AN EXPLORATORY STUDY OF THE RELATIONSHIP BETWEEN EXPOSURE TO INTERPARENTAL DOMESTIC VIOLENCE AND YOUNG ADULTS' PHYSICAL HEALTH SYMPTOMS

A Thesis Presented for the
Master of Science
Degree
The University of Tennessee, Knoxville

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May 2019

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ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my major professor, Dr. Megan Haselschwerdt, for guiding me in this process and for encouraging me in my pursuit of a master's degree.

I would like to thank Drs. Delores Smith and Spencer Olmstead, my committee members, for their generous and thoughtful feedback and support throughout this process.

I would also like to thank the Department of Child and Family Studies for their welcoming attitude and the inclusive environment they provide, and my colleagues for their continued support.

At last but not least, I would like to thank my father, Ahmed Subiani, and my mother, Khairia Aljabri who have always encouraged me to pursue my goals and to become a better person. I would also like to thank my siblings, extended family, and friends, for always supporting me while I am far from home as an international student. The love and encouragement I received from all of them prompted me through the completion of a master's degree and the thesis.

ABSTRACT

Research on children's exposure to interparental domestic violence (CEDV) has mostly examined the association between CEDV and children's externalizing and internalizing problems, with less emphasis on CEDV's impact on physical health outcomes. However, research has shown that CEDV has the potential to negatively influence youth development and adjustment, as represented by physical health symptoms. Emerging research suggests that CEDV impacts youth differently depending on the characteristics of the physical violence and the extent to which the DV is rooted in coercive control. However, this CEDV complexity has not been examined within the physical health outcome literature. To address these gaps, this study applied Holden's CEDV taxonomy, the dose-response relationship, and coercive control to test the association between young adults' retrospective accounts of CEDV on their current physical health symptoms. The data for this study comes from phase two of the Young Adult Live and Learn project. The participants were 147 young adults (ages 18-25), including a DV-exposed sample (n = 94) and a comparison sample of non-DV-exposed young adults (n = 53). Participants completed an anonymous online survey on exposure to father-perpetrated DV against their mothers during their childhood and adolescence. Descriptive statistics, bivariate correlations, a t-test, and a hierarchical linear regression were conducted to examine whether CEDV was associated with young adults' physical health symptoms and whether assessing frequency of physical violence and coercive control contributed to the association. The findings were inconsistent with previous studies such that there were not any associations between CEDV and young adults' physical health symptoms. Neither the frequency of exposure to physical violence nor the frequency of exposure to coercive control during childhood were associated with physical health symptoms in young adulthood. These findings have implications for the study of CEDV's impact into young adulthood, including that interventions should continue focusing on psychosocial outcomes versus physical health outcomes during this developmental period.

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CHAPTER ONE

INTRODUCTION AND GENERAL INFORMATION

According to the National Survey of Children's Exposure to Violence, 60% of children under the age of 18 years have been exposed to interparental domestic violence (Finkelhor, Turner, Ormrod, Hamby, & Kracke, 2009). Exposure to domestic violence (DV) is associated with a range of both short and long-term negative outcomes for children, adolescents, and adults (Fitton, Yu, & Fazel, 2018; Ravi & Casolaro, 2018; Vu, Jouriles, McDonald, & Rosenfield, 2016). However, most research on children's exposure to domestic violence (CEDV) to date has focused on the association between CEDV and psychosocial impacts (e.g., internalizing symptoms, externalizing behaviors), with less emphasis on the association between CEDV and physical health outcomes. Nevertheless, the smaller body of literature on CEDV and physical health symptoms has demonstrated an association between CEDV and physical health complaints and symptoms, including colds, stomachache, dizziness (Kuhlman, Howell, & Garham-Bermann, 2012); eating and sleeping problems (Lamers-Winkelman, Schipper, & Oosterman, 2012); speech, hearing, and visual problems (see review by Onyskiw, 2003); and, headaches and overall poor self-rated health (Anda, Tietjen, Schulman, Felitti, & Croft, 2010; Felitti et al., 1998). This literature has predominately focused on CEDV and concurrent physical health symptoms, or CEDV and physical health symptoms in older adulthood, skipping over the salient developmental period of young adulthood (see review by Holt, Buckley, & Whelan, 2008; Russell, Springer, & Greenfield, 2010). Therefore, the present study sought to address this gap in the literature by examining the association between father-mother-perpetrated CEDV and its impact on young adults' physical health.

Because not all DV is the same (i.e., differences in characteristics of physical violence, intent and outcomes), CEDV is not the same. For example, there is diversity in the extent to which children and adolescents are exposed to and impacted by violence and abuse. When seeking to understand the impact of CEDV on development, researchers often focus exclusively on exposure to physical violence. Yet, there is increasing evidence that children, adolescents, and young adults exposed to DV are affected by other dimensions of DV. More specifically, the extent to which the DV is rooted in coercive control (Dutton & Goodman, 2005; Johnson, 1995, 2008; Johnson & Leone, 2005; Stark, 2009). Coercive control is both a theoretical and empirical construct that is well-established in the adult DV literature, with substantial evidence documenting its particularly detrimental impact on adult victims' health and wellbeing (see Appendix A for brief history of coercive control as a theoretical construct (Hardesty et al., 2015; Johnson & Leone, 2005). Yet, coercive control has only recently been addressed within the CEDV literature despite Holden's (2003) urging for its inclusion in CEDV research to broaden our understanding of CEDV. Coercive control is defined as the use of nonphysical abuse tactics aimed at dominating and controlling one's partner's autonomy and independence. This is often done by restricting the partner's daily life using demands, threats, and sometimes physical or sexual violence to reinforce these demands and threats (Dutton & Goodman, 2005; Hardesty et al., 2015; Stark, 2009).

Recent research suggested that coercive control better explains variation in youth psychosocial adjustment outcomes than characteristics of physical violence exposure (e.g., severity), such that greater exposure to coercive control was more strongly associated with children's externalizing and internalizing problems than physical violence exposure (Jouriles & McDonald, 2015). No studies to date have focused on coercive control exposure when studying

CEDV and physical health or somatic symptoms among young adults. Guided by Holden's (2003) taxonomy of CEDV, the dose-response relationship (Eberhard-Gran, Schei, & Eskild, 2007; McCauley, Kern, Kolodner, Derogatis, & Bass, 1998; Nicolaidis, Curry, McFarland, & Gerrity, 2004), and coercive control (Johnson, 2008; Stark, 2009), this study examined the association between young adults' retrospective accounts of CEDV, including exposure to physical violence and coercive control, and their current physical health symptoms.

CHAPTER TWO

LITERAURE REVIEW

How Exposure to Domestic Violence Impacts Development

Domestic violence exposure can be either direct or indirect, with most CEDV-exposed youth reporting both direct and indirect exposure experiences (Haselschwerdt et al., 2019; Holden, 2003). Direct CEDV includes the child being exposed prenatally, witnessing, overhearing the violence, intervening during physical violence, and being accidentally victimized. Indirect CEDV includes observing the initial effects (e.g., sees bruises or injuries), experiencing the aftermath of the violent behaviors (e.g., maternal depression, separation from father relocation), or by hearing and knowing about the violent incidents from a third party (e.g., learns of the assault from someone else) (Holden, 2003).

Additionally, Holden (2003) stressed the importance of examining nine other CEDV dimensions because domestic violence is not a homogeneous phenomenon. These dimensions include the: (a) type of violence (e.g., characteristics of physical violence, degree of coercive control), (b) nature of specific acts (e.g., whether it is intentional or accidental), (c) the severity of injuries (e.g., the degree of injuries whether there is minor emergency visits, or hospital visits), (d) timing or chronicity of violence (e.g., the frequency and duration of violent acts), (e) escalation (e.g., the extent to which violent episodes escalate), (f) type of perpetrator (i.e., family-only, antisocial), (g) perpetrator's relation to the child (e.g., father, mother), (h) victim's role in the assault (e.g., passive versus active), and (i) resolution (e.g., whether there is apology or continued fighting following the violent incident) when examining the impact of CEDV. Most researchers solely focus on presence or absence of physical violence exposure, or increasingly, characteristics of the physical violence. This study focused on (a) the type of violence (i.e.,

physical violence and coercive control exposure), (b) the timing or chronicity (i.e., frequency) of violence, and (c) father-mother-perpetrated DV. These study variables align closely with Holden's (2003) recommendations for being more specificity when studying CEDV.

According to a review conducted by Haselschwerdt (2014), exposure to frequent acts of physical violence negatively affects youth outcomes across all developmental domains (e.g., temperament, externalizing and internalizing problems, interpersonal relationships) in comparison to exposure to infrequent acts of physical violence. For example, Owen, Thompson, Shaffer, Jackson, and Kaslow (2009) conducted a study with 139 mothers and their children aged 8 to 12 years to examine the association between witnessing DV and behavioral and emotional problems. Children who were exposed to more frequent DV reported greater adjustment difficulties than children exposed to less frequent DV. Graham-Bermann, Gruber, Howell, and Girz (2009) evaluated social and emotional adjustment among 219 CEDV aged 6 to 12 years. The children in their study fell into four distinct groups: (a) children with severe adjustment problems, (b) children who were struggling (i.e. children who did not have significant problems, but had low scores on the global self-worth and social competence measures), (c) children with depression only, and (d) resilient children. The results showed that children in the severe adjustment problem group had experienced more DV exposure than the children in all other groups. To date, most of this literature has focused on concurrent or short-term impact of CEDV on children and adolescents, or the long-term cross-sectional impact of adverse childhood experiences on adult health outcomes. Therefore, research on the impact of CEDV on young adults is sparse. One of the few studies that focused on CEDV and its impact on young adults found that those exposed to more frequent CEDV reported higher levels of depressive symptoms

in young adulthood even when controlling for other risk factors for depression (e.g., sexual abuse, parental abandonment (Russell et al., 2010).

In Haselschwerdt's (2014) study, frequency of physical violence was correlated with severity of violence, such that youth exposed to more frequent violence were also exposed to violence that was more severe in nature (e.g., punching, choking versus pushing grabbing. Also, exposure to more severe physical violence was associated with less attachment security and more externalizing and internalizing problems (Haselschwerdt, 2014). Thus, the association between severe CEDV and adjustment difficulties in young adulthood is similar to the relationship between frequent CEDV and adjustment difficulties. For example, Ireland and Smith (2009) conducted a longitudinal study of 1,000 youth, beginning when they were 14 years and continuing into adulthood. They found that only CEDV that was severe in nature increased the risk of antisocial behaviors (e.g., violence perpetration of violence) in early adulthood.

Aside from characteristics of the physical violence, CEDV research has recently joined the adult DV literature by examining the unique effect of exposure to coercive control. Coercive control encompasses long-term control and power over the victim that is represented by a perpetrator's desire and ability to dominate and control their partners' liberties and restricting their daily life through monitoring and surveillance (e.g., money, time, and social relations) and making threats and demands and following through on them, consequentially limiting the victim's ability and willingness to resist (Dutton & Goodman, 2005; Hardesty et al., 2015; Johnson, 2008; Stark, 2009). However, not all physical violence is rooted in coercive control, and although women do perpetrate DV against men and other women, DV rooted in high degrees of coercive control is predominately perpetrated by men against women (Johnson, 2008). Thus, to capture diversity within physical violence and coercive control, this study focuses on father-

mother-perpetrated DV. Though coercive control is distinct from physical violence, they are correlated such that perpetrators who are coercive (i.e., controlling) tend to engage in more severe and frequent violence toward their partner when compared to perpetrators whose violence is not rooted in an overt desire to control one's partner's daily life (Hardesty et al., 2015; Johnson, 2008).

Historically, coercive control has been absent from the CEDV literatures. However, recently, scholars have begun examining the influence of coercive control pertaining to children and young adult children's perceptions of their family and maritally violent fathers (i.e., fathers who are violent towards their mothers; Callaghan, Alexander, Sixsmith, & Fellin, 2018; Haselschwerdt et al., 2019; Maddox, 2015; Øverlien, 2013), interpersonal relationships (Haselschwerdt, Carlson, & Hlavaty, 2018; Hlavaty & Haselschwerdt, 2019), and developmental outcomes (Jouriles & McDonald, 2015). Interviews with young adults and children have documented the ways in which they were quite aware of coercive control dynamics in their maritally violent families (Callaghan et al., 2018; Haselschwerdt et al., 2019). That research suggested that living in an environment with high degrees of coercive control perpetrated by fathers towards mothers foster a fearful and sometimes terrifying atmosphere for mothers and their children (Hardesty et al., 2015; Haselschwerdt et al., 2019; Øverlien, 2013). Though growing, this literature is quite preliminary with only one study documenting the unique effect of coercive control exposure on child development. Jouriles and McDonald (2015) conducted a study with 107 mothers and their children aged 7 to 10 years, measuring both physical violence and coercive control exposure. They found that, after controlling for the frequency of physical violence, coercive control was positively associated with children's externalizing and

internalizing problems. That finding suggests that coercive control is a salient construct to the understanding of the impact of CEDV.

The Impact of Exposure to Domestic Violence on Physical Health Outcomes

There is an abundance of literature examining the impact of DV exposure on youth adjustment outcomes (Jouriles & McDonald, 2015; see review by Vu et al., 2016) and interpersonal relationships (see review by Kimber et al., 2017), but there is far less research on the influence of CEDV on physical health symptoms. For example, in a review of the CEDV literature, Onyskiw (2003) noted that that s/he could only five pertinent studies (12.8%) that examined how CEDV affected physical health outcomes, all of which were conducted with children and youth between 1-13 years. Those studies documented an association between CEDV and an increased risk for developing allergies, respiratory infections, headaches, gastrointestinal disorders (e.g., nausea, diarrhea, and stomachaches), sleep disturbances (e.g., insomnia, nightmares, and sleepwalking), and speech, hearing, and visual problems (Kuhlman et al., 2012; Lamers-Winkelman et al., 2012; Onyskiw, 2003) in childhood and early adolescence. There has been little focus on the extent to which CEDV frequency or severity influences physical health symptoms, and no research on the extent to which physical health symptoms are related to the degree of coercive control exposure. Onyskiw (2003) noted in their review that more severe CEDV was associated with a greater number of overall health problems.

Theoretical explanations for the association between CEDV and physical health and somatic symptoms are limited, as much of this literature comes from epidemiology, which is often atheoretical in nature. The majority of studies have focused on the indirect ways in which CEDV negatively influences physical health symptoms and later wellbeing via increased likelihood of experiencing internalizing symptoms (e.g., depression and anxiety) (Baldry &

Winkel, 2004) and externalizing behaviors (e.g., aggression and dating violence) (see review by Haselschwerdt, Savasuk-Luxton, & Hlavaty, 2017; Ireland & Smith, 2009) during adolescence and adulthood (for reviews see Bair-Merritt, Blackstone, & Feudtner, 2006; Yount, DiGirolamo, & Ramakrishnan, 2011). In other words, the literature suggests that traumas like CEDV place children at a greater risk for maladaptive behaviors during adolescence and young adulthood, which in turn negatively impact wellbeing and developmental pathways into adulthood (Rutter, 1989). This explanation is both theoretical and empirical, serving as the basis for the burgeoning body of literature on adverse childhood experiences. CEDV is a type of adverse childhood experience (ACE) that is linked to physical health symptoms over time. Therefore, exposure to DV adds to the cumulative risk factors and diseases in adulthood thereby influencing the quality and length of life. In other words, CEDV impacts young adults' physical health by increasing their risk for engaging in unhealthy coping mechanisms and behaviors that place them at greater risk for developing chronic and fatal diseases and disabilities (Felitti et al., 1998). Felitti et al. (1998) examined the relationship between ACEs and health risk behavior and diseases in adulthood. They found a strong relationship between the number of ACEs and multiple risk factors, leading to physical health issues and early death in adults. They speculated that the link between ACEs and adulthood overall health may be centered on coping strategies or behaviors, such as smoking, alcohol or drug abuse, and overeating; those behaviors then may increase one's risk for physical health problems in adulthood.

Despite the limited focus on the association between CEDV and physical health symptoms in the youth literature, one can look to the adult DV literature to help better understand associations between DV victimization and its influence on health over time. The adult literature has documented that more DV experiences (i.e., a greater "dose" of DV) are

related to a greater risk for developing physical health issues and ailments. This relationship is referred to as a dose-response relationship (Anda et al., 2010; Eberhard-Gran et al., 2007; McCauley et al., 1998; Nicolaidis et al., 2004). Compared to women exposed to less frequent and severe DV, women who experienced more frequent and severe DV reported greater physical symptoms (Eberhard-Gran et al, 2007; Felitti et al., 1998). For example, Eberhard-Gran et al. (2007) conducted a study of women aged 18 to 40 years to test the relationship between physical and sexual violence experiences in the past 12 months and physical health and somatic symptoms (e.g., stomach pain, back pain, headache, and chest pain). Those researches found support for the dose-response relationship such that more frequent victimization increased the number of somatic symptoms. Extending this literature on the dose-response relationships and the CEDV literature documenting the salience of examining characteristics of physical violence exposure, the current study examined whether there was a dose-response relationship between the frequency of CEDV and young adults' somatic symptomology and physical health outcomes.

To date, the dose-response relationship literature has focused primarily on characteristics of physical violence, although this relationship is applicable to coercive control as well. Coercive control can be examined on a continuum from no coercion to high coercion, with findings that more coercion (i.e., a greater dose) is associated with more health problems over time (Jouriles & McDonald, 2015). In the adult literature, research has documented that women with DV experiences rooted in coercive control have greater psychosomatic symptoms (i.e., self-harm, para-suicide, eating disorders, sleep disturbance, anxiety, and depression) than women who experience DV not rooted in coercive control (Williamson, 2010). Coker et al., (2002) suggested that women's exposure to coercive control perpetrated by men was associated with women's physical and mental health problems. Thus, it is prudent that the characteristics of physical

violence and coercive control be examined as potential factors that affect physical health outcomes within the context of CEDV.

As stated earlier, the majority of the studies examining the relationship between DV exposure and physical health have focused on children and young adolescents. The current study instead focuses on young adults' current physical health symptoms. This is indeed is a unique contribution to this growing field of study. Young adults were the target sample of this larger study for several reasons. First, recruiting young adults better ensured the safety of the participants because they were more likely to be living independently from their parents, compared to children or adolescents who are still under their parents' guardianship. Second, young adults, compared to children and adolescents, have more maturity and cognitive abilities. Moreover, they are also engaging in more self-exploration, which may better equip them to reflect on their familial and DV exposure experiences, compared to younger populations (Arnett, 2015). Also, compared to later and earlier periods, the period of life between 18 and 25 years of age is a time that allows for many different possibilities of change because decisions about the future is not fully formed and developed yet (Arnett, 2015), which makes it a great period of investigating experiences of violence and implementing interventions. Finally, the ACE literature has documented the impact of childhood experiences on physical health outcomes in adulthood, so the current study contributes to the literature by examining physical health outcomes in early/young adulthood to potentially add to the understanding of childhood ACES on adulthood.

The Present Study

Consistent with Holden's (2003) taxonomy of DV exposure, the literature on the dose-response relationship (Eberhard-Gran et al., 2007; McCauley et al., 1998; Nicolaidis et al., 2004), and coercive control (Dutton & Goodman, 2005; Johnson, 1995, 2008; Johnson & Leone,

2005; Stark, 2009), the current study examines the association between young adults' retrospective accounts of CEDV, including characteristics of physical violence and degree of coercive control, on their current somatic health symptoms. This study contributes to the smaller body of literature that has examined CEDV and its impact on young adults' somatic health symptoms by examining the association between young adults' exposure to DV while they were growing up and their current physical health symptoms. The importance of this contribution stems from the fact that physical health symptoms as a potential outcome of CEDV is an understudied topic especially when it is compared to the literature related to adjustment outcomes and interpersonal relationships (Jouriles & McDonald, 2015; Kimber et al., 2017). Moreover, this study's findings may provide support for interventions that target this salient developmental period to improve later adulthood outcomes for this specific population. This study also focuses on both exposure to discrete acts of physical violence and coercive control, which addresses a well-documented limitation of the current literature (Haselschwerdt, 2014; Holden, 2003). The CEDV literature has only recently begun to assess both exposure to physical violence and coercive control (Beck & Raghavan, 2010; Hardesty et al., 2015; Johnson & Leone, 2005; Jouriles & McDonald, 2015; Stark, 2009; Williamson, 2010), despite the emphasis on coercive control in the adult literature over several decades and Holden's (2003) call for inclusion.

This study addresses the following research questions:

RQ1: Is there an association between DV exposure during childhood and/or adolescence and young adults' physical health symptoms?

RQ2: Is more frequent physical violence exposure associated with greater physical health symptoms?

RQ3: Is more coercive control exposure associated with greater physical health symptoms?

In regard to RQ1, I hypothesized that (H1): exposure to DV during childhood and adolescence will be associated with young adults' physical health symptoms, such that the DV-exposed young adults will report greater physical health symptoms (i.e., worse physical health) than the non-DV-exposed young adults. In regard to RQ2, I hypothesized that (H2): exposure to more frequent physical violence will be associated with a greater number of physical health symptoms. In regard to RQ3, I hypothesized that (H3): adolescents exposed to more frequent coercive control will report a greater number of physical health symptoms.

CHAPTER THREE

MATERIALS AND METHODS

Procedure

This study uses secondary data from phase two of the Young Adult Live and Learn (Y'ALL) project. The Y'ALL project is a multi-method study that examined the experiences of young adults exposed to DV during their childhood and adolescence. Phase two entailed an online survey with 147 young adults, 94 young adults who were exposed to father-to-mother-perpetrated DV and 53 who did not report DV exposure experiences. Participants completed an anonymous online survey hosted by Qualtrics. The Alabama Agricultural Experiment Station Young Investigator Award funded the second phase of Y'ALL project. Participants were recruited through online and offline flyers, college and community college class announcements, and social media posts. Participants from phase one were also invited to participate in phase two.

To be eligible to participate, DV-exposed participants must have been between 18-25 years, report exposure to father-to-mother perpetrated DV, lived in or currently resided in Alabama, and have parents who were either still married or had separated/divorced after they turned eight. After 94 DV-exposed participants completed the survey, a comparison group of 53 non DV-exposed young adults were recruited using the same recruitment approach, although the stated project focus was on young adults sharing their good and bad family experiences. Comparison sample participants were eligible if they were between 18-25 years, lived in or currently resided in Alabama, and had parents who were either still married or separated/divorced after they turned eight.

The online survey included questions within six main categories: (a) background and demographic information, (b) violence and abuse, (c) general family dynamics, (d) peer relationships, (e) romantic relationships, and (f) current well-being. The participants asked to answer the questions based on their experiences since they were children, as they were growing up, and after they turned 18 years old. The comparison group participants were asked a screening question, "How often did your father use physical aggression or violence (e.g., pushing, shoving, grabbing) towards your mother?" If participants responded "never," they were not asked any additional questions regarding physical violence, but they were asked about nonphysical abuse tactics. However, when the comparison group participants answered that their fathers were physically violent towards their mothers, the participant was routed through the same DV exposure questions as the DV-exposed sample. All participants received a resource list and a $15.00 Amazon gift card as compensation for completing the survey.

Participants

Phase two of the Y'ALL Project was comprised of two samples: a DV-exposed sample (n = 94) and a comparison sample of non-DV-exposed young adults (n = 53; total N = 147). On average, participants were approximately 21 years of age (M = 20.86; SD = 1.92). The majority of participants identified as female (72.1%, 25.9% male, 1.4% transgender, .7% do not identify as male, female, or transgender), European American (74.1%, 10.2% African American, 6.1% Biracial, 5.4% Asian or Asian American, 1.4% American Indian, 1.4% Latinx, .7% Middle Eastern), and heterosexual (84.4%, 6.8% Bisexual, 3.4% Lesbian, 2% Pansexual, 2% Asexual, 1.4% Gay). About 75% of participants reported attending college for at least one year and their time in college was evenly distributed (14.6% less than 1 year, 11.2% one year, 25.8% two years, 23.6% three years, 16.9% four years, 7.9% five or more years). Most (68.7%) reported never

receiving public assistance (e.g., free school lunch) while growing up. Participants most commonly reported growing up in a middle-class family (44.2%), followed by working class (24.5%), upper-middle class (23.8%), impoverished (6.1%), and upper class (1.4%).

According to participants, mothers were on average 50 years of age (M = 49.44; SD = 6.64) and were born in the United States (92.2%). Most mothers had at least some college education (79.5%) and were currently employed full-time (66%). Participants primarily reported on their biological or adoptive fathers (86.4%, 12.9% stepfather, .7% mother's partner not from marriage). Fathers were on average 52 years of age (M = 51.70; SD = 6.15) and were born in the United State (91.8%). Most fathers had at least some college education (68.7%) and were currently employed full time (80.3%). Over half (60.5%) of the sample reported that their mother and father were still married at the time of the study; whereas 30.6% were divorced, 6.1% separated, 1.4% were in a committed relationship, but not married, and 1.4% were widowed.

A *t*-test showed that there were some demographic differences between the two samples. On average, the comparison sample (M = 20.15, SD = 1.57) was younger (M = 21.21, SD = 1.99; $t(145) = 3.26$, $p < .001$), less educated (comparison M = 3.85, SD = 1.42; DV-exposed M = 4.49, SD = 1.42; $t(145) = 2.58$, $p < .01$), had reporter a higher familial social class standing (comparison M = 3.25, SD = .67; DV-exposed M = 2.73, SD = .92; $t(123) = -3.90$, $p < .001$) and had a higher mean score on receiving public assistance (comparison M = .83, SD = .38; DV-exposed M = .62, SD = .49; $t(117) = -2.96$, $p < .01$) compared to the DV-exposed sample. Participants in the comparison sample reported that both their mothers (comparison M = 5.73, SD = 1.82; DV-exposed M = 5.04, SD = 2.34; $t(116) = -1.96$, $p < .05$) and fathers (comparison M = 6.02, SD = 1.96; DV-exposed M = 4.47, SD = 2.35; $t(109) = -4.19$, $p < .001$) had higher mean scores on education. Participants in the DV-exposed sample (M = .38, SD = .49) had more

divorced parents (comparison M = .15, SD = .35; $t(122) = 3.35$, $p < .001$) and maritally violent stepfathers (versus fathers) (comparison M = .94, SD = .24; DV-exposed M = .82, SD = .38; $t(133) = -2.10$, $p < .05$) than the comparison sample.

Measures

Father-Mother Perpetrated Domestic Violence.

Physical violence. Only participants in the DV-exposed sample were asked to report on their father's use of physical violence towards their mother on eight items modified from the Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) (see Appendix B). Participants indicated how often (0 = *Never*, 1 = *1-2 times*, 2 = *3-5 times*, 3 = *6-9 times*, 4 = *10+ times*) their fathers used the following 8 actions against their mothers, including "Grab your mother trying to hurt her," and "Choke her." Since severity of physical violence is highly correlated with frequency of physical violence, only frequency of violence was used in the analyses. A frequency of physical violence exposure score was created by summing how often participants were exposed to the eight acts of physical violence; higher scores indicate more frequent exposure to physical violence ($\alpha = .90$).

Coercive control. All participants reported on father's use of coercive control using a modified version of the Isolation Domination subscale of the Psychological Maltreatment of Women Inventory (Tolman, 1989) (see Appendix B). The items were modified to reflect exposure instead of victimization. Participants responded to seven items measuring the frequency with which their fathers used non-physical abuse tactics against their mother (0 = *Never,* 1 = *Sometimes,* 2 = *Often,* 3 = *Almost Always*, 4 = *Always*), including "He monitored her time and made her account for her whereabouts" and "He used her money or made important financial decisions without talking to her about it." Consistent with previous research, summed frequency

scores were created by summing all seven items together (Hardesty et al., 2015); higher scores indicate more frequent exposure to coercive control ($\alpha = .92$).

Physical health. The Patient Health Questionnaire (Kroenke, Spitzer, Williams, & Löwe, 2010) (see Appendix B) was used to assess physical health problems. Participants reported on the extent to which they were bothered by physical health problems. Responses range from 0 = *Not bothered at all, to 2 = Bothered a lot,* on 15 items, including "stomach pain" and "back pain." A frequency of physical health score was created by summing all responses (Kroenke et al., 2010), with higher scores indicating more physical health problems ($\alpha = .87$).

Control variables. Participants' gender and social class were added as control variables. Both controls were based on individual item, self-report. Participants reported whether they identified as male, female, transgender, or other (i.e., gender) and whether their families of origin were impoverished, working class, middles class, upper-middle class, or upper class (i.e., social class).

CHAPTER FOUR

RESULTS AND DISCUSSION

Results

As a primary step before answering the research questions, descriptive statistics were examined (see Table 1). The frequency of exposure experiences varied between the participants. On average DV-exposed young adults reported a variety of physical violence exposure experiences, ranging from exposure to 1 discrete act of physical violence (n = 8) to all 8 acts (n = 11). Coercive control scores ranged from 0 (n = 70) to the maximum score of 28 (n = 3). The DV-exposed group reported greater exposure to coercive control than the non-DV-exposed group, $t(94) = 5.25$, $p \leq .001$.

Domestic Violence Exposure and Physical Health Symptoms

Regarding health problem symptoms, DV-exposed group reported an average of 6.29 (SD = 5.86) compared to the non-DV-exposed samples that reported an average of 6.66 (SD = 4.87) symptoms. Based on the wide spread of scores in the frequency distribution of physical symptoms, the scores were grouped into intervals (see Table 2). To address RQ1, I conducted a t-test to compare the mean scores of young adult physical health symptoms by DV-type (i.e., DV-exposed versus not-DV-exposed) (see Table 3). The results did not support my first hypothesis (H1), as DV exposure was not associated with physical health symptoms. In other words, DV-exposed young adults did not report greater physical health symptoms (i.e., worse physical health) $t(94) = .393$, $p = .695$) than the non-DV-exposed young adults. However, bivariate correlation showed that there were a few significant correlations such that being exposed to more frequent physical violence was correlated with being exposed to more frequent coercive control ($r = .540$, $p \leq .001$).

To address RQ2 and RQ3, I conducted a hierarchal multiple regression using SPSS 25 to further examine the association between CEDV (i.e., frequency of physical violence and coercive control) and physical health symptoms in young adulthood. The full sample was included in the regression model. I built the model in three steps. First, to address RQ2, frequency of exposure to physical violence was added, with non-DV-exposed participants receiving the lowest possible score. Second, to address RQ3, I added coercive control exposure. Third, two control variables (e.g., gender and social class) were added to the model. Gender was chosen as a control variable because the sample predominately identified as female (n = 106). Social class was chosen as a control variable based on the differences between participants in the DV-exposed versus non DV-exposed groups on a host of social class specific items, including the social class question itself as well as parent's education which is a common proxy for social class.

For RQ2, I hypothesized that exposure to more frequent physical violence would be associated with a greater number of physical health symptoms. This hypothesis (H2) was not supported, as frequency of exposure to physical violence during childhood was not associated with physical health symptoms in young adulthood (see Table 4). For RQ3, I hypothesized that adolescents exposed to more frequent coercive control will report a greater number of physical health symptoms. This hypothesis (H3) was not supported, as exposure to more frequent coercive control during childhood was also not associated with physical health symptoms in young adulthood (see Table 4). Gender did not contribute to the relationship between CEDV and physical health symptoms. However, there was a significant association between social class and physical health symptoms (β = -2.71, $p \leq .001$), such that participants from families with higher

social class levels reported fewer physical health symptoms than participants from families in lower social class levels.

Discussion

The purpose of this study was to examine the association between CEDV (e.g., physical violence, coercive control) and physical health symptoms in young adulthood using Holden's (2003) taxonomy, the dose-response relationship (Eberhard-Gran et al., 2007; McCauley et al., 1998; Nicolaidis et al., 2004), and the construct of coercive control (Dutton & Goodman, 2005; Johnson, 1995, 2008; Johnson & Leone, 2005; Stark, 2009). Though physical health symptoms are understudied in this context, researchers have documented that children exposed to DV are at an increased risk for developing physical somatic symptoms in childhood and early adolescence (e.g., allergies, respiratory infections, and headaches; Kuhlman et al., 2012; Lamers-Winkelman et al., 2012; Onyskiw, 2003), but this literature had not been extended to young adults. The findings from the current study were inconsistent with previous studies such that I did not find any associations between CEDV and young adults' physical health symptoms. Neither the frequency of exposure to physical violence nor the frequency of exposure to coercive control during childhood were associated with physical health symptoms in young adulthood. The only tested variable that was associated with physical health outcomes was the participants' family of origin social class. Participants from families with lower social class standing reported more physical health symptoms than participants from families with greater social class standing.

The Developmental Period of Early Young Adulthood

In childhood, exposure to interparental violence has been reported to be associated with health complaints and pain problems (Lamers-Winkelman et al., 2012). Other studies have documented this association for youth still residing in the home in which DV is occurring

(Simmons, Knight, & Menard, 2018). CEDV also has been linked with physical health issues in middle and later adulthood (Felitti et al., 1998). In their study, Felitti et al., (1998) captured the cumulative negative outcomes of ACEs in almost all stages of adulthood ranging from 19 to 92 years with the mean age of 56 years. Thus, the current study sought to fill a gap by focusing specifically on a middle developmental period—between childhood and adulthood. I examined the association between CEDV and physical health symptoms in young adulthood with participants aged 18 to 25 who retrospectively reported on their CEDV experiences. As noted earlier, this developmental period is distinct from both adolescence and middle or late adulthood, such that young adults have more cognitive and abstract abilities and greater maturity than children and adolescents (Arnett, 2015). They are also more mature and are more likely to be engaging in self-exploration and demonstrate greater openness to change (Arnett, 2015). This stage of self-exploration in terms of identity development and romantic relationship development are notably different from later stages of adulthood (Fraley & Davis, 1997), suggesting that assessing physical health outcomes during this early adulthood stage could be useful for understanding the association between CEDV and physical health issues in later stages of adulthood.

This study's findings are inconsistent with the findings of past CEDV research in childhood and adolescence. One potential rationale explaining this inconsistency in findings might simply be that physical health symptoms are not present at this specific time of the participants' lives. Early young adulthood is just one snapshot of a longer developmental period, and thus, it is different from when we look at the impact of CEDV over one's lifetime. Most young adults, including all but 13 of our participants, move out of their parents' home, and thus have less physical or regular contact with their parents which removes them from the more

volatile home. On one hand, leaving the household where the trauma happened might be the key to reduce the risk of physical health outcomes because it gives that distance from the daily reminders of negative memories or incidents. Since leaving the house mostly occurs between ages 18 to 25 years, this might explain why young adults did not report a higher complaints incidence of physical health problems. On the other hand, researches of young and emerging adulthood development documented that even if young adults moved out of their parents' houses, they still partially dependent on their parents financially and have more frequent communication with them to share their lives complexities compared to adolescence years and later adulthood (Arnett, 2015). As increasing numbers of young adults return to their parents' home after college or while trying to financially establish themselves (Swartz, Kim, Uno, Mortimer, & O'Brien, 2011), we may see an increase in physical health symptoms especially if there is ongoing DV at home. It is plausible that a longitudinal study focusing on CEDV and physical health outcomes across all stages of adulthood might yield different results, as evidenced by the cross-sectional, yet seminal ACE literature.

There is some evidence of other outcomes with "sleeper effects" (i.e., the disappearance of a specific outcomes at specific periods and the reappearance of them in later periods) in the CEDV exposure literature to support this hypothesis (i.e., initial and then later effects of CEDV on physical health symptoms). For example, in Vu et al., (2016) meta-analysis of 74 studies, they found that the strength of the relationship between CEDV and externalizing and internalizing problems developed or magnified overtime. They explained how many adjustment problems many not be apparent, but rather may emerge later in life particularly if the youth experiences exacerbating factors (e.g., bullying, dating violence) over time. Physical health symptoms might operate similarly, such that children and adolescents in concurrently violent homes report

physical health symptoms, and these symptoms fade as young adults leave the home, yet potentially reemerge in adulthood if protective factors are not strong enough to buffer the ACE impact.

A complementary explanation for the insignificant findings could be the fact that my sample reported relatively good physical health, skewing positive in the distribution scores. Nearly all participants scored below 15 on the PHQ-15 scale that was used to measure the physical symptoms that account for more than 90% of the common symptoms seen in primary care settings (Kroenke et al., 2010). Scores from 0 to 15 indicate mild to moderate levels of somatization (Kocalevent, Hinz, & Brähler, 2013). Only 9 participants scored higher than 15, suggesting that a quantitative case study of these particular participants might be warranted to examine what additional familial or other contextual factors have contributed to these elevated and poor physical health reports. Also, applying qualitative or mixed-methods may reveal a further explanation of the symptomology in young adulthood. The tools of these methodologies may show that there are other symptoms different than the ones measured in the PHQ-15 that was used in this study. They also may explain other issues related to the physical health symptoms that were not measured in this quantitative study (e.g., their overall health history, heredity, or personal relationships that might impact physical health).

Future Directions and Implications

The insignificant findings suggest that future researchers and those directly working with DV-exposed young adults should target other outcomes, including psychological health and wellbeing (e.g., trauma symptoms) and interpersonal relationships (e.g., dating violence, aggression towards others), as research consistently shows these outcomes are associated with CEDV. Since psychological and physical health are strongly linked in most cases, it is not

illogical to speculate that they affect each other as mentioned above. Zinzow et al.'s (2009) findings support this hypothesis, such that CEDV is associated with post-traumatic stress disorder (PTSD) and major depressive episode. Within the sample of the present study, CEDV was associated with PTSD symptoms, providing further evidence that this would be an ideal outcome to target for prevention and intervention efforts (Hlavaty & Haselschwerdt, 2019). Additionally, externalizing and otherwise antisocial behaviors during young adulthood are associated with CEDV, particularly CEDV that is more chronic in nature. For example, Ireland and Smith (2009) found that exposure to severe but not mild CEDV was associated with violent crime perpetration in early young adulthood. Dating violence in young adulthood is another externalizing behavior that is strongly and consistently associated with CEDV (see review by Haselschwerdt et al., 2017). Successfully addressing these outcomes during young adulthood may help buffer against CEDV and later physical health symptoms.

This was an exploratory study with a relatively small sample, but there might be lessons to be learned such that research should continue focusing on the consistent associations between CEDV and other challenges during young adulthood (e.g., risk-taking behaviors) that seemingly exacerbate risks for physical health issues in later periods of age. In fact, CEDV may indirectly increases the opportunity for poor health in older ages through engaging in health adverse behaviors such as substance abuse and risky sexual behaviors (Bair-Merritt et al., 2006). These behaviors that appear to be the result from violence exposure may in fact be antecedents of bigger issues related to somatic health (Kidman, Nachman, Dietrich, Liberty, & Violari, 2018). Moreover, Kidman et al. (2018) found that adverse experiences that young adults might be exposed to before the age of 18 raised the odds of risky sexual behaviors by almost 30%. These

findings illustrate that possibilities of engaging in such behaviors are existent and may explain the absence of negative physical health symptoms at young adulthood.

The possibility of risk-taking behaviors suggests that the earlier the intervention the better the progress that young adults might have to understand that such behaviors will harm their health on the long term and possibly the health of their loved ones. Therapists and practitioners in the medical and educational fields should suggest alternative coping strategies that help young adults on a daily basis and ensure better long-term health for them. Extending the care and support for young adults should continue even if the young adults have been separated from their previous experiences of violence and adversity. The support should include mental health services, screening for diseases that might be caused by risky behaviors, self-care tools, and encouraging healthy relationships.

Limitations

There are several limitations related to this study that should be considered. First, because participants retrospectively recalled their DV exposure experiences, there is the likely potential for recall bias. Even though childhood traumas like DV exposure may be more vivid in human's memories, as was also described in Haselschwerdt and colleague's (2019) study, this cross-sectional study design prevents us from knowing the accuracy of memories and young adults' ability to recall their family life experiences. Though young adults were identified for strategic purposes, with the assumption that they could be more attuned to the nuances within CEDV, this cross-sectional sample is also a limitation. A longitudinal study that starts from young adulthood and extends to adulthood may better explain the physical health outcomes. A sleeper effect may exist and later manifest in the form of physical symptoms in adulthood. Second, even though the sample represented participants from different social classes, the majority were White women

with higher education, limiting the study's generalizability to other American samples, including those with more men, other racial and ethnic backgrounds, and non-college attending. Previous research suggests that there are differences in the CEDV outcomes based on gender (Chen, Jacobs, & Rovi, 2013) such that girls who experienced interparental violence are more likely to experience depression, anxiety, and trauma symptoms, which are often linked with physical health or somatic symptoms, and boys are more likely to experience aggression and delinquent behaviors (Chen et al., 2013). Also, experiences of perpetration and being victimized in DV contexts are different by race, such that racialized minorities are report higher rates of DV when compared to non-Hispanic Whites (Ellison, Trinitapoli, Anderson, & Johnson, 2007).

Additionally, young adults enrolled in higher education tend to have better medical care and health insurance access, as well as campus programming around health and wellbeing, which creates more opportunities for focusing on one's physical health compared to young adults not enrolled in higher education (Heide et al., 2013). This suggests that a more diverse sample may yield greater variability in physical health outcomes. Finally, this sample was a community sample as opposed to agency samples (i.e., hospitals, prisons, DV shelters), which tends to capture the experiences of adults with less chronic and severe DV experiences (Johnson, 2008). If these findings are consistent with DV exposure, it might be that a more targeted sampling approach, beyond a community sample, might also yield a sample with greater physical health symptom variability.

CHAPTER FIVE

CONCLUSION

This study sought to uncover complexity within CEDV and its impact on physical health symptoms of young adults. However, neither the frequency of exposure to physical violence nor the frequency of exposure to coercive control during childhood were associated with physical health symptoms in young adulthood. Examining physical health symptoms during young adulthood, even among CEDV young adults, may be less beneficial than with other target samples like youth still living in a violent home or older adults. The limitations of the study included recall bias, lack of generalizability, and the sample coming from a community versus a sample from agencies and shelters. I have suggested some future directions that may raise different outcomes or add to what we already know about young adults' health after experiencing CEDV.

LIST OF REFERENCES

Anda, R., Tietjen, G., Schulman, E., Felitti, V., & Croft, J. (2010). Adverse childhood experiences and frequent headaches in adults. *The Journal of Head and Face Pain*, *50*(9), 1473–1481. doi: 10.1111/j.1526-4610.2010.01756.x

Arnett, J. J. (2015). *Emerging adulthood: The winding road from the late teens through the twenties.* New York, NY*:* Oxford University Press.

Bair-Merritt, M. H., Blackstone, M., & Feudtner, C. (2006). Physical health outcomes of childhood exposure to intimate partner violence: A systematic review. *Pediatrics*, *117*(2), e278–e290. doi: 10.1542/peds.2005-1473

Baldry, A. C., & Winkel, F. W. (2004). Mental and physical health of Italian hyoungsters directly and indirectly victimized at school and at home. *International Journal of Forensic Mental Health, 3*(1), 77–91. doi: 10.1080/14999013.2004.10471198

Beck, C. J. A., & Raghavan, C. (2010). Intimate partner abuse screening in custody mediation: The importance of assessing coercive control. *Family Court Review, 48*(3), 555–565. doi: 10.1111/j.1744-1617.2010.01329.x

Callaghan, J. E. M., Alexander, J. H., Sixsmith, J., & Fellin, L. C. (2018). Beyond "witnessing": children's experiences of coercive control in domestic violence and abuse. *Journal of Interpersonal Violence, 33*(10), 1551–1581. doi: 10.1177/0886260515618946

Chen, P. H., Jacobs, A., & Rovi, S. L. (2013). Intimate partner violence: childhood exposure to domestic violence. *FP Essentials*, *412*, 24–27.

Coker, A. L., Davis, K., Arias, I., Desai, S., Sander- son, M., Brandt, H., & Smith, P. H. (2002). Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive Medicine*, *23*, 260–268. doi:10.1016/ S0749-3797(02)00514-7

Crossman, K. A., & Hardesty, J. L. (2018). Placing coercive control at the center: What are the processes of coercive control and what makes control coercive? *Psychology of Violence, 8*(2), 196-206. doi: 10.1037/vio0000094

Dutton, M. A., & Goodman, L. A. (2005). Coercion in intimate partner violence: Toward a new conceptualization. *Sex Roles, 52*(11), 743–756. doi: 10.1007/s11199-005-4196-6

Eberhard-Gran, M., Schei, B., & Eskild, A. (2007). Somatic symptoms and diseases are more common in women exposed to violence. *Journal of General Internal Medicine, 22*(12), 1668–1673. doi: 10.1007/s11606-007-0389-8

Ellison, C. G., Trinitapoli, J. A., Anderson, K. L., & Johnson, B. R. (2007). Race/ethnicity, religious involvement, and domestic violence. *Violence Against Women, 13*(11), 1094–1112. doi: 10.1177/1077801207308259

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., … Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine, 14*(4), 245–258. doi: 10.1016/S0749-3797(98)00017-8

Finkelhor, D., Turner, H., Ormrod, R., Hamby, S., & Kracke, K. (2009). *Children's exposure to violence: A Comprehensive National Survey*, U.S. Department of Justice.

Fitton, L., Yu, R., & Fazel, S. (2018). Childhood maltreatment and violent outcomes: A systematic review and meta-analysis of prospective studies. *Trauma, Violence, & Abuse,*1-15. doi.org/10.1177/1524838018795269

Fraley, R. C., & Davis, K. E. (1997). Attachment formation and transfer in young adults' close friendships and romantic relationships. *Personal Relationships*, *4*(2), 131-144. doi: 10.1111/j.1475-6811.1997.tb00135.x

Graham-Bermann, S. A., Gruber, G., Howell, K. H., & Girz, L. (2009). Factors discriminating among profiles of resilience and psychopathology in children exposed to intimate partner violence (IPV). *Child Abuse & Neglect, 33*(9), 648–660. doi: 10.1016/j.chiabu.2009.01.002

Hardesty, J. L., Crossman, K. A., Haselschwerdt, M. L., Raffaelli, M., Ogolsky, B. G., & Johnson, M. P. (2015). Toward a standard approach to operationalizing coercive control and classifying violence types. *Journal of Marriage and the Family*, *77*(4), 833–843. doi: 10.1111/jomf.12201

Haselschwerdt, M. L. (2014). Theorizing children's exposure to intimate partner violence using Johnson's typology. *Journal of Family Theory & Review*, *6*(3), 199–221. doi: 10.1111/jftr.12040

Haselschwerdt, M. L., Savasuk-Luxton, R., & Hlavaty, K. (2017). A methodological review and critique of the "intergenerational transmission of violence" literature. *Trauma, Violence, & Abuse, Advance online publication*. doi: 10.1177/1524838017692385

Haselschwerdt, M. L., Carlson, C. E., & Hlavaty, K. (2018, advance online publication). The romantic relationship experiences of young adult women exposed to domestic violence. *Journal of Interpersonal Violence,* doi: 10.1177/0886260518771679

Haselschwerdt, M. L., Hlavaty, K., Carlson, C., Schneider, M., Maddox, L., & Skipper, M. (2019). Heterogeneity within domestic violence exposure: Young adults' retrospective experiences. *Journal of Interpersonal Violence, 34*(7), 1512-1538. doi: 10.1177/0886260516651625

Heide, I. van der, Wang, J., Droomers, M., Spreeuwenberg, P., Rademakers, J., & Uiters, E. (2013). The relationship between health, education, and health literacy: Results from the dutch adult literacy and life skills survey. *Journal of Health Communication, 18*(1), 172–184. doi: 10.1080/10810730.2013.825668

Hlavaty, K., & Haselschwerdt, M. L. (2019, advance online publication). Domestic violence exposure and peer relationships: Exploring the role of coercive control exposure. *Journal of Family Violence*. doi: 10.1007/s10896-019-00044-4

Holden, G. W. (2003). Children exposed to domestic violence and child abuse: Terminology and taxonomy. *Clinical Child and Family Psychology Review*, *6*(3), 151–160. doi: 10.1023/A:1024906315255

Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. *Child Abuse & Neglect, 32*(8), 797–810. https://doi.org/10.1016/j.chiabu.2008.02.004

Ireland, T. O., & Smith, C. A. (2009). Living in partner-violent families: Developmental links to antisocial behavior and relationship violence. *Journal of Youth and Adolescence*, *38*(3), 323–339. doi: 10.1007/s10964-008-9347-y

Jasinski, J. L. (2001). Theoretical explanations for violence against women. In C. M. Renzetti, J.L. Edleson, & R. K. Bergen (Eds.), *Sourcebook on violence against women*. Thousand Oaks, CA: Sage.

Johnson, M. P. (1995). Patriarchal terrorism and common couple violence: Two forms of violence against women. *Journal of Marriage and the Family, 57,* 283-294. doi: 10.2307/353683

Johnson, M. P., & Ferraro, K. J. (2000). Research on domestic violence in the 1990s: Making distinctions. *Journal of Marriage and the Family, 62*, 948-963. doi: 10.1111/j.1741-3737.2000.00948.x

Johnson, M. P., & Leone, J. M. (2005). The Differential effects of intimate terrorism and situational couple violence: Findings from the national violence against women survey. *Journal of Family Issues, 26*(3), 322–349. doi: 10.1177/0192513X04270345

Johnson, M. P. (2008). *A typology of domestic violence: Intimate terrorism, violence resistance, and situational couple violence.* Boston, MA: North Eastern University Press.

Jouriles, E. N., & McDonald, R. (2015). Intimate partner violence, coercive control, and child adjustment problems. *Journal of Interpersonal Violence*, *30*(3), 459–474. doi: 10.1177/0886260514535099

Kidman, R., Nachman, S., Dietrich, J., Liberty, A., & Violari, A. (2018). Childhood adversity increases the risk of onward transmission from perinatal HIV-infected adolescents and youth in South Africa. *Child Abuse & Neglect, 79*, 98–106. doi: 10.1016/j.chiabu.2018.01.028

Kimber, M., McTavish, J. R., Couturier, J., Boven, A., Gill, S., Dimitropoulos, G., & MacMillan, H. L. (2017). Consequences of child emotional abuse, emotional neglect and exposure to intimate partner violence for eating disorders: A systematic critical review. *BMC Psychology*, *5*(1), 33. doi: 10.1186/s40359-017-0202-3

Kocalevent, R.D., Hinz, A., & Brähler, E. (2013). Standardization of a screening instrument (PHQ-15) for somatization syndromes in the general population. *BMC Psychiatry,13*, 91. doi: 10.1186/1471-244X-13-91

Kroenke, K., Spitzer, R. L., Williams, J. B. W., & Löwe, B. (2010). The patient health questionnaire somatic, anxiety, and depressive symptom scales: a systematic review. *General Hospital Psychiatry*, *32*(4), 345–359. doi: 10.1016/j.genhosppsych.2010.03.006

Kuhlman, K. R., Howell, K. H., & Graham-Bermann, S. A. (2012). Physical health in preschool children exposed to intimate partner violence. *Journal of Family Violence*, *27*(6), 499–510. doi: 10.1007/s10896-012-9444-2

Lamers-Winkelman, F., Schipper, J. C. D., & Oosterman, M. (2012). Children's physical health complaints after exposure to intimate partner violence. *British Journal of Health Psychology*, *17*(4), 771–784. doi: 10.1111/j.2044-8287.2012.02072.x

Maddox, L. (2015). *Young adults' perception of fathering and the father-child relationship in the context of marital violence* (Unpublished master's thesis). Auburn University, Auburn, AL.

McCauley, J., Kern, D. E., Kolodner, K., Derogatis, L. R., & Bass, E. B. (1998). Relation of low-severity violence to women's health. *Journal of General Internal Medicine*, *13*(10), 687–691. doi: 10.1046/j.1525-1497.1998.00205.x

Nicolaidis, C., Curry, M., McFarland, B., & Gerrity, M. (2004). Violence, mental health, and physical symptoms in an academic internal medicine practice. *Journal of General Internal Medicine*, *19*(8), 819–827. doi: 10.1111/j.1525-1497.2004.30382.x

Onyskiw, J. E. (2003). Domestic violence and children's adjustment: A review of research. *Journal of Emotional Abuse, 3*(2), 11–45. doi: 10.1300/J135v03n01_02

Øverlien, C. (2013). The children of patriarchal terrorism. *Journal of Family Violence, 28*(3), 277–287. doi: 10.1007/s10896-013-9498-9

Owen, A. E., Thompson, M. P., Shaffer, A., Jackson, E. B., & Kaslow, N. J. (2009). Family variables that mediate the relation between intimate partner violence (IPV) and child adjustment. *Journal of Family Violence, 24*(7), 433. doi: 10.1007/s10896-009-9239-2

Ravi, K. E., & Casolaro, T. E. (2018). Children's exposure to intimate partner violence: A qualitative interpretive meta-synthesis. *Child and Adolescent Social Work Journal, 35*(3), 283–295. doi: 10.1007/s10560-017-0525-1

Rutter, M. (1989). Pathways from childhood to adult life. *Journal of Child Psychology and Psychiatry, 30*(1), 23–51. doi: 10.1111/j.1469-7610.1989.tb00768.x

Russell, D., Springer, K. W., & Greenfield, E. A. (2010). Witnessing domestic abuse in childhood as an independent risk factor for depressive symptoms in young adulthood. *Child Abuse & Neglect, 34*(6), 448–453. doi: 10.1016/j.chiabu.2009.10.004

Simmons, S. B., Knight, K. E., & Menard, S. (2018). Long-term consequences of intimate partner abuse on physical health, emotional well-being, and problem behaviors. *Journal of Interpersonal Violence, 33*(4), 539–570. doi: 10.1177/0886260515609582

Stark, E. (2009). *Coercive control: The entrapment of women in personal life*. New York, NY: Oxford University Press.

Straus, M. A., Hamby, S.L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17*(3), 283–316. doi: 10.1177/019251396017003001

Swartz, T. T., Kim, M., Uno, M., Mortimer, J., & O'Brien, K. B. (2011). Safety nets and scaffolds: Parental support in the transition to adulthood. *Journal of Marriage and Family, 73*(2), 414–429. Retrieved from http://www.jstor.org.proxy.lib.utk.edu:90/stable/29789587

Tolman, R. M. (1989). The development of a measure of psychological maltreatment of women by their male partners. *Violence and victims, 4*(3), 159-177. doi: 10.1891/0886-6708.4.3.159

Vu, N. L., Jouriles, E. N., McDonald, R., & Rosenfield, D. (2016). Children's exposure to intimate partner violence: A meta-analysis of longitudinal associations with child adjustment problems. *Clinical Psychology Review, 46*, 25–33. doi: 10.1016/j.cpr.2016.04.003

Williamson, E. (2010). Living in the world of the domestic violence perpetrator: Negotiating the unreality of coercive control. *Violence Against Women, 16*(12), 1412–1423. doi: 10.1177/1077801210389162

Yount, K. M., DiGirolamo, A. M., & Ramakrishnan, U. (2011). Impacts of domestic violence on child growth and nutrition: A conceptual review of the pathways of influence. *Social Science & Medicine, 72*(9), 1534–1554. doi: 10.1016/j.socscimed.2011.02.042

Zinzow, H. M., Ruggiero, K. J., Resnick, H., Han-son, R., Smith, D., Saunders, B., & Kilpatrick, D. (2009). Prevalence and mental health correlates of witnessed parental and community violence in a national sample of adolescents. *Journal of Child Psychology and Psychiatry, 50*(4), 441–450. doi: 10.1111/j.1469-7610.2008.02004.x

APPENDICES

Appendix A

Theoretical History on Coercive Control

According to Stark (2009) coercive control as a concept has its roots in the 1950s and 1960s among the studied experience of individuals who had been exposed to severe restraint in non-familial settings such as the prisoners of wars, mental patients, and hostages. It was not before the 1970s when the feminist psychologists noticed that the perpetrators of violence follow the same tactics used against victims in situations such as these mentioned above to place their partners in a coercive control situation were the victims become hostages and dependent on what the perpetrators decisions (Stark, 2009). Early feminist scholars and advocates in the battered women's movement adopted the phenomenon, theoretically connecting it to patriarchy and men's dominance over public and private spheres, including within the family (Jasinski, 2001).

In the decades that followed, family scientists began studying violence within the home, including perpetration between partners, finding that all family members contribute equally to this violence—emphasizing the commonplace nature of DV, child abuse, sibling abuse, and elder abuse (Jasinski, 2001). This debate and controversy are ongoing though it was partially mediated by Johnson's (1995) early theorizing that both "parties" were correct, but each were defending different types of violence within the umbrella of DV. Though his early theorizing (1995; Johnson & Ferraro, 2000) and later empirical work by him, colleagues, and other scholars (Callaghan et al., 2018; Dutton & Goodman, 2005; Haselschwerdt et al., 2019; Johnson & Leone, 2005; Stark, 2009), Johnson identified two distinct types of DV (Johnson, 2008) based on the context in which the DV occurs, or more specifically—the degree of coercive control.

In heterosexual relationships, coercive controlling violence or intimate terrorism is a type of violence defined as the attempt of a male perpetrator to dominate a female partner and to exert

general control over the relationship, by using a wide range of power and control tactics, including violence. This type of violence cause fear and oppression for the victims by using nonviolent tactics such as emotional abuse, isolation, using children, using male privilege, economic abuse, threats, intimidation, and blaming (Pence and Paymar's (1993) as cited in Johnson & Leone, 2005). According to Dutton and Goodman (2005) coercive control has four core components for successful execution, physical violence, willingness and capability to follow through on threats and intimidation, surveillance, and wearing down their victim's will or ability to resist the control and violence. Whether physical violence is essential for coercive control or not is up for debate, with recent research documenting the presence of coercive control without physical violence (Crossman & Hardesty, 2018). When Crossman and Hardesty (2018) examined the process of control to differentiate the control that is coercive than the control that is a part of all relationships, they found that the process of being constrained by oneself or one's partner to uphold cultural conventions of heterosexual marriage (i.e., Constraint through commitment) is different than process of being controlled wholly in a targeted and systematic way by one's partner (i.e., Constraint through force). These findings enhanced the concept of coercive control and provided a recommendation of taking coercive control into consideration when studying domestic violence as initially Johnson (1995) recommended.

Appendix B

Measure of Physical Violence Exposure

The Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996)

Table 1. *How often did your father use the following acts of physical aggression or violence towards your mother?*

	Never	1-2 times	3-5 times	6-9 times	10+ times
1. Grab your mother trying to hurt her	0	1	2	3	4
2. Push or shove her	0	1	2	3	4
3. Throw something at her	0	1	2	3	4
4. Slap her	0	1	2	3	4
5. Push or force her against a wall or another object	0	1	2	3	4
6. Hit or punch her	0	1	2	3	4
7. Use a weapon (e.g. knife, gun) against her	0	1	2	3	4
8. Choke her	0	1	2	3	4

Measure of Coercive Control

Psychological Maltreatment of Women Inventory (Tolman, 1989) + additional author created items at the end

Table 2. *Thinking about your father's non-physical behavior toward your mother, please indicate how often he did the following.*

	Never	Sometimes	Often	Almost always	Always
PMWI1. He monitored her time and made her account for her whereabouts.	0	1	2	3	4
PMWI2. He used her money or made important financial decisions without talking to her about it.	0	1	2	3	4
PMWI3. He was jealous or suspicious of her friends.	0	1	2	3	4
PMWI4. He accused her of having an affair with another man.	0	1	2	3	4
PMWI5. He interfered in her relationships with other family members.	0	1	2	3	4
PMWI6. He tried to keep her from doing things to help herself. *(Anything that would help her improve herself or situation, like having a job or gaining more education.)*	0	1	2	3	4
PMWI7. He restricted her use of the phone, text messaging, email, and social media.	0	1	2	3	4

Measure of Physical Health Symptoms

Modified Patient Health Questionnaire (Kroenke et al., 2010)

Table 3. *During the past 7 days, how much have you been bothered by any of the following problems?*

	Not Bothered at All	Bothered a Little	Bothered a Lot
PH1. Stomach pain	0	1	2
PH2. Back pain	0	1	2
PH3. Pain in your arms, legs, or joints (knees, hips, etc.)	0	1	2
PH4. Menstrual cramps and other problems with your periods	0	1	2
PH5. Headaches	0	1	2
PH6. Chest pain	0	1	2
PH7. Dizziness	0	1	2
PH8. Fainting Spells	0	1	2
PH9. Feeling your heart pound or race	0	1	2
PH10. Shortness of breath	0	1	2
PH11. Pain or problems during sexual intercourse	0	1	2
PH12. Constipation, loose bowels, or diarrhea	0	1	2
PH13. Nausea, gas, or indigestion	0	1	2
PH14. Feeling tired or having low energy	0	1	2
PH15. Trouble sleeping	0	1	2

Appendix C

Table 4. *Descriptive statistics across all examined variables and comparisons between DV-exposed and non-DV-exposed samples.*

	DV-exposed (n = 94)	Non-DV-exposed (n = 53)	
	M (SD)	M (SD)	t (df)
Frequency of physical violence exposure	9.77 (7.210)	-	-
Frequency of coercive control exposure	6.30 (7.94)	1.08 (4.11)	5.25 (144.198)***
Physical health symptoms	6.29 (5.86)	6.66 (4.87)	.393 (145)

Note. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 5. *Visual binning of physical health symptoms*

Scores ranges	Frequency
0	23
1-2	22
3-4	17
5-6	20
7-8	19
9-10	18
11-12	6
13-14	5
15-16	11
17-18	2
19-20	2
21-30	2

Table 6. *Bivariate correlations between all variables*

	1	2	3
1. Frequency of physical violence	-	-	-
2. Frequency of exposure to coercive control	.540***	-	-
3. Physical health symptoms	.069	.096	-

Note. ***$p \leq .001$.

Table 7. *The association between CEDV and frequency of physical violence exposure, and frequency of coercive control exposure*

	Physical Health Symptoms		
	B (SE)	β	ΔR^2
Step 1			
Frequency of physical violence exposure	.055 (.083)	.069	.005
Step 2			
Frequency of physical violence exposure	-.033 (.098)	-.041	
Frequency of coercive control exposure	.149 (.090)	.203	
			.029
Step 3			
Frequency of physical violence exposure	-.026 (.093)	-.033	
Frequency of coercive control exposure	.107 (.086)	.145	
Female	-.196 (1.221)	-.016	
Social class	-2.71 (712)***	-.374	
			.139
Total R^2			.173

Note. ***$p \leq .001$. Female indicates gender.

VITA

Shahad Subiani was born in Saudi Arabia to the parents of Ahmed Subiani and Khairia Aljabri. She is the oldest of five children. Shahad completed her Bachelor of Education degree in Home Economics in 2012 at King Abdulaziz University in Jeddah, Saudi Arabia. After her graduation she obtained a faculty position at the same university in addition to a full scholarship to U.S. to continue her higher education. She was accepted into the graduate school at the University Tennessee, Knoxville in the Department of Child and Family Studies to attain her Master of Science degree in 2019. While at the University of Tennessee, Shahad worked as a research assistant with the Family Violence Across the Lifespan research team under the direction of Dr. Megan Haselschwerdt. She focused her studies on the experiences of adolescents and young adults exposed to interparental domestic violence and coercive control. Shahad was accepted into the Child and Family Studies doctoral program and will begin working towards her doctorate in fall 2019.