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Childhood Maltreatment, Mental Health, and Interpersonal Conflict in Current Adult Relationships

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CHILDHOOD MALTREATMENT, MENTAL HEALTH, AND INTERPERSONAL CONFLICT IN CURRENT ADULT RELATIONSHIPS

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CHILDHOOD MALTREATMENT, MENTAL HEALTH, AND INTERPERSONAL CONFLICT IN CURRENT ADULT RELATIONSHIPS

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Abstract

Childhood maltreatment (CM) is a prevalent issue in society that affects mental health outcomes and adult interpersonal relationships. The purpose of this thesis was to evaluate the relationship between CM, mental health symptoms, and interpersonal conflict in emerging adult relationships in a nonclinical population of college students that varied in CM history. A sample of 104 UNC students self-reported mental health and trauma symptoms, interpersonal conflict, and CM history as a part of a larger longitudinal study examining CM and college adaptation. The Childhood Trauma Questionnaire (CTQ), Symptom Checklist-90-Revised (SCL-90-R), Trauma Symptom Checklist-40 (TSC-40), and Revised Conflict Tactics Scales (CTS2) were administered online. Consistent with past research, CM history was positively correlated with various mental health difficulties. All CM subscales except Sexual Abuse were positively associated with all interpersonal conflict scales, with the strongest correlations between the CTS-2 Psychological Aggression by the Partner (PAP) score and CTQ Emotional Neglect, Emotional Abuse, and the total scores. Various mental health symptoms were positively correlated with interpersonal conflict, with the strongest correlations between the CTS-2 PAP score and the SCL-90-R Depression subscales, the TSC-40 Sexual Abuse Trauma Index (SATI), and the TSC-40 total score. Mediation analyses demonstrated that overall trauma symptoms fully mediated the relationship between CM and psychological aggression by the partner and self, as well as sexual coercion by the partner. In addition, the TSC-40 SATI fully mediated the pathway between CM and psychological aggression by the partner and self, as well as sexual coercion by the partner. Trauma symptoms are highlighted as a key factor in the relationship between CM history and interpersonal

conflict in current adult relationships. These findings are important in developing college programming that targets vulnerable students with a maltreatment history for both mental health and relationship assistance, which will have implications for their overall college adaptation.

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Introduction

Childhood maltreatment (CM) continues to be a prevalent problem throughout the world. According to experts (World Health Organization, 2017), CM is defined as physical abuse, sexual abuse, emotional abuse, and physical and emotional neglect before age 18. Physical abuse includes hitting, shaking, or beating, sexual abuse includes "Sexual contact or exposure to sexual acts or materials", emotional abuse includes threatening, ridiculing, confining, or insulting, and physical neglect includes not providing a child shelter, education, or medical care. Emotional neglect includes disregarding the child's affectional needs (Ludwig & Rostain, 2009). The CDC estimates that at least 1 in 7 children has experienced abuse or neglect in the last year (Centers for Disease Control and Prevention, 2019). Adults who were victims of CM as children are at risk of being a victim of or perpetrating violence or maltreatment (World Health Organization, 2017). There may be a relationship between CM and how people deal with conflict in their adult relationships. Also, CM is a risk factor for poor psychiatric outcomes (Arnow, 2004). It is a possibility that mental health issues may mediate the relationship between CM and how adults deal with conflict in their relationships.

Not only is CM an issue throughout the United States, but it is also something that students at the University of Northern Colorado have faced. Over several semesters, Welsh and colleagues (Welsh et al., 2017; Moore et al., 2019) have found a base rate of at least 30% of students in their research that self-reported moderate-to-high levels of CM history. Thus, there is an opportunity to investigate CM, adult interpersonal conflict, and mental health at this university. The purpose of this study was to evaluate the relationships between mental health, CM history, and interpersonal conflict. It is

important to investigate the mediational pathways from CM to poor adaptation in interpersonal conflict. If mental health symptoms are found to be a mechanism in the pathway between CM history and current interpersonal conflict, then mental health could serve as a target for intervention. The findings of this study can aid university programs in helping students with co-occurring CM history and mental health issues to develop healthy adult relationships and prevent intimate partner violence.

Literature Review

Childhood Maltreatment and Mental Health

There is vast literature on the relationship between a history of CM and mental health outcomes, although the findings are mixed. Studies have generally agreed that CM can be related to mental health outcomes. For example, Cecil and colleagues (2017) studied a sample of high-risk adolescents ages 16 to 24 and concluded that a greater amount of CM types predicted the severity of mental health symptoms in these individuals. They also found that both internalizing and externalizing symptoms were significantly correlated with all types of CM, although there was no individual association between physical abuse and externalizing symptoms. Also, emotional abuse was unique in that it was the main predictor of internalizing symptoms (Cecil et al., 2017). Another study conducted on undergraduate students ages 17 to 48 found that the severity of CM was a significant predictor of an increased Trauma Symptom Checklist-40 score, which includes mental health symptomatology (Clemmons et al., 2007), and is one of the measures used in the current study.

Various studies examined the relationship between a history of CM and specific mental health symptomatology and disorders, including depressive symptoms. Merrick

and colleagues (2017) studied an adult population (M age = 55.4) and concluded that childhood sexual abuse, physical abuse, and most strongly emotional neglect were predictors of depressed affect. Another sample of adults was assessed, and the researchers concluded that both a history of childhood emotional abuse and a history of childhood emotional neglect was associated with lifetime diagnoses of major depression (Taillieu et al., 2016). A third study involving an adult population (M age = 28.7) was conducted and the results showed that the people with a history of CM had an increased number of depressive episodes and a lower mean age of onset of depression than the control group (Widom et al., 2007). Also, Fogarty and colleagues (2008) studied a population of adult women (M age = 44.2) and concluded that a history of child abuse resulted in a 63% increased chance of depressive symptoms. There is a general consensus that a history of CM is related to depressive symptoms, but the specific types of CM that correlate and the measure used to assess depressive symptoms vary across studies.

Research has also examined the relationship between a history of CM and mental health symptomatology and disorders other than depression. For example, Merrick and colleagues (2017) concluded that sexual abuse, physical abuse, emotional neglect, and most strongly emotional abuse, were predictors of suicide attempts. Also, Taillieu et al. (2016) not only assessed CM and depression but concluded that emotional neglect and emotional abuse were associated with lifetime diagnoses of social phobia, dysthymia, and schizoid, schizotypal, borderline, and avoidant personality disorders. Emotional abuse alone was found to be associated with lifetime diagnoses of mania, panic disorder, specific phobia, GAD, PTSD, and paranoid, antisocial, histrionic, narcissistic, dependent, and obsessive-compulsive personality disorders (Taillieu et al., 2016). Not only has

research shown that a history of CM relates to depressive symptoms, but it has shown that the mental health consequences of a history of maltreatment can be wide-ranging.

Lang and colleagues' (2004) study involving the relationship between a history of CM and mental health outcomes is unique in that its sole measure of a history of CM is the Childhood Trauma Questionnaire, which is rare in this niche of literature and was the CM measure used in the current study. The purpose of their study was to examine how different types of CM related to adult psychopathology and revictimization. They used a population of females ages 18 to 57 (M age = 32.8). This included 42 females who were victims of intimate partner violence and 30 females who had not experienced trauma. Again, the Childhood Trauma Questionnaire was used to measure a history of CM, and several measures were used to evaluate mental health outcomes. The Los Angeles Symptom Checklist (LASC) was used to measure PTSD symptoms, the Dissociative Experiences Scale (DES-T) was used to measure dissociative experiences, the Center for Epidemiologic Studies-Depression Scale (CES-D) was used to measure depressive symptoms, the Beck Anxiety Inventory (BAI) was used to measure anxious symptoms, the Anxiety Sensitivity Index (ASI) was used to measure anxiety sensitivity, the Structured Clinical Interview for the DSM-IV (SCID) was used to measure symptoms of various disorders, and the Clinician-Administered PTSD Scale for DSM-IV (CAPS) was used to measure symptoms of PTSD.

The researchers found that the number of childhood traumas a participant had experienced was related to adult psychopathology. Also, emotional neglect significantly correlated with dissociative experiences and depressive symptoms, and sexual abuse was significantly associated with anxiety sensitivity. The number of types of CM and PTSD

symptoms were significantly correlated, and participants who experienced IPV had higher rates of both of these compared to the control group (Lang et al., 2004). Again, this study is unique in that it uses the Childhood Trauma Questionnaire, which shows good validity and reliability (Bernstein et al., 1994). This study is also strong in that various scales allowed for the assessment of a wide range of mental health symptoms. However, using a group that included 42 females who were victims of intimate partner violence and using a small sample size may make it difficult for these results to be generalized to a general population. Also, using a population with a mean age of 32.8 may suggest that these results could vary in younger adults, who were the focus of the current study.

Another study was conducted on the relationship between psychological functioning and experiences of victimization in childhood and is unique because it involved a large participant pool (N = 551) of female college students (Rich et al., 2005). This population was recruited through psychology courses, and 75.7% were in their first year of college. The Conflict Tactics Scale was used to assess emotional and physical childhood abuse, and the Child Sexual Victimization Questionnaire was used to assess child sexual victimization before age 14. The Impact of Event Scale was used to measure trauma and stress, the Beck Depression Inventory-II was used to assess depressive symptoms, and the Inventory of Interpersonal Problems was used to measure types of interpersonal problems and how distressing they were to the person. These mental health outcomes were measured at an initial intake and then again after 2 months. The findings of the study were that verbal abuse by both parents predicted depressive symptoms at time 1. Also, verbal abuse by a father predicted trauma symptoms and verbal abuse by a

mother predicted interpersonal problems at time 1, and both trauma symptoms and interpersonal problems continued at time 2 (Rich et al., 2005). This study is strong because it used a large sample size and focused on a population of college females. However, the measures used to assess for CM did not include child physical and emotional neglect, as did the measure in the current study.

Overall, the literature generally agrees that CM may be related to mental health outcomes in adulthood, although the specifics of this relationship differ between studies. This literature could benefit from a study that uses the Childhood Trauma Questionnaire to assess for the full range of CM types. Also, using a sample size of college students not limited to females would add to the literature by allowing for results that may be generalized to a non-clinical population of emerging adults.

Childhood Maltreatment and Interpersonal Conflict

Several studies have assessed the relationship between CM and interpersonal conflict, including dating violence perpetration and victimization. One study with female participants ages 18 to 58 found that having a high level of adverse childhood experiences, including CM, was related to greater severity of intimate partner violence victimization (Willie et al., 2018). Similarly, Ouellet-Morin and colleagues (2015) concluded that the participants, who were adult women ages 20 to 48, that were victims of intimate partner violence were more likely to have experienced CM.

Specifically, some studies have assessed the relationship between CM and intimate partner violence perpetration. One study that assessed college women (M age = 18.54) found that physical abuse and verbal victimization as an adolescent and adult by a father predicted verbal perpetration (threatening, saying something spiteful), while

childhood sexual abuse, verbal victimization as an adolescent and adult, and adolescent and adulthood physical abuse predicted perpetration of physical aggression against a partner. Neglect was not assessed (Edwards et al., 2009). Similarly, Whitfield and colleagues (2003) studied adults (male *M* age = 57, female *M* age = 55) and concluded that men in their study had significantly increased intimate partner violence perpetration if they had experienced sexual or physical abuse as a child. Generally, the literature has shown that CM history is related to intimate partner violence perpetration.

Other research has focused on the relationship between CM and intimate partner violence victimization. For example, Whitfield and colleagues (2003) found that women in their study had a significantly increased risk for intimate partner violence victimization (shoving, pushing, and threatening) if they had experienced sexual or physical abuse as a child. Neglect was not assessed. Similarly, another study assessing adolescent girls found that a history of childhood sexual abuse was significantly positively correlated with psychological dating victimization, sexual coercion from a partner, and physical abuse from a partner (Hebert et al., 2008). This study did not assess other forms of child abuse or neglect. Also, Lang and colleagues (2004) not only studied the relationship between CM and mental health outcomes, but also the relationship between CM and interpersonal conflict, which is similar to the current study. They concluded that in their participants' current relationships, physical abuse by intimate partners was negatively associated with emotional neglect as a child, which interestingly does not align with the literature that concluded that CM was associated with intimate partner violence. Most literature has shown that CM is related to intimate partner violence victimization, although one study has conflicting results.

Two studies should be highlighted in that they both examined the relationship between CM and intimate partner violence using the Revised Conflict Tactics Scales and focused on populations of college students, as in the current study. Gover and colleagues (2008) studied a population of 2,541 college students at two southeastern universities. Again, the Revised Conflict Tactics Scales was used to assess for current interpersonal conflict and a dichotomous measure of child abuse that the researchers created from the Revised Conflict Tactics Scales was used to measure CM, not including neglect. The study found that experiencing and witnessing violence as a child consistently predicted involvement in relationships characterized by violence, and both genders who experienced childhood abuse were more likely to perpetrate physical dating violence. Importantly, childhood abuse was associated with dating violence victimization among females only (Gover et al., 2008).

Milletich and colleagues (2010) studied a population of 703 college students ages 18 to 30 at a large university in southeastern Virginia. The Revised Conflict Tactics Scales was used to measure current interpersonal conflict and the Exposure to Abusive and Supportive Environments Parenting Inventory was used to measure CM history, specifically sexual, emotional, and physical abuse, not including neglect. This study concluded that females' experiences of childhood physical abuse were associated with perpetrating physical aggression, and higher levels of abuse predicted the frequency of perpetrating. Childhood physical abuse was positively correlated with being victimized by a partner in females and childhood emotional abuse was positively correlated with being victimized by a partner in males (Milletich et al., 2010). These studies are both strong in that they used large populations of college students and assessed interpersonal

conflict using the Revised Conflict Tactics Scales, which has shown reliability and validity in measuring intimate partner violence (Chapman & Gillespie, 2019). However, both studies used CM measures that did not include child physical and emotional neglect, which were explored in the current study.

The literature has demonstrated a complex relationship between CM and intimate partner violence perpetration and victimization. Some studies have shown correlations between a history of CM and intimate partner violence victimization as an adult. Other studies have found relationships between certain types of CM and both physical and verbal perpetration in adult relationships. This literature may be advanced by continuing to use a sample of college students to focus on emerging adults in a non-clinical population. However, it is also important to use the Childhood Trauma Questionnaire to include assessment of child physical and emotional neglect, which was not used in these studies.

Mental Health and Interpersonal Conflict

A relationship between mental health outcomes and interpersonal conflict has been demonstrated in many studies. For example, a systematic review of 58 papers found that the severity and amount of intimate partner violence were associated with more mental health symptoms (Lagdon et al., 2014). Lang and colleagues (2004) studied the relationship between psychopathology and victimization and found that the intimate partner violence victims in their study had higher scores on all psychopathology measures compared to the control group. Specifically, some studies have found relationships between depression and interpersonal conflict. For example, Lagdon and colleagues' (2014) literature review found associations between intimate partner violence

victimization and depression. Similarly, a research study examined participants ages 22 to 29 and concluded that physical victimization was positively associated with symptoms of depression (Longmore et al., 2014). Also, Fogarty and colleagues (2008) not only studied CM and mental health but also mental health and interpersonal conflict and concluded that reports of intimate partner violence resulted in a 55% increased chance of depressive symptoms. Ouellet-Morin and colleagues (2015) not only studied CM and interpersonal conflict but also mental health outcomes, and they concluded that women in their study who had experienced intimate partner violence in a 10-year period were 2 to 3 times more likely to have new-onset depression, which indicated a dose-response relationship with violence exposure to depression. Rich and colleagues (2005) also evaluated this relationship in their study and found that dating violence during the 2-month follow-up period was correlated with depressive symptoms at time 2 of the follow-up assessment. Interestingly, Lang and colleagues (2004) also concluded that current physical intimate partner violence was negatively associated with depressive symptoms, which is contrary to other studies. Most literature has shown that intimate partner violence is related to increased depressive symptoms, although one study has conflicting results.

The relationship between mental health outcomes other than depressive symptoms and intimate partner violence has also been the subject of some studies. Lagdon and colleagues (2014) found associations between intimate partner violence victimization and PTSD and anxiety. Similarly, Lang and colleagues (2004) found that injury within intimate partner violence was positively associated with anxiety sensitivity. However, they concluded that physical intimate partner violence in current relationships was

associated with less current symptoms of PTSD (Lang et al., 2004). The literature could benefit from more research on the relationship between mental health outcomes other than depressive symptoms and intimate partner violence.

One study is unique in that they examined the relationship between intimate partner violence and mental health outcomes using a sample of college students and included the Revised Conflict Tactics Scales in their measures, the measure used in the current study. Próspero (2007) evaluated a sample of college students (N = 573) who had a relationship within the past year that lasted at least 3 months. The Revised Conflict Tactics Scales was used to assess interpersonal conflict and the Symptoms Questionnaire was used to measure mental health outcomes. Generally, the researchers concluded that people with higher levels of intimate partner violence victimization reported higher mental health symptoms. Specifically, a significant association was found between higher levels of psychological and physical intimate partner violence victimization and levels of depression, anxiety, somatization, and hostility. In males only, associations were found between higher levels of sexual intimate partner violence victimization and depression, anxiety, and somatization (Próspero, 2007). These studies are unique because they both used large populations of college students and evaluated interpersonal conflict using the Revised Conflict Tactics Scales, a measure with good reliability and validity in assessing intimate partner violence (Chapman & Gillespie, 2019). Since intimate partner violence and mental health symptoms were measured at the same time, a cause and effect interpretation could not be made.

This field has portrayed a relationship between intimate partner violence and mental health outcomes, but the findings are mixed. While studies have found

correlations between intimate partner violence and more mental health symptoms, only a couple of studies established a causal relationship. Due to this, it is reasonable to interpret mental health symptoms as both a potential cause and outcome of interpersonal conflict. Interestingly, one study found a different relationship than the other studies, finding that intimate partner violence was related to fewer mental health symptoms. The literature could be advanced by adding more studies that focus on college students to obtain a non-clinical sample of emerging adults. Also, using both the Symptom Checklist-90-Revised and the Trauma Symptom Checklist-40 may be an advantage to assess for a wider range of mental health outcomes.

Childhood Maltreatment, Mental Health, and Interpersonal Conflict

Few studies examine CM, mental health, and interpersonal conflict together, as was done in the current study. Hebert and colleagues (2008) examined the relationship between both childhood sexual abuse and dating victimization with mental disorders in a sample of adolescent girls (N = 929). The participants were assessed in kindergarten and again at age 15 in the form of interviews conducted with their mothers present in their homes. In kindergarten behavioral issues were measured using the French version of the Preschool Behaviour Questionnaire. Interpersonal conflict was measured at age 15 using items adapted from the Revised Conflict Tactics Scales, the Psychological Maltreatment of Women Inventory, and the Sexual Experiences Survey. Childhood sexual abuse was evaluated at age 15 with two questions. Mental health outcomes were measured using the French-language parent and child versions of the Diagnostic Interview Schedule for Children to estimate the 6-month prevalence of DSM-3-R disorders, and the scores were categorized based on whether the disorder was internalized or externalized. The

researchers concluded that when the girls had histories of both childhood sexual abuse and dating victimization, the risk for at least one internalized or externalized mental health disorder was higher. Specifically, a history of both dating victimization and childhood sexual abuse increased the odds of a mental health disorder 3 times when the childhood sexual abuse did not involve penetration and 10 times when it did involve penetration (Hebert et al., 2008). The results emphasize the higher combined associations of CM and interpersonal conflict with mental health outcomes. This study is advantageous in that it utilized a large sample size and evaluated for a wide range of mental health disorders measured in the DSM-3-R. The study could be improved by evaluating all types of CM by using a measure like the Childhood Trauma Questionnaire. Also, although part of the Revised Conflict Tactics Scale was used as one of the measures evaluating interpersonal conflict, it may be helpful to use the full scale to evaluate all types of interpersonal conflict. Including results of specific mental health disorders instead of using internalizing and externalizing categories could also allow for more specific findings. Findings could be more generalized by using a population not limited to females. Lastly, this study differs from the current study in that it assesses mental health as an outcome and did not assess mediation, while the current study assesses interpersonal conflict as the outcome in a mediation pathway.

Fogarty and colleagues (2008) examined the relationship between both sexual and physical abuse and intimate partner violence with depressive symptoms in a sample of adult women (N = 7918, M age = 44.2). Eight items on the first edition of the Beck Depression Inventory short form were used to evaluate depressive symptoms in the last week. Both CM and interpersonal conflict were assessed using items from the physical

abuse scale in the Conflict Tactics Scale and items from the National Women's study Forced Sex questions. The study concluded that participants who reported both intimate partner violence and child abuse had a 50.2% prevalence of depressive symptoms. Reporting only child abuse had a 34.9% prevalence of depressive symptoms. Reporting only intimate partner violence had a 35.7% prevalence of depressive symptoms while reporting no abuse had a 25.2% prevalence of depressive symptoms (Fogarty et al., 2008). The results show how the combined effect of CM and intimate partner violence is a risk factor for depressive symptoms compared to the two alone. This study is strong in that it used a very large sample size to evaluate the relationship between these three constructs. However, evaluating more mental health outcomes and expanding beyond depressive symptoms in the past week may yield different results. Also, assessing all types of CM and interpersonal conflict, not just physical and sexual types, using scales like the Childhood Trauma Questionnaire and the Revised Conflict Tactics Scales may be advantageous. This study differs from the current study because it only assessed females. Also, it differs from the current study because it assesses mental health as the outcome, not interpersonal conflict, and it did not look at mediation.

A third study also focused on depressive symptoms in a population of adult mothers (N = 978) ages 20 to 48 (Ouellet-Morin et al., 2015). The participants were all mothers of twins and did not have a history of depression at the beginning of the study. They were assessed in face-to-face interviews at three different times during a follow-up period of 7 years. Interpersonal conflict was measured using the Conflict Tactics Scale-Form R, CM was measured using the Childhood Trauma Questionnaire Short-Form, and depressive disorders were assessed for using the DIS DSM-IV. The results showed that

women who had experienced only intimate partner violence in a 10-year period were 2 to 3 times more likely to have new-onset depression. However, when women experienced both CM and intimate partner violence, they were 4 to 7 times more likely to have new-onset depression (Ouellet-Morin et al., 2015). These results suggest that the combined association of intimate partner violence and CM with developing depression is greater than if the participant experienced either alone, which is similar to what Hebert and colleagues (2008) found. This study is strong in that it used a large sample size and assessed for a large range of CM and interpersonal conflict. It may be advantageous to evaluate for more mental health symptoms in the future in a population not limited to females.

Several studies not only examined the relationship between CM, interpersonal conflict, and mental health outcomes but also analyzed for pathways. For example, McGuigan and Middlemiss (2005) examined the impact of childhood sexual abuse and interpersonal violence as an adult on depressive symptoms in a sample of adult mothers (N = 265, M age = 27). Interpersonal conflict was measured using 9 questions from the Conflict Tactics Scale to assess for physical violence in not only intimate relationships but also within families and friend groups. CM was evaluated using Russell's questions to evaluate childhood sexual abuse. Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale. The results showed that depressive symptoms were highest in the participants who had experienced both childhood sexual abuse and adult interpersonal violence. Also, depressive symptoms were higher in women who had experienced only childhood sexual abuse than in women who had experienced only interpersonal violence. Interestingly, no mediators or moderators were

found when researchers tested for all possible combinations of mediation and moderation pathways (McGuigan & Middlemiss, 2005). The results of this study suggest that the combined effect of experiencing both childhood sexual abuse and adult interpersonal violence on depressive symptoms were greater than either individual effect, but there are no significant pathways in this relationship. This study is strong in that it used a good sample size and assessed for mediators and moderators. It may be advantageous to expand the assessments by evaluating for full ranges of CM, intimate partner violence, and mental health outcomes to analyze whether other associations and pathways may exist. It differs from the current study in that it specifically focused on females and did not evaluate the full range of CM or use the full CTS2 measure.

The final study evaluated the relationship between psychological functioning and experiences of victimization in both childhood and adulthood using a short-term longitudinal design (Rich et al., 2005). As stated, this study analyzed a sample of college females (N = 551) in psychology courses, 75.7% of which were in their first year of college. CM history, mental health symptoms, and interpersonal conflict were measured at time 1, and after 2 months subsequent experiences of interpersonal conflict and mental health outcomes were measured at time 2. The Dating Conflict Scale from the Conflict Tactics Scale was used to assess emotional and physical intimate partner violence, and the Sexual Experiences Survey was used to assess sexual victimization after age 14. The Conflict Tactics Scale was used to assess emotional and physical childhood abuse, and the Child Sexual Victimization Questionnaire was used to assess child sexual victimization before age 14. The Impact of Event Scale was used to measure trauma and stress, the Beck Depression Inventory-II was used to assess depressive symptoms, and the

Inventory of Interpersonal Problems was used to measure types of interpersonal problems and how distressing they were to the person.

The researchers found that verbal abuse by both parents and the magnitude of depressive symptoms at time 1 predicted adolescent dating violence and depressive symptoms at time 2. Also, the results suggested that verbal and physical abuse by the father and the magnitude of trauma symptoms at time 1 predicted adolescent dating violence and trauma symptoms at time 2 (Rich et al., 2005). This is the only study that found significant pathways within CM, interpersonal conflict, and mental health outcomes, and only one other study analyzed for pathways. This study is strong in that it assessed a large sample size and used scales that evaluated for a broad range of interpersonal conflict. However, physical and emotional neglect were not evaluated, and this study limited its research to a female population. Also, it may be advantageous to evaluate a broader range of mental health outcomes in future studies. This study analyzed a pathway with mental health, trauma symptoms, and dating violence victimization as an outcome, which is relevant to the current study.

Overall, the literature has shown that CM is related to mental health outcomes, although the specifics on the types of CM and mental health outcomes differ between studies. Regarding CM and intimate partner violence, a complex relationship has been portrayed between CM and perpetration and victimization. Many studies show a relationship between intimate partner violence and mental health outcomes, but findings are not consistent across certain studies. Some studies have examined all three constructs and suggest that the combined effect of CM and intimate partner violence on mental health outcomes is greater than each individual effect. However, there is very limited

research on whether there are pathways within these constructs, and mental health has been examined as an outcome, and not as a mediator in the pathway to interpersonal conflict as in the current study. Also, the studies that examined all three constructs focused on female populations, while the current study did not have gender restrictions.

Purpose of Current Study

This review of the relevant literature highlight important gaps in this field. Studies evaluating all three constructs are necessary. These should be evaluated using measures evaluating a broad range of mental health symptoms, all types of CM, and all types of maladaptive interpersonal conflict resolution. It would be important to conduct pathway analyses to test for mediators, which is currently very limited within this subject area. Finally, studies could examine the diverse population of college students to focus on the unique stage of emerging adulthood. To address some of these gaps in our understanding, the purpose of this study was to evaluate the complex relationships between CM, interpersonal conflict, and mental health outcomes in college students. The main research question for this study was: How are mental health, childhood maltreatment, and interpersonal conflict in current adult relationships related in college students at the University of Northern Colorado? There are several related questions relevant to this study:

1. Does CM history predict poor mental health outcomes?
2. Does CM history predict difficulties with resolving conflict in current relationships?
3. Do poor mental health symptoms predict difficulties with resolving conflict in current relationships?

4. Do poor mental health symptoms mediate the association between CM history and problems with resolving conflict in current relationships?

Methods

To answer the research questions, a series of surveys were conducted containing established psychological measures. The variables of interest in this study were history of CM, conflict in current relationships, and mental health outcomes. The research questions were examined using one sample of college students at the University of Northern Colorado.

Participants

Participants (N = 104) were recruited through introductory psychology courses at the University of Northern Colorado. Students had the opportunity to volunteer for research participation to fulfill their course requirements. Participants ranged in age from 18 to 28 (M = 19.43, SD = 1.76), were born in the United States of America, and reported English as their first language. The sample included approximately 73% female-identifying individuals. Regarding year in school, 66 participants were first-year students, 29 were second-year students, 8 were third-year students, and 2 were fourth-year students. Within this sample, approximately 48% of participants were first-generation students. The mean number of years reported for mother's education was 10.45 years (SD = 3.75). During data collection, Colorado Governor Polis issued a statewide Stay-At-Home-Order that went into effect on March 26th, 2021 due to the COVID-119 pandemic. Students at the University of Northern Colorado transitioned into online learning for the remainder of the Spring 2020 semester. Therefore, participants were grouped into pre-quarantine (N = 26) and quarantine groups (N = 79). Differences in CM status were not

associated with any of these demographic variables. Of the full sample, 84 participants completed the CTS-2 because they met the criterion of having a romantic relationship in high school or college.

Measures

Childhood Trauma Questionnaire-Short Form. The CTQ-SF is a self-report tool used to measure child abuse and neglect. It was developed by Bernstein et al. (2003), while the original scale was developed by Bernstein et al. (1994). The measure consists of 28 items organized into 5 categories of maltreatment: Emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Items such as "People in my family hit me so hard it left me with bruises or marks" and "I didn't have enough to eat" are presented and participants are asked to answer the frequency of each item, on a scale from 1 (never true) to 5 (very often true). It is estimated to take 5 minutes to complete (Bernstein et al., 2003). The original measure has shown good initial reliability and validity (Bernstein et al., 1994), and the CTQ-SF has shown validity across clinical and non-clinical populations (Bernstein et al., 2003). This scale was used to measure participants' CM history.

Revised Conflict Tactics Scales. The CTS2 is a self-report tool used to measure how participants deal with conflicts in their adult relationships. It was developed by Straus, Hamby, Boney-McCoy, and Sugarman (1996). This measure consists of 78 items organized into 5 categories: Negotiation, psychological aggression, physical assault, sexual coercion, and injury. Items such as, "I stomped out of the room or house or yard during a disagreement" and "My partner did this to me" are presented and the participants are asked to answer, "How often did this happen?". Responses include "Once in the past

year", "Twice in the past year", "3-5 times in the past year", "6-10 times in the past year", "11-20 times in the past year", "More than 20 times in the past year", "Not in the past year, but it did happen before", and "This has never happened". It is estimated to take 10-15 minutes to complete (Straus et al., 1996). This measure has shown reliability and validity to measure intimate partner violence in different samples (Chapman & Gillespie, 2019). This scale was used to measure participants' interpersonal conflict in their current relationships.

Symptom Checklist-90-Revised. The SCL-90-R is a self-report tool used to measure a broad range of mental health symptoms. It was developed by Dr. Leonard R. Derogatis and was published in 1994. This measure consists of 90 items organized into 9 categories: Somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, and additional items. Items may include information regarding impulses (obsessive-compulsive), hearing voices (psychoticism), and nervousness (anxiety) (Groth-Marnat & Wright, 2016). The participants are asked to rate each item on a scale from 0 (not at all) to 4 (extremely) in the past week (Groth-Marnat & Wright, 2016). It is estimated to take 12-15 minutes to complete. This measure has shown construct validity (Derogatis & Cleary, 1977) and good reliability (Groth-Marnat & Wright, 2016). This scale was used to measure participants' mental health symptoms.

Trauma Symptom Checklist-40. The TSC-40 is a self-report tool used to measure symptoms related to traumatic experiences (Elliot & Briere, 1991). This measure consists of 40 items organized into 6 subscales: Anxiety, Depression, Dissociation, Sexual Abuse Trauma Index, Sexual Problems, and Sleep Disturbance. The participants are asked to

rate the frequency of symptoms in the last 2 months ranging from 0 (never) to 3 (often). This measure has shown psychometric validity and good reliability (Elliot & Briere, 1992). This scale will be used in this thesis to measure participants' current levels of distress and mental health symptoms.

Procedure

Data collection took place as a part of a larger research study and varied across the transition to online learning during the Spring 2020 semester.

Pre-quarantine phase. Before students transitioned to online learning, participants took an online Qualtrics survey with an estimated duration of 60 to 90 minutes in a secure research lab with a trained research assistant. This subset of the sample was part of a larger research study on CM and psychological and physical health, and they were in the research lab to complete other measures along with the ones in this study. At the start of this visit, participants were given a consent form and research assistants verbally obtained consent from participants before proceeding. The participants' identifying information was collected in a paper format. They then completed a Qualtrics survey that included demographic questions and the CTQ-SF, CTS-2, SCL-90-R, TSC-40, and several other self-report surveys. At the completion of the survey, participants received a copy of the consent form in addition to a debrief form that explained the overall study and included on-campus resources. Participants were assigned a number to match up their data from their identifying information and their anonymous Qualtrics survey.

Post-quarantine phase. After students transitioned to online learning, the study was adapted to be administered through a link that participants could use to take the survey in their homes. This subset of the sample participated in this study only and was not a part

of the larger research study. The consent form and identifying information were completed on a separate Qualtrics survey to keep identifying information separate from the anonymous Qualtrics survey. The participants were then redirected to the same survey used in the pre-online learning phase. The list of on-campus resources was accessible throughout the survey in the form of a link at the top of the webpage. At the completion of the survey, the debrief form was displayed on the screen along with the list of on-campus resources. Participants were assigned a number to match up their data from their two separate Qualtrics surveys.

All paper data were kept in locked file cabinets in the locked research lab until it is digitized. All online data will be stored in a password-protected folder that Dr. Marilyn Welsh has access to. All data collection was completed under her supervision to maintain the security of the data. The relationship between CM, conflict in current relationships, and mental health outcomes was determined using bivariate correlations. Indirect effects analyses using the Hayes PROCESS determined if any of the mental health variables mediated the pathway between CM and interpersonal conflict in emerging adult relationships.

Results

The following analysis describes the descriptive statistics for the scores of the four measures (CTQ, TSC-40, SCL-90-R, and CTS-2), the correlations between the maltreatment scores (CTQ) and the two mental health measures (TSC-40 and SCL-90-R) and the conflict tactics measure (CTS-2), as well as between the mental health scores and conflict tactics scores. Based on these patterns of correlations, mediation models

examined the degree to which mental health has an indirect effect on pathways between maltreatment history and current conflict tactics.

Descriptive Statistics

The CTS-2 was a new instrument used in our laboratory and therefore it was of importance to examine the performance of our UNC sample on this measure before proceeding with further analyses. The CTS-2 measures the frequency of particular interpersonal conflict tactics used by both the participant (Self) and the participant's partner (Partner) and the focus was on the maladaptive tactics of Psychological Aggression, Assault, Injury, and Sexual Coercion. A frequency analysis found that more than 75% of our sample reported a frequency of "0" for the tactics of Assault (Self and Partner), Injury (Self and Partner), and Sexual Coercion (Self) and, thus, these were omitted from further analyses.

The means and SDs for the CTQ-SF Total and subscale scores, TSC-40 Total and subscale scores, and SCL-90-R subscale scores for the full sample are presented in Table 1. As the CTS-2 is the major outcome measure, it is important to note that there were no gender differences found for the subscale scores, and all further analyses were conducted collapsing over gender.

Correlations Between Childhood Maltreatment, Mental Health, and Interpersonal Conflict

Bivariate correlations can be found in Table 2 for childhood maltreatment and interpersonal conflict, in Table 3 for the SCL-90-R mental health measure and interpersonal conflict, in Table 4 for the TSC-40 mental health measure and interpersonal conflict, in Table 5 for the TSC-40 mental health measure and childhood maltreatment,

and in Table 6 for the SCL-90-R mental health measure and childhood maltreatment. All childhood maltreatment subscales and the total score were significantly positively correlated with all interpersonal conflict scales, with the strongest correlations being between the Psychological Aggression Partner score on the CTS-2 and Emotional Neglect, Emotional Abuse, and the total score on the CTQ-SF (Table 2). Both the SCL-90-R and TSC-40 mental health measures had significant positive correlations with interpersonal conflict. The strongest correlations were found between the Psychological Aggression Partner and the Symptom Checklist Depression subscales (Table 3), and between the Psychological Aggression Partner and both the TSC-40 Sexual Abuse Trauma Index and TSC-40 total score (Table 4).

The SCL-90-R and TSC-40 mental health measures also had significant positive correlations with childhood maltreatment. Within the TSC-40, the strongest correlations were found between the Dissociation, Sexual Assault Trauma Index, and Total score subscales and the CTQ-SF Emotional Abuse subscale (Table 5). Within the SCL-90-R, the strongest correlations were found between the Depression and Obsessive-Compulsive subscales and the CTQ-SF Emotional Abuse subscale; and between the Obsessive-Compulsive subscale and the CTQ-SF Emotional Neglect subscale (Table 6). Overall, college students who reported histories of childhood maltreatment reported higher levels of interpersonal conflict in romantic relationships and mental health symptoms.

Table 1. Means and standard deviations for scores on CTQ-SF, TSC-40, SCL-90-R, and CTS-2 measures

	Mean	Standard Deviation
CTQ	43.17	19.07
EA	10.67	5.59
PA	6.84	3.30
SA	7.43	5.76
EN	10.21	4.68
PN	7.78	3.63
TSC	28.94	19.61
DISS	4.42	3.86
ANX	5.72	4.41
DEP	7.54	4.83
SATI	3.91	3.83
SD	6.89	4.63
SCLA	8.98	7.81
SCLH	5.12	4.81
SCLP	5.30	4.94
SCLPH	4.14	4.94
SCLD	17.57	11.53
SCLIS	9.60	8.29
SCLOC	14.05	9.23
SCLS	10.56	9.02
PAS	14.72	31.79
PAP	23.29	43.16
SCP	13.76	34.54

Note: CTQ = Childhood Trauma Questionnaire Total; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect; TSC = Trauma Symptom Checklist Total; DISS = Dissociation; ANX = Anxiety; DEP = Depression; SATI = Sexual Abuse Trauma Index; SD = Sleep Disturbance; SCLA = Symptom Checklist Anxiety; SCLH = Symptom Checklist Hostility; SCLP = Symptom Checklist Paranoia; SCLPH = Symptom Checklist Phobia; SCLD = Symptom Checklist Depression; SCLIS = Symptom Checklist Interpersonal Sensitivity; SCLOC = Symptom Checklist Obsessive Compulsive; SCLS = Symptom Checklist Somatization; PAS = Psychological Aggression Self; PAP = Psychological Aggression Partner; SCP = Sexual Coercion Partner.

Table 2. Bivariate correlations of CTQ-SF and CTS-2

	CTQ	PA	PN	EA	EN	SA
PAS	.338**	.376**	.266**	.321**	.335**	.151
PAP	.377**	.324**	.231*	.379**	.392**	.236*
SCP	.324**	.300**	.224*	.297**	.286**	.228*

*. Significance at 0.05 level; **. Significance at 0.01 level.

Note: CTQ = Childhood Trauma Questionnaire Total; PA = Physical Abuse; PN = Physical Neglect; EA = Emotional Abuse; EN = Emotional Neglect; SA = Sexual Abuse; PAS = Psychological Aggression Self; PAP = Psychological Aggression Partner; SCP = Sexual Coercion Partner.

Table 3. Bivariate correlations of SCL-90-R and CTS-2

	SCLA	**SCLH**	**SCLP**	**SCLD**	**SCLIS**
PAS	.340**	.309**	.294**	.331**	.315**
PAP	.328**	.295**	.270**	.389**	.348**
SCP	.214*	.140	.230*	.330**	.339**

*. Significance at 0.05 level; **. Significance at 0.01 level.
Note: SCLA = Symptom Checklist Anxiety; SCLH = Symptom Checklist Hostility; SCLP = Symptom Checklist Paranoia; SCLD = Symptom Checklist Depression; SCLIS = Symptom Checklist Interpersonal Sensitivity; PAS = Psychological Aggression Self; PAP = Psychological Aggression Partner; SCP = Sexual Coercion Partner.

Table 4. Bivariate correlations of TSC-40 and CTS-2

	TSC	**DISS**	**ANX**	**DEP**	**SATI**	**SD**
PAS	.422**	.393**	.308**	.303**	.436**	.220*
PAP	.462**	.416**	.338**	.336**	.515**	.225*
SCP	.396**	.299**	.264**	.309**	.432**	.202*

*. Significance at 0.05 level; **. Significance at 0.01 level.
Note: TSC = Trauma Symptom Checklist Total; DISS = Dissociation; ANX = Anxiety; DEP = Depression; SATI = Sexual Abuse Trauma Index; SD = Sleep Disturbance; PAS = Psychological Aggression Self; PAP = Psychological Aggression Partner; SCP = Sexual Coercion Partner.

Table 5. Bivariate correlations of TSC-40 and CTQ-SF

	TSC	**DISS**	**ANX**	**DEP**	**SATI**	**SD**
CTQ	.623**	.639**	.575**	.551**	.646**	.416**
EA	.664**	.668**	.572**	.583**	.653**	.403**
PA	.463**	.495**	.383**	.393**	.461**	.396**
SA	.330**	.363**	.404**	.292**	.390**	.188*
EN	.582**	.601**	.502**	.538**	.608**	.350**
PN	.544**	.513**	.471**	.475**	.536**	.394**

*. Significance at 0.05 level; **. Significance at 0.01 level.
Note: TSC = Trauma Symptom Checklist Total; DISS = Dissociation; ANX = Anxiety; DEP = Depression; SATI = Sexual Abuse Trauma Index; SD = Sleep Disturbance; CTQ = Childhood Trauma Questionnaire Total; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect.

Table 6. Bivariate correlations of SCL-90-R and CTQ-SF

	SCLA	**SCLH**	**SCLP**	**SCLPH**	**SCLD**	**SCLIS**	**SCLOC**	**SCLS**
CTQ	.536**	.337**	.485**	.377**	.549**	.517**	.581**	.432**
EA	.577**	.415**	.559**	.349**	.608**	.598**	.624**	.492**
PA	.382**	.266**	.314**	.236*	.345**	.264**	.356**	.285**
SA	.249**	.040	.204*	.222*	.258**	.234*	.310**	.201*
EN	.543**	.413**	.475**	.383**	.572**	.538**	.621**	.414**
PN	.454**	.282**	.439**	.349**	.393**	.402**	.420**	.327**

*. Significance at 0.05 level; **. Significance at 0.01 level.
Note: SCLA = Symptom Checklist Anxiety; SCLH = Symptom Checklist Hostility; SCLP = Symptom Checklist Paranoia; SCLPH = Symptom Checklist Phobia; SCLD = Symptom Checklist Depression; SCLIS = Symptom Checklist Interpersonal Sensitivity; SCLOC = Symptom Checklist Obsessive Compulsive; SCLS = Symptom Checklist Somatization; CTQ = Childhood Trauma Questionnaire Total; EA = Emotional Abuse; PA = Physical Abuse; SA = Sexual Abuse; EN = Emotional Neglect; PN = Physical Neglect.

Predicting Interpersonal Conflict from Childhood Maltreatment and Mental Health: Indirect Effects Analysis

To determine where a mediator might exist in the pathway between the predictor of maltreatment history and the outcome of interpersonal conflict tactics, bivariate correlations of the variables in each pathway were examined. We looked at associations between (1) CTQ-SF (predictor) and mental health (mediator), (2) mental health (mediator) and CTS-2 (outcome), and (3) CTQ-SF (predictor) and CTS-2 (outcome). After examining the strength of correlations, several predictor-mediator-outcome pathways were identified. Each analysis was completed using the Hayes PROCESS. Results are reported using unstandardized effect sizes (*b*) and lower- and upper-limit confidence intervals (LLCI, ULCI) for the pathway and standardized effect sizes (*b*) and LLCI and ULCI for the mediator. All of the mediation analyses discussed below were repeated adding the variable of gender as a covariate and none of the results changed.

Trauma Symptom Checklist-40 mediator. First, the pathways between CTQ-SF Total score and CTS-2 Psychological Aggression perpetrated by the Self were examined

concerning the degree to which this pathway was indirectly affected by trauma symptoms. The direct effect of CTQ-SF Total on CTS-2 Psychological Aggression Self was significant, $b = 0.573$, $t = 3.187$, $p = 0.002$, LLCI ULCI [0.215, 0.930]. When the mediator TSC-40 SATI was entered in the model, the effect of CTQ-SF Total on CTS-2 Psychological Aggression Self became nonsignificant, $b = 0.141$, $t = 0.625$, $p = 0.534$, LLCI ULCI [-0.308, 0.589]. The indirect effect of TSC-40 SATI was $b = 0.432$, LLCI ULCI [0.055, 0.868] and completely mediated the effect of CTQ-SF Total on CTS-2 Psychological Aggression Self. The full regression model of CTQ-SF Total predicting CTS-2 Psychological Aggression Self, including the indirect effect of TSC-40 SATI, predicted 20% of variance in CTS-2 Psychological Aggression Self. A diagram of these results can be found in Figure 1.

The direct effect of CTQ-SF Total on CTS-2 Psychological Aggression Self was significant, $b = 0.571$, $t = 3.099$, $p = 0.003$, LLCI ULCI [0.204, 0.937]. When the mediator TSC-40 Total was entered in the model, the effect of CTQ-SF Total on CTS-2 Psychological Aggression Self became nonsignificant, $b = 0.204$, $t = 0.901$, $p = 0.371$, LLCI ULCI [-0.247, 0.655]. The indirect effect of TSC-40 Total was $b = 0.367$, LLCI ULCI [0.093, 0.761] and completely mediated the effect of CTQ-SF Total on CTS-2 Psychological Aggression Self. The full regression model of CTQ-SF Total predicting CTS-2 Psychological Aggression Self, including the indirect effect of TSC-40 Total, predicted 18% of variance in CTS-2 Psychological Aggression Self. A diagram of these results can be found in Figure 2.

Next, the pathways between CTQ-SF Total score and CTS-2 Psychological Aggression perpetrated by the Partner were examined concerning the degree to which this

pathway was indirectly affected by trauma symptoms. The direct effect of CTQ-SF Total on CTS-2 Psychological Aggression Partner was significant, $b = 0.861$, $t = 3.586$, $p = 0.001$, LLCI ULCI [0.383, 1.339]. When the mediator TSC-40 SATI was entered in the model, the effect of CTQ-SF Total on CTS-2 Psychological Aggression Partner became nonsignificant, $b = 0.101$, $t = 0.342$, $p = 0.734$, LLCI ULCI [-0.487, 0.689]. The indirect effect of TSC-40 SATI was $b = 0.760$, LLCI ULCI [0.176, 1.435] and completely mediated the effect of CTQ-SF Total on CTS-2 Psychological Aggression Partner. The full regression model of CTQ-SF Total predicting CTS-2 Psychological Aggression Partner, including the indirect effect of TSC-40 SATI, predicted 28% of variance in CTS-2 Psychological Aggression Partner. A diagram of these results can be found in Figure 3.

The direct effect of CTQ-SF Total on CTS-2 Psychological Aggression Partner was significant $b = 0.864$, $t = 3.515$, $p = 0.001$, LLCI ULCI [0.375, 1.354]. When the mediator TSC-Total was entered in the model, the effect of CTQ-SF Total on CTS-2 Psychological Aggression Partner became nonsignificant, $b = 0.317$, $t = 1.030$, $p = 0.306$, LLCI ULCI [-0.296, 0.929]. The indirect effect of TSC-40 Total was $b = 0.548$, LLCI ULCI [0.146, 1.152] and completely mediated the effect of CTQ-SF Total on CTS-2 Psychological Aggression Partner. The full regression model of CTQ-SF Total predicting CTS-2 Psychological Aggression Partner, including the indirect effect of TSC-40 Total, predicted 14% of variance in CTS-2 Psychological Aggression Partner. A diagram of these results can be found in Figure 4.

Finally, the pathways between CTQ-SF Total score and CTS-2 Sexual Coercion perpetrated by the Partner were examined concerning the degree to which this pathway was indirectly affected by trauma symptoms. The direct effect of CTQ-SF Total on CTS-

2 Sexual Coercion Partner was $b = 0.598$, $t = 3.054$, $p = 0.003$, LLCI ULCI [0.209, 0.988]. When the mediator TSC-40 SATI was entered in the model, the effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner became nonsignificant, $b = 0.118$, $t = 0.482$, $p = 0.631$, LLCI ULCI [-0.369, 0.605]. The indirect effect of TSC-40 SATI was $b = 0.480$, LLCI ULCI [0.062, 1.065] and completely mediated the effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner. The full regression model of CTQ-SF Total predicting CTS-2 Sexual Coercion Partner, including the indirect effect of TSC-40 SATI, predicted 20% of variance in CTS-2 Sexual Coercion Partner. A diagram of these results can be found in Figure 5.

The direct effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner was significant, $b = 0.594$, $t = 2.961$, $p = 0.004$, LLCI ULCI [0.195, 0.994]. When the mediator TSC-40 Total was entered in the model, the effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner became nonsignificant, $b = 0.223$, $t = 0.895$, $p = 0.374$, LLCI ULCI [-0.273, 0.719]. The indirect effect of TSC-40 Total was $b = 0.372$, LLCI ULCI [0.063, 0.860] and completely mediated the effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner. The full regression model of CTQ-SF Total predicting CTS-2 Sexual Coercion Partner, including the indirect effect of TSC-40 Total, predicted 16% of variance in CTS-2 Sexual Coercion Partner. A diagram of these results can be found in Figure 6.

Symptom Checklist-90 mediator. First, the pathways between CTQ-SF Total score and CTS-2 Psychological Aggression perpetrated by the Self were examined concerning the degree to which this pathway was indirectly affected by general mental health symptoms. The direct effect of CTQ-SF Total on CTS-2 Psychological Aggression Self was

significant, $b = 0.608$, $t = 3.371$, $p = 0.001$, LLCI ULCI [0.249, 0.968]. When the mediator SCL-90-R Depression was entered in the model, the effect of CTQ-SF Total on CTS-2 Psychological Aggression Self remained significant, $b = 0.430$, $t = 2.006$, $p = 0.048$, LLCI ULCI [0.003, 0.856]. The indirect effect of SCL-90-R Depression was $b = 0.179$, LLCI ULCI [0.011, 0.426] and partially mediated the effect of CTQ-SF Total on CTS-2 Psychological Aggression Self. The full regression model of CTQ-SF Total predicting CTS-2 Psychological Aggression Self, including the indirect effect of SCL-90-R Depression, predicted 15% of variance in CTS-2 Psychological Aggression Self. A diagram of these results can be found in Figure 7.

Next, the pathways between CTQ-SF Total score and CTS-2 Psychological Aggression perpetrated by the Partner were examined concerning the degree to which this pathway was indirectly affected by general mental health symptoms. The direct effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner was significant, $b = 0.633$, $t = 3.212$, $p = 0.002$, LLCI ULCI [0.241, 1.025]. When the mediator SCL-90-R Depression was entered in the model, the effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner became nonsignificant, $b = 0.425$, $t = 1.821$, $p = 0.072$, LLCI ULCI [-0.039, 0.890]. However, the indirect effect of SCL-90-R Depression was $b = 0.208$, LLCI ULCI [-0.020, 0.542] and did not mediate the effect of CTQ-SF Total on CTS-2 Sexual Coercion Partner. The full regression model of CTQ-SF Total predicting CTS-2 Sexual Coercion Partner, including the indirect effect of SCL-90-R Depression, predicted 14% of variance in CTS-2 Sexual Coercion Partner. A diagram of these results can be found in Figure 8.

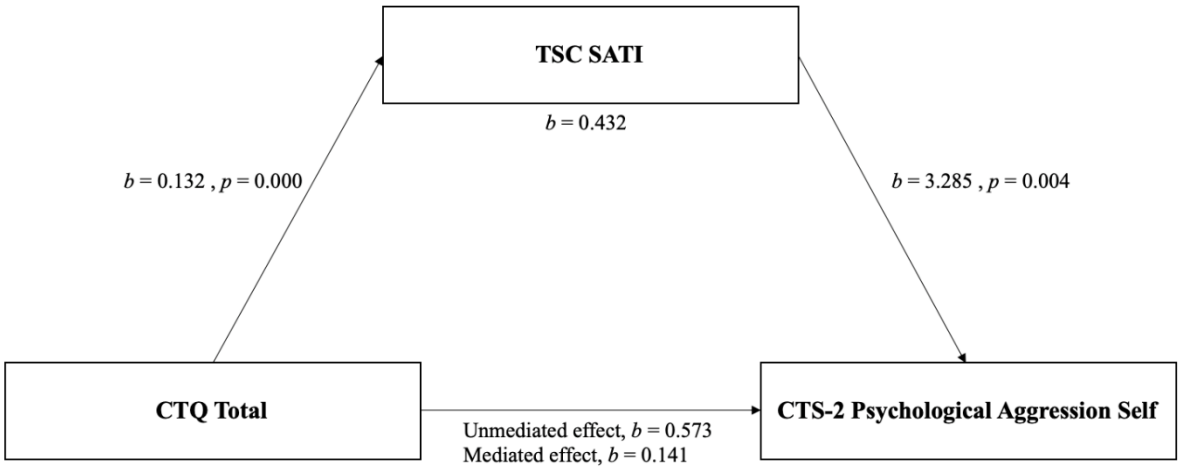

Figure 1. TSC-40 SATI completely mediates the relationship between CTQ-SF Total and CTS-2 Psychological Aggression Self.

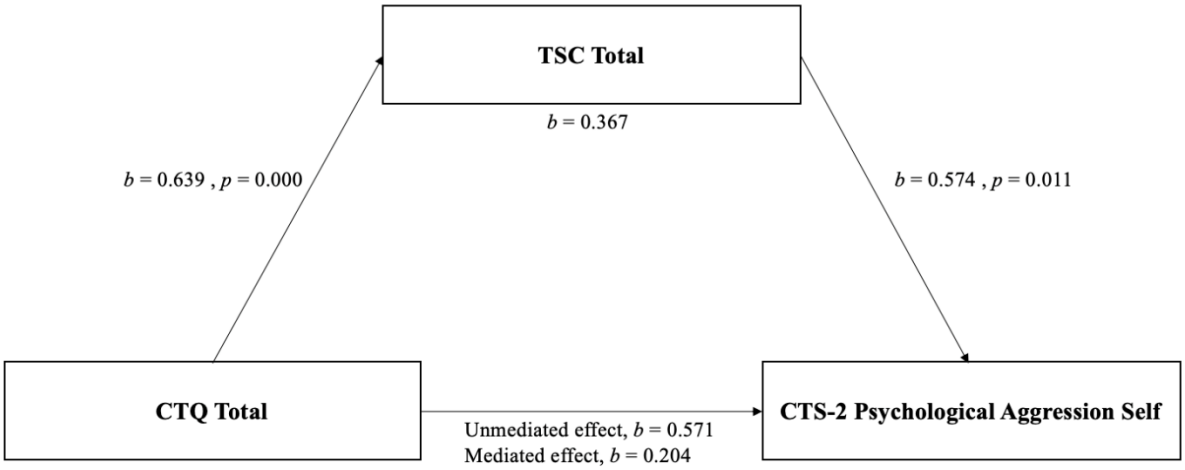

Figure 2. TSC-40 Total completely mediates the relationship between CTQ-SF Total and CTS-2 Psychological Aggression Self.

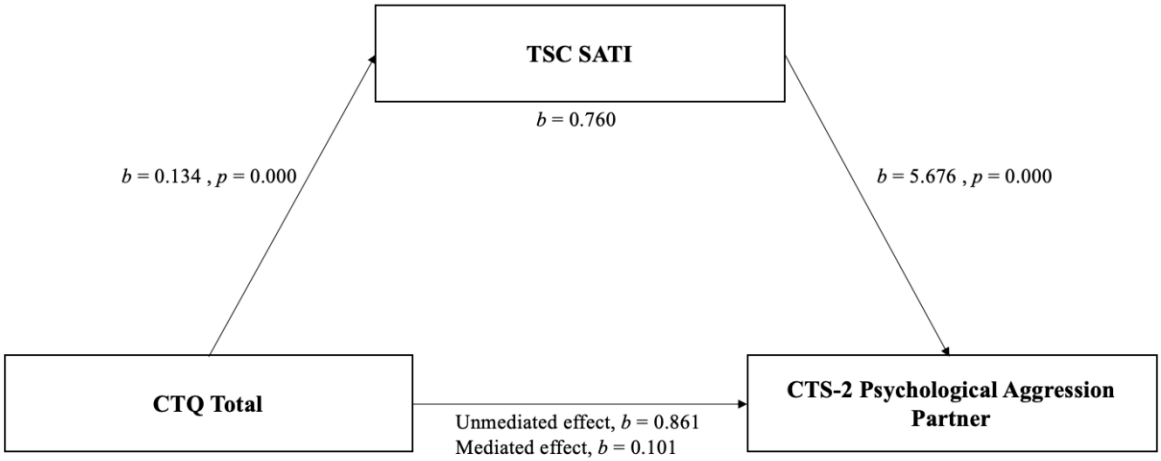

Figure 3. TSC-40 SATI completely mediates the relationship between CTQ-SF Total and CTS-2 Psychological Aggression Partner.

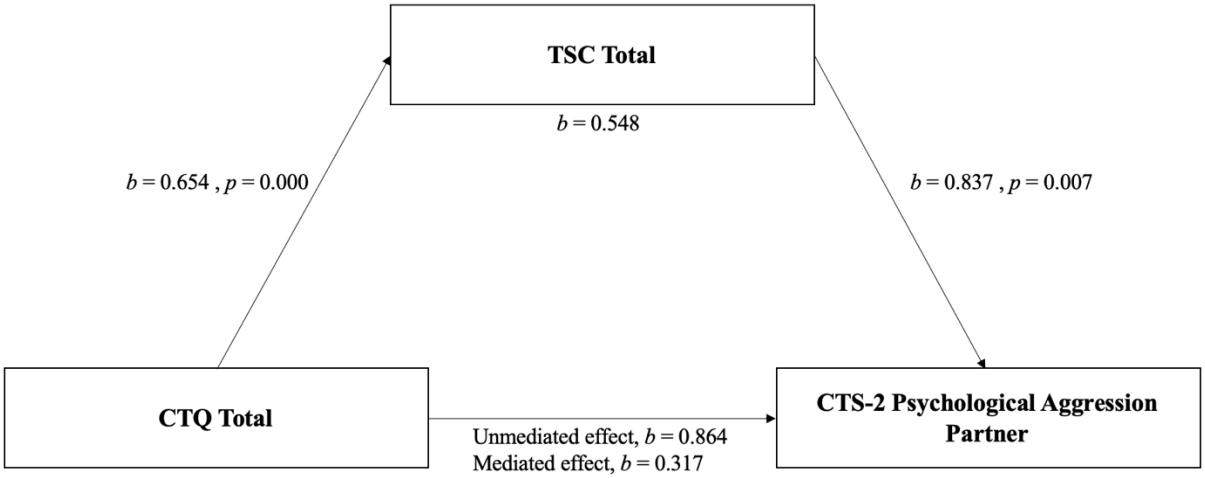

Figure 4. TSC-40 Total completely mediates the relationship between CTQ-SF and CTS-2 Psychological Aggression Partner.

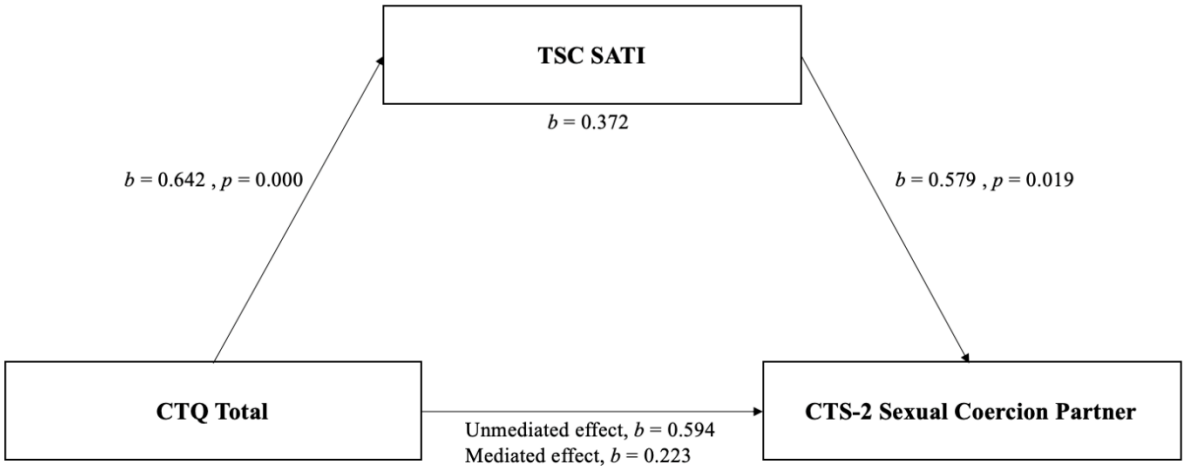

Figure 5. TSC-40 SATI completely mediates the relationship between CTQ-SF Total and CTS-2 Sexual Coercion Partner.

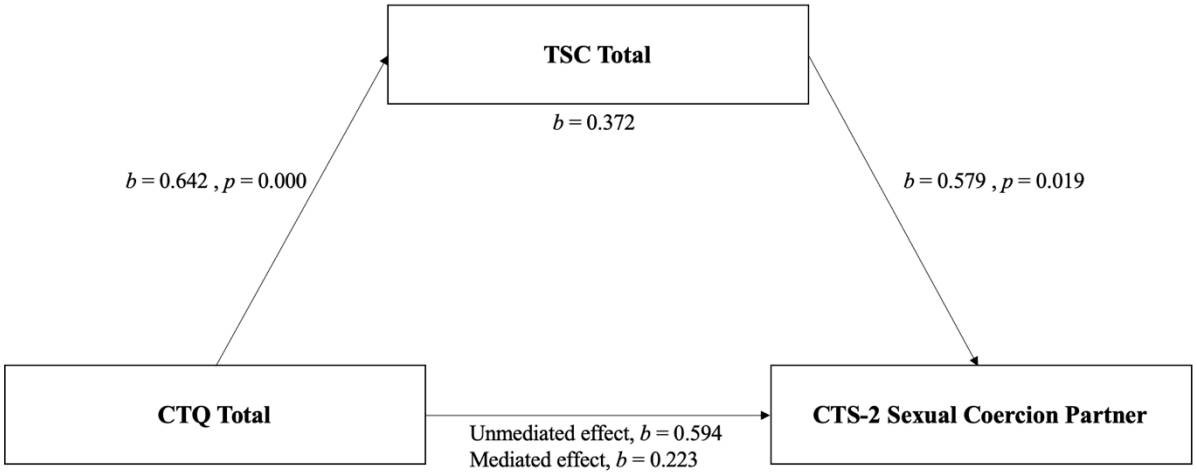

Figure 6. TSC-40 Total completely mediates the relationship between CTQ-SF Total and CTS-2 Sexual Coercion Partner.

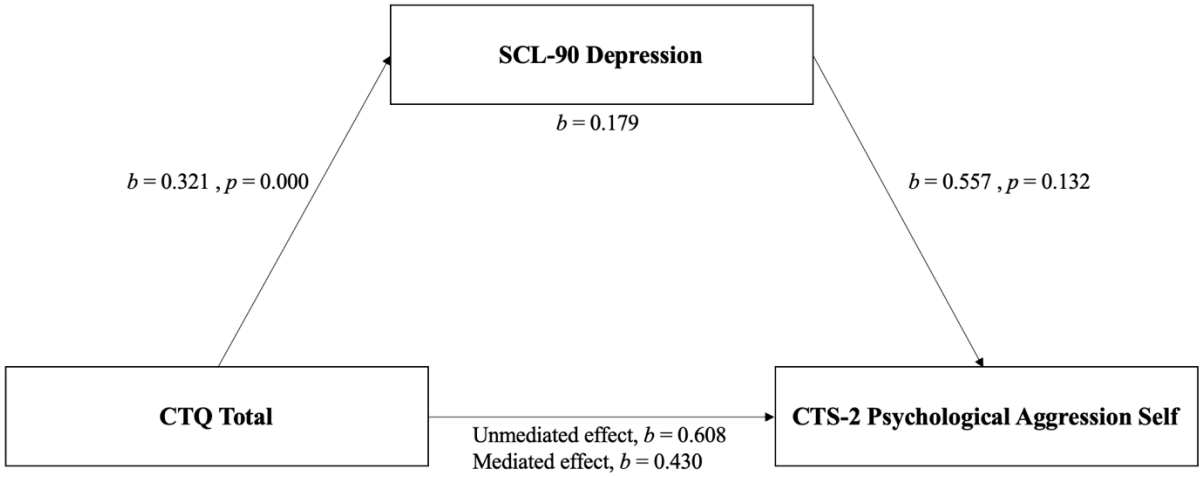

Figure 7. SCL-90-R Depression partially mediates the relationship between CTQ-SF Total and CTS-2 Psychological Aggression Self.

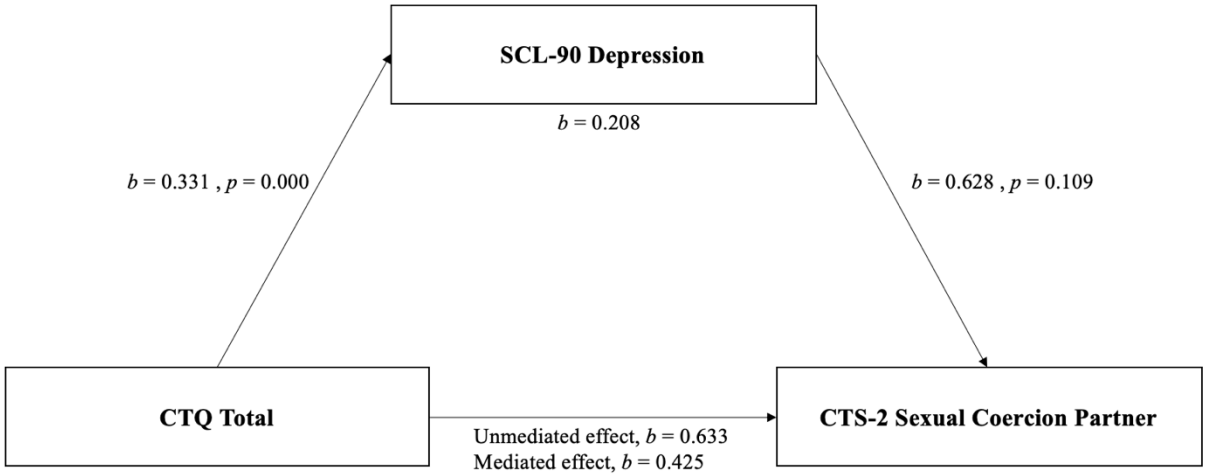

Figure 8. SCL-90-R Depression is not a significant mediator in the relationship between CTQ-SF Total and Sexual Coercion Partner.

Discussion

The purpose of this study was to examine the relationship between CM, mental health symptoms, and interpersonal conflict in emerging adult relationships. More specifically, this study examined how the pathway between CM and interpersonal conflict was mediated by mental health symptoms. Based on the literature reviewed, it

was hypothesized that CM would be positively associated with mental health symptoms, as well as with interpersonal conflict in relationships. Also, it was hypothesized that mental health symptoms would be positively associated with interpersonal conflict in relationships. Regarding pathways, it was hypothesized that mental health symptoms would mediate the relationship between CM and interpersonal conflict. The pathway from CM, to mental health symptoms, to interpersonal conflict is important to research because of the lifelong effects of CM. By studying how CM can lead to mental health symptoms and interpersonal conflict in relationships, researchers can develop interventions to prevent maladaptive outcomes in adulthood, specifically the college population.

Childhood Maltreatment and Mental Health

As hypothesized, the findings demonstrate that college students with a history of CM are at risk for current mental health symptomatology, including trauma symptoms. The strongest relationships found were between emotional abuse and the dissociation, sexual assault trauma symptoms, trauma total score, obsessive-compulsive traits, and depression scales. There was also a strong relationship between emotional neglect and obsessive-compulsive traits.

These findings contribute to our understanding of what types of CM can lead to specific mental health symptoms in emerging adulthood. Just as research has shown that individuals exposed to multiple types of CM had more severe mental health symptoms (Cecil et al., 2017), this study found that the CM total score related to higher total scores on the mental health measures. Consistent with past research (Cecil et al., 2017), emotional abuse history was a strong predictor of current internalizing symptoms. These

findings also align with previous research that has shown how childhood emotional abuse predicts current trauma symptomatology (Rich et al., 2005). This suggests that trauma symptoms are a consequence of a history of maltreatment in childhood, specifically verbal abuse and psychological manipulation. Thus, an interesting link has been found between CM history and current trauma symptoms in college students who may be especially vulnerable to the long-term effects of CM due to being in a large transition period of their lives.

Childhood Maltreatment and Interpersonal Conflict

In line with hypotheses, the findings suggest that college students with a history of CM are at risk for maladaptive interpersonal conflict in their emerging adult relationships, including both perpetration and victimization of psychological aggression in these relationships. The results showed that the strongest correlations were between maltreatment history (specifically, emotional neglect, emotional abuse, and the severity of CM) and being a victim of psychological aggression from a partner as an emerging adult. These findings contribute to the knowledge of how experiencing CM, specifically emotional abuse and neglect, plays into being a victim of or perpetrating aggression of a psychological nature in relationships as a young adult.

Some findings are consistent with previous studies that have shown that young women who experienced sexual abuse as a child are at risk for psychological and sexual victimization as an adult (Hebert et al., 2008), and that college women who experienced physical and verbal abuse as a child were more likely to commit psychological perpetration (Edwards et al., 2009). Similar to those findings, this study found that all types of CM and the severity of CM history are associated with both victimization and

perpetration of psychological aggression in adult relationships, but these associations were apparent irrespective of gender. This is contrary to past research, which has shown gender differences in the types of CM that are associated with victimization or perpetration. While we concluded that physical abuse as a child was associated with both victimization and perpetration, other studies have shown that this type of abuse is linked to victimization in women only (Milletich et al., 2010; Whitfield et al., 2003) and perpetration in men only (Whitfield et al., 2003). Also, studies have found that emotional abuse as a child was correlated to being victimized in dating in men only (Milletich et al., 2010), and sexual abuse was related to perpetration of aggression in men only (Whitfield et al., 2003). These findings are inconsistent with those of the current study which found no gender differences in the link between CM and intimate partner aggression. These differences may be due to the small number of males present in the current study, as the sample was only around 27% male, so this warrants further research.

How might the finding that CM leads to both victimization and perpetration of psychological aggression be explained? One possibility is that participants growing up in an environment where psychological aggression is prevalent in their homes learn maladaptive ways of communicating and methods to control others. Such maladaptive learning could make these college students especially vulnerable to psychological aggression in their relationships as adults.

Mental Health and Interpersonal Conflict

As was hypothesized, the findings suggest that current mental health symptomatology is related to both victimization and perpetration of aggression in college student relationships. The strongest associations were found between psychological

victimization and depressive symptoms, and psychological victimization and trauma symptomatology. These findings add valuable information to how mental health symptoms relate to intimate partner aggression in emerging adulthood.

Findings align with previous studies (Lagdon et al., 2014; Próspero, 2007) such that higher levels of victimization were associated with higher levels of mental health symptomatology. For example, studies have found that victimization in relationships was related to depressive symptoms (Lagdon et al., 2014; Longmore et al., 2014; Rich et al., 2005). Similar to the current findings that trauma symptoms were associated with being a victim of aggression in relationships, one previous study found associations between victimization in relationships and PTSD symptoms (Lagdon et al., 2014). Not only did the current study find that CM history predicts both victimization and perpetration of psychological aggression, current mental health and trauma symptomatology was also predictive of those relationship issues. This may be due to having symptomatology that leads someone to lash out at their partner or be in a particularly vulnerable state that makes them an easy target of aggression from their partner.

Childhood Maltreatment, Mental Health, and Interpersonal Conflict

Several mediation pathways were found in this study. The key pathway between the severity of CM history (total CTQ-SF score) and being *victimized* by a partner's psychological aggression was completely mediated by the total trauma symptom score. We also found that the pathway between CM history and *perpetrating* psychological aggression towards a partner was completely mediated by the total trauma symptom score. Additionally, the pathway between CM history and being victimized by a partner with sexual coercion was completely mediated by the total trauma symptom score. This

means that CM severity (typically involving more than one subtype) leads to a higher level of trauma symptomatology, which in turn can make young adults vulnerable to being exposed to psychological aggression and sexual coercion by their romantic partners or perpetrating psychological aggression. These findings are consistent with those of Rich and colleagues' demonstrating that verbal CM and trauma symptoms predict later adolescent dating violence and subsequent trauma symptoms (Rich et al., 2005). While the Rich et al. study did not examine the exact same constructs as the current study, it supports that trauma symptomatology is a key factor in the relationship between CM history and victimization by different types of aggression in adult relationships.

The current study also identified several additional mediational pathways. Some pointed to sexual abuse trauma symptoms operating as a mechanism leading to serious maladaptive relationship patterns of psychological aggression (both victimization and perpetration) and sexual coercion victimization by a partner. Depressive symptoms were not found to be a significant mechanism in the pathway between CM history and both psychological aggression perpetration and sexual coercion victimization, which further showed how symptoms specific to trauma are a unique factor in these mediation pathways. This suggests that mental health treatment that addresses trauma symptoms may protect college students with a CM history from victimization or perpetration of psychological aggression and sexual coercion victimization in their relationships.

Limitations

It is important to consider that this study had a relatively small sample size, as compared to larger-scale studies of college students. Moreover, there were a small number of males in the study which could have contributed to there being no gender

differences in the findings. Additionally, the COVID-19 pandemic that began during data collection may have altered the overall findings. Students at the University of Northern Colorado moved to online classes in the middle of the semester that data was being collected. Moving into a state of isolation for a long period could have contributed to the mental health and trauma symptomatology participants were experiencing. If some of the participants were living with their families during the quarantine, it is possible that memories of family stress and maltreatment could have been triggered in unknown ways. Finally, being in isolation could have contributed to more instances of aggression in romantic relationships due to being home for long periods, along with the stress experienced from the pandemic.

Further Directions

An important future direction for understanding how CM impacts romantic relationships in college would be to examine how specific PTSD symptoms affect this relationship. Future studies should examine the relationship between CM, mental health and trauma symptomatology, and interpersonal conflict in relationships in a larger sample of college students with more males. It is also important to study how the COVID-19 pandemic contributes to mental health and trauma symptomatology and intimate partner violence in future studies, as various cities in the US have seen an increase in domestic violence emergency calls and police reports starting in March of 2020 compared to 2019 (Boserup et al., 2020).

Implications

This study has highlighted trauma symptoms and other relevant mental health challenges as a key factor between CM history and aggression in the relationships of

college students. By gaining a fuller understanding of the impact that childhood maltreatment has on current mental health symptomatology and romantic relationships, better college programming on these issues can be established. Programming that targets trauma symptomatology and education on healthy relationships may help to protect students from victimization and perpetration of aggression in their relationships. In addition, identifying students with a maltreatment history as particularly at risk and providing education on relationships to them may be especially protective. Further research in this field will aid in creating better programming and interventions to combat the long-term effects of childhood maltreatment in college students, helping them adapt to college and develop healthy methods of dealing with conflict in their relationships.

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