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Women's Health: The Impact of Child Abuse on Healthcare Utilization

Brianna Mae Brandon

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Women's Health:
The Impact of Child Abuse on Healthcare Utilization

by

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2014

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Abstract

Women's Health: The Impact of Child Abuse on Healthcare Utilization

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Research has consistently shown the negative consequences associated with child abuse. Specifically, those with a history of child abuse are more likely to suffer from psychological disorders and physiological diseases than those who do not have a history of abuse. Additionally, the literature has indicated that child physical abuse and child sexual abuse can lead to both healthcare under-utilization and over-utilization. However, limited research has explored mediating factors that influence the relationship between childhood abuse, physical health outcomes and healthcare utilization. Therefore, this study will evaluate the influence of revictimization and posttraumatic stress on the relationship between childhood abuse and physical health outcomes. Moreover, the current study will also determine if experiential avoidance, as a theoretical framework, will mediate the relationship between childhood abuse and physical health outcomes.

Keywords: women's health, child abuse, healthcare utilization, experiential avoidance.

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Dedication

To all the survivors of abuse and neglect. I stand with you.

and

To my husband.

I love you. I love you. I love you.

Introduction

A review of the literature shows that prevalence for childhood physical abuse ranges from 14% to as high as almost 30% (Center for Disease Control and Prevention, 2019; Hussey, Chang, & Koch, 2016; Stoltenborgh, Bakermans-Kranenburg, van IJzendoorn, & Alink, 2013), while child sexual abuse rates range from 15% to 33% for women (Bolen & Scannapieco, 1999; Finkelhor, 1979; Finkelhor, Hotaling, Lewis, & Smith, 1989; Russel, 1986; Stoltenborgh, van IJzendoorn, Esuer, & Bakermans-Kranenburg, 2011; Wyatt, 1986). Despite enhanced awareness of the problems of child abuse in both the general public and healthcare providers, it remains a significant public health problem.

The short- and long-term consequences of child abuse can be severe. Research has shown that child abuse can lead to a number of significant problems for the survivor's physical health including pain, cardiovascular problems, and gynecological disorders (Bonomi, Cannon, Anderson, Rivara, & Thompson, 2008; Chartier, Walker, & Naimark, 2010; Murray, Nguyen, & Cohen, 2014; Springer, Sheridan, Kuo, & Carnes, 2007). Additionally, the literature has shown a relationship between childhood maltreatment and poor psychological health such as anxiety, depression, posttraumatic stress, and substance abuse, among other difficulties (Lansford et al., 2002; Springer et al., 2007; Manly, Kim, Rogosch, & Cicchetti, 2001; Yanos, Czaja, & Widom, 2010).

Although the research has indicated individuals who experience childhood maltreatment are more likely to have adulthood physical health problems, the research regarding healthcare utilization is mixed. Some studies have shown that a history of childhood maltreatment is associated with an increase in healthcare utilization as an adult (Arnold et al., 1999; Bergman, Brismar, & Nordin, 1992; Koss, Koss, & Woodruff, 1991; Newman et al., 2000). However, other studies have shown an inverse relationship; a history of childhood maltreatment is associated with a decreased use of healthcare services (Newman et al., 2000). Across studies, no known research has definitively established the differences in healthcare utilization that occurs in women who have experienced childhood maltreatment. Additionally, very few studies have assessed potential mediating and moderating variables that impact the relationship between childhood maltreatment and healthcare utilization.

Therefore, this study aims to provide further information regarding the relationship between childhood maltreatment and healthcare utilization through the theoretical framework of experiential avoidance. Experiential avoidance has been described as various types of behaviors that individuals use to alleviate negative thoughts, feelings, bodily sensations, and memories (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Research has shown that although avoidance may provide temporary relief from distress, the long-term effects can be detrimental to the person's well-being. The experiential avoidance framework will be used to explain the variance seen between childhood maltreatment and healthcare

utilization. Additionally, this study contributes to the knowledge regarding potential variables that may influence the relationship between childhood maltreatment and healthcare utilization such as posttraumatic stress, revictimization, and experiential avoidance.

Review of the Literature

Child Maltreatment

Child physical abuse.

The most widely used definition of child physical abuse is defined by the Consultation on Child Abuse Prevention (World Health Organization, 1999) as:

that which results in actual or potential physical harm from an interaction or lack of an interaction, which is reasonably within the control of a parent or person in a position of responsibility, power or trust.

Despite the seemingly obvious definition of abuse, researchers have noted the need for a more behaviorally specific measure of physical abuse. Bernstein et al. (2003) developed the Child Trauma Questionnaire – Short Form that provides operationalized definitions of child physical abuse, child

sexual abuse, and child neglect, which have been widely used across the literature. Child physical abuse has been defined as being hit by someone so hard they had to go to a hospital, having bruises or marks left on their body, being hit or beaten so badly that someone like a teacher, neighbor, or doctor noticed, and/or being punished with a belt or some other hard object (Berstein et al., 2003).

Stoltenborgh et al. (2013) conducted a meta-analysis with 111 studies from across the world. Their analysis showed that self-report studies indicated a 22.6% prevalence rate of childhood physical abuse. In the National Longitudinal Study of Adolescent Health results showed that child physical abuse occurred in 28.4% of the cases (Hussey et al., 2006). The Center for Disease Control and Prevention (2019) reported that 1 in 7 children in the United States experienced child physical abuse in 2018. These statistics are likely an underestimate given the amount of abuse that is never reported (Center for Disease Control and Prevention, 2019).

Child sexual abuse.

There are varying definitions of child sexual abuse that result from differences between legal statutes and research definitions. Fergusson, Horwood, and Lynskey (1996) categorized child sexual abuse activities in three different ways: “a) non-contact episodes involving indecent exposure, public masturbation, or unwanted sexual propositions; b) episodes involving

sexual contact in the form of sexual fondling, genital contact or attempts to undress the respondent; c) and episodes involving attempted, or completed vaginal, oral, or anal intercourse.” Moreover, the Center for Disease Control (2019) defines child sexual abuse as involving penetration, sexual contact as intentional touching with no penetration, and noncontact sexual abuse as taking sexualized photographs or videos of a child, sexual harassment, exposing a child to sexual activities, and sexual prostitution and trafficking (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008). Finkelhor, Shattuck, Turner, and Hamby (2014) utilized the following definition for child sexual abuse: “sexual abuse/assault encompasses forced and unwanted contact sexual acts with anyone including inappropriate contact sexual acts with adults.” The World Health Organization (1999) provides a comprehensive definition of child sexual abuse:

The involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violate the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship of responsibility, trust or power, the activity being intended to gratify or satisfy

the needs of the other person. This may include but is not limited to: the inducement or coercion of a child to engage in any unlawful sexual activity; the exploitative use of child in prostitution or other unlawful sexual practices; the exploitative use of children in pornographic performances and materials.

The reported prevalence of child sexual abuse varies greatly across the literature in part due to a range of methodological differences. As noted with child physical abuse, researchers have cited the need for a more behaviorally specific definition of child sexual abuse. In studies, retrospective data indicates that approximately 20% of girls in the United States experience sexual abuse (Bolen & Scannapieco, 1999). Other studies utilizing samples from the United States population have shown that one-third of girls experience unwanted sexual contact by mid-adolescence (Finkelhor, 1979; Finkelhor et al., 1989; Russel, 1986; Wyatt, 1986). A meta-analysis utilizing retrospective data from studies conducted across the world showed 18% of girls are sexually abused during childhood (Stoltenborgh et al., 2011). Thus, while there is variance in rates between studies, it is clear that child sexual abuse is also an important public health problem.

Revictimization and co-occurrence.

In a review of the literature, studies have shown high co-occurrence rates between child physical abuse and child sexual abuse. In a study of over 5,000 subjects, results showed that of those who had been sexually abused as children, 17% had also been physically abused by parents and 40% were physically abused by someone other than their parents (Kamiya, Timonen, & Kenny, 2016). Bonomi et al. (2008) indicated 21.2% of women experienced co-occurring child physical and sexual abuse. A large body of research has shown that those who experience childhood maltreatment are at a greater risk for adulthood victimization, or revictimization (Briere & Runtz, 1987).

Although a majority of research has observed increased rates of revictimization in those who experienced child sexual abuse, some studies have shown that child physical abuse also increases an individual's risk for revictimization in adulthood. Widom, Czaja, and Dutton (2008) showed that child maltreatment (physical abuse and sexual abuse) significantly increases a person's vulnerability to revictimization across the lifespan. Results indicated that those who experienced childhood abuse were significantly more likely to have experienced adulthood victimization compared to those with no childhood abuse history.

Follette, Polusny, Bechtle, and Naugle (1996) observed the cumulative effects of sexual and physical abuse. The authors categorized

abuse as child sexual abuse, adult sexual assault, and adult physical abuse from a partner. In a combined clinical/community sample of 210 female participants, analyses showed a significant relationship between number of traumas experienced and increased scores on a scale that measures trauma symptomatology. Categories of cumulative trauma included a) no trauma, b) one type of trauma, c) two types of trauma, and d) three times of trauma. The results indicated that each increase of trauma occurrences resulted in a significant increase in the participants' total mean scores for trauma symptomatology.

Follette and Vijay (2008) explained that revictimization occurs when an individual experiences adult victimization when they also have a preexisting history of childhood trauma. In a study observing revictimization in women, 67% reported additional sexual victimization as an adult (Cloitre, Cohen, & Koenen, 2006; Cloitre & Rosenberg, 2006). The consequences of revictimization tend to be greater compared to those who have experienced one episode of sexual abuse (Ghimire & Follette, 2012). Posttraumatic stress disorder is one of the most commonly associated consequences of revictimization. However, revictimization tends to increase the severity of a range of symptoms that survivors of child abuse experience (Ghimire & Follette, 2012).

Long-term Outcomes of Child Maltreatment

Psychological sequelae.

A large body of empirical literature has demonstrated a range of negative psychological sequelae are associated with child maltreatment. Those who experience child maltreatment are more likely to have poor mental health outcomes as an adult (Barrett, Kamiya, & Sullivan, 2014; Beitchman et al., 1992; Briere & Runtz, 1993; Browne & Finkelhor, 1986; Molnar, Buka, & Kessler, 2001; Polusny & Follette, 1995). Specifically, research has shown that survivors of child maltreatment are more likely to have increased risk for anxiety, substance abuse, depression and posttraumatic stress disorder (Chen et al., 2010; Green et al., 2010; Molnar et al., 2001; Murray et al., 2014; Kamiya et al., 2016). A history of child maltreatment is also associated with an increased risk for suicide attempts (Beitchman et al., 1992; Briere & Runtz, 1993; Browne & Finkelhor, 1986; Murray, Nguyen, & Cohen, 2014). Specifically, child sexual abuse has been associated with suicide attempts (Briere & Runtz, 1986; Bryer, Nelson, Miller, & Kroll, 1987). Briere and Runtz (1986) indicated that 56% of women with a history of child sexual abuse had a history of a previous suicide attempt compared to 26% with no abuse history within a sample of 195 participants. Silverman, Reinherz, and Giaconia (1996) found that women who had been physically abused as children were significantly more likely to experience suicidal ideation than those without an abuse history.

The literature has also demonstrated a relationship between childhood maltreatment and difficulties in functioning across a range of daily domains (Kamiya et al., 2016; Newman et al., 2000). For example, Kamiya et al. (2016) found that childhood maltreatment was negatively correlated with perception of control over one's life, feelings of autonomy, self-realization, and pleasure in adulthood. Additional research has indicated that adults who experienced childhood maltreatment were more likely to cut down on pleasurable activities, miss work, and stay in bed (Nurius, Green, Logan-Greene, & Borja, 2015; Newman et al., 2010). These research findings suggest that childhood maltreatment not only increases a person's risk for developing psychological pathology, but it may have an impact on general well-being and daily functioning.

Physical health sequelae of Childhood Maltreatment

Research has shown that survivors of both child physical and sexual abuse are more likely to have physical health problems in adulthood such as pain, gastrointestinal symptoms, impaired physical functioning, cardiovascular symptoms, and gynecological disorders (Bonomi et al., 2008; Chartier et al., 2010; Murray et al., 2014). More specifically, child maltreatment is associated with an increased risk for early cardiovascular disease in women (Goodwin & Stein, 2004; Rich-Edwards et al., 2012), as well as general cardiovascular problems (Irish, Kobayashi, & Delahantym,

2010) and poor total cholesterol and low-density lipoprotein levels (Kamiya et al., 2016). Additional research has indicated there is a relationship between a history of child maltreatment and gastrointestinal problems in adulthood, including bloating, constipation, and indigestion (Golding, 1994; Irish et al., 2010; Rich-Edwards et al., 2012). Child maltreatment has also been shown to be associated with a host of physical symptoms including chronic pain (Irish et al., 2010; Rich-Edwards et al., 2012), arthritis (Kamiya et al., 2016), headaches, sinus pain, and migraines (Newman et al., 2000). The wide range of symptoms associated with a history of abuse may be related to the development of abnormalities within the hypothalamic-pituitary-adrenal axis, which has been hypothesized to lead to problems such as autoimmune diseases, chronic fatigue, obesity, fibromyalgia, and cardiovascular events (Guilliams & Edwards, 2010; Rich-Edwards et al., 2012). Guilliams and Edwards (2010) reported that problems with the hypothalamic-pituitary-adrenal axis often lead to a heightened response within the locus caeruleus/norepinephrine system. This process has been shown to increase chronic inflammation, which also leads to an increased risk for disease.

It is noted that women with history of either child physical or child sexual abuse are at an increased risk for physical health problems in adulthood. However, many studies have indicated that those who experienced both child physical and sexual abuse are at an even greater risk

for developing health problems and their symptoms tend to be worse (Bonomi et al., 2008; Chartier et al., 2010; Murray et al., 2014; Rich-Edwards et al., 2012).

In samples of women with child maltreatment histories, research has shown an increase in physician diagnosed medical conditions and poor perceptions of physical health (Chartier, Walker, & Naimark, 2007; Chartier et al., 2010). For example, Chartier et al. (2007) found a relationship between childhood maltreatment and pain that interferes with daily activities, multiple health problems, and physical disabilities. Additionally, those who experienced childhood maltreatment were more likely to rate themselves as having fair/poor health compared to those with no history of childhood maltreatment (Charter et al., 2010).

Bensley, Van Eenwyk, and Wynkoop Simmons (2003) looked at the effects of child physical abuse and child sexual abuse on long-term health outcomes. Their results indicated that women with a history of child physical abuse only were twice as likely to endorse poor physical health compared to those who had no history of abuse. Additionally, those who experienced child sexual abuse only did not have significant differences in perceptions of poor health compared to women with no abuse history. The latter finding conflicts with the majority of research that shows a strong relationship between child sexual abuse and poor perceptions of physical

health as an adult (Chartier et al., 2007; Chartier et al., 2010; Kamiya et al., 2016; Sachs-Ericsson, Blazer, Plant, & Arnow, 2005).

Palm and Follette (2008) conducted a study with a sample of 77 undergraduate women. Subjects' healthcare utilization records were acquired through the university health center and participants were followed for one academic year. The study showed mixed results in examining the relationship between sexual abuse and physical health outcomes. Women who experienced adult sexual abuse had significantly higher levels of physical health complaints in comparison to those with no history of abuse. However, those who reported child sexual abuse did not exhibit significantly different levels of physical health complaints compared to those without an abuse history. Subjects with adult sexual abuse histories also endorsed significantly higher levels of current stress, while those with a history of child sexual abuse did not. Further analysis indicated current stress levels mediated the relationship between physical health complaints and adult sexual assault. Authors noted that the cross-sectional design and small sample size may have also contributed to the lack of significant findings regarding the relationship between child sexual abuse and physical health complaints. The sample also consisted of college students, who are typically younger in age and likely do not suffer from as many physical health problems as a whole compared to older women.

Bonomi et al. (2008) conducted a study with 3,568 female subjects to assess for effects of co-occurring child physical and sexual abuse on long-term health outcomes. Women with a history of both physical and sexual child abuse exhibited an increased rate of self-reported fair/poor health. Although women who experienced child physical abuse only and child sexual abuse only also had higher rates self-reported poor health compared to those with no history, the effects were not as large as the combined group.

Research has shown that individuals with multiple trauma experiences in childhood will be at an even greater risk for developing adverse adult health problems compared to those with one trauma (Irving & Ferraro, 2006). The literature has indicated the consequences of experiencing multiple forms of trauma in childhood include heart disease, cancer, emphysema, skeletal fractures, and poor self-rated health (Anda et al., 1999; Bensley et al., 2003; Edwards, Holden, Felitti, & Anda, 2003; Felitti et al., 1998; Teicher, Samson, Polcari, & McGreenery, 2006).

Healthcare Utilization

Given the impact of child sexual abuse on long-term physical health, a trauma survivor's medical utilization may look much different from those who have not experienced abuse. Survivors of childhood maltreatment have shown an increase in healthcare utilization. This may be due to their increased risk for

physical health problems, or they may perceive themselves as having poorer health. However, some studies have also shown that women with a history of childhood maltreatment are less likely to utilize healthcare compared to women without a history of abuse. Thus, the findings in this are inconsistent and warrant additional research.

Many studies have shown that child maltreatment leads to an increase of healthcare utilization (Arnow et al., 1999; Bergman et al., 1992; Koss et al., 1991; Newman et al., 2000). However, there is still variability across the research regarding the relationship between child sexual abuse and healthcare utilization. Newman et al. (2000) showed there was a significant relationship between child sexual abuse and women's total medical doctor visits, total internal medicine visits, and total out-patient surgical visits during the previous year. However, the authors also found no difference between child sexual abuse survivors and women who did not experience child sexual abuse for emergency room visits, emergency transport service use, gynecology visits, and psychology/psychiatry visits.

Kamiya et al. (2016) utilized a sample of 5,865 participants from the Irish Longitudinal Study on Ageing. To measure healthcare utilization, the authors combined number of general practitioner visits in the previous 12 months, emergency room uses, hospital out-patient uses, and overnight hospital admissions for a total healthcare utilization score. Results showed that women with a history of child sexual abuse had significantly higher mean scores of total healthcare utilization than women who had not been abused, with a 20% increase of healthcare

professional visits within the child sexual abuse survivor group. Additional research has shown that child maltreatment predicted high emergency room use (two or more visits in previous 12 months) and high levels of medical professional visits (20 or more visits in previous 12 months) (Chartier et al., 2007). Additionally, Chartier et al. (2007) reported that with each additional experience of child maltreatment, healthcare utilization increased as well suggesting that there may be a cumulative impact on long term outcomes.

Sexual revictimization has also been shown to impact healthcare utilization. In comparison to women with no abuse history, women with a history of child sexual abuse, and women with child sexual abuse histories and revictimization, the latter group had higher levels of medical professional visits and hospital visits (Fergusson, McLeod, & Horwood, 2013). It is noted that the authors did not specify if the revictimization group experienced sexual assault, physical assault, or both. A thorough review of the literature was unable to identify research that has specifically observed the effects of physical revictimization on healthcare utilization.

Theoretical Considerations: Experiential Avoidance

Hayes et al. (1996) defined experiential avoidance as a “phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences and take steps to alter the form or frequency of these events and the contexts that occasion them.” The type of avoidance may vary from avoidance of

bodily sensations, emotions, and thoughts to memories and behavioral predispositions. Experiential avoidance can take a broad range of forms, in that the individual may engage in avoidance or escape strategies in all forms with experiential avoidance, as long as the method alters the form and frequency of the person's experiences and the contexts of the experiences (Hayes et al., 1996). This avoidance is linked to a lack of psychological flexibility which adversely impacts daily functioning in a variety of ways.

Polusny and Follette (1995) conducted a review of the literature regarding long-term effects of childhood sexual abuse. Given the information they found, Polusny and Follette (1995) hypothesized that abuse survivors may employ experiential avoidance as a means of reducing feelings of distress. Based on the literature, Polusny and Follette (1995) hypothesized that trauma survivors who engage in substance abuse, dissociation, bulimia, and self-injury are utilizing these behaviors as forms of experiential avoidance. Experiential avoidance may be a method of gaining perceived sense of control (Hayes, et al., 1996). This avoidance can come at a great cost, leading to a limited repertoire of responding to stressful life events. Social environments may also influence the use of experiential avoidance. For example, children may be taught to keep their emotions at bay, particularly in abusive family environments (Hayes et al., 1996).

The literature suggests that high levels of experiential avoidance are associated with physical abuse in childhood. Research has shown that people who endorse childhood maltreatment are more likely to utilize experiential avoidance as

a coping mechanism in adulthood (Gratz, Bornova, Delany-Brumsey, Nick, & Lejuez, 2007). Moreover, experiencing child physical abuse from a trusted caretaker may be particularly distressing and may lead to a range of aversive private experiences that leads the individual to adopting a coping mechanism that allows them to manage the associated distress (Fiorillo, Papa, & Follette, 2013).

Individuals using experiential avoidance often experience initial positive effects because it brings immediate relief from the stressor. This could lead the individual to believe that experiential avoidance works (Hayes et al., 1996) despite the long-term consequences typically resulting in poorer functioning (Gold & Wegner, 1995). Those with higher levels of experiential avoidance may neglect certain areas of their mental and physical health. Research has shown that many avoidance behaviors may lead to poor levels of physical health and a greater need for healthcare services, therefore increasing healthcare utilization (Leitenberg, Greenwald, & Cado, 1992; Roemer, Litz, Orsillo, & Wagner, 2001).

Rationale for Proposed Study

Child maltreatment is a problem that can result in long-lasting effects on an individual's mental and physical well-being (Murray et al., 2014). There is a broad range of research showing that those with a history of child maltreatment are more likely to suffer from specific mental illnesses and medical conditions compared to individuals without a history of maltreatment, however there are inconsistencies in this literature. Moreover, there is limited research examining theoretical factors

related to child maltreatment, long-term outcomes, and healthcare utilization. Additionally, few studies have observed the effects of revictimization and posttraumatic stress on physical well-being. The current study explored the relationship between childhood maltreatment and adult healthcare utilization, as well as adult perceptions of physical health and frequency of experiencing physical symptoms. Thus, the current study expands on the current literature and tests specific hypotheses.

A) The relationship between childhood maltreatment and women's health will be evaluated.

1. It is hypothesized that women with a history of childhood maltreatment will have higher rates of physical symptoms (PILL) compared to those with no abuse history. Additionally, we hypothesize that individuals with multiple types of trauma will have increased frequency of physical symptoms compared to those with no trauma history or one type of trauma exposure.
2. Women with a history of childhood maltreatment are hypothesized to have lower self-ratings of health compared to those with no history of abuse. A cumulative impact of abuse on health is also hypothesized, with women with a history of revictimization reporting lower ratings of health compared to those with no history of abuse and one type of abuse.

- B) The relationship between childhood maltreatment and adult healthcare utilization will be evaluated.
1. It is hypothesized that there will be a positive association between multiple types of trauma (revictimization) and increased amounts of healthcare utilization.
- C) The impact of experiential avoidance, as a theoretical framework, on the relationship between childhood maltreatment and physical health symptomology will be evaluated.
1. Experiential avoidance and posttraumatic stress are hypothesized to impact the relationship between childhood maltreatment and frequency of physical symptoms and healthcare utilization.

Methods

Participants

This study's sample consisted of 224 female participants from ages 18 to 45 years. Mayo Clinic (2017) reports the average age of menopause onset in the United States is 51 years with a range of onset occurring from mid-40s to mid-50s. With the onset of menopause comes a significant increase in risk for cardiovascular disease, osteoporosis, incontinence, sexual dysfunction, and weight gain (Mayo Clinic, 2017). With this significant increase in health risk factors, the chosen age cohort was utilized to alleviate potential moderating factors that could impact the results of this study. Of the total number of participants, 48 were excluded from the

analysis because they failed to complete all relevant items in the survey. Therefore, 176 remaining participants make up the final sample used for analysis.

Measures

Demographic information: A demographic questionnaire was developed for this study including relevant characteristics such as age, race/ethnicity, education level, relationship status, and socioeconomic status.

Child Trauma Questionnaire – Short Form (CTQ – SF; Bernstein et al., 2003). This survey was developed as a screening tool from the original Child Trauma Questionnaire. It contains 28 items measuring child neglect, child physical abuse, and child sexual abuse using a 5-point Likert scale (1 = Never true, 5 = Very often true). The survey maintained good criterion validity (Cronbach's alpha = .86) across four different samples including adult substance abusing participants and a normative community sample (Berstein et al., 2003). Individuals who indicated a positive history of abuse according to the following items were included in the child abuse group: A) "I got hit so hard by someone in my family that I had to see a doctor or go to the hospital," B) People in my family hit me so hard that it left me with bruises or marks," C) "I was punished with a belt, a board, a cord (or some other hard object)," D) "I believe that I was physically abused," E) "I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor," F) "Someone tried to touch me in a sexual way or tried to make me touch them,"

G) “Someone threatened to hurt me or tell lies about me unless I did something sexual with them,” H) “Someone tried to make me do sexual things or watch sexual things,” I) “Someone molested me (took advantage of me sexually),” and J) “I believe that I was sexually abused.”

Modified Sexual Experiences Survey – Ages 18 and Above (SES; Koss & Gidycz, 1985). This modified survey is a 9-item self-report questionnaire that measures sexual victimization of adults (ages 18 and above). The original assessment has adequate internal consistency (Cronbach’s alpha = .74). It has been modified to include the specific items that relate to sexual assault and two additional items were added that measure physical assault. Individuals who indicated a positive history of victimization according to the following items were included in the adult victimization group: A) “Have you ever had sexual intercourse with a person when you didn’t want to because they threatened to use physical force if you didn’t cooperate?” B) “Have you ever Had sexual intercourse with a person when you didn’t want to because they used some degree of physical force?” C) “Have you ever been raped as an adult?” and D) “Have you ever experienced any incidents of physical aggression by a past or current dating partner (e.g., being grabbed, pushed or shoved, slapped, twisted arm, kicked, punched or hit, choked, etc.)?”

Healthcare Utilization Scale. In order to assess for self-rated health, and healthcare utilization, a healthcare utilization scale was developed by the researchers. Scores

for underutilization, average utilization, and overutilization were generated using criteria from previous studies (Chartier, Walker, & Naimark, 2010; Chartier, Walker, & Naimark, 2007). Healthcare utilization was defined using the following three items: A) “How many times have you visited your general practitioner in the past year?” B) “How many times have you visited your OB/GYN doctor or women’s health provider in the past year?” and C) “How many times have you seen a medical doctor/provider who is not your general practitioner in the past year?” Scores were developed using a scale (0 = 0 visits, 1 = one visit, 2 = 2 to 5 visits, and 3 = 6 or more visits) and responses were broken down into three categories (0 times = underutilization, 1 time = normal utilization, 2 or more times = increased utilization) based on previous research (Chartier, Walker, & Naimark, 2010; Chartier, Walker, & Naimark, 2007). Additionally, scores for perceptions of good and poor self-rated health were generated using a Likert scale (1 = excellent health, 2 = good health, 3 = fair health, and 4 = poor health). Participants were grouped into two categories: good health (excellent or good) or poor health (fair or poor).

The PTSD Checklist for DSM – 5 (PCL – 5; Weathers et al., 2013). The PCL – 5 is a brief self-report measure that assesses for posttraumatic stress symptomatology. It contains 20 items that fall into the four DSM – 5 symptom clusters: cluster B (items 1 – 5), cluster C (items 6 – 7), cluster D (items 8 – 14), and cluster E (items 15 – 20). Items are rated on a 5-point Likert scale (0 = Not at all, 4 = Extremely). The PCL – 5 has been shown to have excellent internal consistency (Cronbach’s alpha =

.96) and good test-retest reliability ($r = .84$). Current studies have shown that a score of 33 or more is indicative of a Posttraumatic Stress Disorder diagnosis. Elevated scores lower than 33 can indicate sub-threshold PTSD. This checklist is often used as a continuous measure of trauma symptomology and it was used in this manner for the current study.

Pennebaker Inventory of Limbic Languidness (PILL; Pennebaker, 1982). The PILL is a 54-item self-report questionnaire that measures a variety of physical symptoms (e.g., coughing, out of breath, insomnia, and upset stomach) on a 5-point Likert scale (1 = have never or almost never experienced, 5 = more than once every week). It has shown good internal consistency (Cronbach's alpha = .91) and test-retest reliability ($r = .83$). A total score was generated and used as an indicator of general health. Scoring ranges include 0 to 21 (below normal range), 22 to 66 (well within normal range), 67 to 84 (slightly above average, still normal range), and 85 or above (top 25 percent). The mean score for a non-clinical sample was 59 ($SD = 25$) (Pennebaker, 1982).

Acceptance and Action Questionnaire – II (AAQ – II; Bond et al., 2011). The AAQ – II is a self-report questionnaire that contains seven items that measure a person's willingness to accept undesirable thoughts and feelings. It uses a 7-point Likert scale (1 = Never true, 7 = Always true). Research has shown the AAQ – II to have good internal consistency (Cronbach's alpha = .84) and good test-retest reliability

($r = .81$). Higher scores indicate greater states of experiential avoidance and lower scores indicate greater levels of psychological flexibility.

Procedure

Participants were recruited through various social media platforms and a variety of online discussion forums through advertising of the research study. These forums included Facebook and Reddit, with specific sub-Reddits designated for dissemination of research surveys. The advertisement stated, “Women’s Health: The Impact of Child Abuse on Healthcare Utilization. Female research participants needed from ages 18 to 45 years. United States citizens only. Participants are needed regardless of abuse history.” Participants were asked to review an informed consent form prior to participation. They were asked to sign their agreement to participate, by checking a box labeled “I agree.” The informed consent form was not collected with the data and IP addresses were not recorded.

Those who agreed to participate in the study were provided information regarding the purpose of the study and the time estimate for participation, which was 60 minutes. Participants were also informed about the risks and benefits of the study, as well as their rights to withdraw from the study at any time. If the participants had any questions, they were directed to contact Victoria Follette, Ph.D. or Brianna Brandon, M.A., M.S. and their contact information was provided on the informed consent form. Additionally, resources for abuse survivors were provided upon completion or discontinuation of the survey.

Participants who agreed to participate were then asked to complete a series of demographic questions developed for the study. Next, participants completed the following questionnaires: Child Trauma Questionnaire – Short Form, Healthcare Utilization Scale, Modified Sexual Experiences Survey, PTSD Checklist for DSM-5, Pennebaker Inventory of Limbic Languidness, and Acceptance and Action Questionnaire – II.

Results

Demographics

Demographics for all participants are listed in Table 1. A majority of the participants fell in the 22 to 35-year-old age group. Participants were primarily Caucasian (79.5%), and a majority of the participants reported having a master's degree (30.1%) or bachelor's degree (27.3%). Participants' marital status showed a majority were either married (35.8%) or in a relationship (35.8%). Approximately one-third of participants reported annual income ranging from \$21,000 to \$50,000 (35.3%).

Sample Characteristics and Impacts of Maltreatment

All participants were assessed for a history of child maltreatment, adult victimization and revictimization. Frequency of abuse groups are listed in Table 2 and Table 3 lists all scores for self-report measures. Of the sample, 30.7% indicated no history of victimization, 25% reported a history of child abuse (CPA/CSA) only

and 11.4% reported a history of adult victimization only. The rest of the sample consisted of 31.3% of participants who experienced both child abuse and adult victimization (revictimization group). Additionally, mean scores for all measures for each abuse group are listed in Table 3. Three analyses of variance were conducted to assess differences in assessment scores between the abuse groups. Participants within the revictimization group had significantly higher scores on the PCL – 5 compared to those with no abuse history or one type of abuse history, $F(3, 169) = 35.00, p < .001$. Also, participants who experienced one type of abuse exhibited significantly higher scores on the PCL – 5 compared to the no abuse history group, $F(3, 169) = 35.00, p < .001$. These results indicate that participants who experience cumulative trauma have significantly more posttraumatic stress symptoms than those with one type of abuse history or no abuse history; those with one type of abuse history experience significantly more posttraumatic stress symptoms than those with no abuse history. Similarly, the revictimization group exhibited significantly higher scores on the AAQ – II compared to those with no abuse history or one type of abuse history, $F(3, 168) = 26.58, p < .001$. Those who experienced one type of abuse had significantly higher AAQ – II scores than the no abuse history group, $F(3, 168) = 26.58, p < .001$. These findings indicate that those who experienced cumulative trauma have significantly higher rates of experiential avoidance and lower levels of psychological flexibility in comparison with those who experienced one form of abuse or no abuse. As well, those who experience one

form of abuse have significantly higher rates of experiential avoidance compared to the no abuse history group.

Healthcare Utilization

Healthcare demographics are listed in Table 4. Participants were asked to complete a questionnaire regarding their utilization of healthcare services during the previous year. A majority of participants (81.3%) reported having private health insurance. Notably, approximately 11% of participants indicated they do not have health insurance. All participants were asked to rate their perceptions of their overall health as excellent (22.2%), good (57.4%), fair (16.5%), or poor (4%). Most of the participants reported having a general practitioner (63.1%). Similarly, 60.8% of participants indicated they have an OB/GYN physician or women's healthcare provider. Notably, of those who have an OB/GYN or women's healthcare provider (60.8%), 13.1% had no visits during the past year.

Furthermore, 36.3% of participants visited an emergency department/urgent care center at least once in the past year. Participants were assessed for visits to doctors/medical providers who were not their general practitioner and 35.2% had no visits, while another 35.2% visited 2 to 5 times. Participants were asked to report the number of times they had seen a psychologist and 31.2% of the sample had seen a psychologist at least once in the past year and 21.6% of participants had visited a psychiatrist in the past year.

Hypothesis A.1: Childhood Maltreatment, Revictimization, and Physical Health

In order to assess the relationship between childhood maltreatment and women's health, all participants were assessed how often they experience a variety of physiological symptoms measured by the Pennebaker Inventory of Limbic Languidness (PILL). The mean score for the sample was 70.52 ($SD = 35.34$), with the scores ranging from 0 to 216. The sample's average score falls in the "Slight Above Average, Within Normal Range" category. Notably, the revictimization group had a mean score of 95.40 ($SD = 36.44$) which places them in the Top 85% range for PILL scores.

An analysis of variance was performed to compare average scores on the PILL for individuals reporting no history of abuse, one type of abuse (child abuse or adult victimization), or combined child abuse and adult victimization (revictimization). There were significant differences for all the groups. A post-hoc analysis using Tukey HSD revealed that participants with a history of revictimization had significantly higher scores on the PILL when compared to those with no abuse history, $F(2, 164) = 26.15, p < .000$. Additionally, the revictimization group showed significantly higher levels of PILL scores compared to those with one type of abuse, $F(3, 164) = 26.15, p < .000$. There was no significant difference in total PILL scores between the no abuse history group and those who experienced one type of abuse, $F(2, 164) = 26.15$.

Hypothesis A.2: Childhood Maltreatment, Revictimization, and Perceptions of Health

Participants were asked to rate their perceptions of their overall health on a scale from 1 to 4 (1 = excellent health, 2 = good health, 3 = fair health, and 4 = poor health). The mean score for the sample was 2.02 ($SD = .74$) indicating that the average score fell in the 'good health' category. Participants were separated into three groups: 1) no abuse history, 2) one type of abuse history, and 3) revictimization. Based on previous research, the ratings of perceptions of health were developed into a dichotomous variable (excellent health/good health and fair health/poor health) (Bonomi et al., 2008; Chartier, Walker, & Naimark, 2010; Chartier, Walker, & Naimark, 2007).

A chi-square test was performed to determine if an association exists between cumulative trauma and low perceptions of physical health. Results are listed in Table 5. There was a significant association between revictimization and perception of poor physical health $\chi^2(2) = 16.47, p < .000$. Cramer's V was calculated and revealed a moderate effect size of .31. Post hoc comparisons of abuse groups by perceptions of physical health revealed that higher rates of poor perceptions of physical health were seen among the revictimization group. There was no significant difference between those who experienced one form of abuse and those who had no abuse history.

Hypothesis B: Cumulative Trauma and Healthcare Utilization

Participants were again separated into three groups regarding trauma history: 1) no abuse history, 2) one type of abuse history, and 3) revictimization. Healthcare utilization was defined by three groups (0 past visits, 1 past visit, and 2 or more past visits) based on existing literature (Chartier, Walker, & Naimark, 2010; Chartier, Walker, & Naimark, 2007). A chi-square test was performed to determine if a positive association exists between cumulative trauma and healthcare utilization. There was no significant association between cumulative trauma and healthcare utilization $\chi^2(4) = 2.36$. Additionally, a chi-square test was performed to assess the association between cumulative trauma and mental health provider utilization (yes or no visits for previous year). There was a significant association between cumulative trauma and mental health provider utilization $\chi^2(2) = 11.89, p < .003$. The effect size as reported by Cramer's V (.26) was moderate to large. Post hoc comparisons of abuse groups by mental health provider utilization revealed that higher rates of mental health provider utilization were seen among the revictimization group. Results for the chi-square test between cumulative trauma and mental health provider utilization are recorded in Table 6.

Hypothesis C: Experiential Avoidance and Posttraumatic Stress as Mediators

A mediation analysis was performed to determine how experiential avoidance and posttraumatic stress influences the relationship between childhood maltreatment and physical health symptoms. First, a simple linear regression was

conducted to determine if child abuse predicted increased frequency of physical health symptoms (PILL). The regression analysis showed that child abuse significantly predicted increased frequency of physical health symptoms, $b = 26.24$, $t(166) = 5.03$, $p = .000$. Additionally, 13.3% of the variation in physical symptoms is explained by child abuse history, $F(1, 165) = 25.29$, $p = .000$. Moreover, the mediation analysis showed that there was a significant indirect effect of experiential avoidance on child abuse through frequency of physical health symptoms, $b = 18.86$, BCa CI [12.47, 26.50]. This represents a medium effect size, $R^2 = 0.42$, $F(1, 165) = 58.35$, $p = .000$. In other words, experiential avoidance mediates the relationship between child abuse and frequency of experiencing physical health symptoms. The second mediation analysis indicated there was a significant indirect effect of posttraumatic stress on child abuse through frequency of physical health symptoms, $b = 23.33$, BCa CI [15.51, 31.22]. This represents a moderate effect size, $R^2 = 0.41$, $F(1, 165) = 57.34$, $p = .000$. This suggests that posttraumatic stress mediates the relationship between child abuse and frequency of physical health symptoms.

Discussion

The current study served as a preliminary investigation, examining the impact of childhood maltreatment and cumulative trauma on physical health and healthcare utilization for women between the ages of 18 and 45. Many studies have observed the effects of childhood maltreatment on mental and physical health

outcomes. However, very few studies have examined potential mediating factors for this relationship, such as experiential avoidance and posttraumatic stress. Additionally, there are no known studies that observe the relationship between childhood maltreatment and physical health symptoms through theoretical lens of experiential avoidance. This study improves upon previous research by analyzing the relationship between childhood maltreatment and physical health symptomology through the theoretical framework of experiential avoidance.

This study consisted of three main aims. Specifically, we hypothesized that those who experienced childhood maltreatment would have significantly higher rates of physical symptoms and worse perceptions of their physical health compared to the no abuse history group. It was also predicted that cumulative trauma, or those who were revictimized, would have even higher rates of physical symptoms and poorer perceptions of physical health. Similarly, childhood maltreatment would be associated with higher rates of healthcare utilization in comparison to the non-abused group; and cumulative trauma would yield even higher rates of healthcare utilization. We also hypothesized that experiential avoidance and posttraumatic stress would serve as mediators for the relationship between childhood maltreatment and physical health symptomology. Analysis of variance, chi-square analyses, and mediation regression were used to assess these relationships. A discussion regarding childhood maltreatment, cumulative trauma, physical health outcomes, healthcare utilization, and our theoretical framework is as follows.

Victimization Prevalence and Healthcare Characteristics

The prevalence rates for victimization were consistent with findings across the literature. Twenty-five percent of the sample reported experiencing childhood maltreatment with no experiences of adult victimization. Approximately 11% indicated they had experienced either sexual or physical violence as an adult with no reported history of childhood maltreatment. Whereas 31.3% of the sample reported experiencing cumulative trauma, which indicates the participants experienced childhood maltreatment, as well as adult victimization. These findings convey the high frequency of traumatic events that women experience in both childhood and adulthood and the importance of understanding the impact those events have on women's mental and physical well-being. Although, it is important to note that our sample may have higher rates of women with abuse histories given that the title for recruiting participants stated, "Women's Health: The Impact of Child Abuse on Healthcare Utilization".

It is important to note the differences between abuse groups for trauma symptoms and experiential avoidance. This study showed that participants with a history of one type of victimization had significantly higher scores of posttraumatic stress and experiential avoidance when compared to the no abuse group. Additionally, those who experienced revictimization exhibited significantly higher scores on both the PCL – 5 and the AAQ – II in comparison to those who experienced one type of trauma and those with no trauma history. These results

show the significant impact of not only experiencing one form of trauma, but the negative consequences for cumulative trauma.

It is important to note that 10.8% of the sample did not have health insurance. Given that 20.5% of participants rated their physical health as fair or poor, the lack of health insurance for a notable percentage of the sample suggests that some participants are unable to receive medical care they may need. It is also worrisome that nearly 40% of the sample reported not having a general practitioner, especially given that the Center for Disease Control (2019) strongly urges the women under the age of 50 to receive annual physical check-ups.

Specifically regarding women's health, 60.8% of participants indicated they have either an OB/GYN physician or a women's health provider. However, a surprisingly high amount (13.1%) of participants who have an OB/GYN doctor or women's health provider did not visit their provider during the previous year. Mayo Clinic (2017) strongly suggests that women between the ages of 18 and 45 have an annual visit to their OB/GYN for a pap smear test and pelvic exam. Within our sample, 50.6% did not have a pap smear during the previous year and 47.7% did not have a pelvic exam despite recommendations from the Center for Disease Control (2019) for annual screens. This is important information given the risk of sexually transmitted diseases and increasing rates of the human papillomavirus, which have been shown to significantly increase risks for certain cancers (Jemal et al., 2013).

Notably, 36.3% visited an emergency department or critical care at least once in the past year. Additionally, over half (64.2%) of the sample reported visiting a medical provider who was not their general practitioner. This large percentage may be made up of specialty providers or emergency department/urgent care providers. It will be important to differentiate this information in the future.

Thirty-one percent of our sample visited a psychologist and 18.8% visited a psychiatrist in the past year to receive psychological care. It is not known if the participants were receiving psychological care for trauma reactions. It would be beneficial to understand if psychological intervention plays a role on the relationship between victimization and physical health.

Victimization and Women's Health

This study evaluated the relationship between childhood maltreatment, cumulative trauma, and physical symptomology. The results showed that participants who experienced revictimization had significantly higher rates of physical symptoms compared to those with no abuse history and those with one type of abuse history. However, there was no significant difference in physical symptoms between the no abuse history group and those who experienced one type of abuse. These findings were somewhat consistent with previous research. A large body of research has established that cumulative trauma, or the experiencing of multiple traumas, has even greater consequences for physical health outcomes (Anda et al., 1999; Bensley et al., 2003; Edwards, Holden, Felitti, & Anda, 2003;

Felitti et al., 1998; Teicher, Samson, Polcari, & McGreenery, 2006). One finding that differs from the majority of previously conducted research is that we did not find a significant difference in physical symptomology between those who experienced childhood maltreatment and those who have no abuse history. The results of this study identified the importance of understanding cumulative trauma and its impacts on women's physical health. Cumulative trauma may have a greater effect on somatization of the psychological pain experienced by survivors of abuse. Further research should be conducted to better understand the nature of this relationship.

The results of the current study also indicated that cumulative trauma has a significant impact on women's perceptions of their physical well-being. More specifically, our findings showed that women who experienced revictimization were significantly more likely to rate themselves as having fair or poor health compared to those with one form of abuse history or no history of abuse. This may again be the result of somatization of psychological difficulties. Contrarily to other research findings, our study showed that women who experienced one form of abuse did not rate their perceptions of health different from those with no abuse history (Bonomi et al., 2008).

Victimization and Women's Healthcare Utilization

There were various findings across the literature regarding the effects of child abuse on healthcare utilization. Many studies have shown that individuals

who experienced childhood maltreatment were significantly more likely to have increased healthcare utilization (Arnow et al., 1999; Bergman et al., 1992; Koss et al., 1991; Newman et al., 2000). Specifically, there was a significant increase in healthcare utilization with the childhood maltreatment group for total medical doctor visits, total internal medicine visits, and total out-patient surgical visits (Newman et al., 2000). Whereas there were no differences between groups for emergency room visits, gynecological visits, or psychology/psychiatry visits (Newman et al., 2000). Specifically, for revictimization groups, previous research has shown that cumulative trauma is significantly associated with higher levels of medical professional visits and hospital visits (Fergusson, McLeod, & Horwood, 2013). This research study showed there was no significant difference in medical healthcare utilization between the three groups (no abuse history, one type of abuse history, revictimization).

Although we did not find significant differences between groups for medical healthcare utilization, we did find significant differences for mental health provider utilization. Our results showed that women in the revictimized group were significantly more likely to visit a psychologist and/or a psychiatrist compared to those with one type of abuse history and those with no abuse history. These results again show the significant impact that cumulative trauma experiences have on long-term wellness outcomes for women. This study's results indicating there was no difference in mental health provider utilization between those with one form of

abuse and those with no abuse history is consistent with previous research (Newman et al., 2000).

Experiential Avoidance and Posttraumatic Stress as Mediators for Child Abuse and Physical Health Outcomes

Many previous studies have evaluated the influence of trauma on physical health and healthcare utilization. This study sought to contribute to the literature by understanding these relationships using experiential avoidance as a theoretical framework. To examine this, we first assessed how childhood maltreatment predicts physical health in women's adulthood; our results showed that childhood abuse does significantly predict an increased frequency of physical symptoms. These results are consistent with other findings in the literature. Then to evaluate the role experiential avoidance plays on the relationship between childhood maltreatment and physical health, a mediation analysis was conducted. The results indicated that experiential avoidance had a medium sized effect on the relationship between childhood abuse and reported physical health symptoms. This suggests that avoidant coping plays a role for women who experienced childhood abuse and it ultimately leads to worse outcomes of physical health. One hypothesis explaining this phenomenon is that those with higher rates of experiential avoidance lack the psychological flexibility to manage the psychological distress associated with the trauma. Therefore, their symptoms are manifested somatically which leads them to experiencing a higher frequency of physiological symptoms. However, it is not

known in this study of participants who experienced higher rates of physiological symptoms had medical causes for their symptoms or if their psychological distress was presenting through physical symptoms. Additional research should be conducted to differentiate between these two causes. Previous research has established that individuals who experienced childhood maltreatment are more likely to have hyperactive hypothalamic-pituitary-axes, which often leads to a host of physical ailments (Guilliams & Edwards, 2010; Rich-Edwards et al., 2012). Future research should strive to differentiate between somatization of psychological distress and physical symptomology caused by medical problems for this population.

Another interesting finding is that posttraumatic stress also served as a mediator on the relationship between childhood maltreatment and physical symptoms. Higher levels of posttraumatic stress yielded a stronger relationship between childhood abuse and physiological symptoms. So again, the psychological distress associated with higher levels of posttraumatic stress may be manifested through somatization. Further research is needed to parse out what symptoms are somatization and what are medically based physiological symptoms.

Limitations

Similar to most studies evaluating the impacts of trauma, this study was retrospective in nature and cross-sectional in design. Therefore, there are many limitations with respect to these two issues. Given its retrospective nature, much

time has passed between the traumatic event(s) experienced and the measure of physiological symptoms. There are many potential confounding variables that could have influenced the presence of physiological symptoms and healthcare utilization. Additionally, we cannot infer causality with a retrospective model without the use of longitudinal data, which we did not possess. There is also concern for the accuracy of participants' self-report of the traumatic events given the amount of time that has passed between the event(s) and reporting.

Another limitation relates to the sampling method. Participants were taken from various social media platforms and given the demographic information, a majority of the sample is highly educated (bachelor's degree or higher) and Caucasian. This is not truly representative of the population at large. A random cross-section sample of participants from the population would have been better suited for generalizability. Additionally, recruitment may have attracted more individuals with abuse histories given that the title of the advertisement was "Women's Health: The Impact of Child Abuse on Healthcare Utilization".

Although most of the measures used demonstrated good validity and reliability, the healthcare utilization scale was developed by the researchers. Therefore, reliability and validity for this scale are unknown at this point. However, the items within the scale were developed based on previous research. Additionally, there was limited utility of being able to assess high rates of healthcare utilization because the group labeled '6 or more visits' did not have enough participants and therefore lacked sufficient power for the analyses conducted. Although we utilized

a method of grouping healthcare utilization developed by previous researchers (Chartier, Walker, & Naimark, 2010; Chartier, Walker, & Naimark, 2007), this variable would have been better suited as continuous.

Finally, another limitation to the study is that physiological symptoms were measured by self-report. We were unable to confirm medical causes of the reported physical symptoms through a medical professional. However, it is still important to understand the relationships we examined through the perception of participants. In other words, self-report of physiological symptoms may be just as important to understand as medically diagnosed symptoms.

Clinical Implications and Future Research

This study evaluated the impacts of trauma for women between the ages of 18 and 45 years old. Future research should attend to women outside of this age group, specifically older women. Women above age 45 likely encounter a host of different physical symptoms compared those younger than them. Therefore, it would be beneficial to understand how trauma influences older women's health trajectories.

For many decades, researchers have evaluated the long-term consequences of trauma for women. Through this research, we have come to understand there is a significant relationship between victimization and poor physical health. This study specifically, has shown the significant consequences of cumulative trauma and its seemingly increased effect on poor physical health outcomes. While everyone is

susceptible to experiencing a traumatic event, it would be useful to understand the personal and environmental factors that prevent survivors of abuse from developing long-term health problems. Understanding resiliency factors may prove useful in providing treatment for survivors of abuse.

Given the results of this study and previous research, we know there is a relationship between trauma and poor long-term physical health. We also know that a majority of medical professionals do not assess for trauma in their patients (Weinreb et al., 2010). This study indicates the need for trauma assessment in the medical setting. This is especially true to primary care settings since a notable percentage of the population will consult their general practitioner for mental health concerns within any given year (Hankin & Oktay, 1979; Schulberg & Burns, 1988). If medical professionals assess for trauma within their patients, they would be better able to make adequate psychological referrals and patients would have an opportunity to receive the care they need to alleviate residual psychological distress.

References

- Anda, R. F., Croft, J. B., Felitti, V. J., Nordenberg, D., Giles, W. H., Williamson, D. F., & Giovano, G. A. (1999). Adverse childhood experiences and smoking during adolescence and adulthood. *Journal of the American Medical Association*, 282(17), 1652-1658.
- Arnou, B. A., Hart, S., Scott, C., Dea, R., O'Connell, L., & Taylor, C. B. (1999). Childhood sexual abuse, psychological distress, and medical use among women. *Psychosomatic Medicine*, 61, 762-770.
- Barrett, A., Kamiya, Y. & Sullivan, V. O. (2014). Childhood sexual abuse and later-life economic consequences. *Journal of Behavioral and Experimental Economics*, 53, 10-16.
- Beitchman, J. H., Zucker, K. J., Hood, J. E., DaCosta, G. A., Ackman, D., & Cassiavia, E. (1992). A review of the long-term effects of child sexual abuse. *Child Abuse and Neglect*, 16, 101-118.
- Bensley, L., Van Eenwyk, J., & Wynkoop Simmons, K. (2003). Childhood family violence history and women's risk for intimate partner violence and poor health. *American Journal of Preventive Medicine*, 25, 38-44.
- Bergman, B., Brismar, B., & Nordin, C. (1992). Utilization of medical care by abused women. *British Medical Journal*, 305, 27-28.

- Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., ... & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect*, 27(2), 169-190.
- Bolen, R. M., & Scannapieco, M. (1999). Prevalence of child sexual abuse: A corrective metaanalysis. *Social Service Review*, 73(3), 281-313.
- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., ... & Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, 42(4), 676-688.
- Bonomi, A. E., Cannon, E. A., Anderson, M. L., Rivara, F. P., & Thompson, R. S. (2008). Association between self-reported health and physical and/or sexual abuse experienced before age 18. *Child Abuse & Neglect*, 32(7), 693-701.
- Bovin, M. J., Marx, B. P., Weathers, F. W., Gallagher, M. W., Rodriguez, P., Schnurr, P. P., & Keane, T. M. (2016). Psychometric properties of the PTSD checklist for diagnostic and statistical manual of mental disorders-fifth edition (PCL-5) in veterans. *Psychological Assessment*, 28(11), 1379-1391.
- Briere, J., & Runtz, M. (1987). Post sexual abuse trauma: Data and implications for clinical practice. *Journal of Interpersonal Violence*, 2, 367 – 379.

- Briere, J. & Runtz, M. (1993). Child sexual abuse: Long-term sequelae and implication for psychological assessment. *Journal of Interpersonal Violence*, 8, 312-330.
- Browne, A. & Finklehor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin*, 99, 66-77.
- Bryer, J. B., Nelson, B. A., Miller, J. B., & Krol, P. A. (1987). Childhood sexual and physical abuse factors in adult psychiatric illness. *American Journal of Psychiatry*, 144, 1426 – 1430.
- Center for Disease Control and Prevention. (2019, February 26). Preventing Child Abuse & Neglect. Retrieved from <https://www.cdc.gov/violenceprevention/childabuseandneglect/fastfact.html>
- Chartier, M. J., Walker, J. R., & Naimark, B. (2010). Separate and cumulative effects of adverse childhood experiences in predicting adult health and health care utilization. *Child Abuse & Neglect*, 34(6), 454-464.
- Chartier, M. J., Walker, J. R., & Naimark, B. (2007). Childhood abuse, adult health, and health care utilization: Results from a representative community sample. *American Journal of Epidemiology*, 165(9), 1031-1038.
- Chen, L. P., Murad, M. H., Paras, M. L., Colbenson, K. M., Sattler, A. L., Goranson, E. N., ... & Zirakzadeh, A. (2010, July). Sexual abuse and lifetime diagnosis of psychiatric disorders: Systematic review and meta-analysis. In *Mayo Clinic Proceedings* (Vol. 85, No. 7, pp. 618-629). Elsevier.

- Cloitre, M., Cohen, L. R., & Koenen, K. C. (2006). Treating survivors of childhood abuse. New York: Guilford.
- Cloitre, M., & Rosenberg, A. (2006). Sexual revictimization. *Cognitive-behavioral Therapies for Trauma*, 321-361.
- Edwards, V., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the Adverse Childhood Experiences Study. *American Journal of Psychiatry*, 160(8), 1453-1460.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of child abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258.
- Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1996). Childhood sexual abuse and psychiatric disorder in young adulthood: II. Psychiatric outcomes of childhood sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35(10), 1365-1374.
- Fergusson, D. M., McLeod, G. F., & Horwood, L. J. (2013). Childhood sexual abuse and adult developmental outcomes: Findings from a 30-year longitudinal study in New Zealand. *Child Abuse & Neglect*, 37(9), 664-674.
- Finkelhor, D. (1979). *Sexually victimized children*. New York: Free Press.

- Finkelhor, D., Hotaling, G., Lewis, I. A., & Smith, C. (1989). Sexual abuse and its relationship to later sexual satisfaction, marital status, religion, and attitudes. *Journal of Interpersonal Violence*, 4, 279-299.
- Fiorillo, D., Papa, A., & Follette, V. M. (2013). The relationship between child physical abuse and victimization in dating relationships: The role of experiential avoidance. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(6), 562.
- Follette, V. M., Polusny, M. A., Bechtle, A. E., & Naugle, A. E. (1996). Cumulative trauma: The impact of child sexual abuse, adult sexual assault, and spouse abuse. *Journal of Traumatic Stress*, 9(1), 25-35.
- Follette, V., & Vijay, A. (2008). Retraumatization. *Encyclopedia of Psychological Trauma*, 586-589.
- Ghimire, D., & Follette, V. M. (2012). Revictimization: Experiences related to child, adolescent, and adult sexual trauma. *Retraumatization: Assessment, Treatment, and Prevention*, 317-344.
- Gold, D. B., & Wegner, D. M. (1995). Origins of ruminative thought: Trauma, incompleteness, nondisclosure, and suppression. *Journal of Applied Social Psychology*, 25, 1245-1261.
- Golding, J. M. (1994). Sexual assault history and physical health in randomly selected Los Angeles women. *Health Psychology*, 13, 130-138.

- Goodwin, R. D., & Stein, M. B. (2004). Association between childhood trauma and physical disorders among adults in the United States. *Psychological Medicine*, 34(3), 509-520.
- Gratz, K. L., Bornova, M. A., Delany-Brumsey, A., Nick, B., & Lejuez, C. W. (2007). A laboratory-based study of the relationship between childhood abuse and experiential avoidance among inner-city substance users: The role of emotional nonacceptance. *Behavior Therapy*, 38(3), 256-268.
- Green, J. G., McLaughlin, K. A., Berglund, P. A., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Childhood adversities and adult psychiatric disorders in the national comorbidity survey replication I: Associations with first onset of DSM-IV disorders. *Archives of General Psychiatry*, 67(2), 113-123.
- Guilliams, T. G. & Edwards, L. (2010). Chronic stress and the HPA axis. *The Standard*, 2, 1-12.
- Hankin, J. & Oktay, J. S. Mental disorder and primary medical care: An analytical review of the literature. *D. No. 5*. Washington, D.C.: National Institute of Mental Health; 1979.
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology*, 64(6), 1152-1168.

- Hussey, J. M., Chang, J. J., & Kotch, J. B. (2006, September). Child maltreatment in the United States: Prevalence, risk factors, and adolescent health consequences. *Pediatrics*, 118(3), 933+.
- Irish, L., Kobayashi, I. & Delahantym D. L. (2010). Long-term physical health consequences of childhood sexual abuse: A meta-analytic review. *Journal of Pediatric Psychology*, 35, 450-461.
- Irving, S. M., & Ferraro, K. F. (2006). Reports of abusive experiences during childhood and adult health ratings: Personal control as a pathway? *Journal of Aging and Health*, 18(3), 458-485.
- Jemal, A., Simard, E. P., Dorell, C., Noone, A., Markowitz, L. E., Kohler, B., . . . Edwards, B. K. (2013). Annual report to the nation on the status of cancer, 1975-2009, featuring the burden and trends in human papillomavirus (HPV)-associated cancers and HPV vaccination coverage levels. *Journal of the National Cancer Institute*, 105(3), 175-201.
- Kamiya, Y., Timonen, V., & Kenny, R. A. (2016). The impact of childhood sexual abuse on the mental and physical health, and healthcare utilization of older adults. *International Psychogeriatrics/IPA*, 28(3), 415.
- Koss, M. P., & Gidycz, C. A. (1985). Sexual experiences survey: Reliability and validity. *Journal of Consulting and Clinical Psychology*, 53(3), 422.
- Koss, M. P., Koss, P. G., & Woodruff, W. J. (1991). Deleterious effects of criminal victimization on women's health and medical utilization. *Archives of Internal Medicine*, 151, 342-347.

- Lansford, J. E., Dodge, K. A., Pettit, G. S., Bates, J. E., Crozier, J., & Kaplow, J. (2002). A 12-year prospective study of the long-term effects of early child physical maltreatment on psychological, behavioral, and academic problems in adolescence. *Archives of Pediatrics & Adolescent Medicine*, 156(8), 824-830.
- Leeb, R., Paulozzi, L., Melanson, C., Simon, T., & Arias, I. (2008). Child maltreatment surveillance: Uniform definitions for public health and recommended data elements. Centers for Disease Control and Prevention (CDC).
- Leitenberg, H., Greenwald, E., & Cado, S. (1992). A retrospective study of long-term methods of coping with having been sexually abused during childhood. *Child Abuse & Neglect*, 16(3), 399-407.
- Manly, J. T., Kim, J. E., Rogosch, F. A., & Cicchetti, D. (2001). Dimensions of child maltreatment and children's adjustment: Contributions of developmental timing and subtype. *Development and Psychopathology*, 13(4), 759-782.
- Mayo Clinic. (2017, August 07). Menopause. Retrieved from <https://www.mayoclinic.org/diseases-conditions/menopause/symptoms-causes/syc-20353397>
- Molnar, B. E., Buka, S. & Kessler, R. (2001). Child sexual abuse and subsequent psychopathology: Results from the National Comorbidity Survey. *American Journal of Epidemiology*, 91, 753-760.

- Murray, L. K., Nguyen, A., & Cohen, J. A. (2014). Child sexual abuse. *Child and Adolescent Psychiatric Clinics*, 23(2), 321-337.
- Newman, M. G., Clayton, L., Zuellig, A., Cashman, L., Arnow, B., Dea, R., & Taylor, C. B. (2000). The relationship of childhood sexual abuse and depression with somatic symptoms and medical utilization. *Psychological Medicine*, 30(5), 1063-1077.
- Nurius, P. S., Green, S., Logan-Greene, P., & Borja, S. (2015). Life course pathways of adverse childhood experiences toward adult psychological well-being: A stress process analysis. *Child Abuse & Neglect*, 45, 143-153.
- Palm, K. M., & Follette, V. M. (2008). Sexual victimization and physical health: An examination of explanatory mechanisms. *Journal of Child Sexual Abuse*, 17(2), 117-132.
- Pennebaker, J. W. *The Pennebaker inventory of limbic languidness (the PILL). The Psychology of Physical Symptoms*. New York: Springer-Verlag; 1982.
- Polusny, M. A., & Follette, V. M. (1995). Long-term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied and Preventive Psychology*, 4(3), 143-166.
- Rich-Edwards, J. W., Mason, S., Rexrode, K., Spiegelman, D., Hibert, E., Kawachi, I., ... & Wright, R. J. (2012). Physical and sexual abuse in childhood as predictors of early-onset cardiovascular events in women. *Circulation*, 126(8), 920-927.

- Roemer, L., Litz, B. T., Orsillo, S. M., & Wagner, A. W. (2001). A preliminary investigation of the role of strategic withholding of emotions in PTSD. *Journal of Traumatic Stress, 14*(1), 149-156.
- Russel, D. E. H. (1986). *The secret trauma: Incest in the lives of girls and women*. New York: Basic Books.
- Sachs-Ericsson, N., Blazer, D., Plant, E. A., & Arnow, B. (2005). Childhood sexual and physical abuse and the 1-year prevalence of medical problems in the National Comorbidity Survey. *Health Psychology, 24*(1), 32.
- Schulberg, H. C. & Burns, B. J. (1988). Mental disorders in primary care: Epidemiologic, diagnostic, and treatment research directions. *General Hospital Psychiatry, 10*, 79–87.
- Silverman, A. B., Reinherz, H., & Giaconia, R. M. (1996). The long-term sequelae of child and adolescent abuse: A longitudinal community study. *Child Abuse and Neglect, 20*, 709 – 723.
- Springer, K. W., Sheridan, J., Kuo, D., & Carnes, M. (2007). Long-term physical and mental health consequences of childhood physical abuse: Results from a large population-based sample of men and women. *Child Abuse & Neglect, 31*(5), 517-530.
- Stoltenborgh, M., Bakermans, K. M. J., IJzendoorn, M. H., & Alink, L. R. A. (2013). Cultural–geographical differences in the occurrence of child physical abuse? A meta-analysis of global prevalence. *International Journal of Psychology, 48*(2), 81–94.

- Stoltenborgh, M., Van Ijzendoorn, M. H., Euser, E. M., & Bakermans-Kranenburg, M. J. (2011). A global perspective on child sexual abuse: Meta-analysis of prevalence around the world. *Child Maltreatment*, 16(2), 79-101.
- Teicher, M. H., Samson, J. A., Polcari, A., & McGreenery, C. E. (2006). Sticks, stones, and hurtful words: Relative effects of various forms of childhood maltreatment. *Journal of American Psychiatry*, 163, 993-1000.
- Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). The PTSD checklist for DSM-5 (PCL-5). Scale available from the National Center for PTSD at www.ptsd.va.gov
- Weinreb, L., Savageau, J. A., Candib, L. M., Reed, G. W., Fletcher, K. E., & Hargraves, J. L. (2010). Screening for childhood trauma in adult primary care patients: A cross-sectional survey. *Primary Care Companion to the Journal of Clinical Psychiatry*, 12(6).
- Widom, C. S., Czaja, S. J., & Dutton, M. A. (2008). Childhood victimization and lifetime revictimization. *Child Abuse & Neglect*, 32(8), 785-796.
- World Health Organization. (1999). Report of the Consultation on Child Abuse Prevention, 29-31 March 1999, WHO, Geneva (No. WHO/HSC/PVI/99.1). Geneva: World Health Organization.
- Wyatt, G. E. (1986). The sexual abuse of Afro-American and White American women in childhood. *Child Abuse & Neglect*, 9, 507-519.

Yanos, P. T., Czaja, S. J., & Widom, C. S. (2010). A prospective examination of service use by abused and neglected children followed up into adulthood. *Psychiatric Services*, 61(8), 796-802.

Appendix A

Demographic Questionnaire

1. What is your age?
 - a. 18-21 years
 - b. 22-35 years
 - c. 36-45 years

2. What is your race/ethnicity?
 - a. Korean
 - b. White/Caucasian (Non-Hispanic)
 - c. Black/African American
 - d. Hispanic
 - e. Chinese
 - f. Native American
 - g. Middle Eastern
 - h. Pacific Islander
 - i. Filipino
 - j. Indian
 - k. Japanese
 - l. Mixed Race
 - m. Other _____

3. How many years of education have you completed?
 - a. < 12 years

- b. High school diploma/GED
- c. Some college
- d. Associate's Degree/Vocational Degree
- e. Bachelor's Degree
- f. Master's Degree
- g. Doctoral Degree

4. What is your relationship status?

- a. Single
- b. In a relationship
- c. Engaged
- d. Married
- e. Divorced
- f. Widowed

5. What is your annual income?

- a. < \$20,000
- b. \$21,000-\$35,000
- c. \$36,000-\$50,000
- d. \$51,000-\$75,000
- e. \$76,000-\$100,000
- f. > \$100,000

Child Trauma Questionnaire – Short Form

Directions: These questions ask about some of your experiences growing up as a child and a teenager. For each question, choose the response that best describes how you feel. Although some of these questions are of a personal nature, please try to answer as honestly as you can. Your answers will be kept confidential.

When I was growing up...

(Never true) (Rarely true) (Sometimes true) (Often true) (Very often true)

1. I didn't have enough to eat.
2. I knew that there was someone to take care of me and protect me.
3. People in my family called me things like "stupid", "lazy", or "ugly".
4. My parents were too drunk or high to take care of the family.
5. There was someone in my family who helped me feel important or special.

When I was growing up...

(Never true) (Rarely true) (Sometimes true) (Often true) (Very often true)

6. I had to wear dirty clothes.
7. I felt loved.
8. I thought my parents wished I had never been born.
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.
10. There was nothing I wanted to change about my family.

When I was growing up...

(Never true) (Rarely true) (Sometimes true) (Often true) (Very often true)

11. People in my family hit me so hard that it left me with bruises or marks.
12. I was punished with a belt, a board, a cord (or some other hard object).
13. People in my family said hurtful or insulting things to me.
14. I believe that I was physically abused.

When I was growing up...

(Never true) (Rarely true) (Sometimes true) (Often true) (Very often true)

15. I had the perfect childhood.
16. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor.
17. Someone in my family hated me.
18. People in my family felt close to each other.
19. Someone tried to touch me in a sexual way or tried to make me touch them.

When I was growing up...

(Never true) (Rarely true) (Sometimes true) (Often true) (Very often true)

20. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.
21. I had the best family in the world.

22. Someone tried to make me do sexual things or watch sexual things.

23. Someone molested me (took advantage of me sexually).

24. I believe that I was emotionally abused.

When I was growing up...

(Never true) (Rarely true) (Sometimes true) (Often true) (Very often true)

25. There was someone to take me to the doctor if I needed it.

26. I believe that I was sexually abused.

27. My family was a source of strength and support.

Modified Sexual Experiences Survey – Ages 18 and Above

Have you ever:

(Yes) (No)

1. Had a person misinterpret the level of sexual intimacy you desired?
2. Had sexual intercourse with a person even though you didn't really want to because they threatened to end your relationship otherwise?
3. Had sexual intercourse with a person when you didn't really want to because you felt pressured by their continual arguments?
4. Been in a situation where a person used some degree of physical force to try to make you engage in kissing or petting when you didn't want to?
5. Had sexual intercourse with a person when you didn't want to because they threatened to use physical force if you didn't cooperate?
6. Had sexual intercourse with a person when you didn't want to because they used some degree of physical force?
7. Have you ever been raped as an adult?
8. Have you ever experienced any incidents of physical aggression by a past or current dating partner (e.g., being grabbed, pushed or shoved, slapped, twisted arm, kicked, punched or hit, choked, etc.)?
9. Have you ever experienced any incidents of physical aggression by a non-intimate person (e.g., being grabbed, pushed or shoved, slapped, twisted arm, kicked, punched or hit, choked, etc.)?

Healthcare Utilization Questionnaire

1. Do you currently have health insurance?
 - a. Yes
 - b. No
2. How would you rate your overall health?
 - a. Excellent
 - b. Good
 - c. Fair
 - d. Poor
3. Do you have a general practitioner?
 - a. Yes
 - b. No
4. If yes, how many times have you visited your general practitioner in the past year?
 - a. 0
 - b. 1
 - c. 2 to 5
 - d. 6 or more
5. Do you have an OB/GYN?
 - a. Yes
 - b. No
6. If yes, how many times have you visited your OB/GYN doctor in the past year?

- a. 0
- b. 1
- c. 2 to 5
- d. 6 or more

7. Did you have a pap smear in the past year?

- a. Yes
- b. No

8. How many times have you been tested for a Sexually Transmitted Infection/Disease in the past year?

- a. 0
- b. 1
- c. 2 to 5
- d. 6 or more

9. Are you sexually active?

- a. Yes
- b. No

10. If yes, what form of birth control do you use?

- a. None
- b. Birth control shot
- c. Birth control pill
- d. Birth control patch
- e. Vaginal ring

- f. Contraceptive implant
- g. Condom
- h. Withdraw
- i. Intrauterine device (IUD)
- j. Plan B pill/Emergency contraception
- k. Diaphragm/Cervical cap

11. How many times have you been to the emergency department/urgent care in the past year?

- a. 0
- b. 1
- c. 2 to 5
- d. 6 or more

12. How many times have you seen a medical doctor/provider who is not your general practitioner in the past year?

- a. 0
- b. 1
- c. 2 to 5
- d. 6 or more

13. How many times have you seen a psychologist in the past year?

- a. 0
- b. 1
- c. 2 to 5

d. 6 or more

14. How many times have you seen a psychiatrist in the past year?

a. 0

b. 1

c. 2 to 5

d. 6 or more

PTSD Checklist – 5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then indicate which response is best suited for how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:

(Not at all) (A little bit) (Moderately) (Quite a bit) (Extremely)

1. Repeated, disturbing, and unwanted memories of the stressful experience?
2. Repeated, disturbing dreams of the stressful experience?
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?
4. Feeling very upset when something reminded you of the stressful experience?
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?
6. Avoiding memories, thoughts, or feelings related to the stressful experience?
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?
8. Trouble remembering important parts of the stressful experience?
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad; there is something seriously wrong with me; no one can be trusted; the world is completely dangerous)?

10. Blaming yourself or someone else for the stressful experience or what happened after it?
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?
12. Loss of interest in activities that you used to enjoy?
13. Feeling distant or cut off from other people?
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?
15. Irritable behavior, angry outbursts, or acting aggressively?
16. Taking too many risks or doing things that could cause you harm?
17. Being “superalert” or watchful or on guard?
18. Feeling jumpy or easily startled?
19. Having difficulty concentrating?
20. Trouble falling or staying asleep?

Pennebaker Inventory of Limbic Languidness

Instructions: The questionnaire includes a list of 54 common physical symptoms and sensations. Please select the item that best describes how frequently you have experienced that symptom or sensation.

(Have never or almost never experience) (Less than 3 or 4 times per year)

(Every month or so) (Every week or so) (More than once every week)

1. Eyes water
2. Itchy eyes or skin
3. Ringing in ears
4. Temporary deafness or hard of hearing
5. Lump in throat
6. Choking sensations
7. Sneezing spells
8. Runny nose
9. Congested nose
10. Bleeding nose
11. Asthma or wheezing
12. Coughing
13. Out of breath
14. Swollen ankles
15. Chest pains
16. Racing heart

17. Cold hands or feet even in hot weather
18. Leg cramps
19. Insomnia or difficulty sleeping
20. Toothaches
21. Upset stomach
22. Indigestion
23. Heartburn or gas
24. Abdominal pain
25. Diarrhea
26. Constipation
27. Hemorrhoids
28. Swollen joints
29. Stiff or sore muscles
30. Back pains
31. Sensitive or tender skin
32. Face flushes
33. Tightness in chest
34. Skin breaks out in rash
35. Acne or pimples on face
36. Acne/pimples other than face
37. Boils
38. Sweat even in cold weather

39. Strong reactions to insect bites
40. Headaches
41. Feeling pressure in head
42. Hot flashes
43. Chills
44. Dizziness
45. Feel faint
46. Numbness or tingling in any part of body
47. Twitching eyelid
48. Twitching other than eyelid
49. Hands tremble or shake
50. Stiff joints
51. Sore muscles
52. Sore throat
53. Sunburn
54. Nausea

Acceptance and Action Questionnaire – II

Instructions: Below you will find a list of statements. Please rate how true each statement is for you by choosing the response that best represents how often you experience each situation.

(Never true) (Very seldom true) (Seldom true) (Sometimes true) (Frequently true)

(Almost always true) (Always true)

1. My painful experience and memories make it difficult for me to live a life that I would value.
2. I'm afraid of my feelings.
3. I worry about not being able to control my worries and feelings.
4. My painful memories prevent me from having a fulfilled life.
5. Emotions cause problems in my life.
6. It seems like most people are handling their lives better than I am.
7. Worries get in the way of my success.

Appendix B

Table 1.

Sample Demographics

		Frequency	Percent	Valid Percent	Cumulative Percent
Age	18 – 21 Years	11	6.3	6.3	6.3
	22 – 35 Years	127	72.2	72.2	78.4
	36 – 45 Years	38	21.6	21.6	100.0
	Total	176	100.0		
Race	Asian	2	1.1	1.1	1.1
	Black/African	11	6.3	6.3	7.4
	American				
	Hispanic/Latina	16	9.1	9.1	16.6
	White	140	79.5	80.0	96.6

	Biracial	4	2.3	2.3	98.9
	Other	2	1.1	1.1	100.0
	Total	175	99.4	100.0	
Missing	System	1	.6		
Total		176	100.0		
Education	< 12 years	1	.6	.6	.6
Level					
	High school/GED	14	8.0	8.0	.5
	Some college	25	14.2	14.2	22.7
	Associate's/Vocati	21	11.9	11.9	34.7
	onal Degree				
	Bachelor's Degree	48	27.3	27.3	61.9
	Master's Degree	53	30.1	30.1	92.0
	Total	176	100.0	100.0	

Relationship Status	Single	38	21.6	21.6	21.6
	In a relationship	63	35.8	35.8	57.4
	Engaged	8	4.5	4.5	61.9
	Married	63	35.8	35.8	97.7
	Divorced	4	2.3	2.3	100.0
	Total	176	100.0	100.0	
Annual Income	< \$20,000	53	30.1	30.3	30.3
	\$21,000 - \$35,000	36	20.5	20.6	50.9
	\$36,000 - \$50,000	26	14.8	14.9	65.7
	\$51,000 - \$75,000	27	15.3	15.4	81.1
	\$76,000 - \$100,000	18	10.2	10.3	91.4

	> \$101,000	15	8.5	8.6	100.0
	Total	175	99.4	100.0	
Missing	System	1	.6		
Total		176	100.0		

Table 2.

Frequency of Child Abuse, Adult Victimization, and Revictimization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No abuse/Victimization	54	30.7	31.2	31.2
	Child Abuse Only	44	25.0	25.4	56.6
	Adult Victimization Only	20	11.4	11.6	68.2
	Revictimized	55	31.3	31.8	100.0
	Total	173	98.3	100.0	
Missing	System	3	1.7		
Total		176	100.0		

Table 3.

Mean Assessment Scores for Abuse Groups

Assessment	<u>No</u>		<u>One Type of Abuse^b</u>		<u>Revictimization^c</u>		<u>F</u>
	<u>Abuse/Victimization^a</u>						
	M	SD	M	SD	M	SD	-
PILL	55.34	26.48	61.21	29.66	95.40	36.44	**26.15 ^{ac, bc}
PCL – 5	10.41	13.17	24.20	20.38	39.98	20.49	**35.00 ^{ab, ac, bc}
AAQ	16.81	8.92	23.63	11.49	32.04	11.85	**26.58 ^{ab, ac, bc}

*Note: **Significant at the .05 level (2-tailed test)*

Table 4.

Healthcare Characteristics

		Frequency	Percent	Valid Percent	Cumulative Percent
Health Insurance	No insurance	19	10.8	10.8	10.8
	Medicaid	14	8.0	8.0	18.8
	Private Insurance	143	81.3	81.3	100.0
	Total	176	100.0	14.2	
Health Rating	Excellent	39	22.2	22.2	22.2
	Good	101	57.4	57.4	79.5
	Fair	29	16.5	16.5	96.0
	Poor	7	4.0	4.0	100.0
	Total	176	100.0	100.0	
General Practitioner	Yes	111	63.1	63.1	63.1
	No	65	36.9	36.9	100.0

	Total	176	100.0	100.0	
GP Annual Visits	0 Times	14	8.0	12.6	12.6
	1 Time	46	26.1	41.4	54.1
	2 to 5 Times	43	24.4	38.7	92.8
	6 or More Times	8	4.5	7.2	100.0
	Total	111	63.1	100.0	
Missing	System	65	36.9		
Total		176	100.0		
OB/GYN or Women's Health	Yes	107	60.8	60.8	60.8
	No	69	39.2	39.2	100.0
	Total	176	100.0	100.0	
OB/GYN Annual Visits	0 Times	23	13.1	21.5	21.5
	1 Time	48	27.3	44.9	66.4
	2 to 5 Times	29	16.5	27.1	93.5

	6 or More Times	7	4.0	6.5	100.0
	Total	107	60.8	100.0	
Missing	System	69	39.2		
Total		176	100.0		
Annual Pap Smear	Yes	87	49.4	49.4	49.4
	No	89	50.6	50.6	100.0
	Total	176	100.0	100.0	
Annual Pelvic Exam	Yes	92	52.3	52.3	53.3
	No	84	47.7	47.7	100.0
	Total	176	100.0	100.0	
Annual STD/STI Test	0 Times	113	64.2	64.2	64.2
	1 Time	52	29.5	29.5	93.8
	2 to 5 Times	11	6.3	6.3	100.0
	Total	176	100.0	100.0	

Sexually Active	Yes	141	80.1	80.6	80.6
	No	34	19.3	19.4	100.0
	Total	175	99.4	100.0	
Missing	System	1	.6		
Total		176	100.0		
Birth Control	None	51	29.0	36.2	36.2
	Birth control shot	1	.6	.7	36.9
	Birth control pill	36	20.5	25.5	62.4
	Vaginal ring	2	1.1	1.4	63.8
	Implant	2	1.1	1.4	65.2
	Condom	15	8.5	10.6	75.9
	Withdraw	12	6.8	8.5	84.4
	Intrauterine device	22	12.5	15.6	100.0
	Total	141	80.1	100.0	

Missing	System	35	19.1		
Total		176	100.0		
Emergency Care Annual Visits	0 Times	112	63.6	63.6	63.6
	1 Time	40	22.7	22.7	86.4
	2 to 5 Times	24	13.6	13.6	100.0
	Total	176	100.0	100.0	
Non-GP Annual Visits	0 Times	62	35.2	35.4	35.4
	1 Time	41	23.3	23.4	58.9
	2 to 5 Times	62	35.2	35.4	94.3
	6 or More Times	10	5.7	5.7	100.0
	Total	175	99.4	100.0	
Missing	System	1	.6		
Total		176	100.90		
Psychologist Annual Visits	0 Times	121	68.8	68.8	68.8

	1 Time	8	4.5	4.5	73.3
	2 to 5 Times	9	5.1	5.1	78.4
	6 or More Times	38	21.6	21.6	100.0
	Total	176	100.0	100.0	
Psychiatrist Annual Visits	0 Times	137	77.8	78.3	78.3
	1 Time	5	2.8	2.9	81.1
	2 to 5 Times	19	10.8	10.9	92.0
	6 or More Times	14	8.0	8.0	100.0
	Total	175	99.4	100.0	
Missing	System	1	.6		
Total		176	100.0		

Table 5.

Chi-square Analysis Between Cumulative Trauma and Perceptions of Physical Health

		Trauma Groups				
		No	One Type of	Revictimization	Total	
		Trauma	Trauma			
Perception of Health	Excellent/Good	Count	50	53	34	137
		Expected Count	42.76	50.68	43.55	137.0
		Adjusted	2.93*	.90	-3.84*	-
		Residual				
	Fair/Poor	Count	4	11	21	36
		Expected Count	11.24	13.32	11.45	36.0
	Adjusted	-2.93*	-.90	3.84*	-	
	Residual					
Total		Count	54	64	55	173

Expected Count	54	64	55	173.0
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*Note: *Significant at the .05 level.*

Table 6.

Chi-square Analysis Between Cumulative Trauma and Mental Health Provider Utilization

		Trauma Groups				
		No Trauma	One Type of Trauma	Revictimization	Total	
Mental Health	Yes	Count	42	38	26	106
		Expected Count	32.66	39.44	33.90	106.0
		Adjusted Residual	3.17*	-.47	-2.65*	-
	No	Count	11	26	29	66
		Expected Count	20.34	24.56	21.10	66.0
		Adjusted Residual	-3.17*	.47	2.65*	-
Total		Count	53	64	55	172

Expected Count	53	64	55	172.0
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*Note: *Significant at the .05 level.*