

Childhood Trauma, Emotion Dysregulation, and Intimate Partner Violence: Does Trauma Type Matter?

by

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Dedication

First and foremost, I would like to thank my thesis advisors, Dr. Michelle Leonard, and Dr. Pam McAuslan, for their help and guidance along the way. I would not have been able to complete this process without their knowledge and insight (and an extra push of encouragement when needed). Secondly, I would like to thank my partner, Adam, for his unconditional love and support. I could not have succeeded without his patience and understanding. Next, I would like to thank my friends and family for their help in making my dreams come true. And finally, I would like to thank the members of my cohort for their support and encouragement. While not always easy, the lessons I have learned throughout graduate school from faculty and other students have made the journey worth it.

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Abstract

Adverse childhood experiences (ACEs) affect nearly 45% of children in the United States and can lead to negative physical and mental health symptoms among survivors. In addition to these health impacts, ACEs have been linked to emotion dysregulation and an increased likelihood of experiencing subsequent intimate partner violence (IPV). Social learning theory helps to elucidate these associations. The present study sought to examine the ways in which specific types of ACEs (e.g., abuse and neglect) contributed to later IPV victimization. The sample included 636 participants recruited through CloudResearch. Participants completed an online survey, which included measures of ACEs, emotion dysregulation, and IPV. There was a significant and positive correlation between each type of ACE and emotion dysregulation. There was also a significant and positive correlation between emotion dysregulation and IPV victimization. Finally, there were significant indirect effects between both abuse and neglect and IPV victimization mediated by emotion dysregulation. Results suggest that current trauma-informed treatments should incorporate emotion regulation skills for this population.

Chapter 1: Introduction

Adverse childhood experiences (ACEs) can be defined as events occurring during childhood within a family or social context, which may fluctuate in terms of severity, and are frequently chronic (Alhowaymel et al., 2021). It is estimated that 45% of children in the United States have experienced at least one ACE in their lifetime (Sacks & Murphey, 2018). Research suggests that a link between ACEs and both intimate partner violence (IPV) victimization and perpetration (Dugal et al., 2019) exists, and the mediating role of emotion dysregulation has been established (Dugal et al., 2018). However, the impact of the specific type of adverse childhood experience on emotion dysregulation and IPV has not yet been examined. It may be that there are differential effects of the type of ACE on an individual's ability to engage in effective emotion regulation, which may lead to an increased risk for subsequent interpersonal violence. As a result, this study will seek to untangle the role that different types of ACEs have on IPV victimization through the mediating role of emotion dysregulation.

Adverse Childhood Experiences (ACEs)

As described above, one of the most inclusive ways to conceptualize childhood trauma is to use adverse childhood experiences, or ACEs. More specifically, ACEs are “traumatic events of childhood that include physical, sexual, and emotional abuse, as well as the experience of household dysfunction (such as divorce/separation), domestic violence, or living with an adult experiencing mental illness, substance use/misuse, or incarceration” (Crouch et al., 2019 pp.

209). ACEs may cause feelings of harm or distress, thus causing disruption to the physical and psychological health and development of the child (Alhowaymel et al., 2021). The conceptualization and inclusion of specific types of ACEs are essential in studying the subsequent effects, particularly in understanding the influence on individuals' health, which is critical in providing effective, trauma informed treatment (Alhowaymel et al., 2021).

ACEs are quite prevalent in the United States and have the potential to lead to negative health outcomes (Sacks & Murphey, 2018). Because most of the collected data is retrospective in nature, it is difficult to accurately capture prevalence rates (Crouch et al., 2019). However, within a representative sample of children in the United States between the ages of 2 and 17, over half (530 per 1,000) had experienced physical violence, more than one-eighth (136 per 1,000) had experienced at least one type of maltreatment, and over one-third (357 per 1,000) had witnessed violence (Fairbank & Fairbank, 2009; Finkelhor et al., 2005). Furthermore, in the U.S., an estimated 5 million adolescents have experienced physical violence, roughly 2 million have experienced sexual violence, and approximately 9 million have observed interpersonal violence, rendering childhood adversity a true public health crisis (Fairbank & Fairbank, 2009).

Types of ACEs

There have been several types of ACEs described in the current literature with the most common distinction being between abuse and neglect. Physical abuse refers to the deliberate use of force towards a child that causes harm to the child's physical well-being (Bijlsma et al., 2022). Childhood emotional abuse refers to a pervasive pattern of maladaptive caregiver-child interactions, where the caregiver fails to deliver a suitable and supportive environment that meets the child's developmental needs. This includes acts toward the child, such as denigration, belittling, threatening, or other types of non-physical forms of hostility or rejection, which have a

high likelihood of causing harm to the child's health or development (Stoltenborgh et al., 2012). Childhood sexual abuse is comprised of sexual acts imposed on a child by a parent, caretaker, or other adult figure where there is a power imbalance related to age (Sgroi, 1982).

In contrast, childhood physical neglect is characterized by a failure to provide and meet basic physical needs including clothing, food, hygiene, guidance, and access to medical care (Stoltenborgh et al., 2013). Emotional neglect refers to the inability to fulfill emotional needs of children, including nurturance and affection, or exposing children to dangerous situations, such as interparental violence. In addition, emotional neglect includes the inability to provide suitable structure for the child, correct a child's problematic behavior, or pursue higher levels of care to solve emotional or behavioral problems. Meta-analytic self-report data suggests that 16.3% of children had experienced physical neglect, and 18.4% had experienced emotional neglect (Stoltenborgh et al., 2013). It should be noted that although the legal definition of neglect does not include intentionality, many individuals consider intentionality of neglect by the caregiver prior to reporting the neglect (Dickerson et al., 2017).

Health Consequences of ACEs

ACEs are associated with various physical health consequences. Studies have demonstrated that childhood adversity may be related to a heightened risk of developing somatic issues, including an increased risk of asthma, chronic inflammation, and overall premature mortality (Barrios et al., 2015). Additionally, childhood adversity has been linked to autonomic dysregulation, elevated sleep disturbances, and increased stress reactivity (Beilharz et al., 2020). Further, the experience of childhood physical abuse is significantly related to increased nocturnal heart rate, decreased heart rate variability, (Beilharz et al., 2020) and obesity (Mundi et al., 2021), which are associated with hypervigilance during sleeping hours, increased levels of

sympathetic nervous system signaling, and premature death (Beilharz et al., 2020; Mundi et al., 2021).

Likewise, studies have consistently demonstrated that the experience of ACEs increases one's susceptibility to developing mental health related problems, including depressive or anxiety disorders later in life (Christ et al., 2019; Hovens et al., 2012; Van Assche et al., 2020). Childhood adversity is significantly correlated with psychological distress, diminished self-reported emotional well-being, decreased perceived social support (Beilharz et al., 2020), substance use, and suicidality (Barrios et al., 2015). Childhood adversity has also been found to be significantly associated with decreased self-esteem (Mundi et al., 2021) and, importantly, emotion dysregulation (Espeleta et al., 2019).

Emotion Dysregulation

Emotions, feelings, and affect are terms often used interchangeably (Berking & Whitley, 2014). Emotions are described as an organized set of responses to stimuli, which may include cognitive, behavioral, or physiological components (Berking & Whitley, 2014). These responses are unique to an individual and attempt to provide the best response to salient stimuli. A feeling is a frequently used term to describe one's subjective experience and interpretation of an emotion. Affect is a word that embodies outward displays of emotions, feelings, moods, and motivational impulses.

Emotion regulation is defined as the internal and external mechanisms used to monitor, evaluate, and modify emotional reactions (including emotions, feelings, and affect) to achieve one's goals (Berking & Whitley, 2014). On the other hand, emotion dysregulation is defined in the literature as recurring emotional experiences or expressions that impede goal-directed action (Thompson, 2019), or as a state where an individual has "difficulty identifying and regulating

one's emotions" (Espeleta et al., 2019 pp. 572). Overall, emotion dysregulation is not well understood in the literature, and in their review, D'Agostino et al., (2016) recognize that there is not one agreed upon definition of the construct. However, based on their review of the literature, they note five overlapping dimensions of emotion dysregulation: decreased emotional awareness, inadequate emotional reactivity, intense experience and expression of emotions, emotional rigidity, and cognitive reappraisal difficulty. Unfortunately, there is not a precise measurement of the construct resulting in numerous self-report measures being utilized throughout the literature (D'Agostino et al., 2016).

For this study, emotion dysregulation was measured by the Difficulties in Emotion Regulation Scale (DERS; Bjureberg et al., 2016), which defines emotion dysregulation as the inability to effectively regulate emotions. This inability to effectively regulate emotions includes several dimensions, such as lack of emotional clarity, lack of engaging in goal-directed behavior, limited access to emotion regulation strategies, nonacceptance of emotions, and lack of impulse control. These dimensions can result in an emotionally dysregulated state characterized by impulsivity or anger, which may increase the risk of engaging in harmful behaviors (i.e., binge eating, using alcohol or drugs, and non-suicidal self-injury) or developing psychopathology (Ammerman et al., 2015; Bjureberg et al., 2016; Mandavia et al., 2016; Wolff et al., 2020).

Intimate Partner Violence (IPV)

The way in which IPV is defined determines how it is measured, thus affecting the conclusions that are drawn regarding gender differences, prevalence rates, patterns, and overall health outcomes (Mitchell & Anglin, 2009). Intimate partner violence can be characterized as "physical, verbal/symbolic, or sexual acts that cause – or have reasonable potential to cause – harm to an intimate partner" (Heyman et al., 2015 pp. 64). Advocates and researchers have

explained IPV to be a continuous repetition of behaviors where an individual uses violence as one of multiple tactics to gain control and power over their partner (Mitchell & Anglin, 2009). Although many studies focus on a male perpetrator/female victim dynamic, IPV can occur by either male, female, or non-binary partners as perpetrators.

It is also noted that the term “intimate partner violence” frequently includes sexual and psychological abuse. Sexual abuse includes rape or coercion to engage in unwanted sexual behaviors (Kelly & Johnson, 2008). Examples of psychological abuse include swearing, threats, or stalking, as well as behavior that is otherwise demeaning, isolating, or coercive. However, discrepancies among definitions utilized in research determine whether sexual and psychological abuse are included or excluded, often resulting in research that focuses on physical violence (e.g., slapping, shoving, kicking, choking, biting, or mutilating) alone. As a result of the clouded definition of IPV in the literature, current prevalence rates must be considered within the context of the types of violence that are included and vary considerably across studies.

Prevalence Rates of IPV

IPV affects a significant number of individuals in the United States in the forms of sexual violence, stalking, or physical violence. Breiding (2015) found that the estimated lifetime prevalence rate of rape by an intimate partner was 8.8% for women and 0.5% for men. Additionally, an estimated 15.8% of women and 9.5% of men have experienced other forms of sexual violence from a significant other in their lifetime. Approximately 22.3% of women and 14.0% of men have endured extreme physical abuse from a romantic partner, and the lifetime prevalence for stalking behaviors from a partner was 9.2% for women and 2.4% for men (Breiding, 2015).

Thompson and colleagues (2006) conducted a retrospective cohort study among English-speaking women aged 18-64 years who were enrolled in a U.S. health maintenance organization. Results indicate that an estimated 44% of participants had experienced IPV during their adult lives, and 11.7% had experienced IPV within the past 5 years. Specifically, the 5-year prevalence rate of physical abuse (physical violence, forced sex, and/or sexual contact) was 5.1% and 10.2% for non-physical abuse (threats, anger, and/or controlling behavior). Further, based on data collected from a cohort study within an integrated healthcare system, Reid et al. (2008) examined physical and nonphysical violence. Results suggest that within the past 5 years, 5.5% of the participants reported physical IPV, while 6.4% reported nonphysical IPV.

It should be noted that co-occurring forms of IPV are also quite prevalent. Among the 138 women in the Thompson et al. (2006) retrospective study who reported physical abuse within the past 5 years, 79.7% reported experiencing other types of IPV as well. Further, 20.3% of respondents experienced physical abuse only, while 60.9% experienced two to three types of IPV, and 18.8% experienced four to five types. Of the 307 women who reported controlling behavior, 45.6% experienced this behavior only, while 45.9% reported two to three types of IPV, and 8.5% reported a total of four to five types (Thompson et al., 2006). In another study, several IPV occurrences were identified, with 68.1% of respondents reporting physical IPV and 92.4% reporting nonphysical IPV on multiple occasions (Reid et al., 2008).

Overall, these studies indicate that intimate partner violence is unfortunately quite prevalent and represents an ongoing pattern of behaviors that take place in multiple forms. Victims of IPV may be susceptible to experiencing abuse on multiple occasions, and it is likely that if they experience one type of abuse, then they are vulnerable to experiencing other forms of abuse as well. Moreover, perpetrators of intimate partner violence likely harm their partners on

multiple occasions and in various forms, potentially leading to adverse health consequences for those who have endured the abuse.

Health Consequences of IPV

Research indicates that IPV can precipitate deleterious health outcomes among survivors, even after the abuse has ceased (Campbell, 2002). Chronic pain, gastrointestinal issues (e.g., irritable bowel syndrome, eating disorders, or decreased appetite) and hypertension are examples of physical health consequences associated with intimate partner violence (Campbell, 2002). Chronic health issues such as prolonged pain conditions (e.g., chronic headaches or back pain) are frequently linked with the sustained injuries and feelings of fear and increased stress related to IPV. Cardiac symptoms may be associated with IPV such that interactions between genetic components, lifestyle behaviors (e.g., smoking), and increased stress resulting from violent and turbulent relationships may contribute to the onset of hypertension or chest pain (Campbell, 2002). While the precise process of these effects remains unknown, they are perhaps linked to the ongoing physical injuries, changes in neurophysiology, potential behavioral patterns of self-harm associated with emotion dysregulation, or, likely a combination of these effects.

Understanding the effects of IPV is critically important, as interpersonal trauma has been shown to have a more harmful effect on mental health than non-interpersonal trauma, especially when the abuse is from a trusted individual (Cintora & Laurent, 2020). A large population-based study using data analyses from the National Violence Against Women Survey (NVAWS) examined estimates on psychological violence among men and women. This study indicates that physical IPV victimization is associated with an amplified risk of poor mental health outcomes, including depressive symptoms, substance use, and chronic mental illness. Moreover, mental health effects of IPV can also include post-traumatic stress disorder (Campbell, 2002). Post-

traumatic stress disorder symptoms commonly experienced in victims of IPV can include nightmares, flashbacks, dissociations, or sleep difficulties.

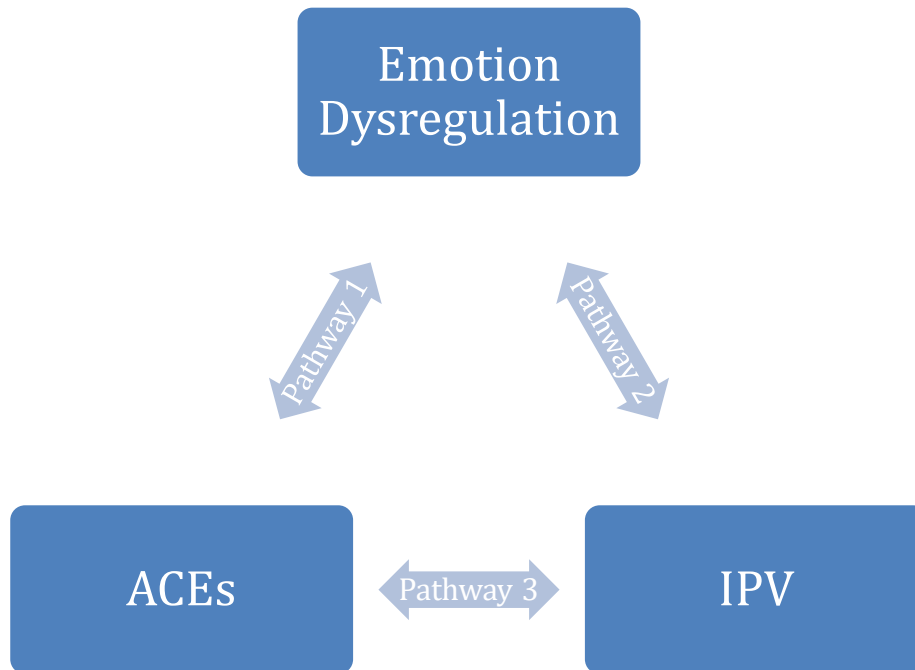
In summary, all forms of IPV may have direct or indirect physical and mental health consequences; however, research in this area does not consistently parse out different types of partner abuse and the consequences of specific abuse types. There has been, however, some suggestion that higher psychological IPV scores are more strongly related to negative health outcomes compared to physical IPV scores (Coker et al., 2002).

ACEs, Emotion Dysregulation, and IPV

Based on the literature reviewed above, it is clear to see the links between ACEs, emotion dysregulation, and IPV. However, as noted, there is inconsistency in the literature in terms of measurement and study design. When this inconsistency is coupled with the complexity of the interrelationships among these variables, a more concise framework is warranted. Therefore, Figure 1 outlines a proposed pathway for which ACEs and IPV are linked through the mediating role of emotion dysregulation. The specific pathways of this model will be discussed in detail.

Figure 1.

The Interrelationships between ACEs, Emotion Dysregulation, and IPV



Pathway 1. Adverse Childhood Experiences and Emotion Dysregulation

Dugal et al. (2021) posits that childhood adversity can potentially impede an individual’s development of emotion regulation skills by subjecting children to exacting emotional demands while also thwarting them from learning distress tolerance and control. Previous studies have found that adult survivors of childhood maltreatment are more likely to engage in dysfunctional or impulsive strategies, such as engaging in violence, to alleviate negative affective states or to reduce the impact and duration (Dugal et al., 2021).

Pathway 2. Emotion Dysregulation and Intimate Partner Violence

It has been hypothesized that the inability to effectively regulate negative affect may place individuals at a higher risk of victimization, such that these individuals may have more difficulty in identifying dangerous situations and responding in an assertive or escape-focused way (Dugal et al., 2021). It has also been theorized that emotion dysregulation may be linked to

perpetration such that suppressing emotions may cause them to “fester”, and this build-up and resurfacing of emotions may lead to abrupt and volatile behavior (Langer & Lawrence, 2010). Conceivably, during conflict or disagreement, one partner may suppress emotions such as frustration, irritation, or anger, resulting in these emotions building up and boiling over in the form of IPV perpetration.

Pathway 3. Adverse Childhood Experiences and Intimate Partner Violence

Research by Jewkes (2002) suggests that women who have been abused in childhood by parents or are daughters of women who have been abused are more likely to be maltreated later in adulthood by intimate partners. Early childhood experiences of violence in the home instills the normative nature of violence, which potentially increases the risk of perpetration by men and acceptance of abuse by women. Consistent with this finding, LaMotte and colleagues (2018) suggest witnessing interparental violence seems to reduce one’s ability to evaluate and produce non-aggressive behaviors in response to conflict, thus heightening the risk of engaging in IPV as a conflict resolution strategy. Moreover, reactions to adversity often include increased mistrust of others, diminished self-esteem, disruption of core cognitive beliefs, and the amplified urge to control situations or other individuals that produce negative emotions, which may alter the way social information is processed and heighten the risk of IPV. Changes in social information processing may likely influence an individual to be more apt to interpret a partner’s intentions as threatening and hostile, which may escalate conflict, thus leading to IPV (LaMotte et al., 2018).

Social Learning Theory

Clearly, there is robust literature that links ACEs, emotion dysregulation, and IPV. Although there have been unique theoretical models utilized to explain these variables at the bivariate level, a theoretical model that helps to integrate and elucidate the interrelationships

between all three variables is social learning theory. This theory posits that children view their caregivers as models, observing their emotional reactivity and regulation (Lavi et al., 2019), and that responses to stimuli are typically learned via experience or observation (Anderson & Kras, 2005). Caregivers who demonstrate hostility and negative emotionality toward their children are modeling dysregulated behavior, and these children are then more likely to display this dysregulated affect and behavior toward others (Lavi et al., 2019). Therefore, according to social learning theory, children who have observed parental maladaptive self-regulation, endured/witnessed abuse, or both, are at risk for replicating these exact behaviors in future relationships.

Study Aim & Hypotheses

Given the literature reviewed above that outlines the link between ACEs and IPV, likely through the mediating role of emotion regulation, coupled with research that has shown that certain types of adversity may be associated with different prevalence rates and poorer outcomes, the current study seeks to explore the differential impact of childhood adversity type on the associations between childhood adversity, emotion dysregulation, and IPV. It is hypothesized that:

1. The frequency of childhood physical abuse will be positively correlated with emotion dysregulation,
 - a. (1a) childhood emotional abuse and emotion dysregulation, (1b) childhood sexual abuse and emotion dysregulation, (1c) childhood emotional neglect and emotion dysregulation, and (1d) childhood physical neglect and emotion dysregulation.
2. Emotion dysregulation will be positively correlated with intimate partner violence victimization.

3. Emotion dysregulation will mediate the association between frequency of childhood emotional, sexual, and physical abuse and frequency of intimate partner violence victimization,
 - a. (3a) childhood physical and emotional neglect and intimate partner violence victimization.

Chapter 2: Methods

Participants

Participants were recruited through a crowdsourcing service (Managed Research CloudResearch). Participants were from the US only with anonymous IP addresses. Inclusion criteria required participants to be above the age of 18, able to read and speak English, live in the United States, and either be in a current relationship or have been in a relationship within the past six months.

In total, there were 715 people who completed the survey. There were 76 people who were excluded from analyses. Forty-five of these individuals were ineligible due to not being in a relationship, inconsistency of the reported age (e.g., birth date and age), or not being able to complete the survey in English. Of those who were eligible, 31 were excluded from analyses because they failed attention checks, did not complete the survey in its entirety, or had inconsistencies in the data provided. There were 3 individuals who refuted rejection or provided data but not a completion code, and these data were not included. This left a total sample size of 636 participants. Average age of the sample was 22.97 ($SD = 10.85$). Additional demographic information of the sample can be found in Table 1.

Measures

Demographics

Data were collected on the participant's demographics, including gender identity, race/ethnicity, parental status, current relationship status, and age.

Adverse Childhood Experiences

The Childhood Trauma Questionnaire-Short Form (CTQ-SF) is a 28-item self-report measure designed to assess childhood maltreatment. Five different subscales are utilized within the measure to assess emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect (Hagborg et al., 2022). The scale consists of five items per subscale, and three items which measure minimization/denial. Response options range from ‘never true’ to ‘very often true’ (scores 1-5) (Hagborg et al., 2022). It should be noted that the three items measuring minimization/denial were not included in the survey, given the focus of the study on the experience of abuse and neglect. Several studies have indicated moderate to high test-retest reliability and convergent validity (Hagborg et al., 2022). Although the presence of childhood trauma is dichotomous, it has previously been measured as a continuous variable (LaNoue et al., 2020). Alpha for the overall measure in the current study was .76. Emotional abuse subscale alpha was .92, physical abuse subscale alpha was .94, and sexual abuse subscale alpha was .94. Emotional neglect subscale alpha was .95, and physical neglect subscale alpha was .78.

Emotion Dysregulation

The Difficulties in Emotion Regulation Scale (DERS-16) is a 16-item self-report measure assessing five subscales of emotion regulation (Bjureberg et al., 2016). Three items assess nonacceptance of negative emotions, three items assess difficulty engaging in goal-directed behavior, three items measure difficulties with impulse control, five items assess limited access to emotion regulation strategies, and two items assess lack of emotional clarity. Scores range from 1 (almost never) to 5 (almost always) with higher scores indicating more emotion dysregulation (Bjureberg et al., 2016). The DERS-16 has demonstrated exceptional validity and reliability (Burton et al., 2022). Moreover, Bjureberg et al. (2016) states that the DERS-16 shows

excellent internal consistency and adequate convergent and discriminant validity and test-retest reliability. Alpha for the overall measure in the current study was .96.

Intimate Partner Violence

The Abusive Behavior Inventory-Revised (ABI-R) is a 25-item self-report measure which assesses three subscales: physical violence (9 items), sexual abuse (3 items), and psychological abuse (13 items) with scores ranging from 1 (never) to 5 (very often) (Postmus et al., 2015). The ABI-R is an alternative measure to the Conflict Tactics Scale (CTS) and is based on feminist theory and patriarchal terrorism (Postmus et al., 2015). The ABI-R is reported to have good construct and criterion validity as well as reliability (Postmus et al., 2015). Alpha for the overall measure in the current study was .97. Psychological abuse subscale alpha was .94, physical abuse subscale alpha was .95, and sexual abuse subscale alpha was .84.

It should be noted that for the current study the original (non-revised) version of this measure was utilized, and there were four additional items collected from participants (i.e., put you on an allowance, drove recklessly, used your children to threaten you, and stopped you or tried to stop you from going to work or school). These items were not in the revised measure and were excluded from data analysis for the current study. Additionally, a wording error was made on one of the items. This item read “said you were a bad parent” when it should have read “said you were a bad person.” This item was left in for data analysis to maintain the integrity of the scale.

Procedure

The study utilized a crowdsourcing data collection service, Managed Research from CloudResearch, to recruit participants. A short description of the study and a link to a Qualtrics online survey were provided for potential participants. If a potential participant was interested in

the study, they were able to click on the link provided through CloudResearch and access the online Qualtrics survey. When participants completed the survey, they were directed back to CloudResearch for data review and compensation.

Although the eligibility criteria were outlined on the CloudResearch platform, participants were screened for eligibility (with criteria outlined above). If a participant was not eligible, they were automatically directed back to CloudResearch, and they were not compensated. If participants were eligible, they were shown the consent form that outlines the study purpose, estimated duration, anticipated risks and benefits, and explanation of their right to withdraw at any given time, and confidentiality (see appendix A for consent form). If a participant did not provide consent, they were thanked for their interest in the study and redirected to the original CloudResearch link and were not compensated. Those who chose to provide consent were directed to the study measures offered online via Qualtrics. Once participants completed eligibility and consent, they then completed the demographics measure followed by the remaining study questionnaires (i.e., CTQ-SF, DERS-16, and ABI-R). Following completion of the study, participants were debriefed and provided information on additional resources (see appendix B) for care should they need them. Participant data was then reviewed, and they received compensation in the agreed upon amount of \$3.00 from the CloudResearch platform through which they enrolled in the study. On average, the survey took 9.63 minutes ($SD = 7.18$ minutes). Payment was denied if participants were unable to correctly answer two attention check questions, had inconsistent responses, were unable to write clearly in English, or had misaligning dates of birth and specified ages.

Chapter 3: Results

Prior to any data analysis for the current study, the data were cleaned and checked for normalcy. First, missing data points were identified. There were seventeen individuals who missed an item on the IPV measure, nine who missed an item on the emotion regulation measure, and five who missed an item on the ACEs measure. There were no patterns to missing data, and to preserve sample size, a mean replacement by item was conducted for each of the missing item level data points.

Examination of the distribution of ACEs showed that emotional and physical neglect reflected a normal distribution. However, within the physical, emotional, and sexual abuse categories, several statistically significant outliers were identified, which resulted in significantly skewed distributions. This was mainly because a larger percentage of the sample (i.e., 70+%) reported not experiencing these types of adversities. A similar pattern emerged in the data for interpersonal violence, namely in the physical and sexual abuse categories. Based on the literature reviewed above, these patterns were not entirely unexpected and are likely representative of the general population. Therefore, data were not transformed, and statistical outliers were retained. Additive abuse scores were created for ACEs categories (abuse and neglect) and IPV. These scores were a sum of the different types of abuse (physical, sexual, emotional) or neglect (physical, emotional) that a participant experienced in childhood or the

types of violence that someone experienced as an adult (physical, sexual, psychological). This resulted in three scores: additive abuse, additive neglect, and additive IPV. These additive scores ranged from 0 to 3 and were then used in the analyses. Means and standard deviations for study variables can be found in Table 2.

Prior to testing the study hypotheses, associations among demographic characteristics and study variables were explored. An independent samples t-test was conducted with gender and the study variables. These results showed that women reported more emotion dysregulation, childhood abuse and neglect, and IPV than men (Table 3).

An independent samples t-test was conducted with relationship status and the study variables. Results indicated that there was not a significant difference in terms of emotion dysregulation for those who were currently in a relationship compared to those who were not in a relationship, $t(634) = .46, p = .322$. For additive IPV, results showed that there were no significant differences between those who were currently in a relationship compared to those who were not in a relationship, $t(634) = .84, p = .200$. Results also showed that there were no significant differences in terms of additive abuse between those who were in a relationship compared to those who were not in a relationship, $t(634) = .59, p = .278$. For additive neglect, results showed that there was a significant difference between those who were in a relationship ($M = 21.23, SD = 8.67$) compared to those who were not in a relationship ($M = 23.62, SD = 10.06$), $t(634) = 1.88, p < .05$.

A one-way ANOVA was conducted with parental status and the study variables. Parental status was categorized into four levels: no children, one child, two children, and three or more children. Results showed that there was a significant difference for emotion dysregulation, $F(3, 632) = 2.86, p = .037$. Post-hoc testing of this significant effect showed that there were no

significant mean differences between groups, but there was a difference between parents of 2 children and individuals with no children that was approaching significance ($p = .09$). There were no significant differences in terms of additive abuse, $F(3, 632) = 2.14, p = .09$, or additive neglect, $F(3, 632) = .485, p = .692$. There was a significant effect for additive IPV, $F(3, 632) = 4.11, p = .007$. Post-hoc testing of this significant effect showed that having no children was related to significantly less IPV than having one or two children ($p < .05$). There was no significant difference between groups with three or more children.

An independent samples t-test was conducted with race, which was dichotomized into Caucasian and Non-Caucasian, and the study variables. Results showed a significant difference between race and emotion dysregulation, such that those who identified as Caucasian reported more emotion dysregulation ($M = 33.88, SD = 13.78$) than those who identified as another race ($M = 31.47, SD = 12.96$), $t(634) = -1.88, p < .05$. For race and additive abuse, results showed that there were no significant differences, $t(634) = .88, p = .191$. For race and additive neglect, results showed that there were no significant differences, $t(634) = -.62, p = .267$. For race and additive IPV, results showed that there were no significant differences, $t(634) = .31, p = .380$.

A Pearson correlation was run between age and the study variables. Results showed that there was a significant negative correlation between age and emotion dysregulation, $r(634) = -.19, p = .001$. For additive IPV, results showed that there was a significant negative correlation, $r(634) = -.08, p < .05$. There were no significant correlations between age and additive abuse, $r(634) = -.05, p = .203$, or additive neglect, $r(634) = -.01, p = .791$.

Hypothesis 1

It was hypothesized that the frequency of childhood adversity type (abuse and neglect) would be positively correlated with emotion dysregulation. Based on the findings from the

exploration of demographic and study variables, the most consistent differences noted among these variables was gender. Although there were some minor differences with other variables, all study variables showed significant differences between men and women. Therefore, gender was controlled for in the analyses of the study hypotheses at the bivariate level.

As predicted, results of the Pearson correlation, while controlling for gender, showed that emotion dysregulation was significantly and positively correlated with each type of childhood adversity for both men and women (Table 4). R to Z transformations showed that the association between additive abuse and emotion dysregulation was significantly stronger for men than women, $z = 2.43, p = .008$. R to Z transformations showed that the association between additive neglect and emotion dysregulation was not significantly different between men and women, $z = 0.77, p = .22$.

Hypothesis 2

It was hypothesized that there would be a positive correlation between emotion dysregulation and IPV victimization. Results of the Pearson correlation, while controlling for gender, showed that for both men and women, there was a significant positive correlation between emotion dysregulation and IPV victimization as hypothesized (Table 4). R to Z transformations showed that the association between emotion dysregulation and IPV victimization was not significantly different for men and women, $z = 0.31, p = 0.38$.

Hypothesis 3

It was hypothesized that emotion dysregulation would mediate the associations between the frequency of childhood adversity type and intimate partner violence. Given the similar pattern of associations for men and women in the above associations, these analyses were not

split by gender. This hypothesis was tested using mediational models by Hayes Macros (Hayes, 2013). Model 4 was utilized in this analysis.

Seen in Figure 2, results showed that there was a significant direct effect between additive abuse and emotion dysregulation (effect = 5.41, 95% Confidence Interval [CI], 4.49: 6.34). There was also a significant direct effect between emotion dysregulation and additive IPV (effect = .02, 95% Confidence Interval [CI], .01: .02). Further, there was a significant direct effect between additive abuse and additive IPV (effect = .25, 95% Confidence Interval [CI], .20: .30). Results showed a significant indirect effect between childhood abuse and intimate partner violence (effect = .09, 95% Confidence Interval [CI], .06: .12) mediated by emotion dysregulation, consistent with the hypothesis. Additionally, the direct effect for both additive abuse and emotion dysregulation to additive IPV was significant and accounted for 30% of the variance.

As seen in Figure 3, results showed that there was a significant direct effect between additive neglect and emotion dysregulation (effect = .50, 95% Confidence Interval [CI], .39: .62). There was also a significant direct effect between emotion dysregulation and additive IPV (effect = .02, 95% Confidence Interval [CI], .02: .02). Further, there was a significant direct effect between additive neglect and additive IPV (effect = .02, 95% Confidence Interval [CI], .01: .02). Results showed a significant indirect effect between childhood neglect and IPV (effect = .01, 95% Confidence Interval [CI], .01: .01) mediated by emotion dysregulation, consistent with the hypothesis. Additionally, the direct effect for both additive neglect and emotion dysregulation to additive IPV was significant and accounted for 24% of the variance.

Post Hoc Analysis

Based on the results of the demographic variables, namely gender, and the study hypotheses, a series of post-hoc analyses were conducted to better understand emotion dysregulation. The subscales of the emotion dysregulation scale were utilized, and the association between each subscale and the scores for additive abuse, neglect, and IPV were explored through Pearson correlations. The analyses were conducted separately for men and women. R to Z transformations showed that the association between additive abuse and goals was significantly stronger for men than women, $z = 2.84, p = .00$. R to Z transformations showed that the association between additive abuse and impulse was significantly stronger for men than women, $z = 2.57, p = .01$. R to Z transformations showed that the association between additive abuse and strategies was significantly stronger for men than women, $z = 2.4, p = .02$. The results can be seen in Table 5.

Chapter 4: Discussion

There is robust literature on the deleterious outcomes and staggering prevalence rates of ACEs and IPV. For example, research suggests that children who experience verbal, physical, sexual, and/or emotional abuse are more likely to experience poorer physical health outcomes later in life (Monnat & Chandler, 2015), including morbidity and mortality (Mersky et al., 2013). Higher levels of ACEs are also often associated with poorer mental health outcomes, such as mood-related psychopathology (Mersky et al., 2013). Moreover, research suggests that survivors of IPV are at risk for developing later mental and physical health issues, such as cardiovascular disease, symptoms of PTSD and anxiety disorders, substance use, and suicidality (Nikulina et al., 2017). Given these negative effects, it is imperative to better understand how ACEs might predispose individuals to IPV.

Researchers have argued that social learning theory is one theoretical framework that explains the link between childhood adversity and IPV, such that witnessing family violence in childhood may subsequently lead to difficulties with emotion regulation, or the re-enactment or acceptance of violence in future relationships (Nikulina et al., 2017). Social learning theory is largely based on the idea that children view their caregivers as models, and observation of poor emotion regulation or dysregulated behavior may render these children susceptible to replicating the same dysregulated affect and behavior toward others (Lavi et al., 2019), or accepting the normative nature of violence that was instilled early on (Jewkes, 2002). In fact, there is extant

literature that has established an empirical link among these variables, but questions remain. Specifically, little is known about the different types of abuse and neglect that may be experienced and whether these types of adverse experiences are associated with subsequent risk factors for IPV later in life. Therefore, the current study collected data from 500+ individuals to explore the way in which specific types of childhood adversity affected the frequency of later IPV victimization through the mediation of emotion dysregulation.

The distributions of ACEs showed that a small percentage of the sample experienced abuse (physical, emotional, sexual), while a larger portion of the sample reported experiences of neglect (physical, emotional). The distributions of the prevalence of abuse and neglect were not unusual for a non-treatment seeking sample (e.g., Wilson & Widom, 2009). Although childhood adversity has previously been measured as a continuous variable (LaNoue et al., 2020), in the present study, the variables were dichotomized and then combined into additive measures. Doing so resulted in a more comprehensive measure of abuse/neglect, as compared to only dichotomizing the data, where nuances of additive adversity may be lost.

There were gender differences for some of the key variables. Women reported more emotion dysregulation, childhood abuse and neglect, and IPV victimization than men. Research suggests that women tend to express or ruminate on their emotions, while men are more likely to avoid or suppress their emotions (Nolen-Hoeksema, 2012), perhaps resulting in women experiencing more emotion dysregulation. Previous studies have indicated that females are more likely to experience ACEs compared to males and that females are especially prone to experiencing sexual abuse, while physical abuse may be more predominant among males (Jones et al., 2022). In terms of IPV, it may be that men tend to be more apt to perpetrate violence, while women tend to engage in IPV as a form of self-defense (Gratz et al., 2009), thus leading to

men experiencing lower levels of victimization. Furthermore, Caldwell and colleagues posit that certain cultural and biological factors may be at play in terms of IPV. Power is an important factor to consider with IPV, and gender is frequently associated with power. Some cultures attribute status and power to the male gender, and on average, men tend to be larger and stronger than women biologically. These factors combined place women at greater risk for disempowerment and exposure to risky situations (Caldwell et al., 2012). However, despite these gendered factors, the literature suggests that IPV is, indeed, often bidirectional.

Consistent with study hypotheses, results showed that there was a significant and positive correlation between emotion dysregulation and additive childhood abuse and neglect. However, there were gender differences that suggest that the association between abuse and emotion dysregulation was stronger for men than women. Research suggests that male gender socialization of emotion expression may intensify the already negative outcomes of experiencing childhood adversity, leading to an increased risk of emotion dysregulation (Gratz et al., 2009). Post-hoc analyses revealed several interesting findings that emerged between men and women for the emotion dysregulation subscales. Specifically, the associations between additive abuse and the goals, impulse, and strategies subscales were significantly stronger for men than women. It should, however, be noted that the associations for both men and women were significant across all subscales. Although this was not an a priori hypothesis for the study, the findings are nonetheless interesting, and future research should seek to untangle the specific mechanisms of emotion regulation, as there may be a way to utilize the findings as therapeutic targets.

Results also showed that there was a significant and positive correlation between emotion dysregulation and IPV victimization. Perhaps emotion dysregulation contributes to IPV victimization such that an individual's dysregulation may escalate conflict in the moment, thus

rendering them susceptible to enduring violence. Or perhaps an individual's lack of emotion regulation could impede their ability to accurately detect danger and respond appropriately to risky situations or individuals (Dugal et al., 2018).

As predicted, results of the mediational analysis showed that both abuse and neglect seem to place individuals at risk for experiencing emotion dysregulation, and then subsequently, violence. Research in the developmental domain suggests that those who have experienced adversity in childhood, including abuse or neglect, endorse diminished capacities to effectively identify, construe, and manage their emotions (Poole et al., 2018). As a result, these individuals are more likely than their peers to engage in maladaptive coping strategies to manage their emotions in response to stressful family environments filled with conflict and hostility, or relationships that are callous, unsupportive, or neglectful in nature (Poole et al., 2018). Researchers have contended that for some individuals, violence may serve as an unsuccessful emotion regulation strategy, especially when these individuals lack the knowledge of how to effectively manage difficult emotions (Bliton et al., 2016).

Strengths and Limitations

Although results of the study replicate and extend previous research, there are some notable limitations. Data collection issues included a largely Caucasian sample, and because of this, inclusion of various comparisons across race/ethnic groups was not possible. Results of the current study are unfortunately not likely generalizable to the experiences of those whose racial identity is anything other than Caucasian. Additionally, the sample largely identified as either male or female, so the results may not be generalizable to non-binary individuals. Another drawback of the study includes not measuring IPV perpetration. This is important as there are theoretical and empirical links (Bates, 2016) which suggest that oftentimes, violence is

bidirectional and can be part of general couple dysfunction. There was also a miswording on the use of the ABI-R measure. The survey read “parent” when it should have read “person.”

Although notable, this wording change likely had minimal impact on the study results. Similarly, the Minimization/Denial subscale of the CTQ-SF was not included in the survey, as the primary focus of the study was the experience of abuse and neglect. However, minimization and denial may be important moderators to the effects of abuse and neglect on outcomes (i.e., emotion dysregulation).

The current study was one of the first to examine the frequency of childhood adversity type in relation to the frequency of IPV victimization. The study also had a large sample size of over 500 participants. Another strength was the inclusive nature of ACEs measured by breaking them down into categories of abuse (physical, emotional, sexual) and neglect (physical, emotional).

Clinical Implications

Clinical implications from the study for those who have experienced ACEs include treating trauma, but with a specific focus on emotion regulation skills given the pivotal role of this variable across trauma types. In conjunction with previous literature, results from the current study showed a significant and positive correlation between ACEs and emotion dysregulation; therefore, it is suggested that incorporating emotion regulation skills into treatment care would benefit those who are at risk of experiencing emotion dysregulation due to early adverse experiences.

Trauma-informed care (TIC) is a common approach to treating individuals who have experienced trauma (Barry & Gundacker, 2023). TIC is a treatment approach that: recognizes the impacts of trauma and various roads to healing, understands the signs and symptoms of trauma,

responds to trauma by translating knowledge into practice, and aims to avoid re-traumatization (Barry & Gundacker, 2023). Tailoring TIC to those who have experienced ACEs could include incorporating an increasing awareness of emotional dysregulation during re-traumatizing situations, in-vivo practice of emotion regulation skills, or distress tolerance and mindfulness strategies.

Table 1.**Demographic Characteristics of Participants**

Characteristic	Full sample	
	<i>n</i>	%
Gender		
Female	289	45.4
Male	340	53.5
Non-binary/3 rd gender	4	.6
Prefer to self- identify	1	.2
Prefer not to say	2	.3
Relationship status		
Single	52	8.2
In a relationship	584	91.8
Children		
Zero	242	38.1
One	156	24.5
Two	171	26.9
Three	45	7.1
Four	14	2.2
Five	2	0.3
Six+	6	0.9
Race		
Asian/Pacific Islander	41	6.4
Black/African American	61	9.6
Latinx	35	5.5
Middle Eastern/North African	3	0.5
Native American/Indian	7	1.1
White/Caucasian	489	76.9

Note. *N* = 636.

Table 2.

Descriptive Statistics for ACEs, Emotion Dysregulation, and IPV

Variable	Mean	Standard Deviation
Additive Abuse	1.44	1.05
Additive Neglect	21.42	8.80
Emotion Dysregulation	33.32	13.63
Additive IPV	1.49	.74

Table 3.**Gender Differences on Study Variables**

Study Variable	Women		Men		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Emotion Dysregulation	36.04	14.51	31.07	12.48	4.62**
Additive Abuse	1.62	1.04	1.28	1.04	4.13**
Additive Neglect	22.96	9.54	20.02	7.89	4.23**
Additive IPV	1.56	0.76	1.44	0.72	1.96*

Note. * = $p < .05$, ** = $p < .001$

Table 4.

Correlations between ACEs, Emotion Dysregulation, and IPV

Variable	1	2	3	4
Additive Abuse	---	.505**	.483**	.490**
Additive Neglect	.608**	---	.276**	.346**
Emotion Dysregulation	.320**	.332**	---	.429**
Additive IPV	.459**	.318**	.449**	---

Note. * = $p < .05$, ** = $p < .01$

Correlations above the diagonal are for men and below the diagonal are for women.
Gender differences are bolded.

Table 5.**Post Hoc Analyses for Study Variables and Emotion Dysregulation Subscales**

Variable	1	2	3	4	5	6	7	8
Additive Abuse	---	.505**	.490**	.445**	.402**	.460**	.423**	.375**
Additive Neglect	.608**	---	.346**	.279**	.154**	.299**	.248**	.237**
Additive IPV	.459**	.318**	---	.470**	.247**	.563**	.357**	.363**
Clarity	.394**	.387**	.461**	---	.599**	.739**	.714**	.646**
Goals	.195**	.252**	.267**	.502**	---	.608**	.800**	.593**
Impulse	.283**	.276**	.466**	.570**	.597**	---	.689**	.596**
Strategies	.253**	.253**	.362**	.589**	.823**	.693**	---	.773**
Nonacceptance	.300**	.307**	.323**	.605**	.627**	.518**	.723**	---

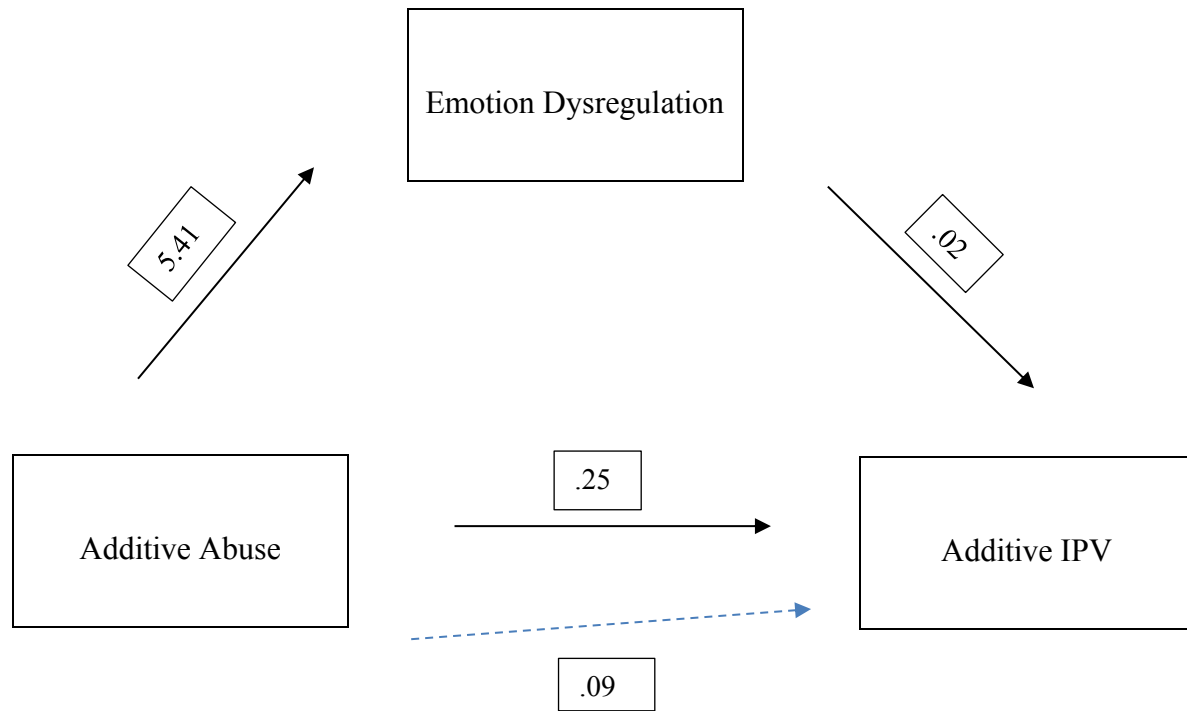
Note. * = $p < .05$, ** = $p < .01$

Correlations above the diagonal are for men and below the diagonal are for women.

Gender differences are bolded.

Figure 2.

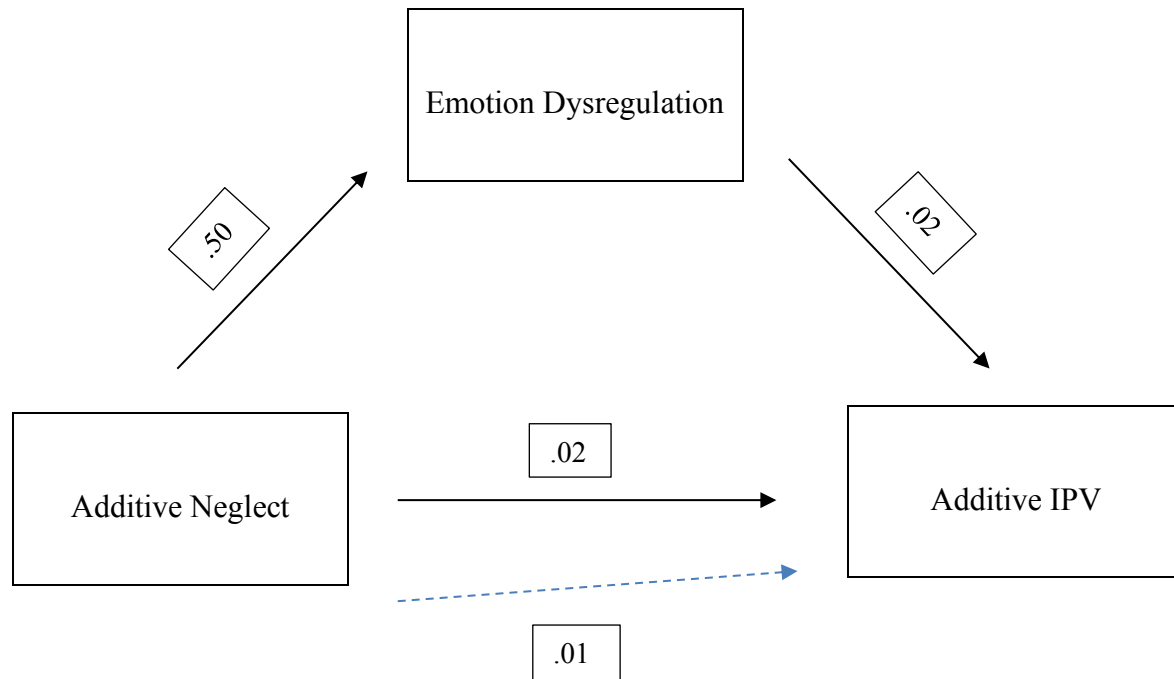
Additive Abuse, Emotion Dysregulation, and Additive IPV Mediation Analysis



Note: Solid lines indicate direct effects and the dashed line indicate an indirect effect

Figure 3.

Additive Neglect, Emotion Dysregulation, and Additive IPV Mediation Analysis



Note: Solid lines indicate direct effects and the dashed line indicate an indirect effect

Appendix A: Consent Form

Title of the Project: Childhood Trauma, Emotion Dysregulation, and Intimate Partner Violence: Does trauma type matter? PI: Olivia Ours, B.A., University of Michigan – Dearborn Co-investigators: Michelle Leonard, PhD, L.P., Pam McAuslan, PhD

Invitation to be Part of Research Study: You are invited to participate in a research study being conducted by the University of Michigan – Dearborn. In order to participate, you must be over the age of 18 years old, can read, write, and understand the English language, and are currently in a relationship or have been in a relationship within the past six months. Taking part in this research study is voluntary.

Purpose of the Study: The purpose of this study is to examine how specific traumatic experiences in childhood later impact relationship violence. This is important because understanding this impact may lead to the development of intervention and prevention strategies that may mitigate the risk of violence in adulthood.

Important Information: If you choose to participate, you will be asked to complete an online survey. These questions focus on your previous experiences in childhood and adult romantic relationships, in addition to your perception of your ability to regulate your emotions. The survey will take approximately 15 minutes of your time. To compensate you for your time, participants who satisfactorily complete the survey will be paid \$3.00. Satisfactory completion of work is determined in a number of ways including the time that is taken to complete the survey in Qualtrics, the number of questions or sections that are missed, and responding appropriately to attention checks that are located throughout the survey.

What are the potential benefits of participating in this study? The benefits of participating in this study include gaining insight about your previous experiences and how they have impacted your current experiences. Additionally, you may gain greater understanding of the process of psychological research methods in general. Taking part in this research project is completely voluntary. You do not have to participate, and you can stop at any time. After you have completed the study protocol, no further action is required on your part. The study staff will keep your responses anonymous and confidential.

What are the potential risks of participating in this study? Although risks of the study are quite minimal, you may still experience some risks related to participation even when the researchers are careful to avoid them. Risks of this research study include slight potential for distress (such as experiencing feelings of anxiety or sadness) when reflecting upon your relationship experiences. The study staff will try to reduce the likelihood that you will

experience these risks and will provide you with follow-up resources if necessary at the end of the study.

How will we plan to protect your information? We plan to remove any identifying information (e.g., name, telephone number, date of birth, etc.) collected as part of the study.

What will happen to the information we collect about you after the study is over? We will keep your research data to use for future research. Because data is collected anonymously and is analyzed in aggregate, your direct information will not be directly or indirectly identifiable. Your data will also be kept secure among the research team and will not be shared. We may share your research data with other investigators without asking for your consent again, but it will not contain information that could directly identify you.

Your participation in this study is voluntary. Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. If you decide to withdraw early the data that you generate will be destroyed.

Contact Information for the Study Team and Questions about the Research: If you have questions about this research, you may contact Olivia Ours (email: ooors@umich.edu) or Dr. Michelle Leonard (email: mtleon@umich.edu).

Your Rights as a Research Participant: As part of their review, the University of Michigan Institutional Review Board Health Sciences and Behavioral Sciences has determined that this study is no more than minimal risk and exempt from on-going IRB oversight. I understand the purpose of the study, risks/benefits, and procedure, and by selecting "Yes" I am providing my consent.

Appendix B: Follow-up Resources



Thank you for your interest or participation in the Childhood Trauma, Emotion Dysregulation, and Intimate Partner Violence research study. We hope that by exploring how childhood trauma later impacts relationships, we can propose and implement intervention and prevention strategies to end the cycle of violence altogether.

This provided sheet is a reminder that if you would like to seek additional services, you are more than welcome to contact any of the treatment providers listed below.

Psychological Services

US National Suicide Prevention Lifeline
Call 1-800-273-TALK (8255); ~~En Español~~ 1-888-628-9454
Crisis Text Line: Text “HELLO” to 741741

Canada Suicide Prevention
Call 1-833-456-4566
Crisis Text Line: Text message to 45645

Domestic Violence

US National Domestic Violence Hotline
1-800-799-7233 (SAFE) or 1-800-787-3224
If you're unable to speak safely, you can log onto thehotline.org or text LOVEIS to 22522.

CA Assaulted Women's Helpline
Toll-free: 1-866-863-0511
Toll-free TTY: 1-866-863-7868

Thank you again for your participation.

Olivia Ours email: ours@umich.edu

University of Michigan – Dearborn

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