relationships

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Experiences of childhood maltreatment (CM) are associated with relationship and sexual difficulties in adulthood (Vaillancourt-Morel, et al., 2024). Research has shown that these issues are partially explained by difficulties regulating negative emotions (DiLillo et al., 2009). However, the effect CM has on the regulation of positive emotions has received considerably less attention. In this thesis I examined how CM is related to fear of positive and negative emotional states (Studies 1-3), using online-self report questionnaires, I tested if this anxiety mediates the association between CM and difficulties in relationships (Studies 2 & 3), and finally, I examined how CM is related to an individuals' ability to regulate their positive and negative emotions in response to images that evoke positive and negative emotions. My results consistently showed that CM is related to fear of positive and negative emotional states (Studies 1-3). Consistently I found an association between the intensity of CM experienced and decreased satisfaction with communication in adult long-term relationships (Studies 2 & 3). This association was mediated by fear of emotions (Study 2), with Study 3 showing unique effects for both fear of positive and negative emotions. Finally, my results showed that CM was associated with difficulty enhancing positive emotions and improved performance when asked to decrease positive emotions (Study 3). These results provide evidence that CM affects individuals' ability to tolerate and regulate their positive emotions. Furthermore, my results suggest that difficulties with positive emotions play a role in long-term relationship difficulties reported by survivors of CM. The present research suggests that clinicians should focus on improving tolerance for positive emotions and teaching tools for capitalizing on positive experiences when working with survivors of CM.

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Table of Contents

Examining Committee Membership ii

Author's Declaration iii

Abstract iv

Acknowledgements v

List of Figures viii

List of Tables ix

General Introduction 1

Study 1 19

- Study 1 Introduction 19
- Study 1 Method 20
  - Participants 20
  - Procedure 21
  - Measures 23
- Study 1 Results 24
  - Comparison Between CSA and the No-Trauma Control Group 24
  - Comparison Between CSA and the Trauma-Control Group 25
  - Comparison Between Control Group and the Trauma-Control Group 25
- Study 1 Discussion 25
  - Limitations and Future Research 27
  - Next Steps 28

Study 2 33

- Study 2 Introduction 33
- Study 2 Method 36
  - Participants 36
  - Measures 37
  - Procedure 41
- Study 2 Results 42
  - Analytic plan and Descriptive Stats 42
  - Emotional Processing and CM 42
  - CM and Interpersonal Functioning 43
  - CM, Emotional Functioning, and Communication 43
  - CM, Emotional Functioning, and Satisfaction 45
  - CM, Emotional Functioning, and Problems 45
- Study 2 Discussion 46
  - Limitations and Future Research 49
- Next Steps 51

Study 3 56
Study 3 Introduction 56
Childhood Maltreatment and Emotional Avoidance 57
Childhood Maltreatment and Emotional Flexibility 59
Study 3 Method 62
Participants 62
Measures 64
Procedure 66
Study 3 Results 72
Descriptive Statistics 72
Goal 1: Replication 73
Goal 2: Separating Positive and Negative Valence in the Mediation Model 73
Goal 3: Examine Emotional Flexibility as a Mechanism Using the Image Task 79
Key Findings Relating to Childhood Maltreatment and Emotional Flexibility 80
Study 3 Discussion 83
Limitations and Future Research 88
Conclusion 90
General Discussion 92
General Implications 97
General Limitations & Future Directions 100
General Conclusion 102
References 104
Appendix 1: Emotionally Valanced Images 128
Positively Valanced Images 128
Negatively Valanced Images 145
Neutral Valanced Images 167

List of Figures

Figure 1. ACS and Communication Model Mediation Model. 54

Figure 2. Emotion Recognition and Communication Mediation Model. 54

Figure 3. ACS and Problems Mediation Model. 55

Figure 4. Emotion Recognition and Problems Mediation Model. 55

Figure 5. Positively Valanced Image with Instructions to Intensify. 69

Figure 6. Negatively Valanced Image with Instructions to Decrease. 70

Figure 7. Neutral Valanced Image with Instructions to Maintain. 71

Figure 8. Study 3 ACS and Communications Mediation Model 76

Figure 9. Multiple Mediation Model for General Communication 77

Figure 10. Multiple Mediation Model for Sexual Communication. 78

List of Tables

Table 1. Demographic Characteristics for Study 1 30

Table 2. ACS Emotion Subscales for CSA Group and The No Trauma Group 31

Table 3. ACS Emotion Subscales for CSA Group and the Trauma Control Group 32

Table 5. Means, Standard Deviations, and Correlations for Study 3 75

Table 6. Means and Standard Deviations for Emotional Responses to Images 822

General Introduction

Childhood maltreatment (CM) is recognized as a major health issue by the World Health Organization (Krug, et al., 2002). In this thesis, I define CM as encompassing physical, emotional, and sexual maltreatment, including active forms of maltreatment (i.e., abuse), and passive forms (i.e., neglect). Although there has been ample research on specific forms of abuse, I use this broad definition as there is evidence demonstrating that different forms of maltreatment frequently co-occur, and these domains are best conceptualized as a single factor representing CM (see discussion by Bernstein, et al., 1994; Dong, et al., 2004; Keyes, et al., 2012). Based on these findings, I will be using a broad definition of CM in all my proposed studies.

According to the Survey of Safety in Public and Private Spaces, in Canada, approximately 6 in 10 (59.7%) individuals experience some type of maltreatment before they turn 15 years old (Statistics Canada, 2019). The prevalence of this issues has a large financial impact on society, with some estimates suggesting it could cost society at minimum 15.7 billion dollars per year (Habetha et al., 2012). These comprised primarily of issues related to the legal system, social services, education, healthcare, and personal costs for the victim. More importantly, we know that these experiences of maltreatment have a profound and negative impact on victims.

Research has consistently shown that childhood maltreatment is associated with a large variety of short-term and long-term mental health difficulties. Although all traumatic events can impact mental health, research has shown that maltreatment in childhood is often linked to more severe outcomes compared to similar traumatic events at other points in life (Burnam et al., 1988; McCauley et al., 1997; Zlotnik et al., 2008).

As a result, experiences of CM are associated with a large variety of mental health disorders, including mood disorders (Afifi et al., 2014; Kendler et al., 2000; Widom et al., 2007), anxiety disorders (Afifi et al., 2014; Fergusson et al., 2008; Phillips et al., 2005), and alcohol or drug use disorders (Afifi et al., 2014; Clarke et al., 1997; Fergusson et al., 2008; Kendler et al., 2000). Additionally, individuals who experience CM are more likely to be revictimized in adulthood (Davis et al., 2001; Keyes et al., 2012; Rind et al., 1998).

While childhood maltreatment significantly increases the risk of post-traumatic stress disorder (PTSD), research indicates that only a minority of individuals who experience CM ultimately develop PTSD symptoms. In a study that focused on children who were receiving treatment related to childhood maltreatment at the National Child Traumatic Stress Network, only one-quarter of those children met criteria for PTSD (Pynoos et al., 2008). Other researchers have found similar results, for example Ackerman, and colleagues (1998) found that PTSD was the fifth most common diagnosis, and Copeland and colleagues (2007) found that it was the tenth most common diagnosis. In children, CM is more strongly associated with oppositional defiance, ADHD, separation anxiety, and general anxiety (Ackerman et al., 1998). Adolescents who experienced CM are more likely to have issues related to depression and anxiety, with separation anxiety in particular being highly associated with experiences of CM (Copeland et al., 2007). These studies suggest that one of the largest impacts of CM is affecting individuals' attachment and trust in caregiver, which can manifest in separation anxiety. They also speak to difficulty with regulating intense emotions, like sadness and anxiety.

These findings are also important since there have been several studies which focus exclusively on children who have PTSD related to childhood maltreatment (e.g., Ehring, & Quack, 2010), and these results may not generalize or represent most individuals who experienced CM. Collectively, these studies suggest that while PTSD is a serious concern among children who have experienced childhood maltreatment, it is not the predominant outcome for the majority, highlighting the variability in how individuals respond to trauma.

In addition to the impact CM has on mental health, research suggests that individuals who experience maltreatment during formative years often have more difficulty forming close relationships with romantic partners (see review by Goff & Smith, 2005). There is also an accumulation of research suggesting that childhood maltreatment is linked to intimacy difficulties and reduced relationship satisfaction in relationships (Colman & Widom, 2004; DiLillo et al., 2009; Vaillancourt-Morel et al., 2024). In a recent review of 43 articles, Zamir (2021) found that research using cross-sectional and longitudinal designs have consistently shown CM is associated with lower relationship quality for both men and women. Finally, Vaillancourt-Morel and colleagues (2024) conducted a meta-analysis showing that partners of individuals who experienced childhood maltreatment report decreased relationship satisfaction and increased in psychological distress, although importantly the magnitude of these effects is small. These findings underscore the profound impact of CM on adult survivors, as the ability to form and maintain satisfying long-term relationships is crucial for overall well-being and life satisfaction (Kansky, 2018).

Similar difficulties are also observed in the sexual domain of relationships.

Broadly, victims of CM report more sexual difficulties and less sexual satisfaction (Vaillancourt-Morel et al., 2021; McNeil & Rehman, 2024). In a recent review article, Pulverman and colleagues (2018), found that women with a history of sexual abuse had significantly higher rates of sexual dysfunction compared to women who did not experience abuse. Furthermore, research has demonstrated that victims of CM report more negative emotions when experiencing sexual arousal (e.g., fear, anger, disgust), anticipate lower rewards from sexual experiences, and have lower levels of sexual contact with their partners (Lemieux & Byers, 2008; Najman et al., 2005; Schloredt & Heiman, 2003; DiLillo et al., 2009).

This large spectrum of difficulties associated with childhood maltreatment suggests that these early experiences have a marked impact on core aspects of functioning, which can play a role in an individual's ability to successfully cope with and manage stressful experiences across their lifespan. There are a variety of theories that have been posited to explain what core aspects are affected by childhood maltreatment, and how these affected aspects are associated with the negative outcomes in later life. Broadly, there are theories focusing on neurocognitive impacts, family environmental factors, and emotional processing problems. I will discuss each of these general models, and some of the literature associated with them, in the section below. I will then detailing a model outlined by Polusny and Follette (1995) which informs my goals for further understanding the impact of CM on emotional processing.

Neurocognitive Differences

In general, activation of the threat system is considered an adaptive process that can improve survival. However, chronic stressful experiences can influence early brain

development, which alters the sensitivity to threats. Specifically, stressful experiences can interfere with critical periods of neurogenesis, synaptic overproduction, and pruning of synapses (Teicher et al. 2006). These disruptions are most likely to happen in areas of the brain that develop postnatally, such as the pre-frontal cortex and temporal lobe (Pechtel & Pizzagalli, 2011; Teicher et al. 2003). Consistent with this research, it has been shown that individuals who experienced CM have smaller intracranial volume, delayed hippocampal development, and a smaller corpus callosum (Andersen & Teicher, 2004; Teicher et al. 2004).

In addition to biological impacts, there is also substantial research showing that cognitive abilities are impacted by childhood maltreatment. For example, a study by DeBellis and colleagues (2009) examined children who experienced neglect and compared them with a control group, finding that early neglect was associated with lower IQ scores, particularly in language, memory/learning, and attention/executive functions. Difficulties with executive functions and inhibitory control are also frequently reported in individuals who experienced childhood maltreatment (Bos et al. 2009; Colvert et al. 2008; Pollak et al. 2010).

Family Environmental Differences

In a controversial review paper, Rind and Tromovitch (2007) argued that a limitation of research on childhood sexual abuse is that it often fails to adequately control for unhealthy family dynamics, which are themselves associated with both risk of victimization and poorer child mental health outcomes. Supporting this position, research demonstrates that broader family and environmental conditions significantly impact child outcomes. For example, poverty has been linked to both increased risk of childhood

maltreatment and lower levels of well-being in adulthood (Ludwig et al., 2012; Maguire-Jack & Font, 2017). At the same time, positive family factors such as parental support and healthy communication serve as protective influences that promote better developmental and relational outcomes (de Graaf et al., 2010).

However, some more recent work has addressed this concern directly. For example, Bhandari and colleagues (2011) found that both experiences of sexual abuse and family environment (i.e., maternal care, family isolation, identification with mother, cohesion, and family functioning) independently predict sexual adjustment in adulthood. Seehuus, et al. (2015) found similar results when looking at maltreatment more broadly, with both experiences of CM and family environment uniquely predicting sexual functioning in adulthood. Finally, in a sample of homeless adolescents, Ryan and colleagues (2000) found that both family environment and experiences of maltreatment uniquely predicted internalizing and externalizing problems.

Taken together, these results confirm that while family environment does play a role in outcomes, childhood maltreatment has effects that extend beyond family environmental factors alone. However, although family environment is found to have unique predictive ability, it does not fully explain the negative effects associated with childhood maltreatment. Furthermore, some researchers have suggested that family environment can be a protective factor, promoting resilience and attenuating the negative effects of childhood maltreatment (Afifi & MacMillan, 2011).

Emotional Processing Differences

Emotional processing is a broad term that covers a range of activities involved in experiencing and reacting to emotions. One key aspect of emotional processing is

emotion recognition, which refers to the ability to identify the physical, mental, and behavioral signs of emotional states. This skill can be divided into recognizing emotions within oneself (Hogeveen & Grafman, 2021) and accurately interpreting the emotions of others (Baron-Cohen et al., 2001). Another important element is emotion regulation, which involves the techniques people use to manage and respond to their emotions. These techniques might include emotional suppression, which involves trying to mentally distance oneself from immediate emotional reactions, or cognitive reappraisal, where individuals intentionally shift their interpretation of a situation to lessen its emotional impact (Gross & John, 2003).

There is a plethora of research showing that early experiences of CM are associated with difficulties processing and regulating emotions. Researchers have shown fundamental differences in event-related potential responses to negative facial expressions (e.g., Parker et al. 2005). Individuals who experienced CM also require less visual information to correctly detect anger in facial expressions (Pollak & Kistler 2002). Other studies have shown that victims of CM are more likely to interpret positive emotions as ambiguous and they have more difficulty disengaging from emotional stimuli (Pine, et al., 2005; Pollak, et al., 2000; Shields & Cicchetti, 2001; Tottenham & Sheridan, 2010). Neurological studies have also found that early-life trauma exposure is related to increased amygdala response to threatening cues (McCrory, et al., 2011). These findings suggest that these early experiences result in individual being more adept at noticing threats in their environment and less adept at responding to signs of safety and displays of positive emotions.

Additionally, individuals who experience CM are also less able to identify and

describe their own emotional states. In two recent meta-analyses, researchers have shown that there is a small to medium correlation between CM and difficulties identifying and describing emotional states (Ditzer et al., 2023; Khan & Jaffee, 2022). Identifying one's emotional states is a necessary skill for navigating interpersonal interactions, and researchers have shown difficulty with this skill is associated with increased detachment from others (Vanheule et al., 2007). Furthermore, difficulty with identifying emotions is also associated with mental health disorders (e.g., Honkalampi et al., 2020; Kajanoja et al., 2020; Kefeli et al., 2018).

Importantly, when examining cognitive impacts of CM, research has shown that removal from adverse environments can result in improvements on cognitive measures (Nelson et al. 2007). However, regions of the brain associated with emotional processing difficulties (e.g., the amygdala), have been found to be more resistant to change. Consistently, emotional processing difficulties often persist even if children are removed from adverse environment (see Tottenham & Sheridan, 2010 for a review).

Given the central role emotional processing plays in psychopathology and romantic relationships, the present thesis aims to focus on how emotional processing difficulties associated with CM impact romantic relationship functioning.

Emotional Processing and Romantic Relationships

Based on early findings, Polusny and Follette (1995) theorized that emotional processing difficulties were the primary link between childhood sexual abuse and relationship difficulties in adulthood. According to this theory, children are often unable to escape situations related to maltreatment on their own, and due to their age, they are unlikely to have adequate coping skills for dealing with traumatic experiences. As a

result, they will often engage in dissociation and emotional suppression to cope with traumatic experiences. This distancing from emotions may be protective, but it also results in individuals having less access to their own internal cognitive and emotional experience (Bonanno et al., 2003; Schimmenti & Caretti, 2016).

Therefore, these emotional avoidance strategies may be initially necessary and adaptive because they allow the child to cope with adverse experiences that threaten their physical and psychological boundaries, but they may pose significant relational challenges as the child transitions into adulthood. Consistent with this theory, Leitenberg and colleagues (1992) found that survivors of childhood sexual abuse rated emotional suppression and denial as the most helpful strategies for coping, even though these strategies were significantly associated with poorer psychological functioning. These coping strategies, which may have been necessary for survival at one stage, can make it difficult to form healthy relationships characterized by reciprocity, mutuality, trust, openness, and vulnerability.

The empirical literature has largely supported this theory. Broadly, expressing and sharing emotions promotes intimacy and communicates feelings about a partner and the status of the relationship (e.g., Keltner & Kring, 1998). Furthermore, recognizing expressions of sadness or hurt is important in order to identify when a partner is in need of social support. In 2009, Walker and colleagues found that emotional flooding during conflict partially predicted lower levels of romantic satisfaction. Finally, emotional suppression is related to less closeness with others, less reception of social support in times of need, and less satisfying relationships (Gross & John, 2003; Impett, et al., 2012; Srivastava, et al., 2009).

This theoretical framework proposed by Polusny and Follette (1995) aligns with broader trauma theory that has consistently identified emotional constriction and numbing as central responses to childhood maltreatment. Foundational trauma theorists have long recognized that survivors of childhood maltreatment often develop patterns of emotional restriction as adaptive responses that later become maladaptive (Herman, 1992; van der Kolk, 2014). Herman (1992) described how trauma disrupts normal emotional processing, leading to alternating patterns of intrusion and numbing, while van der Kolk (2014) emphasized how trauma survivors often lose access to their full range of emotional experiences as a protective mechanism. Developmental trauma researchers have similarly highlighted how early maltreatment specifically affects emotional range and flexibility, leading to patterns of emotional constriction that persist into adulthood (Cloitre et al., 2009; Cook et al., 2005). Thus, the Polusny and Follette framework links to well-established theoretical and empirical foundations that consistently point to emotional processing difficulties as a core consequence of childhood maltreatment.

Positive Emotion Regulation

Positive emotion regulation strategies have been tied to a variety of beneficial outcomes, including increased life satisfaction, increased relationship satisfaction, and greater resilience (Kim et al., 2014; Quoidbach et al., 2010). As reviewed, there has been considerable work done on how CM affects the regulation of negative emotions; however, considerably less attention has been paid to how CM affects the regulation of positive emotions. This imbalance reflects a broader bias within psychology toward the study of negative emotional experiences (Csikszentmihalyi & Seligman, 2000). Consistent with this focus, the most commonly used self-report measures of emotion

regulation assess only a single regulatory goal: the downregulation of negative affect. Specifically, self-report measures for emotion regulation that focus on decreasing negative emotions include the *Affective Style Questionnaire* (Hofmann & Kashdan, 2010), the *Cognitive Emotion Regulation Questionnaire* (Garnefski et al., 2001), the *Difficulties in Emotion Regulation Scale* (Gratz & Roemer, 2004), the *Emotion Regulation Questionnaire* (Gross & John, 2003), and the *Generalized Expectancies for Negative Mood Regulation Scale* (Catanzaro & Mearns, 1990). To my knowledge the only scale to directly assess positive emotion regulation strategies was published in 2019, specifically the *Difficulties in Emotion Regulation Scale- Positive* (Weiss et al., 2019).

Although there are limited measures of positive emotion regulation, there is a body of research on emotion regulation strategies used to prolong and intensify positive emotions (Sin & Lyubomirsky, 2009). For example, behavioural strategies include intentionally mimicking facial expressions and behaviours associated with positive experiences. Research has shown that mimicking these displays can result in increased positive affect (see e.g., Adelmann & Zajonc, 1989; Finzi & Wasserman, 2006). Research has also identified strategies called capitalization, which focus on sharing positive events with others and celebrating successes (Langston, 1994). It has also been shown that savouring strategies, which involve deliberately directing one's attention to the pleasant experience, can result in improved mental health and increased positive affect (Bryant, 2003; Erisman & Roemer, 2010). Finally, researchers have shown that engaging in mental time travel, reminiscing about positive events, or anticipating future rewards can result in improved happiness and positive affect (e.g., Lyubomirsky et al., 2006). These positive emotion regulation strategies have also been tied to a variety of beneficial

outcomes, including increased life satisfaction, increased relationship satisfaction, and greater resilience (Kim et al., 2014; Quoidbach et al., 2010).

There are theoretical reasons to believe that CM would be associated with a greater discomfort with positive emotions and less utilization of these regulation skills aimed at increasing excitement. For example, research findings have shown that CM is associated with decreased anticipation of reward (Dillon et al., 2009; Guyer et al., 2006). Additionally, many positive emotional states are associated with increased physiological arousal, for example, laughing. Researchers have previously found that individuals who have experienced CM report discomfort with higher levels of physiological activation (Litz et al., 2000), and therefore it is possible that a more highly activated state may be distressing even if it is associated with a positive experience. Finally, clinical work has suggested that CM is associated with more maladaptive cognitions (e.g., *"I can't make anything turn out right"* or *"I don't deserve to be happy"* e.g., Pearlman, 1997), which would likely interfere with individuals' ability to utilize strategies for increasing positive affect.

Consistent with these theories, some studies have begun to examine the impact CM has on the processing and regulation of positive emotional states; however, findings are currently limited due to the relatively small empirical literature on this topic. For example, Goncharenko and colleagues (2021) showed that self-reported difficulties with accepting positive emotions and feeling out of control when experiencing positive emotions partially mediated the association between childhood maltreatment and PTSD symptoms. And more recently, Wooten and colleagues (2022) used a picture-based task where participants viewed a series of positive images and then were given specific

instructions on how to reduce their positive emotions. Despite the goal of the study being to down-regulate positive emotions, childhood maltreatment was associated with more intense positive emotions regardless of which instructions were given. This suggests more difficulty regulating emotion responses in response to situational demands.

In the current thesis, I will attempt to add to this literature and help improve our understanding of how CM affects the regulation of positive emotions. Specifically, I will examine if individuals who experienced CM report feeling more fear of their positive emotional states, if individuals' fear of these positive emotional states impacts relationship functioning, and if individuals who experienced CM are able to flexibly increase and decrease their positive emotions.

Overall Aims of Dissertation Research

The overarching goal of my dissertation research is to examine the association between CM, emotion regulation, and relationship quality. A significant contribution of this research will be to explore how childhood maltreatment (CM) is associated with the regulation of both negative and positive emotions, with a particular emphasis on understanding challenges in experiencing and managing positive emotions—an area often overlooked in previous studies.

In my work I primarily focus on one facet of emotion regulation, specifically, experiences of fear in response to positive and negative emotional states. In this study, I am conceptualizing the emotional avoidance described in the theory put forward by Polusny and Follette's (1995) as stemming from a more fundamental fear of emotional states. This is based on the research suggesting fear and anxiety are primary drivers of avoidance (Pittig et al., 2018).

I hypothesize that difficulties tolerating positive emotions play a crucial role in explaining the interpersonal difficulties reported by survivors of CM. To examine this question, I will conduct a series of studies, with an objective of addressing three major goals.

Goal 1: My first goal is to examine if individuals who have experienced CM report having more fear of their own emotional states. This fear of one's emotions can be conceptualized as a precursor to the experiential and behavioural avoidance seen in CM survivors (for example, Briere et al., 2010). In this first study, I will also examine if individuals who experienced childhood sexual abuse report greater fear of both positive and negative emotions, as compared to a control group.

Goal 2: The second goal of my dissertation is to investigate if fear of emotions is a mechanism that explains why CM is associated with interpersonal difficulties. I posit that fear of one's emotional states would make couples have more difficulty communicating about interpersonal issues, since emotional expression plays an essential role in conflict discussions (e.g., McNeil et al., 2018). I theorize that fear of both positive and negative emotions will uniquely affect measures of communication and relationship quality.

Goal 3: Finally, the third goal of my study is to examine how CM affects individuals' ability to flexibly regulate their emotional states. Specifically, I will examine if experiences of CM are associated with an individual's ability to increase and decrease their emotional responses to positive and negative stimuli. I hypothesize that CM will have a broad impact on emotion regulation skills and this history will make it more difficult for individuals to flexibly alter their emotional states in response to situational demands.

To address these goals, I will conduct three studies. Study 1 is a pilot study that focuses on attitudes towards positive and negative emotions and how such attitudes are shaped by past experiences of CM. In Study 2, I will investigate if fear of emotional states mediates the association between CM and relationship difficulties. Finally, Study 3 will replicate the findings of Study 2 regarding the association between CM and relationship difficulties, and it will also extend these results by having individuals complete an in-lab task that asks them to flexibly alter their emotional states.

In the following section I will provide a general overview of the three studies I ran as part of this dissertation.

Study 1

The first study in my dissertation, a proof-of-concept study, focused on understanding the attitudes survivors of childhood sexual abuse have about their emotions. Specifically, I used archival data to test if individuals who have experienced childhood maltreatment report a greater fear of their emotional states, based on the underlying idea that this fear may motivate them to use emotional avoidance strategies. Although this study initially intended to study childhood maltreatment broadly, the only experiences of childhood maltreatment reported by our samples were experiences of childhood sexual abuse. In addition to examining subjective feelings about emotion, the study further explored if these attitudes towards emotions differed between positive affect states and negative affect states. As previously discussed, the vast majority of measures designed to assess emotion regulation exclusively ask about regulating negative emotions (e.g., Catanzaro & Mearns, 1990; Garnefski et al., 2001; Gross & John, 2003; Gratz & Roemer, 2004; Hofmann & Kashdan, 2010), and thus there is very limited information

about how CM is related to positive emotions.

To better establish the relationship between experiences of childhood sexual abuse and fear of emotions, I compared three groups of participants. The first group included individuals who reported experiencing childhood maltreatment, specifically sexual abuse. The second group reported experiencing a major traumatic event in their lifetime that occurred after they turned 18. The final group was a control group who did not report any major traumatic experiences over their lifetime.

Study 2

Study 2 built on Study 1 in several ways. First, Study 2 used a dimensional measure, while Study 1 compared individuals who reported any experience of CM to those who did not. This dimensional measure helped clarify if emotional anxiety was linearly related to the intensity of childhood maltreatment reported by the participant. In addition to replicating previous findings from Study 1, there were several other goals for Study 2. The first was to investigate how both CM and fear of emotions relate to current relationship and sexual quality. For this study I used three indicators of relationship and sexual quality: satisfaction with communication between romantic partners in both domains, overall relationship and sexual satisfaction, and a domain satisfaction measure assessing sexual and nonsexual problems in the relationship. I expected to replicate previous findings showing CM is related to lower relationship and sexual quality across all three indicators.

The second goal of this study was to test the relationship between CM and emotion recognition. As mentioned previously, there have been several studies showing that CM is related to difficulties with emotion recognition (Lewis et al., 2007; Pine et al., 2005;

Pollak et al., 2000; Shields & Cicchetti, 2001; Tottenham & Sheridan, 2010). Furthermore, recognition of facial expressions of emotion is important in long-term relationships since it conveys important information about a partner's attitudes and current emotional state (Keltner & Haidt, 1999; Van Kleef, 2009). For example, if a partner is expressing sadness or fear, their expression may signal a need for support, and recognition of this emotion can help an individual be responsive to this need (Graham et al., 2008; Marsh et al., 2007). Therefore, one of the goals for this study was to see how much of an impact these deficits in emotional recognition have on explaining the lower relationship quality (as assessed by our three indicators) seen in individuals who have experienced CM. This also provides a performance-based measure related to emotional processing that does not have the same biases as the self-report measure I used to assess for fear of emotions.

The third major goal of Study 2 was to investigate the mechanisms that underlie the association between CM and interpersonal functioning. I anticipated a negative correlation between this fear of emotions and the quality of relationships and sexual interactions. However, fear of emotions may have a more detrimental effect on the sexual domain, given its association with greater intimacy. To achieve this objective, I tested a series of mediation model in which both fear of emotions and emotion recognition served as mediators for the association between childhood maltreatment (CM) and each of the three outcomes measures used to assess relationships and sexual quality.

Finally, this study examined emotion regulation strategies by having individuals report on their tendency to use emotional suppression and cognitive reappraisal. I expected that CM would be associated with a greater use of emotional suppression and

decreased use of cognitive reappraisal strategies. Furthermore, I expected that fear of negative and positive emotions will be associated with greater use of emotional suppression to regulate emotions. I also predicted that fear of negative and positive emotional states would be associated with lower utilization of cognitive reappraisal strategies.

Study 3

My third and final study aims to build on these two studies. The first goal of this study will be to replicate the findings from both Study 1 and Study 2 showing that CM is associated with greater fear of positive and negative emotions. The next goal was to replicate findings from Study 2 showing that fear of emotions mediates the association between CM and satisfaction with communication in general and in the sexual domain. My goal for this study was to extend these results by examining if fear of both positive and negative emotions uniquely mediate this association.

In addition to these goals of replicating and extending findings from Study 1 and Study 2, my third study examined how CM is associated with regulating positive and negative emotions in response to images. Specifically, I instructed participants to increase or decrease their emotional reactions to positive and negative images. The goal of this task was to better understand how CM affects individuals' ability to flexibly regulate emotions up and down. These findings will have important clinical implications as they can provide novel insights into the importance of addressing difficulties regulating positive emotional states and increasing negative emotional reactions in response to situational demands.

Study 1

Study 1 Introduction

The overall goal of this proof-of-concept study was to better understand how a history of sexual abuse relates to subjective feelings about emotional states. Although studies have shown that childhood maltreatment is associated with difficulties with processing or interpreting negative emotions, they have been unable to adequately capture the attitudes CM survivors have about their positive emotions. The focus of the current study is to address this question by examining if individuals who have experienced a specific form of CM, childhood sexual abuse (CSA), report greater fear of their emotional states. In addition to this goal, this study also seeks to contribute to the existing literature on emotional processing by examining both positive and negative affective states, rather than just focusing on negative emotions.

To address these questions, I compared three different samples. The first group included individuals who experienced CSA prior to turning 18, the second group was comprised of individuals who have never experienced a traumatic event, and the third group included individuals who experienced significant traumatic events in their lifetime (e.g., major car accidents). Exposure to trauma is associated with difficulties related to trust and struggles with feeling safe (Resik et al., 2017); however, individuals who experienced traumatic events in adulthood are likely to have had a developmental history that was not shaped by these beliefs, and individuals who experienced traumas in childhood unrelated to childhood maltreatment are likely to maintain healthier attachments with caregivers. Therefore, this third group was included as it allows me to

test if the effects observed are a nonspecific marker of having experienced trauma or if they are unique to individuals who experience CSA.

Based on previous studies showing that individuals who experience trauma in childhood have more pronounced mental health challenges, as compared to traumatic events experienced in adulthood (e.g., Afifi et al., 2014), I hypothesized that the CSA group will report the largest fear of their own emotions, followed by individuals who experienced major traumatic events other than CSA. The control group is expected to have the least anxiety.

Study 1 Method

Participants

The current study used data from a larger dyadic study that focused on depressive symptoms and relationship functioning. However, the focus of the study was originally on female partners, and, as a result, information about trauma history was only gathered from them. Table 1 displays the demographic information for the participants. Further details about the study, such as participant recruitment and remuneration, can be found in Rehman et al. (2010).

When couples expressed an interest in participating, female members of the couple were screened over the phone using a semi-structured clinical interview. Questions used for this interview were adapted from the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First & Gibbon, 2004). Participants were excluded from the study if the female partner met Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria for: (1) Bipolar Disorder (past or present); (2) schizophrenia, schizophreniform disorder or paranoid disorder; (3) organic brain syndrome; (4)

intellectual disability; (5) Substance Abuse Disorder (current or within the past 6 months); (6) anorexia or bulimia; or if the female participant was (7) at imminent suicide risk; or (8) currently receiving psychotherapy. These exclusion criteria were designed to protect the welfare of the participants.

Initially, ninety-two couples were interested in participating in this study. From this initial sample, four couples were excluded because female participants met diagnostic criteria for psychotic symptoms and/or a history of bipolar disorder, three couples were excluded because the male partner was unwilling to participate in the study, and nine couples did not show up to their scheduled appointment. This resulted in 76 couples who participated in the study. However, three couples had their data lost due to technical problems, and four participants were excluded due to missing data or choosing not to complete measures included in this study. The final sample of the present study was 69 female participants. Table 1 displays the demographic information for this sample.

Procedure

I used the post-traumatic stress disorder section of the clinical interview to categorize individuals who had experienced childhood maltreatment. Two senior clinical psychology students independently coded the traumatic experiences reported into three categories: (1) no experience of major traumatic events, (2) significant childhood maltreatment, which included any reports of physical abuse, sexual abuse, physical neglect, or physical abuse prior to the age of 18, and (3) experiences of major traumatic events unrelated to childhood maltreatment at any point in their life, which we will refer to as the trauma-control group.

Coding was consistent across both raters for childhood maltreatment experiences. Importantly, although I initially used a broad definition of childhood maltreatment for this study, all who reported childhood maltreatment described being sexual abused. Thus, for this study we will only be focusing on individuals who experienced childhood sexual abuse. For the other groups, ratings were consistent across the other two categories except for three traumatic events. All three of these events were focused on life threatening car accidents, which one rater categorized as a clinically significant traumatic experience (group 3), while the other rater categorized it as a subclinical trauma (group 1). A third rater was asked to review these three experiences, and the third rater classified them as significant traumatic experiences. Therefore, for the purpose of analyses, I included these three experiences in group 3.

In total I had a sample of 47 women who had no history of major traumatic events. The sample also included 12 women who had experienced CSA, and there were 10 women in the trauma-control group who experienced major traumatic events unrelated to childhood maltreatment (for example, a participant reported finding their father after he committed suicide when she was 12, and another participant reported being held hostage at work when she was 30). Of the 10 women who experienced trauma unrelated to childhood maltreatment, three of them experienced major traumatic events prior to the age of 18. Due to sample size limitations, we were unable to look at differences between individuals who experienced major traumatic events, unrelated to CSA, in adulthood and childhood independently.

Measures

Telephone screening

All female participants were screened over the telephone prior to their in-lab appointment. All screening questions were adapted from the SCID-I (First & Gibbon, 2004).

In Laboratory Measures

Background Questionnaire. The background questionnaire gathered information about participants' general demographic characteristics (e.g., age, income, educational achievement) and relationship histories (e.g., marital status, relationship length).

Affective Control Scale (ACS; Williams et al., 1997). This scale was originally designed as an extension of the concept of anxiety sensitivity, which is the fear of losing control of one's anxiety (Reiss et al., 1986). The affective control scale built on this theory by expanding it to assess the fear of losing control of any strong emotions, including both positive and negative emotions. The scale has been used previously to assess traumatic experiences related to military service, and the results showed that ACS predicted changes in PTSD symptoms and depressive symptoms during treatment, even when controlling for the ability to adaptively regulate emotions (Price et al., 2006). The scale includes 42 items, and four subscales related to specific emotions: depression/sadness, anxiety, anger, and happiness/positive affect. The scale can be used as a single overall score or for examining each subfactor of emotion individually. For each item, participants responded on a 7-point Likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The scale has previously been shown to have a high internal consistency (α=.94 for the overall scale score) and good test-retest reliability over several weeks (r=.78; Williams et al., 1997). The present study found similarly high

levels of internal consistency for the scale (overall scale score α = 0.96, and α ranged from 0.74 to 0.92 for the emotional subscales). For my analyses, I compared each group based on total ACS scores. If significant differences were detected, I conducted follow-up tests to examine differences on the individual emotion subscales.

Study 1 Results

For my analyses, I conducted three independent-samples t-tests to compare the group's overall ACS score (result shown in Figure 1). All analyses were conducted in SPSS. When significant differences were found, I compared the two groups on each emotional subdomain. Below I present the results of each of the group comparisons.

Comparison Between CSA and the No-Trauma Control Group

I compared women who have experienced CSA (M = 4.01, SD = .82) to women who had not experienced any major traumatic events in their life (M = 2.87, SD = .78). Results suggested that this difference was significant, with CSA survivors reporting more fear of their intense emotions $t(57) = -4.44$, $p < 0.001$, and the effect was in the very large range d = 1.42 (Sawilowsky, 2009).

After examining the overall fear about individual emotions, I then examined the four subscales to see if these effects were consistent across all emotions. Table 2 displays the results of these analyses. Overall, these results suggested that women with a history of CSA experience significantly more fear compared to the no-trauma group for all three negative emotions assessed by the ACS (depression/sadness, anxiety, and anger). They also reported significantly greater fear of positive emotions than the no-trauma group.

Comparison Between CSA and the Trauma-Control Group

Following my analyses with the group of women who had not experienced trauma, I then compared the CSA group to women who have experienced traumatic events in their lifetime unrelated to childhood maltreatment (ACS $M = 3.24$, $SD = .84$). Again, I found a significant difference between these groups. These results indicated that, even when compared to women who experienced major traumatic events, individuals with experiences of CSA exhibited a greater fear of intense emotions, $t(20) = -2.16$, $p = 0.043$, with the effect size falling within the large range at $d = 0.93$ (Cohen, 1988).

I then examined the results of each individual emotional subscale. Table 3 displays the results of these analyses. My results found significant differences for both the depression and anxiety subscales when compared to individuals who experienced other forms of trauma. I did not find a significant difference between the two groups for either the anger or positive affect subscale.

Comparison Between Control Group and the Trauma-Control Group

In my final analyses, I compared women who had no experiences of trauma to women who experienced trauma unrelated to maltreatment in childhood. In my sample, I did not detect a significant difference between these groups on the overall ACS scores, $t(59) = -.514$, $p = .61$, $d = .46$. I did not conduct follow-up analyses for the emotional subscales, as there were no significant differences between these two groups.

Study 1 Discussion

In this pilot study, I directly tested whether women with a history of sexual abuse had greater fear of their emotions. As noted, all the women with histories of childhood maltreatment in this study experienced sexual abuse as minors; thus, my results can only

speak to this specific form of childhood maltreatment. I compared these women to women who have no trauma history and women with a who experienced a major traumatic event other than CSA. I found that women with a history of CSA had significantly more fear about their emotions compared to women without any experience of trauma, with the effect size suggesting there was a large difference between these two groups. This fear of one's own emotions likely underlies the emotional avoidance that is associated with CSA (Walsh et al., 2010). Furthermore, these effects were consistent across all emotional subscales, suggesting that women who have histories of CSA fear a range of emotional states across different valences and types of emotions. Importantly, this study is one of the few studies to directly examine positive affect states, and my findings suggest that the survivors of CSA also experience significantly greater fear of their positive emotions, as compared to individuals without a history of major trauma exposure. This anxiety is consistent with downstream effects seen in neuropsychological studies, such as victims of childhood maltreatment having less activity in brain regions associated with anticipation of rewards (Dillon et al., 2009).

In addition to testing the differences between CSA survivors and a control group of women who never experienced trauma, I also compared CSA survivors to women who had experienced significant traumatic events unrelated to childhood maltreatment. As I hypothesized, CSA was associated with significantly more fear of one's own emotions, with the effect size suggesting that this was a large difference. Regarding specific emotion subscales, I found significant differences between the depression and anxiety subscales, but no differences between the anger and positive affect subscales. Finally, I did not find significant differences between women who experienced major traumatic

events and women who did not report any major traumatic events. However, the limited power of the current study may have obscured group differences in the anger and positive affect subscales.

Overall, these results suggest that treatments specifically focusing on affective issues, such as Emotion-Focused Therapy, may be particularly important for individuals with a history of CSA. One of the foundational principles of emotion-focused therapy is that trauma and abuse can lead individuals to lose touch with the adaptive functions of their emotions (Goldman & Greenberg, 2015). For instance, anger can signal that an individual is experiencing a violation, and it can help guide that individual to leave that situation or establish boundaries to protect themselves. However, experiencing CSA could disrupt this connection, particularly when individuals' emotions need to be suppressed to maintain connection with an attachment figure. In the safety of a therapeutic relationship, these individuals could begin to connect to their own feelings and confront their fear of their own affective states.

Limitations and Future Research

Although this study provides some unique insights into the effect of sexual abuse on emotional processing, there are some important limitations that must be considered. One limitation of this study was that the sample size was small, which limits its statistical power. This limitation is particularly important when comparing individuals who have experienced trauma unrelated to childhood maltreatment with those in the no-trauma group. It is possible that a larger sample would allow us to detect more differences between these two groups. Importantly, the effect sizes between the CSA group and the other two groups for the overall ACS scale were large, suggesting that there is sufficient

power to detect these effects, even with a small sample. Additionally, this small sample also limited my ability to identify differences with the trauma-control group. This group had heterogenous traumatic experiences, and I was unable to differentiate between those who experienced major traumas in adulthood compared to childhood. It is possible that there would be fewer differences between the CSA group and this comparison group if the latter consisted only of individuals whose traumatic experiences had occurred when they were children or adolescents.

Another important limitation is that this study focused exclusively on women. However, young girls are far more likely to experience sexual assault in childhood than boys, with some estimates suggesting that girls are over five times more likely to have experience CSA (Finkelhor et al., 2014). It will be important for future research to see if these results replicate for male victims of CSA.

Finally, I was unable to control for additional variables such as childhood socioeconomic status. Research has suggested that the environment children are raised in can explain some of the effects observed with CSA (Roberts et al., 1996), and it is possible that it may mitigate some of the effects observed in this study.

Moving forward, these results provide the groundwork for future research investigating the downstream effects of fear of emotions. For instance, this fear might be a critical factor that hinders closeness, intimacy, and vulnerability in intimate relationships for individuals who experienced CSA (Davis & Petretic-Jackson, 2001).

Next Steps

Study 1 established that CSA was associated with increased fear of emotions and that this fear was particularly intense for individuals who experienced CSA compared to

other forms of trauma. Furthermore, these results suggest that compared to the no-trauma controls, individuals who experienced CSA report significantly more fear of positive affect states. My next goal is to replicate these findings using a larger sample using a broad dimensional measure of childhood maltreatment, with the expectation that the intensity of CM will be linearly related to increased fear of emotions.

Table 1. *Demographic Characteristics for Study 1*

	Mean	SD
Age (years)	33.37	11.52
Current monthly income (USD)	1769	1296
Education (years)	14.43	3.49
Ethnic Background		
Caucasian	84.06%	
African-Canadian	2.54%	
Asian	4.34%	
First Nations	1.45%	
Hispanic	1.45%	

Table 2. *ACS Emotion Subscales for CSA Group and the No-Trauma Group*

		N	Mean	*SD*	*t*	df	*p* value	Effect size (*d*)
Anger	No-trauma	47	3.242	0.757	-2.576	57	0.013	0.8
	CSA	12	3.89	0.86				
Depression	No-trauma	47	2.877	1.345	-3.931	57	< .001	1.382
	CSA	12	4.51	0.991				
Positive Affect	No-trauma	47	2.506	0.715	-3.781	57	< .001	1.082
	CSA	12	3.468	1.035				
Anxiety	No-trauma	47	3.005	0.869	-4.549	57	< .001	1.431
	CSA	12	4.308	0.95				
Total	No-trauma	47	2.87	0.78	-4.44	57	< .001	1.42
	CSA	12	4.01	0.82				

Table 3. *ACS Emotion Subscales for CSA Group and the Trauma-Control Group*

		N	Mean	*SD*	*t*	df	*p* value	Effect size (*d*)
Anger	Trauma-control group	10	3.4	0.777	-1.389	20	0.18	0.598
	CSA	12	3.89	0.86				
Depression	Trauma-control group	10	3.39	1.205	-2.4	20	0.026	1.018
	CSA	12	4.51	0.992				
Positive Affect	Trauma-control group	10	2.915	0.765	-1.397	20	0.178	0.607
	CSA	12	3.468	1.035				
Anxiety	Trauma-control group	10	3.365	0.962	-2.303	20	0.032	0.986
	CSA	12	4.308	0.95				
Total	Trauma-control group	10	3.24	0.84	-2.158	20	0.043	0.93
	CSA	12	4.01	0.82				

Study 2

An abbreviated version of the following chapter has been published in the Journal of Interpersonal Violence (McNeil & Rehman, 2024).

Study 2 Introduction

Study 2 tested the hypothesis that CM is associated with fear of emotional states and that this anxiety mediates the association between CM and negative sexual and relationship outcomes in long-term relationships.

For this study, I focused on three key indices of interpersonal functioning: the quality of sexual and nonsexual communication between romantic partners (communication outcome), overall relationship and sexual satisfaction (satisfaction outcome), and the degree to which participants endorsed sexual and nonsexual problems in their relationship (problems outcome), with each domain assessed separately for sexual and nonsexual outcomes. These three domains capture different aspects of relationship functioning—behavioural (communication), evaluative (satisfaction), and problem-focused (difficulties) - providing a comprehensive view of CM's impact on romantic relationships. Communication was chosen because it is a key mechanism by which individuals express and respond to each other's needs and foster closeness, intimacy, acceptance, and safety in their relationship (e.g., MacNeil & Byers, 2009). Satisfaction was chosen since it is one of the most widely used metrics for examining the quality of the sexual and romantic relationship (Fisher et al., 2011), and it has been shown to predict divorce (e.g., Gottman & Levenson, 2000). I also examined sexual and relationship problems that commonly occur in romantic relationships, such as making

decisions about household chores or engaging in sexual experimentation. Problems were assessed because they may be more sensitive to the specific difficulties CM survivors experience.

Based on theoretical models suggesting CM disrupts intimacy development, I hypothesized that effects would be stronger in sexual domains. CM would be expected to disrupt an individual's capacity to build and foster intimacy across relationship domains, though the sexual domain represents one important area where these difficulties may manifest. As a result, the sexual domain may be particularly impacted by a history of CM.

I focused on individuals in long-term relationships, operationalized as partners who had been together for at least one year. I focused on long-term relationships, rather than casual relationships or the early stage of a relationship, because I reasoned that long-term problems with developing and fostering intimacy would most likely emerge once the initial excitement phase of a relationship was over.

I expected to replicate previous findings showing a negative association between CM and sexual and relationship satisfaction (see reviews by Leonard & Follette, 2002; Rumstein-McKean & Hunsley, 2001). Similarly, I predicted that CM would be related to less satisfaction with communication for both domains. In addition to replicating previous findings, this study also examined the link between CM and general sexual and relationship problems. It is inevitable that couples will face challenges and areas of conflict in their relationship, especially over time (e.g., discrepancies in desire or different preferences). Understanding the perceived intensity of these problems provides better insight into how CM affects adult romantic relationships. I predicted that CM

would be associated with greater endorsement of problems in both domains. Previous research has suggested that individuals find problems in related to sex as inherently more threatening (Balan et al., 2018), and individuals often report more anxiety about discussing sexual issues in long-term relationships, therefor I hypothesized that the effect sizes for these associations will be larger for the sexual domain items.

The second major goal of my study was to investigate the mechanisms that underlie the association between CM and interpersonal functioning. I tested the theory put forward by Polusny and Follette (1995) by investigating the role of three mechanisms. The first mechanism was fear of emotions, which was used in Study 1. I expected that this fear of emotions would partially mediate the association between CM and the quality of relationship variables for both domains. In addition to studying attitudes towards emotions, I also tested an additional emotional mechanism, emotion recognition. Specifically, I examined whether deficits in recognizing emotions mediate the association between CM and problems in interpersonal functioning. Previous studies have shown that children with a history of CM have more difficulty identifying ambiguous faces (e.g., Gibb et al., 2009; Pollak & Kistler, 2002). Furthermore, adults who have post-traumatic stress disorder related to CM had reduced accuracy when identifying emotions in faces (Nazarov et al., 2014). However, the study on adults focused only on individuals diagnosed with PTSD specifically related to their childhood maltreatment, which represents just a minority of those who experience CM. Therefore, it is currently unclear if the effect found would replicate in a general sample. Finally, these studies were unable to identify how this emotional processing deficit impacted the sexual and romantic relationship. I hypothesized that both the fear of emotions and emotion recognition would

independently mediate the effect of CM on three different measures relationship and sexual quality (satisfaction with communication, overall satisfaction, and problems).

Beyond emotional processing difficulties, CM may also affect how individuals manage their emotions. Accordingly, I examined participants' tendency to use two emotion regulation techniques: emotional suppression, which represents a tendency to repress emotions, and cognitive reappraisal, which involves altering the way one thinks about potentially emotion-eliciting events. Although there are various emotion regulation strategies people use in daily life, studies have demonstrated that these two are the most used and most effective methods of reducing negative emotions (Dillon et al., 2007; Hayes et al., 2010; Knight and Ponzio, 2013). These measures helped elucidate the strategies that individuals who experience CM use most often and examined whether fear of emotions was associated with these regulation patterns. I predicted that CM would be associated with an increased use of emotional suppression and decreased use of cognitive reappraisal strategies. Finally, the measure of emotional suppression provided the most direct test of Polusny and Follette's (1995) theory, which posits that suppression is the key indicator leading to emotional and social difficulties associated with CM. Therefore, I expected that emotional suppression would uniquely mediate the association between CM and relationship quality.

Study 2 Method

Participants

Participants were recruited through TurkPrime using their prime panels. This service uses a variety of online platforms to collect the entire sample of survey data. To participate, participants were required to be at least 19 years old, and they were required

to have been in a relationship for at least one year. The sample consisted of 175 individuals. However, there were numerous participants who answered in a systematic way (choosing all middle options throughout the survey) and, as a result, failed many of the attention check items. Therefore, 25 participants were excluded from the analyses because they either answered four or more of the seven validity questions incorrectly (e.g., "Please select 7 for this question") or they completed the survey in under 10 minutes.

As a result, my final sample consisted of 150 individuals (44 males, 105 females, and 1 non-binary). The average age of the sample was 45.21 years old (SD = 15.33). Individuals reported that they had been in their current relationship for an average of 18.5 years (SD = 15.89, range: 1.08-62.83 years). In regard to sexual orientation, 88.7% of the sample identified as heterosexual, 1.3% identified as gay or lesbian, and 9.3% identified as bisexual.

Measures

Childhood Maltreatment Scale (Keyes et al., 2012). This measure includes 19 questions that assess the intensity of five types of childhood maltreatment before the age of 17 (physical neglect, physical abuse, emotional neglect, emotional abuse, and sexual abuse). The scale includes five questions related to physical neglect, three questions about emotional abuse, two questions focused on physical abuse, five questions related to sexual abuse, and five questions about emotional neglect. This questionnaire asks participants to respond on a scale ranging from 1 (*never*) to 5 (*very often*). The questions designed to measure emotional neglect were reverse coded. Sample items included: "I felt there was someone in my family who wanted me to be a success" and "How often

did a parent or other adult living in your home push, grab, shove, slap, or hit you?" Reliabilities for the subscales were all high, ranging from α=.91 for the physical neglect subscale to α=.90 for the sexual abuse subscale. For my analyses, the scores were averaged for each subscale and then added together to create a single measure of CM.

Affective Control Scale (Williams, et al., 1997). This scale is a 42-item self-report measure that assesses a participant's fear of emotions and attempts to control emotions. The scale includes four subscales related to specific emotions: depression/sadness, anxiety, anger, and happiness/positive affect. For each item, participants responded on a 7-point Likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The scale has previously been shown to have a high internal consistency (α=.94 for the overall scale score) and good test-retest reliability over several weeks (r= .78; Williams et al., 1997). The present study found similarly high levels of internal consistency for the scale (α=.95). For this study the results were analyzed with the averaged scale score.

Reading the Mind in the Eyes Test (Baron-Cohen et al., 2001). This test is designed to assess accuracy at recognizing emotions when being shown pictures of eyes. The test includes 37 items, with each item showing a picture of eyes. Around each set of eyes are four emotion words (for example: playful, comforting, irritated, bored). For each item, participants are asked to identify which of the four words best reflects the emotions conveyed by the picture of the eyes. Participants scores on this task were based on the percentage of correct responses given.

Quality of Relationship Index (Norton, 1983). This scale is a 6-item measure that was administered to assess relationship satisfaction. The first part of the measure includes items such as "My relationship with my partner makes me happy" and participants rated

it from 1-7 with 1 being very strongly disagree and 7 being very strongly agree. The second part of the measure is an item that asks the participant to rate how happy they are in the relationship on a scale of 1 (*very unhappy*) to 10 (*very happy*). Due to the difference in scale all items were standardized before averaging. The scale showed a high degree of reliability (α= .97).

The Global Measure of Sexual Satisfaction (Lawrance & Byers, 1995). This scale is a 5-item measure that was used to assess the overall sexual satisfaction of participants. For this questionnaire, participants were shown a Likert scale with word pairs on each end and then asked to rate how they would describe their sexual relationship based on these word pairs. The following word pairs are used in the measure: Bad-Good, Unpleasant-Pleasant, Negative-Positive, Unsatisfying-Satisfying, Worthless-Valuable. The scale had excellent reliability (α = .95).

Relationship Problems Questionnaire (Rehman et al., 2017). This scale asks participants to rate their own relationships based on 28 common relationship problems. For each item, participants rated the extent to which the issue is a problem in their relationship and indicated how anxious they would feel discussing each problem with their partner. For each question, participants responded on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much so*). An example of an item from this scale is "How much time to spend together versus apart" or "Housework/chores." These items showed a high level of reliability (α = .97).

Sexual Problems Questionnaire (Rehman et al., 2017). This is a 25-item measure, which asks participants to rate the extent to which various sexual issues are a problem in his or her relationships on a scale from 1 (*not at all*) to 7 (*very much so*). The scale

includes items relating to common sexual issues (e.g., “Frequency of sexual relations,” “Showing interest in having sex,” “Exploring passions/experimentation”). The scale was found to have excellent reliability (α = .97).

Dyadic Sexual Communication Scale (DSCS; Catania, 2013). The Dyadic Sexual Communication Scale includes 13 items, rated on a six-point scale (ranging from strongly disagree to strongly agree), designed to assess the quality of sexual communication in a relationship. The scale includes seven items assessing communication problems, for example, “My partner rarely responds when I want to talk about my sex life.”In addition to these items, the scale has six items designed to assess constructive communication, for example: “My partner has no difficulty in talking to me about his or her sexual feelings and desires.” For my analyses these six items were reverse coded to create a measure that reflects poor sexual communication. The overall reliability of this measure was found to be good (α = .77).

Dyadic Communication Scale (adapted from Catania, 2013). The Dyadic Communication Scale was adapted from the DSCS to measure couples’ satisfaction with their communication in general. This adaptation involved removing references to the sexual aspects of communication. As a result, the scale included 13 items, again rated on a six-point scale. Similar to the DSCS, it included seven items assessing communication problems (“My partner and I never seem to resolve my disagreements”) and six items assessing constructive communication (“Even when angry with me, my partner is able to appreciate my views”). Once again, the six items assessing constructive communication were reverse coded. Reliability estimates for this scale were also found to be acceptable (α = .70).

Emotion Regulation Questionnaire (Gross & John, 2003):This is a 10-item scale designed to measure respondents' tendency to regulate their emotions in two ways:(1) Cognitive Reappraisal and (2) Expressive Suppression. Respondents answer each item on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Examples of items for cognitive reappraisal include "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm," and an example of an item for expressive suppression is "I keep my emotions to myself." The reliability of the reappraisal scale was found to be acceptable ($\alpha = .70$), while the suppression scale had good reliability ($\alpha = .81$).

Procedure

All study measures and procedures were reviewed and approved by the university's research ethics board. This study was advertised on TurkPrime to all individuals who were eligible to participate. They were informed of the title of the study and the renumeration. In this study, participants were first asked to complete a brief screening questionnaire to assess their eligibility to take part in the study. Participants who reported experiences of childhood abuse and who met the other study criteria were invited to participate in my study.

Participants who consented to the study, and who passed a captcha question, were then given a series of questionnaires related to their demographics, their emotional processing, their experience with abuse, and their current relationship (all described above). Questionnaires in this survey were randomized, except for the Reading the Mind in the Eyes Test and the demographics questionnaire which were always presented last. These two questionnaires were placed at the end to ensure that the final questions

participants completed were not directly inquiring about traumatic experiences. Participants all received remuneration for completing the survey. However, TurkPrime was unable to specify how participants were paid since payment differed based on the different sites used for recruitment.

Study 2 Results

Analytic Plan and Descriptive Stats

All analyses were conducted using Mplus v7, and all variables were averaged and standardized prior to analysis. Missing data for participants were estimated using Full Information Maximum Likelihood (FIML), which is the default estimator in Mplus v7. To address my primary questions for this study, I used two mediation models (one with the ACS score and the other with the emotion recognition measure) for each of my three domains of interpersonal functioning (communication, satisfaction, and problems). Mediation analyses were conducted in Mplus, and fully standardized (XY-standardized) path coefficients are reported, such that both predictors and outcomes were standardized prior to estimation. Table 4 displays the zero-order correlation matrix for all variables in this study.

Emotional Processing and CM

As an initial step, I examined the association between CM and the emotional processing variables. It was found that CM was related to increased fear of one's own emotions, as measured by the ACS ($r = 0.33$, $SE = 0.07$, $p < 0.001$). These results were consistent across both positive ($r = 0.24$, $SE = 0.07$, $p < 0.01$) and negative emotions subscales (correlations ranged from $r = 0.21$ to 0.38, p's < 0.001). Similarly, my results

suggested that CM was related to decreased emotion recognition as measured by the Reading the Mind in the Eyes task (r = -0.25, SE = 0.08, p = 0.002).

Interestingly, both cognitive reappraisal strategies and emotional suppression strategies were negatively related to CM (r = -0.27, SE = 0.08, $p < 0.001$; r = -0.29, SE = 0.08, $p < 0.001$). Although I expected CM would be related to decreased use of cognitive reappraisal strategies, it was not predicted that emotional suppression would also be decreased. When further examining was done on these two measures, they were found to significantly correlate with one another (r = 0.56, SE = 0.06, $p < 0.001$). These items were designed to be independent of one another, and if a correlation is seen, they are often negatively correlated with one another. Because of these odd findings, no further analyses were conducted with these variables.

CM and Interpersonal Functioning

After establishing an association between CM and the emotional processing variables, I then examined the relationship between CM and the three indices of interpersonal functioning that were assessed in my study: communication, satisfaction, and problems. I examined models for both the sexual domain and the relationship in general (which I will refer to as relationship satisfaction, relationship communication, and relationship problems). For each domain, I also examined whether the fear of one's emotions and emotional recognition deficits served as a mechanism between CM and each index of interpersonal functioning.

CM, Emotional Functioning, and Communication

CM was found to significantly predict worse communication in both the sexual domain (β = -0.36, SE = 0.07, $p < 0.001$) and the relationship domain (β = -0.32, SE =

0.07, $p < 0.001$). Following these analyses, I then added ACS as a mediator of the effects for both sexual and relationship communication. Figure 2 displays the results of this mediation model. This model showed that ACS significantly predicted lower relationship communication (β = -0.19, *SE* = 0.08, $p = 0.018$) and sexual communication (β = -0.16, *SE* = 0.08, $p = 0.045$). As a result, the model had a significant indirect effect for relationship communication (β = 0.06, *SE* = 0.03, $p = 0.038$) but only a marginally significant indirect effect for sexual communication (β = 0.05, *SE* = 0.03, $p = 0.07$). For both relationship and sexual communication, the direct effect of CM remained (sexual: β = 0.31, *SE* = 0.08, $p < 0.001$; relationship: β = 0.26, *SE* = 0.08, $p = 0.001$), suggesting that fear of one's own emotions does not fully account for the impact CM has on sexual or relationship communication.

I then tested another mediation model for emotion recognition. Figure 3 displays the results of this mediational analysis. Emotion recognition was found to significantly predict better sexual communication (β = 0.19, *SE* = 0.08, $p = 0.012$) and better relationship communication (β = 0.21, *SE* = 0.08, $p = 0.006$). The total indirect effect was found to be significant for relationship communication (β = 0.05, *SE* = 0.03, $p = 0.041$); however, the indirect effect was only marginally significant for sexual communication (β = 0.05, *SE* = 0.02, $p = 0.051$). Finally, the direct effect of CM remained significant for both sexual (β = 0.31, *SE* = 0.07, $p < 0.001$) and relationship communication (β = 0.27, *SE* = 0.08, $p < 0.001$), again suggesting that emotion recognition only partially accounts for the impact CM has on sexual or relationship communication.

CM, Emotional Functioning, and Satisfaction

Regarding satisfaction, my results failed to replicate previous findings showing that CM is associated with lower sexual ($\beta = 0.003$, $SE = 0.02$, $p = 0.082$) and relationship satisfaction ($\beta = -.019$, $SE = 0.02$, $p = 0.22$). Because there was no effect, I did not conduct my planned mediation analyses.

CM, Emotional Functioning, and Problems

Finally, I examined the effect of CM on perceptions of sexual and relationship problems. Consistent with my other results, CM was significantly associated with perceiving more sexual problems ($\beta = 0.23$, $SE = 0.08$, $p = 0.003$) and relationship problems ($\beta = 0.32$, $SE = 0.07$, $p < 0.001$).

I then conducted mediational analyses using the participants' ACS scores. My results, shown in Figure 4, suggested that ACS scores predicted more sexual problems ($\beta = 0.36$, $SE = 0.07$, $p < 0.001$) and relationship problems ($\beta = 0.52$, $SE = 0.06$, $p < 0.001$). The indirect effect of ACS was found to significantly mediate the effect of trauma on sexual problems ($\beta = 0.12$, $SE = 0.04$, $p = 0.001$), and it significantly mediated the effect on relationship problems ($\beta = 0.17$, $SE = 0.04$, $p < 0.001$). In this model, the direct effect remained significant for relationship problems ($\beta = 0.15$, $SE = 0.07$, $p = 0.031$), suggesting partial mediation. However, the direct effect for sexual problems was no longer significant ($\beta = 0.11$, $SE = 0.07$, $p = 0.157$).

After examining ACS, I examined the effect of emotion recognition on sexual and relationship problems. I did not find a significant relationship between emotion recognition and sexual problems ($\beta = -0.11$, $SE = 0.08$, $p = 0.194$); however, emotion recognition was significantly related to fewer relationship problems ($\beta = -0.23$, $SE =$

0.07, $p = 0.001$). Because the path for the sexual domain was not significant, I only examined the indirect effect for relationship problems. The indirect path for relationship problems was found to be significant ($\beta = 0.07$, $SE = 0.03$, $p = 0.016$). Taking this mediator into account, the direct effect of trauma on relationship problems remained significant (relationship: $\beta = 0.25$, $SE = 0.08$, $p = 0.001$), suggesting a partial mediation of the direct effect.

Study 2 Discussion

One of the primary goals of this research was to replicate previous work showing that CM is associated with lower interpersonal functioning (e.g., DiLillo & Long, 1999; Leonard & Follette, 2002; Mullen et al., 1994). I assessed three domains of interpersonal functioning: satisfaction, communication, and problems. Within each of these domains, I distinguished between sexual and nonsexual aspects of the relationship. While the domains of satisfaction and communication have been investigated in past research on CM and interpersonal functioning, I extended past research by also examining whether CM leads to greater sexual and nonsexual problems in adult relationships. Surprisingly, my results did not replicate previous findings for either sexual or relationship satisfaction. Although many studies have shown this link (Leonard & Follette, 2002; Nelson & Smith, 2005; Rumstein-McKean & Hunsley, 2001; see reviews by Rumstein-McKean & Hunsley, 2001; Leonard & Follette, 2002), there have been some studies that have not found this association in the past (for example, Alexander & Lupfer, 1987; Greenwald et al., 1990). One reason my results may differ from previous studies is that I used a dimensional measure of CM. Many of the studies have examined this question by comparing people who have and who have not experienced CM. It is possible that having

experienced any CM affects future relationship satisfaction, rather than there being a linear relationship based on frequency of CM. This discrepancy warrants further investigation, as it may reflect differences in sample characteristics, measurement approaches, or the complexity of CM-satisfaction relationships.

Although I could not replicate the findings using either satisfaction measure, my results indicated that CM is linked to lower satisfaction with communication in both domains, confirming previous research. This study also extends previous findings to show that CM is associated with endorsing a higher number of sexual and relationship problems. Interestingly, we did not observe an association between emotion recognition and sexual problems. This null finding may reflect the content of the sexual problems questionnaire, which includes multiple questions assessing aspects of sexual dysfunction (e.g., erectile dysfunction) that may be less directly influenced by emotion recognition abilities. Replication using measures that more clearly distinguish between physiological and relational or affective components of sexual functioning will be important in future research.

Importantly, these effects were all in the small to medium range for both domains. These moderate effect sizes are consistent with research suggesting variability in outcomes among CM survivors (Kendall-Tackett et al., 1993; Lynskey & Fergusson, 1997; Mullen et al., 1994). My results also emphasize the value of including multiple indicators of interpersonal functioning. Even when global impressions of the quality of the sexual and general relationship are not associated with CM, as my results suggested, I found that other aspects of interpersonal functioning, specifically communication and problems, were associated with CM.

Taken together, these results make an important contribution since they suggest that more problems and lower quality of communication are associated with CM. Additionally, these results suggest that, contrary to my hypothesis, CM was not related to more difficulties in the sexual domain compared to the relationship domain. However, it is important to note that although I did not find direct associations with individual satisfaction, these communication difficulties and increased problems may still impact relationship functioning and potentially affect partners' experiences, even if they are not directly reflected in the individual's own satisfaction ratings.

The other primary contribution of this study was to examine the theory put forward by Polusny and Follette (1995). My main goal was to test three different mediators: emotional suppression, fear of emotions, and emotion recognition. However, when examining the correlation matrix, there were several concerning anomalies with the measure of cognitive reappraisal and emotional suppression. Specifically, there was a positive correlation between these two strategies that was not consistent with other studies using these measures (Gross & John, 2003). As a result of these unexpected relationships, this measure was dropped from all other analyses.

However, outside of that measure, I did test Polusny and Follette's (1995) theory using the other two measures of emotional processing and they partially explained interpersonal difficulties associated with CM. Although this theory was proposed several decades ago, there has been little research that directly tested emotional avoidance as a mechanism (Walker et al., 2009). My initial results indicated that CM was associated with both emotional processing variables. This link adds to the evidence seen in children that CM is associated with decreased emotional processing. Furthermore, these results

are consistent with other studies showing that these emotional processing difficulties continue into adulthood (e.g., Nazarov et al., 2014; Walker et al., 2009).

Regarding the mediation hypothesis, my results found some support for Polusny and Follette's (1995) theory. Specifically, my results suggested that fear of one's own emotions partially explains why CM is associated with lower satisfaction with communication. Similarly, emotion recognition was found to have a similar effect, with it partially mediating the association. It is important to mention that my results only achieved marginal significance when testing the indirect effect for both emotional processing variables in the sexual domain of communication, suggesting that this domain may be less impacted by emotional processing issues than initially hypothesized. I found additional evidence for Polusny and Follette's (1995) theory with my results for relationship and sexual problems. Fear of emotions mediated the association between CM and both relationship and sexual problems. Interestingly, the results for emotion recognition only replicated this effect for relationship problems, suggesting that difficulties with emotion recognition did not play as large of a role for sexual issues. Importantly, these findings indicate that only partial mediation was observed, suggesting that additional mechanisms likely exist to explain part of this association.

Limitations and Future Research

Like all studies, there are important limitations to consider when reviewing my results. Specifically, my results largely focused on self-reported fear of emotional states, which asked participants to retrospectively reflect on how they act in general in their daily life. However, this self-report methodology has some limitations. Specifically, it requires participants to accurately identify their emotions and accurately recall previous

examples of times when they experienced each situation. For example, with the item "It scares me when I am nervous," participants will have to identify a time when they felt nervous and assess how they felt about experiencing that emotion. It can also introduce response biases, which lead to improper conclusions (D'Agostino et al., 2017; Peabody, 1966). To address some of the concerns associated with self-report measures, I added in the additional measure of the Reading the Mind in the Eyes Task (Baron-Cohen et al., 2001) for Study 2. Although this task allowed me to assess emotional processing with a performance-based measure, the task assessed emotion recognition, which is distinct from emotional regulation. Previous studies have shown that measures of emotion recognition are only mildly correlated with emotional regulation (e.g., Harrison et al., 2010; Sharp et al., 2011). Additionally, due to the unexpected relationships I found with the emotion regulation questionnaire, I was unable to examine emotion regulation strategies.

Additionally, the current study relied on self-report measures to assess relationship functioning. Because relationships are inherently dyadic, the present design did not allow us to evaluate how these emotional mechanisms may influence partners' relationship quality. Future research employing dyadic designs is needed to address this limitation.

The study's other major limitation is that it used a cross-sectional design and recruited participants only online, so the results may not represent all populations. Although research has suggested that demographically MTurk samples are similar to population-level studies (e.g., Levay et al., 2016), it remains possible that the present findings may not fully generalize beyond online convenience samples. The study also

only recruited individuals who experienced abuse, and this may limit our ability to generalize these findings to individuals who exclusively experienced physical or emotional neglect. Future studies are needed to address this limitation.

Furthermore, the cross-sectional design limits what I can claim about the directionality of the mediation. However, the temporal nature of my variables (childhood experience and adult romantic relationships) does provide some theoretical evidence to support the directionality used in this study. Additionally, the current study suggests that relationship difficulties are unlikely to influence the emotional processes under investigation. Emotional avoidance and difficulties with emotion recognition are conceptualized as more primary processes and are viewed as more stable individual difference variables as compared to relationship difficulties. However, future research using a longitudinal design could provide more support for this directionality while also providing valuable insight about the evolution of the relationship and the development of problems over time.

Next Steps

In this study, I established that fear of one's own emotions and emotion recognition partially mediated the association between CM and relationship and sexual quality. However, due to the poor psychometric properties of the regulation strategies questionnaire I was unable to assess how fear of emotions and emotion recognition affected the strategies individuals use to regulate their emotions. Therefore, Study 3 will primarily focus on better understanding what strategies individuals who experienced CM use for up and down regulating positive and negative emotions, how effective these

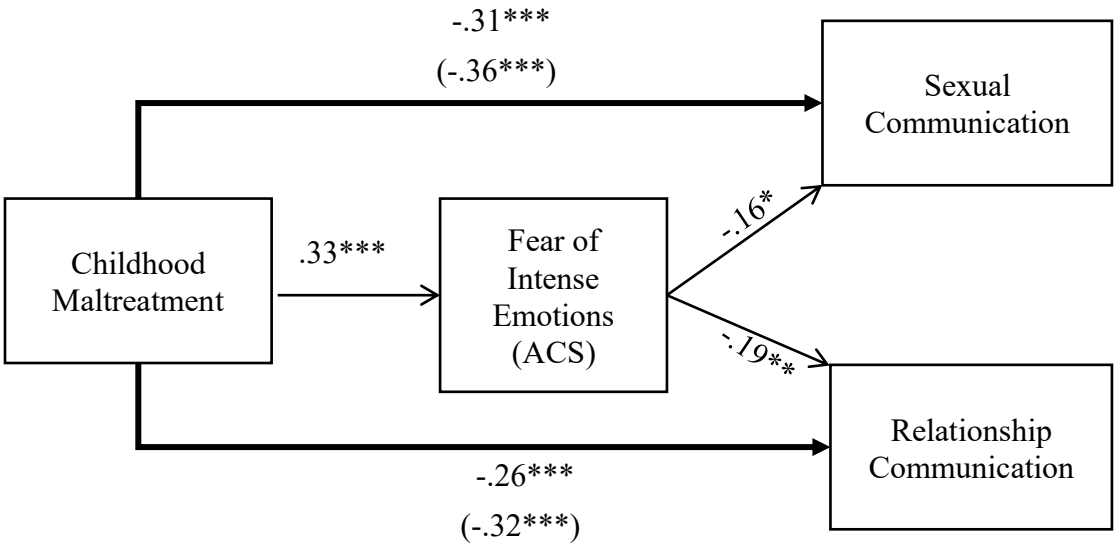
strategies are at regulating their emotions, how these strategies relate to an individual's fear of emotions, and finally how romantic relationships are impacted by these strategies.

Table 4. *Zero-Order Correlations Between Sexual and Relationship Variables, Emotion Variables and CM*

	1	2	3	4	5	6	7	8
1. Sexual Satisfaction	-							
2. Sexual Problems	-0.56***	-						
3.Sexual Communication	0.351***	-0.596***	-					
4. Relationship Satisfaction	0.577***	-0.395***	0.301***	-				
5. Relationship Problems	-0.25**	0.65***	-0.496***	-0.363***	-			
6. Relationship Communication	0.191*	-0.398***	0.678***	0.428***	-0.447***	-		
7. Emotion Recognition	-0.144ns	-0.158*	0.269***	-0.11ns	-0.344***	0.278***	-	
8. Fear of own emotions (ACS)	-0.153ns	0.396***	-0.259*	-0.162*	0.566***	-0.273***	-0.188*	-
9. Maltreatment (CM)	-0.044ns	0.229**	-0.358***	-0.08ns	0.32***	-0.321***	-0.248*	0.329***

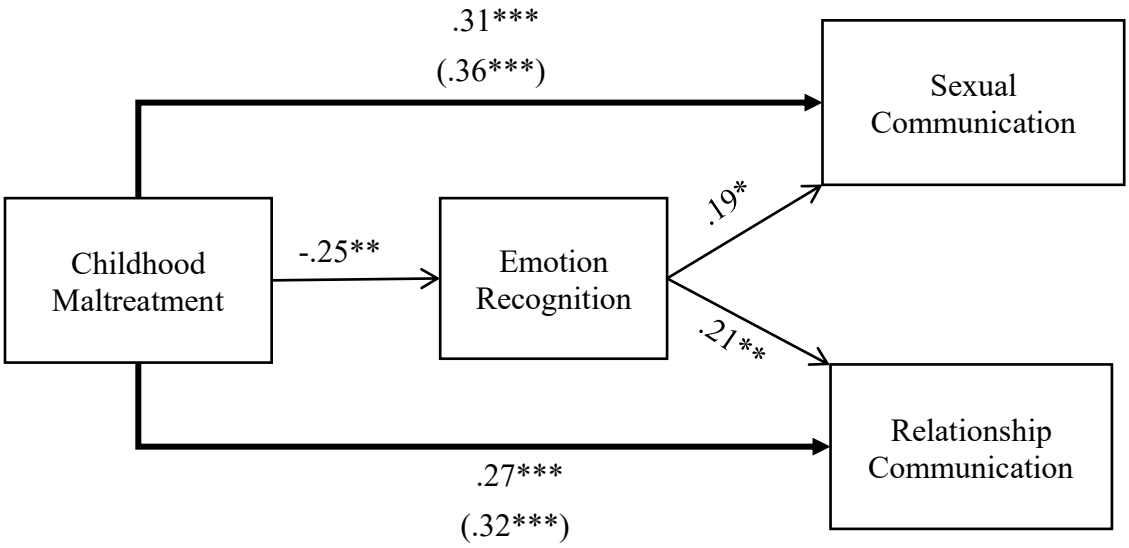
Note. N=150.
*p<.05, **p<.01, ***p<.001, ns=not significant

Figure 1. *ACS and Communication Model Mediation Model.*



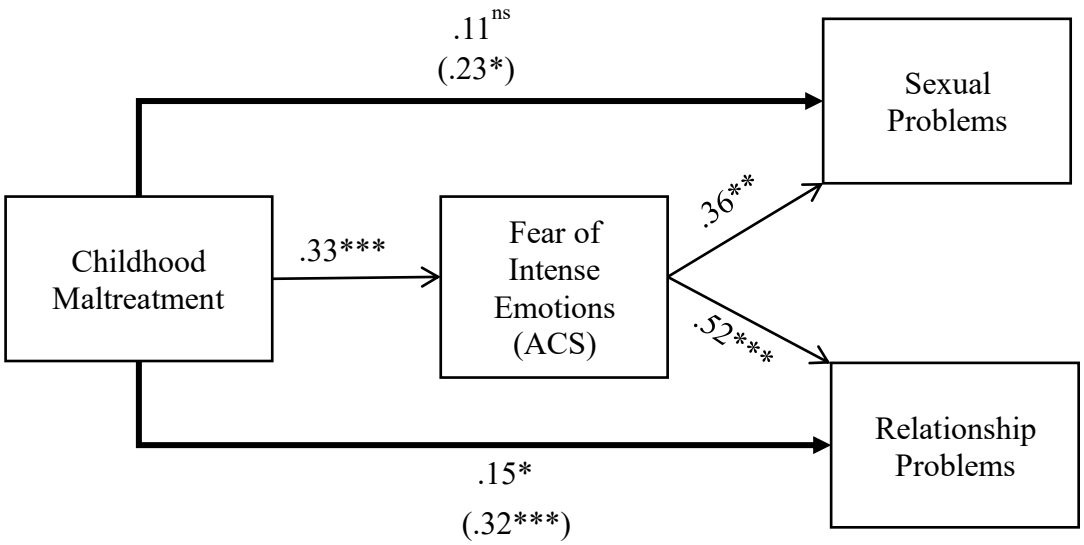
Note. The standardized relationship between CM and both communication domains is shown in parentheses. *p<.05, **p<.01, ***p<.001, ns=not significant.

Figure 2. *Emotion Recognition and Communication Mediation Model.*



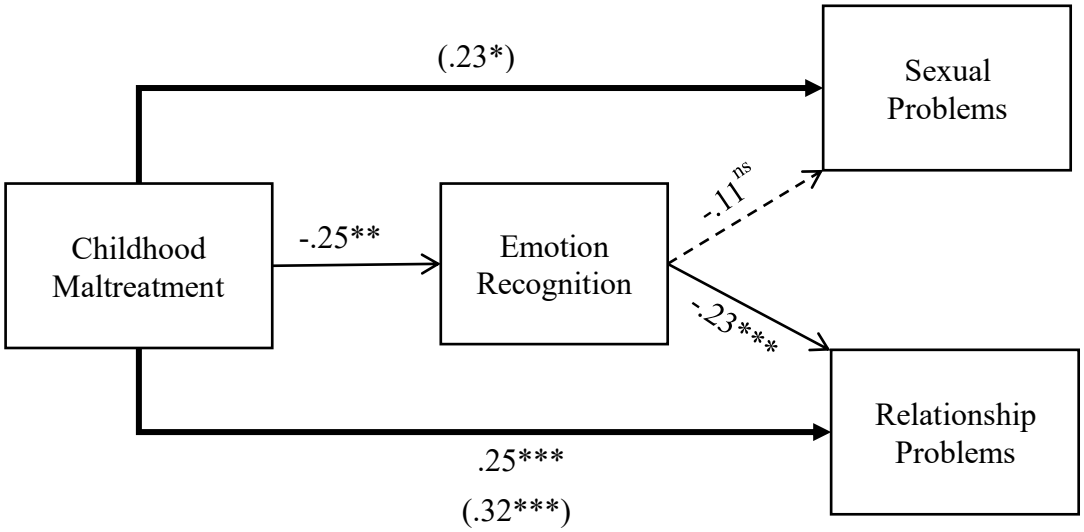
Note. The standardized relationship between CM and both domains of communication are shown in parentheses. *p<.05, **p<.01, ***p<.001, ns=not significant.

Figure 3. *ACS and Problems Mediation Model.*



Note. The standardized relationship between CM and both domains of problems are shown in parentheses. *p<.05, **p<.01, ***p<.001, ns=not significant.

Figure 4. *Emotion Recognition and Problems Mediation Model.*



Note. The standardized relationship between CM and both domains of problems are shown in parentheses. Because the mediation model was not tested for sexual problems only the direct relationship between CM and sexual problems is shown. *p<.05, **p<.01, ***p<.001, ns=not significant.

Study 3

Study 3 Introduction

In this study, I explored how emotion regulation processes mediate the impact of childhood maltreatment on relational and sexual outcomes. Emotion regulation, as defined by past theoretical frameworks (Gross, 1998; Thompson, 1994), encompasses various strategies—both conscious and unconscious—used to modulate the intensity and duration of emotional states, aiming to achieve specific goals. Polusny and Follette's (1995) theory, which proposes causal links between childhood maltreatment and subsequent difficulties in emotion regulation, influences this research. The theory suggests that children, often unable to escape abusive environments, may resort to dissociation and emotional suppression as coping mechanisms. While these processes may initially help manage the trauma, they later become detrimental, hindering the individual's ability to establish and sustain close relationships.

For this research, I focused on two complementary aspects of emotional regulation processes: emotional avoidance, representing attitudes toward emotions, and emotional flexibility, representing behavioral capacity to modulate emotions. Avoidance reflects the motivational tendency to avoid emotional states due to fear or anxiety, while flexibility reflects the actual ability to regulate emotional intensity in either direction when instructed to do so. I posited they are important to investigating the link between childhood maltreatment and difficulties with adult romantic relationships. These emotional processes have been postulated to play a key role in how individuals navigate interpersonal relationships (Cameron & Overall, 2018; Coulter & Malouff, 2013; Garrison et al., 2014; McNeil & Rehman, 2024; Philippot & Feldman, 2004; Sasaki et

al., 2022). Therefore, they are likely to be particularly relevant for survivors of childhood maltreatment who are reporting relationship difficulties.

Childhood Maltreatment and Emotional Avoidance

I focused on emotional avoidance as one of the key mechanisms, as it has been strongly implicated in negative relational outcomes as well as a range of mental health difficulties and challenges. Emotional avoidance has been associated with increased symptoms of depression (Kahn & Garrison, 2009), heightened anxiety (Bardeen et al., 2014; Salters-Pedneault et al., 2004), and reduced utilization of social support networks (Forbes et al., 2020), and it has been linked to relationship difficulties, including worse communication (McNeil & Rehman, 2024; Garrison et al., 2014; Peter & Jamieson, 2016; Sasaki et al., 2022). In this study, I view this avoidance as stemming from a more fundamental fear of emotional states, based on a theoretical model that posits fear and anxiety as primary drivers of avoidance behaviors (Pittig et al., 2018).

Using this theoretical framework, in Study 1 I found evidence that individuals who experienced sexual trauma as children reported greater fear of both positive and negative emotions. In Study 2 (McNeil & Rehman, 2024), I found evidence that fear of emotional states is associated with childhood maltreatment, relationship problems, and communication issues in the sexual domain of relationships. Importantly, I also found that fear of intense emotions partially mediated the association between childhood maltreatment and relationship problems, as well as the association between maltreatment in childhood and communication difficulties in romantic relationships. These findings suggest that fear of intense emotions plays a role in relationship difficulties observed in this population. However, this work failed to differentiate between fear of positive and

negative emotions and therefore cannot speak to the unique role of each valence.

Although fear of negative emotions makes intuitive sense, there are reasons why individuals may have fear of positive emotions. For survivors of childhood maltreatment, positive states such as excitement or intense laughter might trigger distress due to increased physiological arousal (Litz et al., 2000). Additionally, positive emotional states may be associated with maladaptive cognitions (for example, "*I don't deserve to be happy*," *"If I am happy, something undesirable will happen to me," or "If I am happy, I am more likely to be caught off-guard"*).

A key goal of this study was to further this exploration by examining fears of both negative and positive emotional states and their independent effects on relationship difficulties. To my knowledge, no study has examined how anxieties about these emotional states uniquely impact relationship challenges among those with a history of childhood maltreatment. Previous findings highlight that avoiding negative emotions can harm relationships (Doorley et al., 2018), whereas the ability to experience and regulate positive emotions is crucial for sustaining romantic relationships long-term (Philippot & Feldman, 2004). Additionally, employing strategies to enhance positive emotions has been linked to better relationship dynamics (Horn et al., 2019).

I hypothesized that both fear of negative and positive emotions will partially mediate the association between childhood maltreatment and communication difficulties across both sexual and broader relationship contexts. Based on previous work (McNeil & Rehman 2024) and the intimate nature of sexual communication, I anticipate this effect will be particularly pronounced in discussions about sexual issues.

Childhood Maltreatment and Emotional Flexibility

The second emotion regulation process I examined in this study is emotional flexibility, specifically the ability to modulate positive and negative emotional states. This capability, essential for adapting to situational demands, is linked to enhanced well-being and improved interpersonal outcomes (Klein et al., 2023; Lougheed & Hollenstein, 2016).

Given the higher levels of stress and mental health difficulties associated with childhood maltreatment (Green et al., 2010), research has predominantly focused on strategies to *diminish* negative emotions. For instance, a meta-analysis by Gruhn and colleagues (2020) found that childhood maltreatment correlates with poor emotion regulation under stress, characterized by increased emotional avoidance and suppression, and a lack of adaptive coping strategies like cognitive reappraisal. While understanding how CM impacts the reduction of negative emotions is vital, it is equally important to explore how it affects the *upregulation* of these emotions. Intentionally increasing feelings such as anger can be beneficial; for example, it might motivate actions to correct perceived injustices (Shaver et al., 1987). Côté and colleagues (2010) found that participants who could amplify feelings of disgust were the happiest with their lives. However, due to the anxiety linked with negative affect (McNeil & Rehman, 2024), individuals who experienced childhood maltreatment might have had more difficulty increasing their negative emotions when appropriate.

In addition to understanding how childhood maltreatment affects negative emotions, it is also important for us to better understand how it affects the regulation of positive emotions. In the past few years, there was emerging evidence showing individuals who experienced CM also experience difficulties with regulating positive

emotional states. For example, Goncharenko and colleagues (2021) showed that self-reported difficulties with regulating positive emotions partially mediated the association between childhood maltreatment and PTSD symptoms in veterans. Similarly, in Study 1 I found that childhood maltreatment was associated with higher levels of fear of feeling intense positive emotions. Wooten and colleagues (2022) demonstrated that regardless of instructions to dampen their emotions, individuals with a history of childhood responded with heightened positive emotions when exposed to positive images.

This study aimed to deepen understanding of how childhood influences the ability to modulate positive emotions. The ability to enhance feelings like joy is crucial for well-being, and strategies to increase positive emotions, such as sharing positive events or focusing on pleasant experiences, have been shown to improve relationship dynamics (Bryant et al., 2005; Havighurst & Glasser, 1972; Lyubomirsky et al., 2006; MacLeod & Conway, 2005; Quoidbach et al., 2009). However, the increased fear of positive states that CM survivors report may hinder their use of these strategies.

Furthermore, the ability to decrease positive emotions has rarely been studied. While there can be benefits to reducing excessive positive emotions—for instance, excessive excitement about future events can diminish current happiness (Parrott, 1993)—habitual suppression of positive emotions can detrimentally affect mental health (Beblo et al., 2012). Given the heightened fear and hypervigilance associated with childhood maltreatment, survivors may be more inclined to suppress positive emotions.

To better understand how CM affects the upregulation and downregulation of positive and negative emotions, the present study had participants complete a picture-based emotion regulation task. Specifically, participants viewed a series of pictures that

invoke positive or negative emotions. For each of these pictures, individuals were given the instructions to enhance their emotions (Bonanno, et al., 2004; Côté, et al., 2010), decrease their emotions (Butler, et al., 2003; Emery & Hess, 2011; Gross & Levenson, 1993), or maintain their current level of emotion. After receiving this instruction, participants rated the intensity of their emotional experience using a self-report measure (Jackson et al., 2000).

In the present study I had several hypotheses. First, I hypothesized that when participants are asked to maintain their emotional reactions to the images, there would be no association between CM and intensity of mood ratings following exposure to the stimuli. This is based on the reasoning that the differences are likely to appear when individuals are actively engaged with emotion regulation (upregulating or downregulating an emotional response).

Consistently, I hypothesized that the intensity of CM would be associated with different emotion regulation patterns when asked to regulate their emotions. Previous literature has suggested that emotional suppression is linked to CM (e.g., Polusny & Follette, 1995). Therefore, I hypothesized that individuals with higher levels of CM would show greater suppression-like responses across both upregulation and downregulation tasks, reflecting less flexible emotion regulation. Specifically, I expected that intensity of CM would be associated with:

1. Greater downregulation: Lower emotional intensity ratings when asked to decrease emotions (both positive and negative), potentially reflecting habitual suppression tendencies.

2. Impaired upregulation: Lower emotional intensity ratings when asked to enhance emotions (both positive and negative), reflecting difficulty accessing or tolerating intense emotional states.

This pattern would suggest that CM is associated with a general tendency toward emotional dampening rather than flexible, context-appropriate regulation.

Study 3 Method

Participants

For the present study, participants were recruited using the online platform, Prolific. 300 individuals completed the online survey. Of those 300, ten responses were identified as bots or AI based on their responses to open-ended questions. For example, when asked what strategies they used to regulate their positive emotions, they provided a definition of CBT skills, specifically:

> "Cognitive Restructuring: This involves identifying and challenging negative thought patterns, then replacing them with more positive, realistic thoughts. Problem-Solving: Actively addressing problems that cause negative emotions can help reduce feelings of stress and helplessness. Setting Realistic Goals: Breaking down tasks into manageable steps can reduce feelings of overwhelm and increase a sense of accomplishment."

An independent coder who reviewed the open-ended responses also identified these same ten responses as coming from bots, and as a result these responses were eliminated from the data. The study also included seven attention check items (e.g., Please answer "strongly agree for this item."). Participants responded to these items appropriately, with no individual missing more than two attention check items (8 missed two attention check

items & 16 missed one item). Based on this accuracy, no participants were removed based on attention checks.

The final sample for this study consisted of 290 individuals who completed the questionnaires in this study (130 men, 153 women, 6 non-binary or other gender, and 6 individuals who did not respond to this question). However, 74 participants did not fully complete the image task and chose to skip the image regulation tasks by selecting the option of "I wish to skip to the end of this task." Therefore the emotion regulation task included a variable number of participants, based on when they opted to withdraw from the task.

The average age of the sample was 42.53 years old (SD=12.76, range: 20-77). Participants had an average of 16.2 years of education. Individuals reported that they had been in their current relationship for an average of 19.4 years (*SD* = 14.92), with 73.4% of individuals being married and 5.9% engaged. In this sample, 91.4% of individuals were cohabitating. Regarding sexual orientation, 87% of the sample identified as heterosexual, 2% identified as gay or lesbian, and 10% identified as bisexual. Most of the sample identified as white or white European (64.1%), followed by Black (13.4%), East Asian (9.7%), Hispanic (4.5%), South Asian (2.8%), and multiethnic (2.4%).

Participants were recruited through Prolific, which is an online survey platform specifically designed for research. To be eligible to participate in the study, participants had to meet the following inclusion criteria: (1) to be at least 18 years old, (2) to have been in their current relationship for at least one year, and (3) to currently reside in the United States of America. As remuneration, each participant was paid £6.5 for

completing the study. All study procedures and materials were reviewed and approved by the University of Waterloo ethics board.

Measures

Childhood Trauma Questionnaire – Short Form (Bernstein et al., 2003). This measure includes 28 questions that assess the intensity of five types of childhood maltreatment before the age of 18 (physical neglect, physical abuse, emotional neglect, emotional abuse, and sexual abuse). This questionnaire asks participants to respond on a scale ranging from 1 (*never true*) to 5 (*very often true*). Two items for physical neglect were reverse coded, and five items of the emotional neglect subscale were reverse coded. Reliabilities for these subscales ranged from α=.80 for physical abuse to α = .96 for sexual abuse. In this study I used the average score of all abuse subscales (α=.91).

Affective Control Scale (Williams et al., 1997). This scale is a 42-item self-report measure that assesses a participant's fear of emotions and attempts to control emotions. The scale includes four subscales related to specific emotions: depression/sadness, anxiety, anger, and happiness/positive affect. For each item, participants responded on a 7-point Likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The scale has previously been shown to have a high internal consistency (α=.94 for the overall scale score) and good test-retest reliability over several weeks (r=.78; Williams et al., 1997). The present study found similarly high levels of internal consistency for the scale (α=.95). For this study I examined the fear of positive emotions subscale (α=.87) and a composite of the three negative emotional valences (α=.94).

Dyadic Sexual Communication Scale (DSCS; Catania, 2013). The Dyadic Sexual Communication Scale is a 13-item scale, with participants responding on a six-point

Likert scale (ranging from strongly disagree to strongly agree). It is designed to assess the quality of sexual communication in a relationship. The scale includes seven items assessing communication problems, for example, "My partner rarely responds when I want to talk about my sex life." In addition to these items, the scale has six items designed to assess constructive communication, for example: "My partner has no difficulty in talking to me about their sexual feelings and desires." For my analyses these six items were reverse coded to create a measure that reflects poor sexual communication. The overall reliability of this measure was found to be good ($\alpha = .90$).

Dyadic Communication Scale (adapted from Catania, 2013). The Dyadic Communication Scale was adapted from the DSCS to measure couples' satisfaction with their communication in general. This adaptation involved removing references to the sexual aspects of communication. Similar to the DSCS, the scale included 13 items, rated on a six-point scale, with seven items assessing communication problems ("My partner and I never seem to resolve my disagreements") and six items assessing constructive communication ("Even when angry with me, my partner is able to appreciate my views"). As with the DSCS, the six items assessing constructive communication were reverse coded. Reliability estimates for this scale were also found to be good ($\alpha = .85$).

Open Affective Standardized Image Set (OASIS; Kurdi et al., 2017). The OASIS picture set is a series of 900 images that have been rated on valence (positive to negative) and level of arousal. From this dataset, a series of 30 images were selected for the positive valence (mean valence: 5.98; range 5.64-6.49); for example, a beautiful landscape or cute animals, and 30 images for negative valence (mean valence: 2.21; range: 1.6-2.88), for example, an image of a car crash or feces. Images were selected to

be moderately arousing for both valences (range: 3.11–5.45; mean arousal for negative: 4.23; mean arousal for positive: 4.00), with no statistical difference in arousal for the two valences (p=0.13). Images from the neutral condition (mean valence: 4.07; range: 3.96-4.28), for example, pictures of a paperclip or keys, had lower ratings for arousal (mean rating: 2.02; range: 1.84-2.37), as there were no neutral-valence pictures available that also had moderate levels of arousal. Appendix 1 contains the pictures used in this study.

Procedure

To be eligible for the study participants were first given a brief screening measure. This screening asked participants to report their age, their current country of origin, their current relationship status, and how long they have been in their current relationship. Participants who met the criteria (over 18, living in the USA, and in a serious relationship for over one year), were invited to participate in the study. Only participants from the United States were included in our sample due to platform limitations and our requirement to provide country-specific mental health services information and crisis lines at the conclusion of the survey.

At the start of the study, participants reviewed an informed consent letter detailing the risks and benefits of participating in the study. After reviewing this document, participants were asked to pass a captcha question. They were then asked to answer a series of questionnaires. In addition to the ones mentioned above, participants complete several other questionnaires that are not relevant to the present research. Questionnaires in this survey were presented in a randomized order, apart from the demographic's questionnaire, which was not presented until the end of the study.

After completing these questionnaires, participants were asked to complete an emotional regulation task based on the methodology of Jackson and colleagues (2000), using the images from the OASIS database. Before starting the main task, participants practiced with six training images, during which they received detailed instructions on how to complete it.

Participants were instructed to pay attention to each image as it was presented. First, a randomly selected image was presented for a period of four seconds. After four seconds, participants were instructed to alter their emotional response based on a word prompt above the picture. They were shown one of the words "*intensify*," "*maintain*," or "*decrease*." During the training phase, participants were given the following instructions about each word prompt:

> **Intensify.** For this word, we want you to try to feel **more** negative when you experience a negative emotion or **more** positive when you experience a positive emotion.
>
> **Maintain.** For this prompt, just try to maintain how you are feeling.
>
> **Decrease.** For this word we want you to try to feel **less** negative when you experience a negative emotion or **less** positive when you experience a positive emotion.

Positive and negative images were shown with each word prompt (intensify, maintain, decrease) during different trials; however, neutral images were only shown with the instructions of "maintain." Once they were shown the prompt, participants were given eight seconds to view the image again. After these eight seconds, the image disappeared from the screen, and participants were asked to rate how they feel on a 9-

point Likert-type scale (ranging from very negative to very positive). Once participants rated the intensity of their emotions, the word "relax" was shown on the screen for 10 seconds. Once this 10-second period ended, the next image appeared. Participants saw a total of three images for each valence and word prompt combination (e.g., three for positive image maintain, three for positive image decrease, etc.). They were also shown three neutral pictures with the maintenance instruction. The emotional regulation task took approximately 15 minutes to complete. Examples of a positive valenced image, a negative valenced image, and a neutral image with word prompts are shown in Figures 5-7.

After completing both the emotion regulation task and the questionnaires, participants were provided with a feedback letter detailing the goals of the study and given a list of mental health resources they could access if they were feeling distressed. Participants were also provided with their remuneration for participating.

Figure 5. *Positively Valanced Image with Instructions to Intensify.*

Intensify



Figure 6. *Negatively Valanced Image with Instructions to Decrease.*

Decrease



Figure 7. *Neutral Valanced Image with Instructions to Maintain.*

Maintain



Study 3 Results

Analytic Plan and Descriptive Statistics

For this study, all analyses were conducted using Mplus v7 and indirect paths were estimated using xy standardization. Missing data for participants were estimated using Full Information Maximum Likelihood (FIML). Path coefficients are reported as XY-standardized estimates obtained in Mplus. For this study our goal is to replicate the mediation models used in Study 2. In addition to this replication, we will test two new mediation models (one for the relationship domain and one for the sexual domain) where fear of negative emotions and fear of positive emotions are both simultaneously used as mediators. This will allow us to examine if fear of positive emotions uniquely predicts communication difficulties when controlling for fear of negative emotional states.

Descriptive statistics and correlations for the variables of interest are included in Table 5. In general, the variables of interest were correlated in the directions that were predicted by our model. For instance, fear of emotions was negative correlated with satisfaction with communication. Childhood maltreatment was also positively associated with fear of emotions, and negative correlated with satisfaction with communication as I had predicted.

To evaluate experiences of CM, we used cutoff scores for the "moderate to extreme" levels of exposure to each of subscale of the Childhood Trauma Questionnaire, as this is the recommended clinical cutoffs for this measure and these cutoffs have been used in previous studies (e.g., Huang et al., 2012). Specifically, these cutoff scores are emotional abuse ≥ 13, physical abuse ≥ 10, sexual abuse ≥ 8, emotional neglect ≥ 15, physical neglect ≥ 10. In our sample, 24.4% of participants experienced physical abuse,

17.3% experienced sexual abuse, 31.8% experienced emotional neglect, and 27% experienced physical neglect. Approximately 51% (149 participants) reported moderate to severe levels of childhood maltreatment in at least one domain. This is consistent with estimates in Canada, suggesting approximately 59.7% individuals experience some type of maltreatment before they turn 15 years old (Statistics Canada, 2019).

Goal 1: Replication

My first goal was to replicate the mediation model used in Study 2. Specifically, I wanted to examine the finding that a history of childhood maltreatment predicted worse general communication and sexual communication, and that this association was partially mediated by fear of emotions.

To accomplish this goal, I re-ran the mediation model from Study 2 using the data from Study 3. The results of this model are shown in Figure 8. My results suggest there was a significant indirect effect for both general communication (β = -0.202, SE = 0.033, $p < 0.001$) and communication in the sexual domain (β = -0.187, SE = 0.032, $p < 0.001$). Furthermore, as shown in Figure 8, the direct effect of childhood maltreatment was no longer significant, suggesting full mediation. These findings differ from the results in Study 2 since my previous study only found partial mediation. Furthermore, these results provide further support for the importance of assessing fear about emotions for individuals who experienced childhood maltreatment.

Goal 2: Separating Positive and Negative Valence in the Mediation Model

My next goal was to see if this effect replicated when both fear about negative emotions and fear about positive emotions were entered as independent mediators. I did this by constructing two separate mediations model (see Figure 9 for general

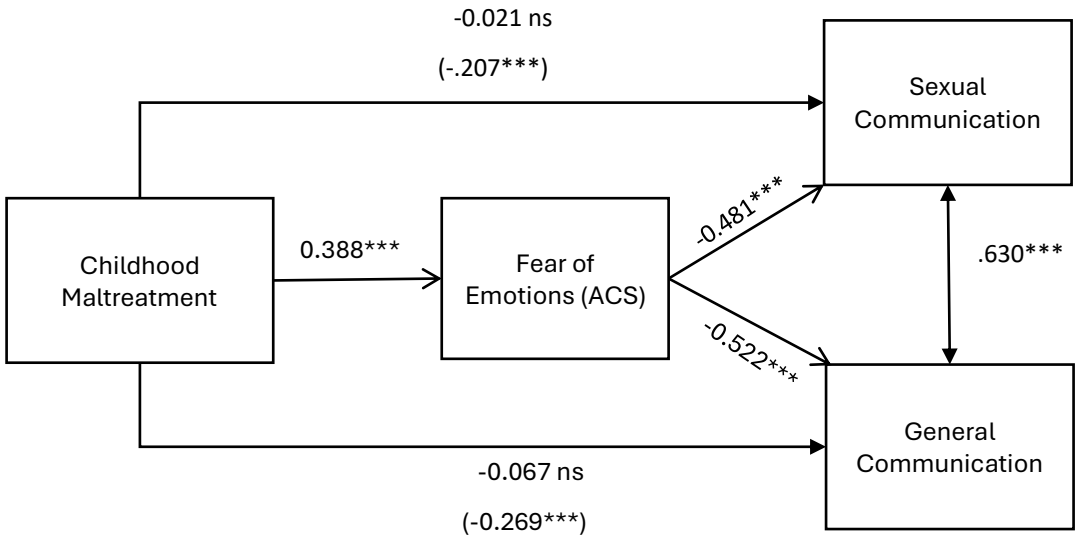
communication, and Figure 10 for sexual communication). For general communication there was a significant total indirect effect for both mediators (β = -0.205, *SE* = 0.033, $p <$ 0.001), with fear of negative emotions (β = -0.17, *SE* = 0.033, $p < 0.001$) having a significant indirect effect, and there being a marginal indirect effect for fear of positive emotions (β = -0.035, *SE* = 0.018, $p = 0.05$). For communication in the sexual domain there was a significant total indirect effect (β = -0.179, *SE* = 0.033, $p < 0.001$), with both fear of positive emotions (β = -0.075, *SE* = 0.023, $p = 0.001$) and fear of negative emotions (β = -0.104, *SE* = 0.030, $p = 0.001$) having significant indirect effects.

Table 4. *Means, Standard Deviations, and Correlations for Study 3*

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. CM	1.92	0.63	-						
2. Total ACS	2.96	0.97	.388***	-					
3. ACS- Anxiety	3.09	1.28	.305***	.899***	-				
4. ACS- Positive	2.56	0.94	.269***	.797***	.550***	-			
5. ACS- Depression	3.07	1.45	.448***	.849***	.712***	.545***	-		
6. ACS- Anger	3.28	0.95	.289***	.802***	.647***	.617***	.577***	-	
7. Communication	5.04	0.95	-.270***	-.548***	-.474***	-.428***	-.506***	-.435***	-
8. Sexual Communication	5.07	1.09	-.207***	-.488***	-.385***	-.453***	-.418***	-.402***	.728***

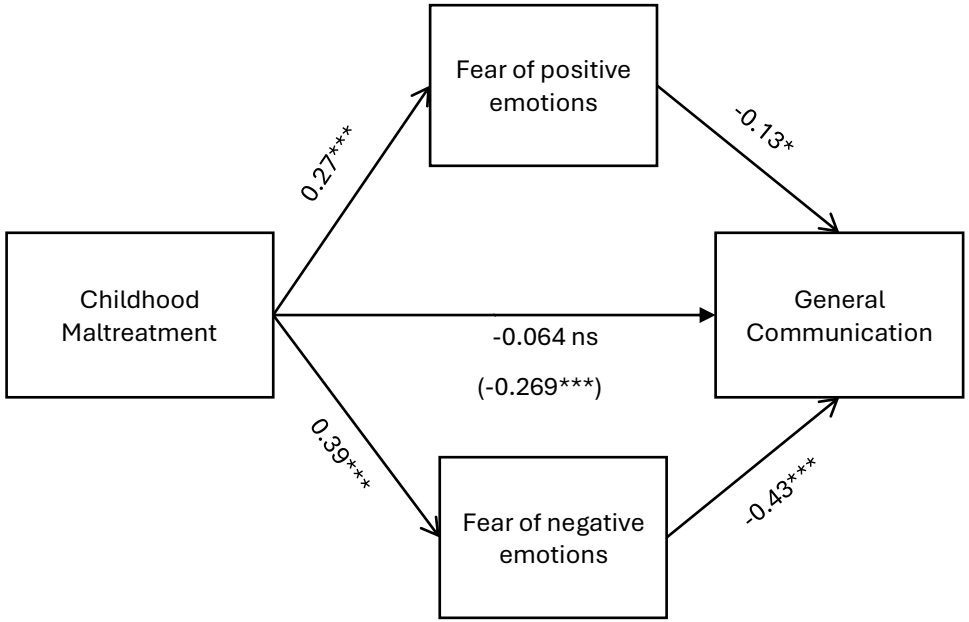
Note. M and *SD* are used to represent mean and standard deviation, respectively. *** indicates correlation is significant at the 0.001 level (2-tailed).

Figure 8. *Study 3 ACS and Communications Mediation Model*



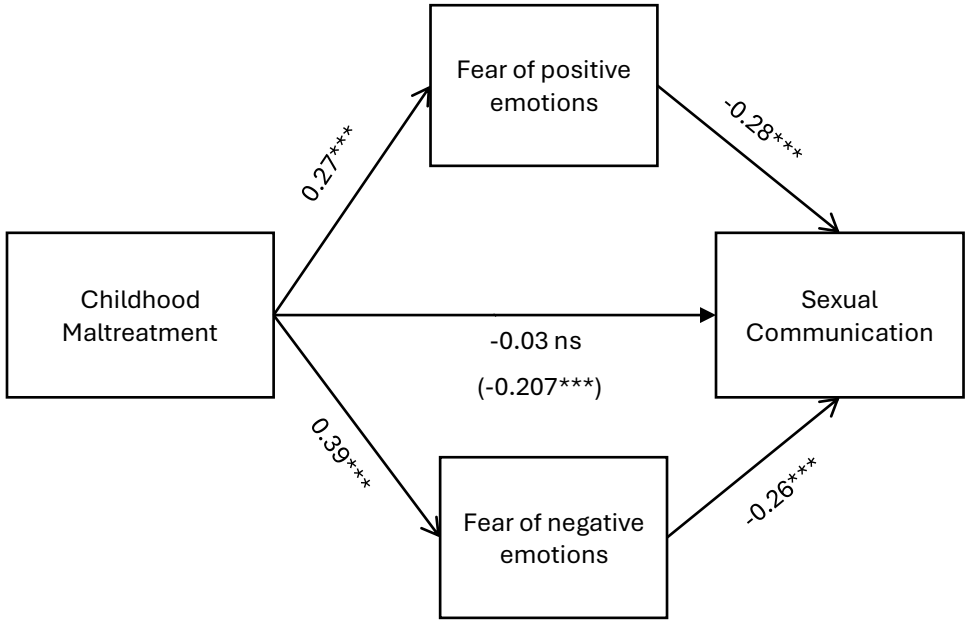
Note. Standardized YX path coefficients for the mediation model. The standardized direct relationship between CM and both communication domains is shown in parentheses. *p<.05, **p<.01, ***p<.001, ns=not significant.

Figure 9. *Multiple Mediation Model for General Communication*



Note. Standardized YX path coefficients for the mediation model. The standardized direct relationship between CM and general communication domains is shown in parentheses. *p<.05, **p<.01, ***p<.001, ns=not significant.

Figure 10. *Multiple Mediation Model for Sexual Communication.*



Note. Standardized YX path coefficients for the mediation model. The standardized direct relationship between CM and sexual communication domains is shown in parentheses. *p<.05, **p<.01, ***p<.001, ns=not significant.

Goal 3: Examine Emotional Flexibility as a Mechanism Using the Image Task

After replicating and extending the findings from my previous study, I then examined the results of the image regulation task. To confirm the images were provoking the desired emotions, a series of paired sample t-tests were used to compare the positive, neutral, and negative images. These comparisons were initially done for images paired with instructions for participants to maintain their current emotions. I used this combination since this condition instructed individuals to report their feelings without using conscious emotion regulation strategies.

When comparing neutral images to negative images (see Table 6 for means and standard deviations for all combinations of valence and regulation), I found that negative images invoked significantly more negative emotion $t(222) = 18.7$, $p < .001$. Similarly, when I compared neutral images to positive images, I found that positive images were associated with more positive emotions $t(228) = 18.8$, $p < .001$. Finally, positive images were also found to produce significantly more positive emotions compared to negative images $t(222) = 23.89$, $p < .001$. These results suggest the pictures were correctly categorized as positive, negative, and neutral.

After I confirmed that the images had the desired effect on participants' emotions, I then examined if the instructions to regulate emotions produced the desired change in emotional responses. For positive images, consistent with my expectations, participants told to enhance their positive emotions resulted in rating images as more positive compared to other positive images in the maintain condition $t(215) = 9.515$, $p < .001$, and the decrease condition $t(215) = 7.334$, $p < .001$. Being told to decrease emotions in response to positive images also led to decreased positive emotions compared to the

maintain condition $t(230) = -3.753$, $p < .001$. Therefore, this supports that participants were correctly regulating their emotions based on the instructions provided.

Similarly, negative images in the enhance condition were rated as significantly more negative compared to maintain condition $t(215) = -10.569$, $p < .001$, and the decrease condition $t(215) = -5.519$, $p < .001$. These results suggest that participants were able to successfully increase the negativity they felt in response to a picture. However, contrary to my expectations, negative images where participants were told to decrease their negative emotions resulted in participants rating images more negatively compared to the maintain condition $t(222) = -2.422$, $p = .016$. This result suggests that participants, on average, were unable to successfully decrease their negative responses to the images.

Key Findings Relating to Childhood Maltreatment and Emotional Flexibility

To test if a history of childhood maltreatment predicted performance on the image task, I used simple linear regression with history of childhood maltreatment predicting responses to each condition on the image task.

When participants viewed neutral pictures and were asked to maintain their mood, childhood maltreatment was unrelated to emotional responses $R^2 = .012$ $F(1, 227) = 2.69$, $\beta = -.11$, $p = .103$. Therefore, I find no evidence of a general negative or positive bias when viewing neutral images.

For positive images, when participants' were asked to maintain their emotional reactions, a history of CM was not found to predict changes in emotional ratings on the image task $R^2 = .015$, $F(1, 232) = 3.48$, $\beta = -.12$, $p = .063$. Therefore, I did not find evidence of a general bias when viewing positive images. When asked to enhance emotions for positive images, CM predicted lower mood ratings $R^2 = .030$, $F(1, 214) =$

6.73, β = -.18, p = .01. This suggests that intensity of CM is associated with diminished ability to upregulate their positive emotions in this task. In contrast, higher levels of reported CM predicted lower mood ratings when asked to decrease positive emotions (R^2 = .072, $F(1, 229) = 17.64$, β = -.27, $p < .001$), suggesting childhood maltreatment is associated with improved ability to dampen positive emotions.

Finally, when viewing negative images and asked to maintain their mood, a history of childhood maltreatment was not a significant predictor of emotion rating R^2 = .001, $F(1, 221) = 0.28$, β = 0.04, p = .59. Therefore, I am not finding evidence of a general negativity bias when viewing negative images. In the enhance condition for negative images, participants' history of CM was not a significant predictor of their emotion ratings R^2 = .003, $F(1, 214) = 0.65$, β = .055, p = .42. Consistently, history of childhood maltreatment did not predict ratings when asked to decrease negative emotions R^2 = .001, $F(1, 234) = 2.7$, β = .03, p = .604. These results suggest that a history of CM did not influence individual's ability to up or down regulate their negative emotions in response to negative images.

Table 5. *Means and Standard Deviations for Emotional Responses to Images*

Image Valance		Mean	Standard Deviation
Positive Images			
	Maintain	1.89	1.25
	Enhance	2.43	1.40
	Decrease	1.63	1.30
Negative Images			
	Maintain	-1.34	1.46
	Enhance	-2.06	1.55
	Decrease	-1.53	1.23
Neutral			
	Maintain	0.38	1.00

Study 3 Discussion

In this study I had three primary goals. The first was to examine how childhood maltreatment affects fear of emotions and how that fear subsequently impacts romantic relationships. My goal was to first replicate findings from McNeil and Rehman (2024) and then extend these findings by examining fear of positive and negative emotions independently. The second goal was to extend past findings by examining fear of positive and negative emotions as unique mediators. And finally, the third goal of my study was to examine how childhood maltreatment was associated with different emotional responses in this task. To accomplish this goal, I had participants complete an emotion regulation task where they were asked to increase and decrease positive and negative emotional responses. I then examined how childhood maltreatment affected performance on this task.

Regarding my first goal, this study aligned with previous research showing a link between emotion regulation skills, childhood maltreatment, and relationship difficulties (see reviews by Goff & Smith, 2005; Leonard & Follette, 2002; Rumstein-McKean & Hunsley, 2001). Specifically, this research replicated findings from McNeil & Rehman (2024) showing that fear of emotions mediates the negative association between childhood maltreatment and satisfaction with communication. In the present study, I found evidence for full mediation, in contrast to McNeil & Rehman (2024), who only found evidence for partial mediation. This discrepancy may be accounted for by lower power in Study 1, different sample characteristics, and other methodological factors, such as differences in the online platforms used in the two studies (TurkPrime in Study 2 and Prolific in Study 3). The different mediation patterns warrant further investigation to

understand the stability and generalizability of these findings.

In addition to replicating previous findings, the present study also extended these results by examining fear of negative emotions and fear of positive emotions as separate mediators using the positive affect and negative emotion subscales of the ACS. This approach allowed me to test whether difficulties tolerating positive versus negative emotional states have unique effects on relationship communication. When testing the effect on sexual communication, I found that both fear of negative emotions and fear of positive emotions were significant independent mediators (p-values < .05), suggesting distinct pathways through which emotional fears impact sexual communication. When examining communication in the relationship more broadly, fear of negative emotions showed a significant indirect effect, while the indirect effect for fear of positive emotions was marginally significant ($p = .067$), falling just short of conventional significance levels. These findings suggest that while both types of emotional fears may contribute to communication difficulties, their relative importance may vary across different relationship domains.

There are multiple possibilities as to why the mediated path for fear of positive emotions was significant in the sexual domain and only marginal for general communication. One potential reason could be that sexual domain discussions require disclosures of what are usually seen as positive experiences, like describing sexual pleasures. Therefore, it is possible that fear of positive emotions plays a larger role in these discussions. It is also possible that this effect would have achieved statistical significance with increased power, as the observed effect was marginal. Importantly, this effect would have reached statistical significance if I had tested it using a one-tailed test.

My initial directional hypothesis, which suggests that anxiety of positive emotional states negatively impacts communication, would have supported the use of a one-tailed test.

Overall, these results replicate a growing body of work showing associations between childhood maltreatment, relationship outcomes, and emotional avoidance (Goncharenko et al., 2021; Wooten et al., 2022). However, these findings also build upon past work by demonstrating: (1) the unique contributions of anxiety of positive and negative emotions and (2) how the fear of positive emotions may play a greater role in specific domains of intimate relationships. In the case of the current study, fear of positive emotions was a significant mediator for communication in the sexual domain, but not general relationship communication. This research has the potential to answer the question of *why* individuals who have a history of childhood maltreatment experience difficulties with adult romantic relationships.

My third goal was to examine how childhood maltreatment impacted the ability to flexibly increase and decrease emotional responses. To accomplish this goal, I had participants complete an emotion regulation activity in-session, where they were asked to maintain, increase, and decrease their negative and positive emotional reactions to images from the Open Affective Standardized Image Set (Kurdi et al., 2016). I then tested childhood maltreatment as a predictor for their performance on this task.

Consistent with previous research, participants correctly categorized images as being positive (e.g., a cute puppy wearing a party hat), neutral (e.g., a picture of paperclips), and negative (e.g., pictures of feces). I also found evidence that individuals were able to complete parts of the task as intended; individuals were able to alter their positive emotional states when given instructions to increase, decrease, or maintain their

emotional reactions to positive images. For negative images I found evidence that individuals were able to enhance their negative emotions when instructed to. However, contrary to my expectations, participants also report more intense negative emotions when asked to decrease their negative emotional states. Although this effect was initially unexpected, the literature on emotional suppression has shown that suppression strategies can lead to paradoxical effects, such as increased physiological arousal, even if individuals are displaying less negative emotion (Nezlek & Kuppens, 2008; Gross, 2002; Kühn et al., 2011). Based on these findings, it is possible that individuals were successfully decreasing behavioural displays of negative emotion while increasing internal feelings of negative emotions. Many studies that used similar picture-based tasks compare decreasing conditions to enhancements conditions (e.g., Jackson et al., 2000). Had I not tested a maintain condition, I would not have seen this effect. Future studies should explore alternative paradigms for assessing negative emotion downregulation.

Regarding my primary goal of understanding how childhood maltreatment affected responses on the task, I did not find any association between CM and ratings for the maintain conditions. This finding was consistent with my hypothesis that differences would be most likely to appear when individuals were actively engaged with emotion regulation (upregulating or downregulating an emotional response) rather than during passive viewing of emotional stimuli. Notably, participants displayed no bias, such as responding more negatively to positive or negative visual stimuli, when asked to maintain their natural emotional responses to images.

For positive emotions, I found that a history of childhood maltreatment predicted lower scores when asked to enhance positive emotions. This result could be due to the

increased fear of positive emotions this study previously identified or reduced familiarity with strategies for enhancing positive emotions. Similarly, in the decrease condition for positive emotions, higher levels of childhood maltreatment in childhood were associated with greater success at decreasing positive emotions.

Regarding negative emotions, contrary to my initial hypothesis, I did not find any evidence that a history of CM affected individuals' ability to regulate their negative emotions up or down. However, given that the negative emotion downregulation manipulation did not function as intended (as participants were unable to successfully decrease negative emotions), these null findings are difficult to interpret meaningfully.

Overall, these findings contribute to further understanding of the theoretical concepts proposed by Polusny and Follette (1995). My work builds on this theoretical framework by examining two complementary aspects of emotion regulation: emotional avoidance and emotional flexibility. Concerning emotional flexibility, my findings indicate that childhood maltreatment is specifically associated with altered regulation of positive emotions. Participants with higher levels of childhood maltreatment showed reduced ability to enhance positive emotions when instructed to do so, and greater suppression of positive emotions in the decrease condition. Notably, childhood maltreatment was not associated with differences in negative emotion regulation patterns. These insights add nuance to the existing literature on childhood maltreatment and emotion regulation by demonstrating that emotions of different valences may be affected differently, with positive emotion regulation showing particular vulnerability in individuals with trauma histories.

Limitations and Future Research

It is crucial to recognize the limitations of this study when evaluating my findings. First it is important to acknowledge that the study participants were recruited exclusively through the internet, which means the results may not be representative of all populations. It is also possible that being in a home environment could have affected emotional reactions to our images. Participants may have been distracted which could have attenuated our findings. Additionally, participants may have been more comfortable to experience emotions if they were alone in a familiar place.

Furthermore, the study did not inquire about other traumatic experiences that individuals may have encountered in their lives. It is possible that multiple traumatic experiences could be exacerbating these effects. Additionally, I did not collect information about other demographic factors from individuals' childhoods, which could explain these results. It is possible that other demographic factors that correlate with childhood maltreatment (for example, low parental socioeconomic status; Imran et al., 2019) could partially explain the effects I observed in this study. Additional research that collects data about a broad range of childhood factors is needed to address this limitation.

Another important limitation for us to highlight is that my mediation model was constructed using a cross-sectional design. The cross-sectional design limits what I can claim about the directionality of the mediation. However, there are theoretical reasons to support the directionality I used in this model, as one of my variables focused on childhood experiences, and one focused on adult relationships. The opposite directionality, specifically adult romantic relationships predicting childhood maltreatment, would not make theoretical sense. Furthermore, it is unlikely that relationship difficulties are responsible for the fear of emotions observed in this study

since emotional avoidance is conceptualized as a more primary process, and it is often stable across multiple relationships (Gable & Gosnell, 2013). However, this remains possible, and future research using a longitudinal design would provide more support for this directionality while also providing valuable insight into how relationships evolve over time for individuals who previously experienced childhood maltreatment.

Additionally, although the present study focused on relationship processes, data were obtained exclusively via self-report, as information was not collected from participants' romantic partners. Individuals with a history of CM may exhibit a negativity bias when evaluating their own relationships; however, recent reviews suggest that partners also report greater relationship difficulties (Vaillancourt-Morel et al., 2024). Future research is needed to replicate these findings using dyadic designs that include reports from both members of the romantic relationship.

An important limitation of this study concerns the emotion regulation tasks for negative emotions. The task did not perform as expected, with participants reporting more negative emotions when asked to decrease their responses compared to when asked to maintain them. One potential reason I may not have found this effect is due to the picture selection. The OSASIS images (Kurdi et al., 2016) used in this study (e.g., pictures of insects, feces, or natural disasters in the distance) are not as intensely negative as images from other databases which include stimuli such as severed body parts or decaying corpses (e.g., the IAPS, Lang et al., 2005). It is possible that these images were not evoking strong enough negative emotions. Several of the images were also designed to evoke disgust, and effects may have been stronger if specific only negative emotional states like intense fear or anger were evoked. It is also possible that this result was due to

participants utilizing ineffective emotional regulation strategies that resulted in increased stress. Alternatively, the downregulation instructions may not have functioned as intended for negative emotional stimuli. However, it should be noted that the study did successfully demonstrate effects of childhood maltreatment on fear/avoidance of negative emotions through the self-report measures. As a result, while the behavioral emotion regulation findings for negative emotions should be interpreted with caution, the self-report findings regarding emotional avoidance remain valid. Future research would benefit from exploring alternative methodological approaches for assessing negative emotion regulation abilities in behavioral tasks.

Conclusion

There are several important contributions of this study. The first is that the current study demonstrated that childhood maltreatment is associated with fear of positive and negative emotions, replicating previous findings. More importantly, fear of both valences individually predicts lower satisfaction with sexual communication. Although it has been previously established that fear of negative emotions affects communication (McNeil & Rehman, 2024), this is the first study to specifically examine the unique effect of the fear of positive emotions. Another major contribution of this study is to show that experiences of childhood maltreatment are associated with less positive emotion when regulating emotional responses to positive images. Taken together, these findings provide evidence that childhood maltreatment affects emotion regulation, particularly for positive emotions. Using multiple methodologies, the study demonstrated that CM is associated with both avoidance of negative emotions (through self-report measures) and altered regulation of positive emotions (through both self-report and behavioral measures).

While the behavioral paradigm for negative emotion regulation did not function as intended, the self-report findings regarding fear and avoidance of negative emotions were consistent with previous research.

This finding has important clinical relevance, as most treatments for childhood maltreatment, such as prolonged exposure, cognitive processing therapy, and EMDR (Powers et al., 2010; Resick et al., 2016; Shapiro, 2017), primarily focus on addressing traumatic experiences and increasing tolerance for negative emotional states. Although these are important goals, the present research suggests that this focus fails to address the impact these experiences have on the ability to tolerate and regulate positive emotional states. These results suggest that additional modules in treatment specifically designed to improve tolerance of positive emotional states and teach positive emotion regulation strategies (e.g., savouring; Bryant et al., 2005; Erisman & Roemer, 2010) could be particularly beneficial for individuals with experiences of childhood maltreatment. Furthermore, my research suggests that this may be particularly relevant for treatments focused on sexual and relationship issues, where the ability to feel and share positive emotions plays a key role in sustaining relationships over the long term (Bryant et al., 2005; Erisman & Roemer, 2010; Horn et al., 2019; Langston, 1994).

General Discussion

The effects of childhood maltreatment can be particularly harmful and wide-ranging compared to other traumatic events, largely because it occurs during critical developmental stages when foundational emotional and relational patterns are being formed. CM is a major global health issue with significant psychological, societal, and economic impacts. In my thesis, I investigated how CM is associated with different aspects of relationship functioning. Critically, I examined potential mediators for this association. Research has shown that experiences of CM are linked to intimacy difficulties, lower relationship satisfaction, and poorer relationship quality in adulthood (Goff & Smith, 2005). In the sexual domain, CM survivors report higher rates of sexual dysfunction, less sexual satisfaction, and more negative emotions during sexual experiences (Pulverman et al., 2018; Vaillancourt-Morel et al., 2021).

Previous research has also shown that CM has profound impacts on emotional processing: it impacts neurological structures associated with emotion and has been shown to affect regulation strategies (e.g., Pechtel & Pizzagalli, 2011). Furthermore, the broader literature on intimate relationship functioning strongly suggests that emotional processes are critical to fostering intimacy and communication. Through awareness of their own emotions, individuals are able to express needs, provide support, and resolve conflicts more effectively (e.g., Keltner & Kring, 1998). In contrast, emotional flooding during conflict is linked to lower relationship satisfaction (Walker et al., 2009), while emotional suppression reduces closeness and mutual support (Gross & John, 2003; Impett et al., 2012; Srivastava et al., 2009).

In this thesis, my overarching goal was to elucidate the relationship between CM, emotion regulation difficulties, and romantic relationship problems. My first goal was to examine if CM was associated with fear of experiencing emotions, aligning with the framework put forward by Polusny & Follette (1995). Anxiety toward emotions can be viewed as a precursor to emotion regulation difficulties, as this anxiety may lead to suppression and avoidance of emotions. Significantly, this thesis distinguishes between anxiety towards negative and positive emotional states. Although positive emotional states are typically not aversive, I hypothesized that CM survivors may experience fear of positive emotional states due to both physiological factors (such as discomfort with heightened arousal) and psychological factors (such as maladaptive cognitions about positive emotions).

The second goal of this dissertation was to investigate if fear of emotions is a mechanism that partially explains the correlation between CM and relationship difficulties seen in adult survivors. Specifically, I hypothesized that fear of emotions would have a particularly negative impact on communication, since emotional expression plays an essential role in conflict discussions. Furthermore, I posited that fear of negative and positive emotions would each uniquely contribute to the communication difficulties.

Finally, the third goal of this thesis was to examine how CM affects individuals' ability to flexibly increase and decrease their emotional responses. Specifically, if survivors are reporting greater fear of emotions, and previous research has shown that individuals with CM histories report more suppression strategies, I hypothesized that they would show greater suppression of positive and negative emotions when asked to

decrease them. In contrast, I hypothesized that individuals who have a history of CM would have more difficulty increasing their emotional reactions.

Related to all three of these goals, I emphasized the importance of understanding how CM affects fear of both positive and negative emotional states. There has been considerably more research focused on the regulation of negative emotions, and the regulation of positive emotions in CM survivors is less understood. There is a burgeoning area of research that suggests that CM impacts how individuals experience and respond to positive emotions. For example, CM is linked to decreased anticipation of rewards, making it harder for survivors to derive satisfaction from positive experiences (Dillon et al., 2009; Guyer et al., 2006). Understanding how CM affects both negative and positive emotion regulation is critical for addressing its long-term impact on emotional well-being and relationships.

To achieve these three goals, I conducted a series of studies. In my first study, a pilot study, I examined if there was an association between childhood sexual abuse and fear of emotional states. My findings showed that individuals who experienced childhood sexual abuse reported significantly more fear of experiencing a variety of emotional states, including sadness, anxiety, anger, and positive emotions, compared to individuals who never experienced a major traumatic event. Furthermore, I found that individuals who experienced childhood sexual abuse also had greater fear of sadness and anxiety compared to individuals who lived through a major traumatic event unrelated to CM. This study contributed to the goal of establishing a link between experiences of childhood maltreatment and fear of intense emotions. Furthermore, it also provided initial evidence that CSA affects the regulation of positive emotions.

In Study 2, I sought to extend these results. First, I replicated the results in Study 1, showing that there was a correlation between severity of childhood maltreatment and fear of emotions. Importantly, this correlation was significant for both negative emotional states (sadness, anxiety, and anger) and positive emotional states. I also found some associations between childhood maltreatment and relationship functioning, specifically less satisfaction with communication and more relationship problems. However, I was unable to replicate previous findings showing associations between CM and overall relationship or sexual satisfaction. This correlation was also seen when asking questions specifically about the sexual domain of the participants' relationships. After establishing these correlations, I tested mediation models and found that fear of emotions partially mediated the association between CM and relationship functioning across multiple domains, specifically communication quality and relationship problems in both the sexual domain and the broader relationship.

In Study 2, I also tested the association between CM and emotion recognition. I examined emotion recognition for multiple reasons. Emotion recognition plays an important role in conflict resolution, as recognizing emotional states allows someone to more accurately respond to their partner's needs (Vanheule et al., 2007). My results suggested that CM was negatively correlated with performance on an emotion recognition task. Consistent with my hypothesis, mediation models showed that emotion recognition partially mediated the association between CM and satisfaction with communication both in the sexual domain and in the relationship more broadly. It also partially mediated the association between CM and relationship problems; however, it did not have a significant effect on problems in the sexual domain.

In my final study, I sought to build on the findings of Study 2 with a larger sample. The results showed that fear of emotions mediated the association between CM and communication difficulties, though the mediation pattern differed from Study 2 (full vs. partial mediation). With this larger sample I was able to test whether fear of positive and negative emotions have unique effects. My results showed that fear of positive emotions and fear of negative emotions each contributed to communication difficulties, highlighting the potential value of distinguishing between these different types of emotional fears.

Related to my third goal, examining how CM relates to emotional flexibility, I had participants view positive, negative, and neutrally valenced images, and then asked them to maintain, increase, or decrease their emotional responses to those images. The task functioned as intended for positive emotion regulation, but participants were unable to successfully decrease negative emotions when instructed to do so. Experiences of CM were not associated with significantly different ratings when asked to maintain their emotional responses. For positive emotion regulation, experiences of CM were associated with greater suppression when asked to decrease positive emotions and reduced ability to enhance positive emotions when asked to increase them. I did not find any association between CM and regulation of negative emotions, though this finding is difficult to interpret given the methodological limitations of the negative emotion regulation paradigm.

Taken together, these results provide several important conclusions. First, across all three studies I showed that CM is associated with fear of emotions. This result underscores the importance of building emotional tolerance for survivors of CM. Second,

my results from Study 2 and Study 3 suggest that this fear of emotions is related to relationship difficulties experienced in adulthood. All three of these studies also contribute to the burgeoning research on how CM affects positive emotion regulation. Specifically, across all three of these studies I found that CM is associated with greater fear of positive emotional states. In Study 3 I also extended these findings on positive emotion regulation and found that CM is associated with better downregulation of positive emotions and worse upregulation of positive emotions.

General Implications

Taken together, my findings have several important theoretical and clinical implications that suggest avenues for refining and developing existing theories, such as those proposed by Poulsny and Follette (1995), as well as broader theories exploring the effects of childhood maltreatment on emotional processes. Theoretically, while Poulsny and Follette (1995) primarily focus on emotional avoidance, my research reveals that the impacts of CM extend beyond avoidance to include challenges in emotion recognition and emotional flexibility. This suggests that a more comprehensive framework of emotion regulation, which includes these additional dimensions, could enhance our collective understanding of the emotional ramifications of CM. Specifically, it seems that different aspects of emotion regulation may be differentially affected in individuals with histories of CM, indicating a need for theoretical models to address the complexity and variability of emotional deficits observed.

My findings suggest the potential value of examining specific aspects of relationship functioning rather than focusing solely on overall relationship quality. Some effects of CM appeared more consistently in communication measures compared to satisfaction

measures, with some indication of possible differences between sexual and general relationship domains, though these patterns were not entirely consistent across studies. Future research with improved methodologies could explore whether different aspects of relationship functioning are differentially affected by CM experiences. Such research could potentially inform more targeted approaches to understanding and addressing relationship difficulties in CM survivors, though additional replication and validation would be needed before clinical applications.

The most important of my findings is that this work establishes a consistent association between CM and fear of positive emotions. It also demonstrates that survivors of CM may have more difficulty capitalizing on positive experiences. This finding has potential clinical relevance since the most common psychological interventions for traumatic experiences, including prolonged exposure, cognitive processing therapy, and EMDR (Powers et al., 2010; Resick et al., 2016; Shapiro, 2017), focus primarily on addressing the traumatic memory itself and improving coping skills for regulating negative emotions. Similarly, interventions such as cognitive behavioural therapy for low mood or anxiety, both of which are common in individuals exposed to CM, have a similar focus on building skills to challenge negative cognitions and developing behaviours to better cope with negative emotional states (Greenberger & Padesky, 2015). It is not clear if these interventions would address the fear of experiencing positive emotions I found in this study, nor is it clear if they would provide individuals tools for enhancing their positive emotions.

If my findings are replicated with a longitudinal design, they point towards a need to develop and test specific modules in treatment designed to promote comfort with

experiencing positive emotions. As a potential example of this, clinicians could adapt exposure hierarchies and help individuals create plans where they are exposed to more intense positive experiences to directly target the fear of positive emotional states. This may also complement behavioral activation in treatment for issues such as depression. Alternatively, modules that explicitly focus on identifying positive emotional states, using tools such as feeling wheels or positive emotion focused thought recrods, may improve individuals' ability to identify and differentiate among positive emotions. This approach would be consistent with emotion constructivist theories (Barrett, 2011), which posit that emotion language and conceptual knowledge shape how individuals interpret and differentiate affective and bodily states, thereby contributing to more granular emotional experiences. These modules would then need to be tested in clinical trials to see if they result in improved comfort with positive emotional states. It is possible that by addressing this anxiety, individuals with a history of CM may begin to use more strategies to enhance positive emotions.

Alternatively, it is possible that there may be a skills deficit such that individuals who survived CM are less likely to have tools for capitalizing on positive experiences. This could be evaluated in future research, looking at cohorts of individuals who experienced CM and asking about specific positive emotion regulation strategies such as practicing engaging in positive mental time travel or capitalizing on positive events. To test this in the context of clinical trials, adjunct units focusing on positive emotion regulation strategies, such as learning savoring techniques or practicing gratitude (Bryant et al., 2005; Erisman & Roemer, 2010), could be tested to examine whether they improve

functioning and well-being for individuals with CM histories. Importantly, this should primarily be seen as a supplement to treatment, not a substitute for existing interventions.

These findings also suggest that these types of interventions targeting positive emotions may be particularly needed for couples' therapy. Research has shown that the ability to feel and share positive emotions plays a key role in sustaining relationships over the long term (Bryant et al., 2005; Erisman & Roemer, 2010; Horn et al., 2019; Langston, 1994). This suggests that individuals who experienced CM may benefit from learning more effective communication skills that allow them to more freely express their emotions with their partner.

General Limitations & Future Directions

Despite the contributions of this research, it is important to acknowledge some key limitations. The most notable of these limitations is that all three of these studies relied on cross-sectional data. In Studies 2 and 3, I suggested there may be a causal association, with emotion regulation difficulties predicting decreased relationship quality. Although I view it as unlikely that current relationship quality is leading to changes in emotional processing, it is possible that both fear of emotional states and relationship difficulties are the result of a third factor. For example, it is possible that individuals will develop specific personality traits, such as higher levels of neuroticism, or develop attachment styles (Widom et al., 2018) because of their childhood experiences, and these traits are contributing to both the fear about emotions I observed and relationship difficulties. Future studies controlling for more variables are needed to address this possibility.

I also relied exclusively on self-report for all three of these studies. Regarding relationship quality, it is possible that CM is associated with decreased halo bias (Murray

et al., 1996), and that this is resulting in individuals reporting a more negative view of their communication patterns, even if their actual relationship behaviour is not significantly different. Future studies could address this by directly observing couples' interactions.

These studies have also been unable to control for childhood demographics. Research has shown that CM is associated with demographic variables such as low socio-economic status (SES) in childhood. Some researchers have suggested that many of the negative associations between CM and the variety of quality of life measures in adulthood can be explained by having a lower SES when growing up (Tromovitch & Rind, 2007). With the cross-sectional design of this study, I can ask about current demographic characteristics, but this does not tell us about what participants' childhood SES was. Asking individuals to report on their childhood SES is difficult due to retrospective bias, and it is additionally difficult because children do not usually have access to their parents' financial information.

My research also suffers from some of the biases associated with sample selection. For example, in my studies I only looked at individuals in North America. I also did not recruit a clinical sample. It is possible that these findings would not replicate in clinical populations or in other cultures. Future research is needed to better understand the generalizability of these findings. This work also does not speak to the difficulties encountered by people who experienced CM and were unable to form long-lasting relationships, and this population would need to be studied in future research.

Additional research is also required to extend these results. For example, my studies show that the difficulties tolerating positive emotions play a role in romantic

relationships; however, it is likely that these difficulties with tolerating positive emotional states will also play a role in other domains. For example, future work should directly test if there is an association between fear of positive emotional states and psychopathology associated with CM. I would also want to replicate my results with children who recently experienced CM. It is possible that by addressing these issues early, we may be able to mitigate some of the long-term negative outcomes associated with CM.

Finally, this work also speaks for the need to develop better measures for assessing the regulation of positive emotions. To my knowledge there are no measures developed that assess the ability for individuals to increase and decrease their positive emotional states. Rather, the majority of the most widely used the scales used to assess emotion regulation exclusively focus on the ability to decrease negative emotions (Catanzaro & Mearns, 1990; Garnefski et al., 2001; Gratz & Roemer, 2004; Gross & John, 2003; Hofmann & Kashdan, 2010).

General Conclusion

Taken together, my findings highlight the importance of examining both positive and negative emotion reactions and regulation skills when researching CM and when working with individuals who have experienced CM. This work also highlights the importance of understanding how these emotional reactions can impact romantic relationships. However, in closing, I want to highlight that this research does broadly suggest that individuals who experience childhood maltreatment are generally resilient (Kendall-Tackett et al., 1993; Lynskey & Fergusson 1997; Mullen et al., 1994). Despite their early experiences, I did not find evidence that CM was related to a general bias in emotional

reactions when asked to freely respond to images. Furthermore, I generally found high levels of relationship satisfaction across all three samples. These results speak to the resiliency of individuals and their ability to adapt following negative childhood experiences.

References

Ackerman, P. T., Newton, J. E., McPherson, W. B., Jones, J. G., & Dykman, R. A. (1998). Prevalence of post traumatic stress disorder and other psychiatric diagnoses in three groups of abused children (sexual, physical, and both). *Child Abuse & Neglect*, *22*(8), 759-774.

Adelmann, P. K., & Zajonc, R. B. (1989). Facial efference and the experience of emotion. *Annual Review of Psychology*, *40*(1), 249-280.

Afifi, T. O., & MacMillan, H. L. (2011). Resilience following child maltreatment: A review of protective factors. *The Canadian Journal of Psychiatry*, *56*(5), 266-272.

Afifi, T. O., MacMillan, H. L., Boyle, M., Taillieu, T., Cheung, K., & Sareen, J. (2014). Child abuse and mental disorders in Canada. *Canadian Medical Association Journal*, *186*(9), E324-E332.

Alexander, P. C., & Lupfer, S. L. (1987). Family characteristics and long-term consequences associated with sexual abuse. *Archives of Sexual Behavior*, *16*, 235-245.

Andersen, S. L., & Teicher, M. H. (2004). Delayed effects of early stress on hippocampal development. *Neuropsychopharmacology*, *29*(11), 1988-1993.

Bardeen, J. R., & Fergus, T. A. (2014). An examination of the incremental contribution of emotion regulation difficulties to health anxiety beyond specific emotion regulation strategies. *Journal of Anxiety Disorders*, *28*(4), 394-401.

Barrett, L. F. (2011). Constructing Emotion. *Psychological Topics*, *20*(3), 359-380.

Baron-Cohen, S., Wheelwright, S., Hill, J., Raste, Y., & Plumb, I. (2001). The "Reading the Mind in the Eyes" test revised version: A study with normal adults, and adults with

Asperger syndrome or high-functioning autism. *Journal of Child Psychology and Psychiatry*, *42*(2), 241-251.

Beblo, T., Fernando, S., Klocke, S., Griepenstroh, J., Aschenbrenner, S., & Driessen, M. (2012). Increased suppression of negative and positive emotions in major depression. *Journal of Affective Disorders*, *141*(3), 474-479.

Bernstein, D. P., Fink, L., Handelsman, L., Foote, J., Lovejoy, M., Wenzel, K., ... & Ruggiero, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *The American Journal of Psychiatry*, *151*(8), 1132-1136.

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., ... & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect*, *27*(2), 169-190.

Bhandari, M., Sprague, S., Dosanjh, S., Petrisor, B., Resendes, S., Madden, K., ... (2011). The prevalence of intimate partner violence across orthopaedic fracture clinics in Ontario. *The Journal of bone and joint surgery. American*, *93*(2), 132-141.

Bonanno, G. A., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The importance of being flexible: The ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological Science*, *15*(7), 482-487.

Bonanno, G., & Papa, A. (2003). The social and functional aspects of emotional expression during bereavement. In Philippot, P., Feldman, R. S., Coats, E. J. (Eds.) *Nonverbal Behavior in Clinical Settings (*145-170).

Bos, K. J., Fox, N., Zeanah, C. H., & Nelson, C. A. (2009). Effects of early psychosocial deprivation on the development of memory and executive function. *Frontiers in Behavioral Neuroscience*, *3*(16), 715-722. doi: 10.3389/neuro.08.016.2009

Briere, J., Hodges, M., & Godbout, N. (2010). Traumatic stress, affect dysregulation, and dysfunctional avoidance: A structural equation model. *Journal of Traumatic Stress*, *23*(6), 767-774.

Bryant, F. (2003). Savoring Beliefs Inventory (SBI): A scale for measuring beliefs about savouring. *Journal of Mental Health*, *12*(2), 175-196.

Bryant, F. B., Smart, C. M., & King, S. P. (2005). Using the past to enhance the present: Boosting happiness through positive reminiscence. *Journal of Happiness Studies*, *6*, 227-260.

Burnam, M. A., Stein, J. A., Golding, J. M., Siegel, J. M., Sorenson, S. B., Forsythe, A. B., & Telles, C. A. (1988). Sexual assault and mental disorders in a community population. *Journal of Consulting and Clinical Psychology*, *56*(6), 843.

Butler, E. A., Egloff, B., Wlhelm, F. H., Smith, N. C., Erickson, E. A., & Gross, J. J. (2003). The social consequences of expressive suppression. *Emotion*, *3*(1), 48-67.

Cameron, L. D., & Overall, N. C. (2018). Suppression and expression as distinct emotion-regulation processes in daily interactions: Longitudinal and meta-analyses. *Emotion*, *18*(4), 465-480.

Catania, J. A. (2013). Dyadic sexual communication scale. In *Handbook of Sexuality-Related Measures* (pp. 152-164). Routledge.

Catanzaro, S. J., & Mearns, J. (1990). Measuring generalized expectancies for negative mood regulation: Initial scale development and implications. *Journal of Personality Assessment*, *54*(3-4), 546-563.

Clark, D. B., Lesnick, L., & Hegedus, A. M. (1997). Traumas and other adverse life events in adolescents with alcohol abuse and dependence. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(12), 1744-1751.

Cohen, J. (1994). The earth is round (p<. 05). *American Psychologist*, *49*(12), 997.

Colman, R. A., & Widom, C. S. (2004). Childhood abuse and neglect and adult intimate relationships: A prospective study. *Child Abuse & Neglect*, *28*(11), 1133-1151.

Colvert, E., Rutter, M., Kreppner, J., Beckett, C., Castle, J., Groothues, C., ... & Sonuga-Barke, E. J. (2008). Do theory of mind and executive function deficits underlie the adverse outcomes associated with profound early deprivation?: findings from the English and Romanian adoptees study. *Journal of Abnormal Child Psychology*, *36*, 1057-1068.

Copeland, W. E., Keeler, G., Angold, A., & Costello, E. J. (2007). Traumatic events and posttraumatic stress in childhood. *Archives of General Psychiatry*, *64*(5), 577-584.

Côté, S., & Hideg, I. (2011). The ability to influence others via emotion displays: A new dimension of emotional intelligence. *Organizational Psychology Review*, *1*(1), 53-71.

Coulter, K., & Malouff, J. M. (2013). Effects of an intervention designed to enhance romantic relationship excitement: A randomized-control trial. *Couple and Family Psychology: Research and Practice*, *2*(1), 34-44.

Csikszentmihalyi, M., & Seligman, M. (2000). Positive psychology. *American Psychologist, 55*(1), 5-14.

D'Agostino, A., Covanti, S., Monti, M. R., & Starcevic, V. (2017). Reconsidering emotion

dysregulation. *Psychiatric Quarterly*, *88*(4), 807-825.

Davis, J. L., Petretic-Jackson, P. A., & Ting, L. (2001). Intimacy dysfunction and trauma symptomatology: Long-term correlates of different types of child abuse. *Journal of Traumatic Stress*, *14*(1), 63-79.

De Bellis, M. D., Hooper, S. R., Spratt, E. G., & Woolley, D. P. (2009). Neuropsychological findings in childhood neglect and their relationships to pediatric PTSD. *Journal of the International Neuropsychological Society*, *15*(6), 868-878.

de Graaf, H., Vanwesenbeeck, I., Woertman, L., Keijsers, L., Meijer, S., & Meeus, W. (2010). Parental support and knowledge and adolescents' sexual health: Testing two mediational models in a national Dutch sample. *Journal of Youth and Adolescence*, *39*, 189-198.

DiLilio, D., & Long, P. J. (1999). Perceptions of couple functioning among female survivors of child sexual abuse. *Journal of Child Sexual Abuse*, *7*(4), 59-76.

DiLillo, D., Peugh, J., Walsh, K., Panuzio, J., Trask, E., & Evans, S. (2009). Child maltreatment history among newlywed couples: a longitudinal study of marital outcomes and mediating pathways. *Journal of Consulting and Clinical Psychology*, *77*(4), 680-692.

Dillon, D. G., Holmes, A. J., Birk, J. L., Brooks, N., Lyons-Ruth, K., & Pizzagalli, D. A. (2009). Childhood adversity is associated with left basal ganglia dysfunction during reward anticipation in adulthood. *Biological Psychiatry*, *66*(3), 206-213.

Dillon, D. G., Ritchey, M., Johnson, B. D., & LaBar, K. S. (2007). Dissociable effects of conscious emotion regulation strategies on explicit and implicit memory. *Emotion*, *7*(2), 354-365.

Ditzer, J., Wong, E. Y., Modi, R. N., Behnke, M., Gross, J. J., & Talmon, A. (2023). Child maltreatment and alexithymia: A meta-analytic review. *Psychological Bulletin*, *149*(5-6), 311-329.

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., ... & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, *28*(7), 771-784.

Doorley, J. D., Goodman, F. R., Kelso, K. C., & Kashdan, T. B. (2020). Psychological flexibility: What we know, what we do not know, and what we think we know. *Social and Personality Psychology Compass*, *14*(12), 1-11.

Ehring, T., & Quack, D. (2010). Emotion regulation difficulties in trauma survivors: The role of trauma type and PTSD symptom severity. *Behavior therapy*, *41*(4), 587-598.

Emery, L., & Hess, T. M. (2011). Cognitive consequences of expressive regulation in older adults. *Psychology and Aging*, *26*(2), 388-396.

Erisman, S. M., & Roemer, L. (2010). A preliminary investigation of the effects of experimentally induced mindfulness on emotional responding to film clips. *Emotion*, *10*(1), 72-82.

Fallon, B., Joh-Carnella, N., Trocme, N., Esposito, T., Hélie, S., & Lefebvre, R. (2022). Major findings from the Canadian incidence study of reported child abuse and neglect 2019. *International Journal on Child Maltreatment: Research, Policy and Practice*, *5*(1), 1-17.

Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse & Neglect*, *32*(6), 607-619.

Fertuck, E. A., Tsoi, F., Grinband, J., Ruglass, L., Melara, R., & Hien, D. A. (2016). Facial trustworthiness perception bias elevated in individuals with PTSD compared to trauma exposed controls. *Psychiatry Research*, *237*, 43-48.

Finkelhor, D., Shattuck, A., Turner, H. A., & Hamby, S. L. (2014). The lifetime prevalence of child sexual abuse and sexual assault assessed in late adolescence. *Journal of Adolescent Health*, *55*(3), 329-333.

Finzi, E., & Wasserman, E. (2006). Treatment of depression with botulinum toxin A: a case series. *Dermatologic Surgery*, *32*(5), 645-650.

First, M. B., & Gibbon, M. (2004). The structured clinical interview for DSM-IV axis I disorders (SCID-I) and the structured clinical interview for DSM-IV axis II disorders (SCID-II).

Fisher, W. A., Donahue, K. L., Long, J. S., Heiman, J. R., Rosen, R. C., & Sand, M. S. (2015). Individual and partner correlates of sexual satisfaction and relationship happiness in midlife couples: Dyadic analysis of the international survey of relationships. *Archives of Sexual Behavior*, *44*, 1609-1620.

Forbes, D., Bisson, J. I., Monson, C. M., & Berliner, L. (Eds.). (2020). *Effective Treatments for PTSD*. Guilford Publications.

Gable, S. L., & Gosnell, C. L. (2013). Approach and avoidance behavior in interpersonal relationships. *Emotion Review*, *5*(3), 269-274.

Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences*, *30*(8), 1311-1327.

Garrison, A. M., Kahn, J. H., Miller, S. A., & Sauer, E. M. (2014). Emotional avoidance and rumination as mediators of the relation between adult attachment and emotional disclosure. *Personality and Individual Differences*, *70*, 239-245.

Gibb, B. E., Owens, M., & Brick, L. A. (2023). Attentional biases for sad faces in offspring of mothers with a history of major depression: trajectories of change from childhood to adolescence. *Journal of Child Psychology and Psychiatry*, *64*(6), 859-867.

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *The Lancet*, *373*(9657), 68-81.

Godbout, N., Dutton, D. G., Lussier, Y., & Sabourin, S. (2009). Early exposure to violence, domestic violence, attachment representations, and marital adjustment. *Personal Relationships*, *16*(3), 365-384.

Goff, B. S. N., & Smith, D. B. (2005). Systemic traumatic stress: The couple adaptation to traumatic stress model. *Journal of Marital and Family Therapy*, *31*(2), 145-157.

Goldman, R. N., & Greenberg, L. S. (2015). *Case formulation in emotion-focused therapy: Co-creating clinical maps for change*. American Psychological Association.

Goncharenko, S., Forkus, S. R., Contractor, A. A., Kiefer, R., & Weiss, N. H. (2021). The role of positive emotion dysregulation in the relationship between childhood abuse and PTSD in a community sample of veterans. *Child Abuse & Neglect*, *114*, 104979.

Gottman, J. M., & Levenson, R. W. (2000). The timing of divorce: Predicting when a couple will divorce over a 14-year period. *Journal of Marriage and Family*, *62*(3), 737-745.

Graham, J. M. (2008). Self-expansion and flow in couples' momentary experiences: an experience sampling study. *Journal of Personality and Social Psychology*, *95*(3), 679-694.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, *26*, 41-54.

Green, J. G., McLaughlin, K. A., Berglund, P. A., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Childhood adversities and adult psychiatric disorders in the national comorbidity survey replication I: associations with first onset of DSM-IV disorders. *Archives of General Psychiatry*, *67*(2), 113-123.

Greenberger, D., & Padesky, C. A. (2015). *Mind over mood: Change how you feel by changing the way you think*. Guilford Publications.

Greenwald, E., Leitenberg, H., Cado, S., & Tarran, M. J. (1990). Childhood sexual abuse: Long-term effects on psychological and sexual functioning in a nonclinical and nonstudent sample of adult women. *Child Abuse & Neglect*, *14*(4), 503-513.

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, *39*(3), 281-291.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*(2), 348-362.

Gross, J. J., & Levenson, R. W. (1993). Emotional suppression: physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology*, *64*(6), 970-986.

Gruhn, M. A., & Compas, B. E. (2020). Effects of maltreatment on coping and emotion regulation in childhood and adolescence: A meta-analytic review. *Child Abuse & Neglect*, *103*, 104446.

Guyer, A. E., Kaufman, J., Hodgdon, H. B., Masten, C. L., Jazbec, S., Pine, D. S., & Ernst, M. (2006). Behavioral alterations in reward system function: the role of childhood maltreatment and psychopathology. *Journal of the American Academy of Child & Adolescent Psychiatry*, *45*(9), 1059-1067.

Guyer, A. E., Nelson, E. E., Perez-Edgar, K., Hardin, M. G., Roberson-Nay, R., Monk, C. S., ... & Ernst, M. (2006). Striatal functional alteration in adolescents characterized by early childhood behavioral inhibition. *Journal of Neuroscience*, *26*(24), 6399-6405.

Habetha, S., Bleich, S., Weidenhammer, J., & Fegert, J. M. (2012). A prevalence-based approach to societal costs occurring in consequence of child abuse and neglect. *Child and Adolescent Psychiatry and Mental Health*, *6*, 1-10.

Harrison, A., Sullivan, S., Tchanturia, K., & Treasure, J. (2010). Emotional functioning in eating disorders: attentional bias, emotion recognition and emotion regulation. *Psychological medicine*, *40*(11), 1887-1897.

Havighurst, R. J., & Glasser, R. (1972). An exploratory study of reminiscence. *Journal of Gerontology, 27*(2), 245–253.

Hayes, J. P., Morey, R. A., Petty, C. M., Seth, S., Smoski, M. J., McCarthy, G., & LaBar, K. S. (2010). Staying cool when things get hot: Emotion regulation modulates neural mechanisms of memory encoding. *Frontiers in Human Neuroscience*, *4*, 230-240.

Hazan, C., & Shaver, P. R. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry*, *5*(1), 1-22.

Hofmann, S. G., & Kashdan, T. B. (2010). The affective style questionnaire: development and psychometric properties. *Journal of Psychopathology and Behavioral Assessment*, *32*, 255-263.

Hogeveen, J., & Grafman, J. (2021). Alexithymia. *Handbook of clinical neurology*, *183*, 47-62

Honkalampi, K., Flink, N., Lehto, S. M., Ruusunen, A., Koivumaa-Honkanen, H., Valkonen-Korhonen, M., & Viinamäki, H. (2020). Adverse childhood experiences and alexithymia in patients with major depressive disorder. *Nordic Journal of Psychiatry*, *74*(1), 45-50.

Horn, A. B., Samson, A. C., Debrot, A., & Perrez, M. (2019). Positive humor in couples as interpersonal emotion regulation: A dyadic study in everyday life on the mediating role of psychological intimacy. *Journal of Social and Personal Relationships*, *36*(8), 2376-2396.

Huang, M. C., Schwandt, M. L., Ramchandani, V. A., George, D. T., & Heilig, M. (2012). Impact of multiple types of childhood trauma exposure on risk of psychiatric comorbidity among alcoholic inpatients. *Alcoholism: Clinical and Experimental Research*, *36*(6), 1099-1107.

Impett, E. A., Kogan, A., English, T., John, O., Oveis, C., Gordon, A. M., & Keltner, D. (2012). Suppression sours sacrifice: Emotional and relational costs of suppressing emotions in romantic relationships. *Personality and Social Psychology Bulletin*, *38*(6), 707-720.

Jackson, D. C., Malmstadt, J. R., Larson, C. L., & Davidson, R. J. (2000). Suppression and enhancement of emotional responses to unpleasant pictures. *Psychophysiology*, *37*(4), 515-522.

Kahn, J. H., & Garrison, A. M. (2009). Emotional self-disclosure and emotional avoidance: Relations with symptoms of depression and anxiety. *Journal of Counseling Psychology*, *56*(4), 573-584.

Kajanoja, J., Karukivi, M., Scheinin, N. M., Ahrnberg, H., Karlsson, L., & Karlsson, H. (2021). Early-life adversities and adult attachment in depression and alexithymia. *Development and Psychopathology*, *33*(4), 1428-1436.

Kansky, J. (2018). What's love got to do with it? Romantic relationships and well-being. *Handbook of Well-being*, *1*, 1-24.

Kefeli, M. C., Turow, R. G., Yıldırım, A., & Boysan, M. (2018). Childhood maltreatment is associated with attachment insecurities, dissociation and alexithymia in bipolar disorder. *Psychiatry Research*, *260*, 391-399.

Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition & Emotion*, *13*(5), 505-521.

Keltner, D., & Kring, A. M. (1998). Emotion, social function, and psychopathology. *Review of General Psychology*, *2*(3), 320-342.

Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: a review and synthesis of recent empirical studies. *Psychological Bulletin*, *113*(1), 164-180.

Kendler, K. S., Bulik, C. M., Silberg, J., Hettema, J. M., Myers, J., & Prescott, C. A. (2000). Childhood sexual abuse and adult psychiatric and substance use disorders in women: an epidemiological and cotwin control analysis. *Archives of General Psychiatry*, *57*(10), 953-959.

Keyes, K. M., Eaton, N. R., Krueger, R. F., McLaughlin, K. A., Wall, M. M., Grant, B. F., & Hasin, D. S. (2012). Childhood maltreatment and the structure of common psychiatric disorders. *The British Journal of Psychiatry*, *200*(2), 107-115.

Khan, A. N., & Jaffee, S. R. (2022). Alexithymia in individuals maltreated as children and adolescents: a meta-analysis. *Journal of Child Psychology and Psychiatry*, *63*(9), 963-972.

Kim, S., Sharp, C., & Carbone, C. (2014). The protective role of attachment security for adolescent borderline personality disorder features via enhanced positive emotion regulation strategies. *Personality Disorders: Theory, Research, and Treatment*, *5*(2), 125-136.

Klein, R. J., Jacobson, N. C., & Robinson, M. D. (2023). A psychological flexibility perspective on well-being: Emotional reactivity, adaptive choices, and daily experiences. *Emotion*, *23*(4), 911-924.

Knight, M., & Ponzio, A. (2013). The effects of emotion regulation on explicit memory depend on strategy and testing method. *Emotion*, *13*(6), 1041-1054.

Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *The Lancet*, *360*(9339), 1083-1088.

Kühn, S., Gallinat, J., & Brass, M. (2011). "Keep calm and carry on": structural correlates of expressive suppression of emotions. *PloS One*, *6*(1), e16569.

Kurdi, B., Lozano, S., & Banaji, M. R. (2017). Introducing the open affective standardized image set (OASIS). *Behavior Research Methods*, *49*, 457-470.

Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (2005). *International Affective Picture System (IAPS)*. APA PsycTests.

Langston, C. A. (1994). Capitalizing on and coping with daily-life events: Expressive responses to positive events. *Journal of Personality and Social Psychology*, *67*(6), 1112-1125.

Lawrance, K. A., & Byers, E. S. (1995). Sexual satisfaction in long-term heterosexual relationships: The interpersonal exchange model of sexual satisfaction. *Personal Relationships*, *2*(4), 267-285.

Leitenberg, H., Greenwald, E., & Cado, S. (1992). A retrospective study of long-term methods of coping with having been sexually abused during childhood. *Child Abuse & Neglect*, *16*(3), 399-407.

Lemieux, S. R., & Byers, E. S. (2008). The sexual well-being of women who have experienced child sexual abuse. *Psychology of Women Quarterly*, *32*(2), 126-144.

Leonard, L. M., & Follette, V. M. (2002). Sexual functioning in women reporting a history of child sexual abuse: Review of the empirical literature and clinical implications. *Annual Review of Sex Research*, *13*(1), 346-388.

Levay, K. E., Freese, J., & Druckman, J. N. (2016). The Demographic and Political Composition of Mechanical Turk Samples. Sage Open, 6(1).

Litz, B. T., Orsillo, S. M., Kaloupek, D., & Weathers, F. (2000). Emotional processing in posttraumatic stress disorder. *Journal of Abnormal Psychology*, *109*(1), 26-39.

Lougheed, J. P., & Hollenstein, T. (2016). Socioemotional flexibility in mother-daughter dyads: Riding the emotional rollercoaster across positive and negative contexts. *Emotion*, *16*(5), 620-633.

Ludwig, J., Duncan, G. J., Gennetian, L. A., Katz, L. F., Kessler, R. C., Kling, J. R., & Sanbonmatsu, L. (2012). Neighborhood effects on the long-term well-being of low-income adults. *Science*, *337*(6101), 1505-1510.

Lynskey, M. T., & Fergusson, D. M. (1997). Factors protecting against the development of adjustment difficulties in young adults exposed to childhood sexual abuse. *Child Abuse & Neglect*, *21*(12), 1177-1190.

Lyubomirsky, S., Sousa, L., & Dickerhoof, R. (2006). The costs and benefits of writing, talking, and thinking about life's triumphs and defeats. *Journal of Personality and Social Psychology*, *90*(4), 692-708.

MacLeod, A. K., & Conway, C. (2005). Well-being and the anticipation of future positive experiences: The role of income, social networks, and planning ability. *Cognition & Emotion*, *19*(3), 357-374.

MacNeil, S., & Byers, E. S. (2009). Role of sexual self-disclosure in the sexual satisfaction of long-term heterosexual couples. *Journal of Sex Research*, *46*(1), 3-14.

Maguire-Jack, K., & Font, S. A. (2017). Community and individual risk factors for physical child abuse and child neglect: Variations by poverty status. *Child Maltreatment*, *22*(3), 215-226.

Marsh, A. A., Kozak, M. N., & Ambady, N. (2007). Accurate identification of fear facial expressions predicts prosocial behavior. *Emotion*, *7*(2), 239.

McCauley, J., Kern, D. E., Kolodner, K., Dill, L., Schroeder, A. F., DeChant, H. K., ... & Bass, E. B. (1997). Clinical characteristics of women with a history of childhood abuse: unhealed wounds. *Jama*, *277*(17), 1362-1368.

McCrory, E., De Brito, S. A., & Viding, E. (2011). The impact of childhood maltreatment: a review of neurobiological and genetic factors. *Frontiers in Psychiatry*, *2*, 4862.

McNeil, J., & Rehman, U. S. (2024). The role of emotional processes in explaining the link between severity of childhood maltreatment and relationship difficulties. *Journal of Interpersonal Violence*, *39*(9-10), 2165-2188.

McNeil, J., Rehman, U. S., & Fallis, E. (2018). The influence of attachment styles on sexual communication behavior. *The Journal of Sex Research*, *55*(2), 191-201.

Mullen, P. E., Martin, J. L., Anderson, J. C., Romans, S. E., & Herbison, G. P. (1994). The effect of child sexual abuse on social, interpersonal and sexual function in adult life. *The British Journal of Psychiatry*, *165*(1), 35-47.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The self-fulfilling nature of positive illusions in romantic relationships: love is not blind, but prescient. *Journal of Personality and Social Psychology*, *71*(6), 1155-1180.

Najman, J. M., Dunne, M. P., Purdie, D. M., Boyle, F. M., & Coxeter, P. D. (2005). Sexual abuse in childhood and sexual dysfunction in adulthood: An Australian population-based study. *Archives of Sexual Behavior*, *34*, 517-526.

Nazarov, A., Frewen, P., Parlar, M., Oremus, C., MacQueen, G., McKinnon, M., & Lanius, R. (2014). Theory of mind performance in women with posttraumatic stress disorder related to childhood abuse. *Acta Psychiatrica Scandinavica*, *129*(3), 193-201.

Nelson III, C. A., Zeanah, C. H., Fox, N. A., Marshall, P. J., Smyke, A. T., & Guthrie, D. (2007). Cognitive recovery in socially deprived young children: The Bucharest Early Intervention Project. *Science*, *318*(5858), 1937-1940.

Nezlek, J. B., & Kuppens, P. (2008). Regulating positive and negative emotions in daily life. *Journal of Personality*, *76*(3), 561-580.

Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family*, *45*(1), 141-151.

Parker, S. W., Nelson, C. A., & Bucharest Early Intervention Project Core Group. (2005). The impact of early institutional rearing on the ability to discriminate facial expressions of emotion: An event-related potential study. *Child Development*, *76*(1), 54-72.

Parrott, W. G. (1993). Beyond hedonism: Motives for inhibiting good moods and for maintaining bad moods. In D. M. Wegner & J. W. Pennebaker (Eds.), *Handbook of Mental Control* (pp. 278–305). Prentice-Hall, Inc.

Pechtel, P., & Pizzagalli, D. A. (2011). Effects of early life stress on cognitive and affective function: an integrated review of human literature. *Psychopharmacology*, *214(2)*, 55-70.

Pearlman, L. A. (1997). Trauma and the self: A theoretical and clinical perspective. *Journal of emotional abuse*, *1*(1), 7-25.

Philippot, P., & Feldman, R. S. (2004). Positive emotion and the regulation of interpersonal relationships. In *The Regulation of Emotion* (pp. 142-171). Psychology Press.

Phillips, N. K., Hammen, C. L., Brennan, P. A., Najman, J. M., & Bor, W. (2005). Early adversity and the prospective prediction of depressive and anxiety disorders in adolescents. *Journal of Abnormal Child Psychology*, *33*(1), 13-24.

Pine, D. S., Mogg, K., Bradley, B. P., Montgomery, L., Monk, C. S., McClure, E., ... & Kaufman, J. (2005). Attention bias to threat in maltreated children: Implications for vulnerability to stress-related psychopathology. *American Journal of Psychiatry*, *162*(2), 291-296.

Pittig, A., Treanor, M., LeBeau, R. T., & Craske, M. G. (2018). The role of associative fear and avoidance learning in anxiety disorders: Gaps and directions for future research. *Neuroscience & Biobehavioral Reviews*, *88*, 117-140.

Pollak, S. D., & Kistler, D. J. (2002). Early experience is associated with the development of categorical representations for facial expressions of emotion. *Proceedings of the National Academy of Sciences*, *99*(13), 9072-9076.

Pollak, S. D., Cicchetti, D., Hornung, K., & Reed, A. (2000). Recognizing emotion in faces: developmental effects of child abuse and neglect. *Developmental Psychology*, *36*(5), 679-688.

Pollak, S. D., Nelson, C. A., Schlaak, M. F., Roeber, B. J., Wewerka, S. S., Wiik, K. L., ... & Gunnar, M. R. (2010). Neurodevelopmental effects of early deprivation in postinstitutionalized children. *Child Development*, *81*(1), 224-236.

Polusny, M. A., & Follette, V. M. (1995). Long-term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied and Preventive Psychology*, *4*(3), 143-166.

Powers, M. B., Halpern, J. M., Ferenschak, M. P., Gillihan, S. J., & Foa, E. B. (2010). A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review*, *30*(6), 635-641.

Price, J. L., Monson, C. M., Callahan, K., & Rodriguez, B. F. (2006). The role of emotional functioning in military-related PTSD and its treatment. *Journal of Anxiety Disorders*, *20*(5), 661-674.

Pulverman, C. S., Kilimnik, C. D., & Meston, C. M. (2018). The impact of childhood sexual abuse on women's sexual health: A comprehensive review. *Sexual Medicine Reviews*, *6*(2), 188-200.

Pynoos, R. S., Fairbank, J. A., Steinberg, A. M., Amaya-Jackson, L., Gerrity, E., Mount, M. L., & Maze, J. (2008). The National Child Traumatic Stress Network: collaborating to improve the standard of care. *Professional Psychology: Research and Practice*, *39*(4), 389-395.

Quoidbach, J., Berry, E. V., Hansenne, M., & Mikolajczak, M. (2010). Positive emotion regulation and well-being: Comparing the impact of eight savoring and dampening strategies. *Personality and Individual Differences*, *49*(5), 368-373.

Quoidbach, J., Wood, A. M., & Hansenne, M. (2009). Back to the future: The effect of daily practice of mental time travel into the future on happiness and anxiety. *The Journal of Positive Psychology*, *4*(5), 349-355.

Rehman, U. S., Balan, D., Sutherland, S., & McNeil, J. (2019). Understanding barriers to sexual communication. *Journal of Social and Personal Relationships*, *36*(9), 2605-2623.

Rehman, U. S., Ginting, J., Karimiha, G., & Goodnight, J. A. (2010). Revisiting the relationship between depressive symptoms and marital communication using an experimental paradigm: The moderating effect of acute sad mood. *Behaviour Research and Therapy*, *48*(2), 97-105.

Rehman, U. S., Lizdek, I., Fallis, E. E., Sutherland, S., & Goodnight, J. A. (2017). How is sexual communication different from nonsexual communication? A moment-by-moment analysis of discussions between romantic partners. *Archives of Sexual Behavior*, *46*, 2339-2352.

Reiss, S., Peterson, R. A., Gursky, D. M., & McNally, R. J. (1986). Anxiety sensitivity, anxiety frequency and the prediction of fearfulness. *Behaviour Research and Therapy*, *24*(1), 1-8.

Resick, P. A., Monson, C. M., & Chard, K. M. (2016). *Cognitive processing therapy for PTSD: A comprehensive manual*. Guilford Publications.

Rind, B., & Tromovitch, P. (2007). National samples, sexual abuse in childhood, and adjustment in adulthood: A commentary on Najman, Dunne, Purdie, Boyle, and Coxeter (2005). *Archives of Sexual Behavior*, *36*, 101-106.

Rind, B., Tromovitch, P., & Bauserman, R. (1998). A meta-analytic examination of assumed properties of child sexual abuse using college samples. *Psychological Bulletin*, *124*(1), 22-26.

Rumstein-McKean, O., & Hunsley, J. (2001). Interpersonal and family functioning of female survivors of childhood sexual abuse. *Clinical Psychology Review*, *21*(3), 471-490.

Ryan, K. D., Kilmer, R. P., Cauce, A. M., Watanabe, H., & Hoyt, D. R. (2000). Psychological consequences of child maltreatment in homeless adolescents: Untangling the unique effects of maltreatment and family environment. *Child Abuse & Neglect*, *24*(3), 333-352.

Salters-Pedneault, K., Tull, M. T., & Roemer, L. (2004). The role of avoidance of emotional material in the anxiety disorders. *Applied and Preventive Psychology*, *11*(2), 95-114.

Sasaki, E., Overall, N. C., Chang, V. T., & Low, R. S. (2022). A dyadic perspective of expressive suppression: Own or partner suppression weakens relationships. *Emotion*, *22*(8), 1989-1994.

Sawilowsky, S. S. (2009). New effect size rules of thumb. *Journal of Modern Applied Statistical Methods*, *8*(2), 597-599.

Schimmenti, A., & Caretti, V. (2016). Linking the overwhelming with the unbearable: developmental trauma, dissociation, and the disconnected self. *Psychoanalytic Psychology*, *33*(1), 106-128.

Schloredt, K. A., & Heiman, J. R. (2003). Perceptions of sexuality as related to sexual functioning and sexual risk in women with different types of childhood abuse histories. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *16*(3), 275-284.

Seehuus, M., Clifton, J., & Rellini, A. H. (2015). The role of family environment and multiple forms of childhood abuse in the shaping of sexual function and satisfaction in women. *Archives of Sexual Behavior*, *44*, 1595-1608.

Shapiro, F. (2017). *Eye movement desensitization and reprocessing (EMDR) therapy: Basic principles, protocols, and procedures*. Guilford Publications.

Sharp, C., Pane, H., Ha, C., Venta, A., Patel, A. B., Sturek, J., & Fonagy, P. (2011). Theory of mind and emotion regulation difficulties in adolescents with borderline traits. *Journal of the American Academy of Child & Adolescent Psychiatry*, *50*(6), 563-573.

Shaver, P., Schwartz, J., Kirson, D., & O'connor, C. (1987). Emotion knowledge: further exploration of a prototype approach. *Journal of Personality and Social Psychology*, *52*(6), 1061-1086.

Shields, A., & Cicchetti, D. (2001). Parental maltreatment and emotion dysregulation as risk factors for bullying and victimization in middle childhood. *Journal of Clinical Child Psychology*, *30*(3), 349-363.

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, *65*(5), 467-487.

Srivastava, S., Tamir, M., McGonigal, K. M., John, O. P., & Gross, J. J. (2009). The social costs of emotional suppression: a prospective study of the transition to college. *Journal of Personality and Social Psychology*, *96*(4), 883-897.

Statistics Canada. (2019, December 5). *Survey of Safety in Public and Private Spaces (SSPPS)*.

Stephenson, K. R., Pulverman, C. S., & Meston, C. M. (2014). Assessing the association between childhood sexual abuse and adult sexual experiences in women with sexual difficulties. *Journal of Traumatic Stress*, *27*(3), 274-282.

Teicher, M. H., Andersen, S. L., Polcari, A., Anderson, C. M., Navalta, C. P., & Kim, D. M. (2003). The neurobiological consequences of early stress and childhood maltreatment. *Neuroscience & Biobehavioral Reviews*, *27*(1-2), 33-44.

Teicher, M. H., Dumont, N. L., Ito, Y., Vaituzis, C., Giedd, J. N., & Andersen, S. L. (2004). Childhood neglect is associated with reduced corpus callosum area. *Biological Psychiatry*, *56*(2), 80-85.

Teicher, M. H., Tomoda, A., & Andersen, S. L. (2006). Neurobiological consequences of early stress and childhood maltreatment: are results from human and animal studies comparable? *Annals of the New York Academy of Sciences*, *1071*(1), 313-323.

Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the Society for Research in Child Development*, *59*(2/3), 25-52.

Tottenham, N., & Sheridan, M. A. (2010). A review of adversity, the amygdala and the hippocampus: a consideration of developmental timing. *Frontiers in Human Neuroscience*, *3*, 1019-1037.

Vaillancourt-Morel, M. P., Bussières, È. L., Nolin, M. C., & Daspe, M. È. (2024). Partner effects of childhood maltreatment: A systematic review and meta-analysis. *Trauma, Violence, & Abuse*, *25*(2), 1150-1167.

Van Kleef, G. A. (2009). How emotions regulate social life: The emotions as social information (EASI) model. *Current Directions in Psychological Science*, *18*(3), 184-188.

Vanheule, S., Desmet, M., Meganck, R., & Bogaerts, S. (2007). Alexithymia and interpersonal problems. *Journal of Clinical Psychology*, *63*(1), 109-117.

Walker, E. C., Holman, T. B., & Busby, D. M. (2009). Childhood sexual abuse, other childhood factors, and pathways to survivors' adult relationship quality. *Journal of Family Violence*, *24*(6), 397-406.

Walsh, K., Fortier, M. A., & DiLillo, D. (2010). Adult coping with childhood sexual abuse: A theoretical and empirical review. *Aggression and Violent Behavior*, *15*(1), 1-13.

Weiss, N. H., Darosh, A. G., Contractor, A. A., Schick, M. M., & Dixon-Gordon, K. L. (2019). Confirmatory validation of the factor structure and psychometric properties of the difficulties in emotion regulation scale-positive. *Journal of Clinical Psychology*, *75*(7), 1267-1287.

Whisman, M. A. (2006). Childhood trauma and marital outcomes in adulthood. *Personal Relationships*, *13*(4), 375-386.

Widom, C. S., Czaja, S. J., Kozakowski, S. S., & Chauhan, P. (2018). Does adult attachment style mediate the relationship between childhood maltreatment and mental and physical health outcomes? *Child Abuse & Neglect*, *76*, 533-545.

Widom, C. S., DuMont, K., & Czaja, S. J. (2007). A prospective investigation of major depressive disorder and comorbidity in abused and neglected children grown up. *Archives of General Psychiatry*, *64*(1), 49-56.

Williams, K. E., Chambless, D. L., & Ahrens, A. (1997). Are emotions frightening? An extension of the fear of fear construct. *Behaviour Research and Therapy*, *35*(3), 239-248.

Wooten, W., Laubaucher, C., George, G. C., Heyn, S., & Herringa, R. J. (2022). The impact of childhood maltreatment on adaptive emotion regulation strategies. *Child Abuse & Neglect*, *125*, 105494.

Zamir, O. (2022). Childhood maltreatment and relationship quality: A review of type of abuse and mediating and protective factors. *Trauma, Violence, & Abuse*, *23*(4), 1344-1357.

Zlotnick, C., Johnson, J., Kohn, R., Vicente, B., Rioseco, P., & Saldivia, S. (2008). Childhood trauma, trauma in adulthood, and psychiatric diagnoses: results from a community sample. *Comprehensive Psychiatry*, *49*(2), 163-169.

Appendix 1: Emotionally Valanced Images

Positively Valanced Images

































































Negatively Valanced Images

















































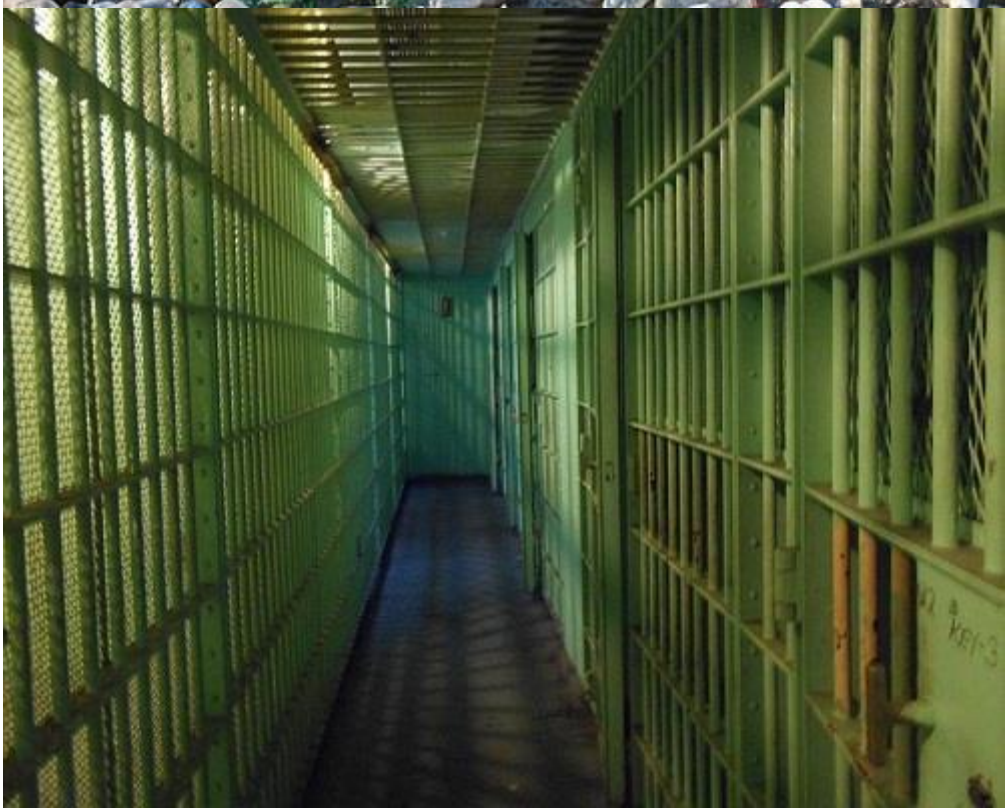


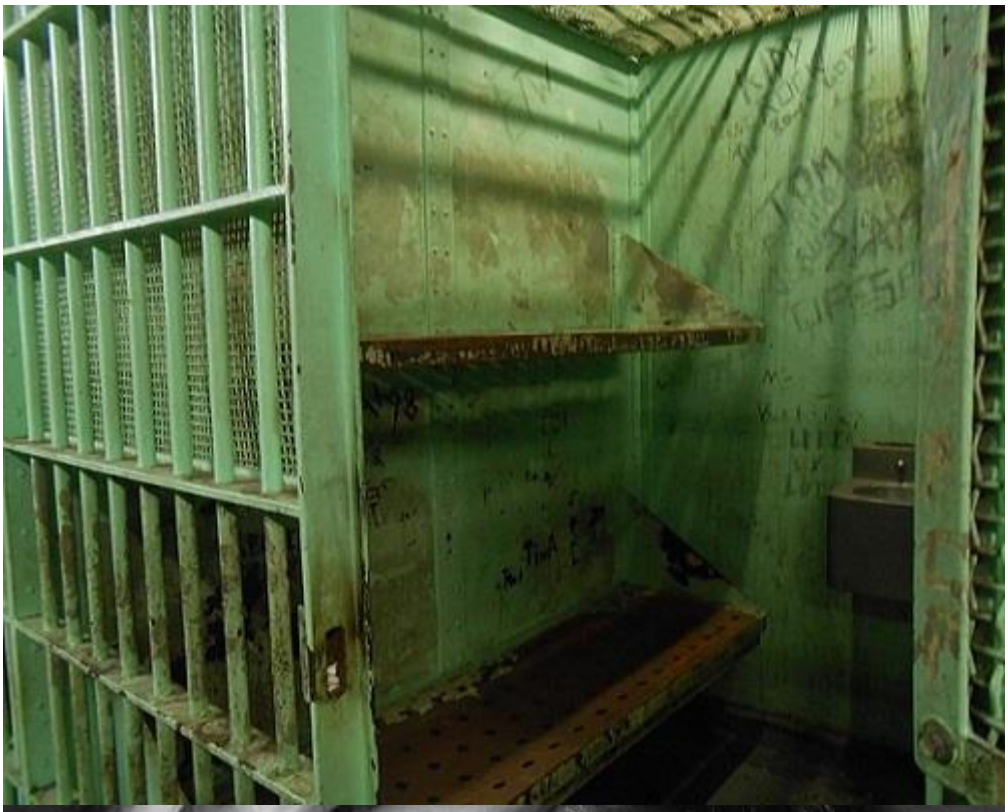


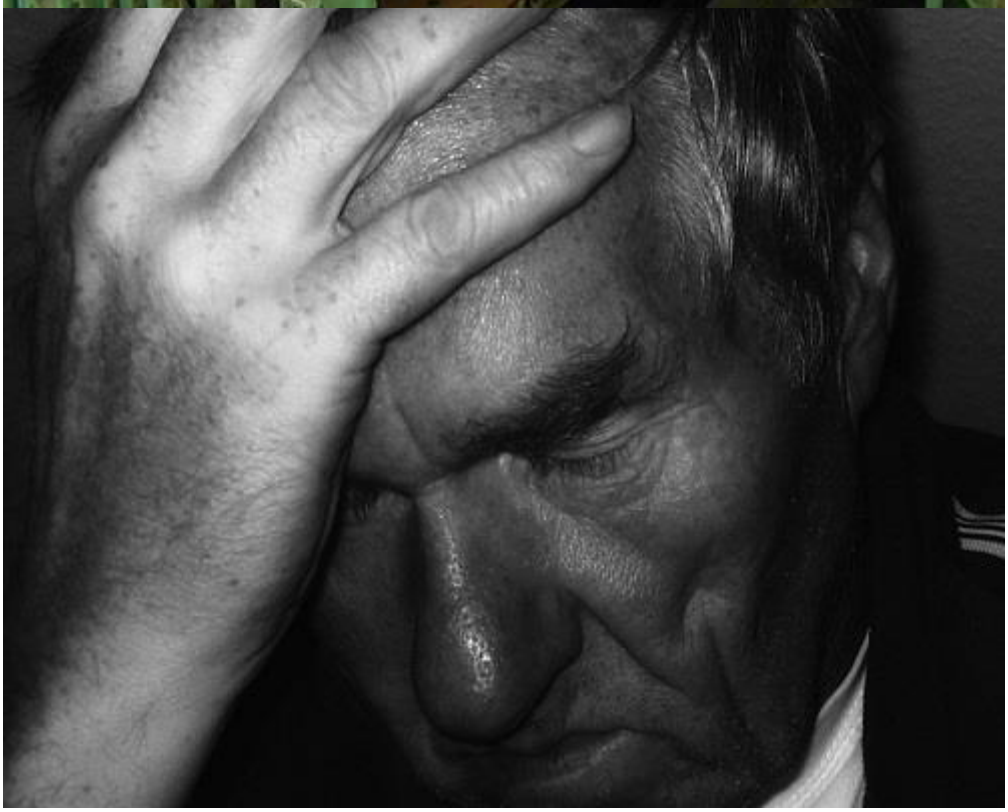


























Neutral Valanced Images







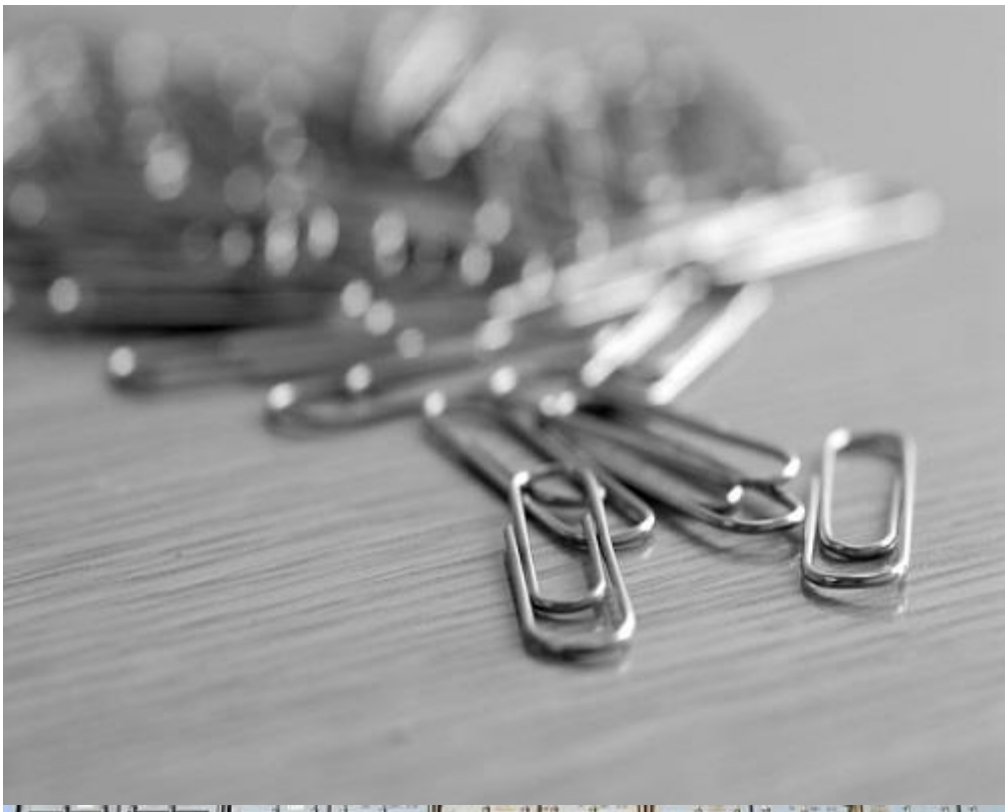













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