ABSTRACT

Title of Thesis:	TOWARD AN UNDERSTANDING OF THE INTERGENERATIONAL CYCLE OF VIOLENCE: THE DEVELOPMENT AND PILOT TEST OF THE INTIMATE PARTNER ABUSE SCALES
	Dylan Sarubin, Bachelor of Arts, 2024
Thesis Directed By:	Associate Professor Bianca Bersani, Department of Criminology and Criminal Justice

Intimate partner violence, or IPV, is an ongoing public health challenge that, despite increased research since the 1970s, remains without widely applicable strategies for early intervention and prevention. This scarcity of broadly effective interventions is largely due to an array of definitions and operationalizations of IPV that are incongruent with each other and the current state of knowledge, particularly for psychological abuse. While scholars recognize the role psychological abuse plays in IPV, it is often neglected in measurement. Therefore, studies fail to accurately measure IPV, which holds implications for developing successful interventions. These measurement flaws extend to other areas of IPV research including measuring childhood exposure to IPV. This is crucial because childhood exposure to IPV is a hypothesized pathway to later involvement in IPV, a phenomenon called the intergenerational cycle of violence.

To better understand involvement in and exposure to IPV, this research introduces a novel measurement tool, the Intimate Partner Abuse Scales (IPAS), which was tested against the

current most common device for measuring IPV and exposure to IPV, the CTS2. The IPAS was developed to address limitations in the CTS2 by (1) measuring more aspects of psychological abuse rather than focusing primarily on physical abuse, (2) using items that are inclusive of non-heterosexual individuals, (3) considering the power imbalance-based dispositional context of abusive relationships, and (4) accounting for the many facets of exposure to IPV. The IPAS uses a novel power dynamic model that integrates current perspectives. A two-pronged sample (N = 340) was collected for this study consisting of a snowball sample of the general population and a purposive sample of late-stage abusive victims. Subjects were randomly assigned to either the IPAS or the CTS2 via an online self-report survey; between- and within-subjects analyses were conducted to assess the efficacy of the IPAS.

This pilot study of the IPAS found promising results to support its future use as a screening tool to detect involvement in and exposure to IPV. The IPAS found a higher prevalence rate of involvement in IPV, particularly psychological abuse, and more frequent abuse than the CTS2. The IPAS also had less missing data, suggesting that participants might have felt more comfortable taking the IPAS than the CTS2. Finally, this study found early support for the IPAS's theoretical foundation via positive correlations between subjects' power imbalances and frequencies of abuse and between subjects' exposure to and involvement in IPV. Although this study is exploratory, it supports the prospect that the IPAS may be a reliable, valid metric for involvement in and exposure to IPV, creating the opportunity to understand these phenomena and develop implications for abating their innumerable adverse consequences.

TOWARD AN UNDERSTANDING OF THE INTERGENERATIONAL CYCLE OF VIOLENCE: THE DEVELOPMENT AND PILOT TEST OF THE INTIMATE PARTNER ABUSE SCALES

by

Dylan Sarubin

Thesis submitted to the Department of Criminology and Criminal Justice at the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Bachelor of Arts
2024

© Copyright by
Dylan Sarubin
2024

Dedication

This thesis on intimate partner abuse is dedicated to the memory of my grandparents, Claire and Lawrence (Larry) Sarubin. Their unwavering love and commitment to each other influenced my understanding of a healthy relationship, inspiring me to pursue this work.

Acknowledgments

First, I would like to thank Dr. Bianca Bersani for her consistent support and encouragement as I navigated this project. I cannot imagine a better mentor. I would also like to thank Casey Kindall for her knowledge and advice. Next, I would like to thank my fellow members of the honors cohort, especially Rhiannon Little and Jill Tryon, for their support and help throughout this process. I want to thank Dr. Jacob Coutts for his help while I was writing the code for analysis and all the other faculty members who have supported me. I also want to thank my family for always encouraging me to do my best. Finally, I want to thank my girlfriend, Madison, for being an unwavering support system, a sounding board for all my ideas, and a peer reviewer for the never-ending pages I have asked her to read.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

CADRI - Conflict in Adolescent Dating Relationships Inventory

CDC - Centers for Disease Control and Prevention

CEDV - Child Exposure to Domestic Violence Scale

CPIC - Children's Perception of Interparental Conflict Scale

CTS - Conflict Tactics Scales

CTS2 - Revised Conflict Tactics Scales

CTS2-CA - Revised Conflict Tactics Scales - Child Assessment

EIPV - exposure to intimate partner violence

IPAS - Intimate Partner Abuse Scales

IPAS-E - Intimate Partner Abuse Scales - Exposure

IPAS-I - Intimate Partner Abuse Scales - Involvement

IPV - intimate partner violence

SLT - social learning theory

WHO - World Health Organization

Chapter 1: Introduction

Intimate partner violence (IPV), broadly defined as "physical violence, sexual violence, stalking and psychological aggression (including coercive tactics) by a current or former intimate partner" (Breiding et al. 2015:11), is a global crisis. The World Health Organization (WHO) found that, globally, one in four women over the age of 15 have experienced IPV in their lifetime (2021). This statistic, like many global and regional estimates, limits its scope to female victims of IPV and strictly assesses physical and sexual violence (Devries et al. 2013; Sardinha et al. 2022; WHO 2021). Within the United States, the Centers for Disease Control and Prevention (CDC) found that 47.3% of women and 44.2% of men report experiencing any sexual or physical violence or stalking by an intimate partner in their lives (2022b). Furthermore, the CDC found that 41.0% of women and 26.3% of men in the United States report sexual or physical violence or stalking by an intimate partner in addition to an associated adverse impact (e.g., fear, PTSD symptoms, or injury).

The above statistics must be interpreted with caution when assessing the prevalence of IPV due to the limitations of current measurement devices including (1) negligence of diverse, non-physically violent abusive behaviors, (2) a narrow focus on traditional, heteronormative relationships, (3) overreliance on behavioral indicators of abuse, and (4) a limited definition of childhood exposure to IPV that impedes our ability to identify and understand the phenomenon. As stated, current statistics rely heavily on physical and sexual violence while overlooking a myriad of damaging abusive behaviors, such as emotional and economic abuse, that often impact victims more severely than physical violence (Arias and Pape 1999; Outlaw 2009; Pence and Paymar 1993). While the WHO (2021) recognizes that IPV includes non-physical abuse, they

cite “existing challenges in the measurement and reporting of psychological intimate partner violence” (p. 5) as the reason they measured only physical and sexual violence. This purposeful exclusion of non-violent abusive behaviors suggests that the statistics may be significantly underestimating the true global and national rates of IPV. Additionally, the statistics largely rely on self-report surveys using behavioral checklists (a collection of items listing discrete abusive behaviors such as hitting or yelling and asking participants to report on their perpetration or victimization experiences for each item within their romantic relationship) (CDC 2022a). Behavioral checklists do not measure a relationship’s underlying dispositional dynamics which may be crucial to identifying abusive relationships, meaning the surveys may be overestimating the prevalence of IPV (Pence and Paymar 1993). Failing to consider a relationship’s disposition when attempting to identify IPV may lead researchers to incorrectly diagnose an unhealthy, violent relationship without a primary victim as abuse; measuring the disposition may help clarify the presence of a primary victim. Whether these statistics accurately represent the populations involved in IPV, it is evident that IPV is a pervasive phenomenon that requires further research to understand. As an illustrative example of the immense variability in data produced by behavioral checklists, one meta-analysis found that, in 96 studies focusing solely on physical violence, the reported rates of IPV in adolescent relationships ranged between 1% and 61% (Wincentak, Connolly, and Card 2017).

Intimate partner violence is not a lone-victim problem. In addition to involvement in IPV, childhood exposure to intimate partner violence (EIPV), a phenomenon in which a child grows up in a household with at least one caregiver involved in a relationship characterized by IPV (Wathen and MacMillan 2013), is a global crisis. It has been estimated that eight to 15 million children in the U.S. are exposed to IPV yearly (Hamby et al. 2011; McDonald et al. 2006). This

problem was only exacerbated by the COVID-19 pandemic which saw a significant global increase in IPV within households, creating a greater opportunity for children to be exposed to IPV (Kourti et al. 2023). Again, these statistics are likely a gross misrepresentation of the prevalence of EIPV, relying primarily on physical IPV and failing to consider the many facets of exposure to family violence. Despite these methodological flaws, EIPV has been associated with a host of adverse developmental consequences (Bernet, Wamboldt, and Narrow 2016; Holmes et al. 2022), emphasizing the need for additional research.

Measurement weaknesses regarding IPV and EIPV have severe implications for prevention, policy, and practice. These implications can be elucidated by situating them in a framework linking IPV to EIPV. Specifically, childhood exposure to IPV is a hypothesized risk factor for later involvement in IPV, a phenomenon that has been dubbed the intergenerational cycle or transmission of violence (Cochran et al. 2017). Attempts to understand the intergenerational cycle of violence, which is a necessary step toward ameliorating this cycle, have been stifled by methodological and measurement-based inconsistencies – both across studies (e.g., disagreement on the importance of measuring control) and within studies relative to the current state of knowledge (e.g., antiquated definitions of violence and relationships) – that have inhibited valid and generalizable findings (Evans et al. 2021; Kimber et al. 2018). These inconsistencies are partly due to multiple discordant perspectives on IPV and the lack of an updated, widely accepted measurement device for IPV and EIPV. This creates stagnation in the field as researchers are hesitant to design new devices for fear of risking reliability, yet hesitant to use outdated devices for fear of risking validity.

The use of valid measurement devices that can be administered across diverse populations (e.g., people of different sexual orientations) is essential to obtain an accurate

representation of individuals exposed to or involved in IPV. More precise identification of the afflicted population is necessary to determine policies and practices that may effectively prevent and ameliorate the intergenerational cycle of violence and each of its constituent parts (i.e., IPV and EIPV). Therefore, the purpose of this study is not to create implications to mitigate the harm caused by the cycle of violence. Rather, this study serves to establish the need for consistent, valid instrumentation for measuring exposure to and involvement in intimate partner violence, as we cannot work to change that which we do not understand.

To this end, the current study comprises the development and pilot test of an instrument designed to capture the intergenerational cycle of violence by measuring exposure to and involvement in IPV. The instrument is grounded in a novel model that seeks to heighten our understanding of intimate partner violence by integrating dominant current perspectives on IPV and social exchange theory (Emerson 1981) and focusing on the role of dispositional power dynamics in intimate relationships. This power-centric perspective on IPV will henceforth be referred to as the integrative power model or, simply, the integrative model for IPV. The integrative power model for IPV will be used in conjunction with social learning theory (SLT; Akers 1973) to conceptualize the intergenerational cycle of violence in addition to its constituents (i.e., involvement in and exposure to IPV).

To determine the novel instrument's efficacy in assessing populations exposed to and involved in IPV, it was tested against the current most widely used device through an online self-report survey using random assignment to designate participants to receive one of the two devices. The primary research questions are as follows: (1) Will a novel integrative power-model-based instrument for measuring IPV and EIPV find higher, lower, or similar rates of abuse as the current standard instrumentation? (2) Will the novel device find a positive

association between a relationship's power imbalance and its degree of abuse? (3) Within each measurement device, will involvement in abuse be positively correlated with childhood exposure to abuse?

Chapter 2: Literature Review

Defining Intimate Partner Violence

The definition of intimate partner violence has evolved considerably through decades of research to better represent the nature of abusive relationships. As a term, *intimate partner violence* was created to convey the idea that this phenomenon can occur outside of heterosexual married relationships, something which more antiquated terms such as *domestic violence* and *wife battering* failed to consider (McHugh, Livingston, and Ford 2005). *Domestic violence* is still used but now refers to any violence that occurs explicitly inside a home, including elder, child, and spouse abuse (Kourti et al. 2023). This change in terminology emerged as a response to research examining interpersonal violence in dating relationships and among non-heterosexual couples (McHugh et al. 2005). The invention of the term *intimate partner violence* was a step forward in the field, as it allowed for research of violence in a broader range of relationships, but many scholars continue to limit their focus to female victimization by male partners (see, e.g., WHO 2021; Yount et al. 2022). Research on intimate partner violence will remain stagnant as long as the field continues to rely on outdated conceptualizations of intimate partners and violence that do not account for advancements in knowledge (e.g., the diversity of abusive behaviors) and changing societal norms (e.g., the growing commonality of non-heterosexual couples).

A Brief History of Perspectives on Intimate Partner Violence

Intimate partner violence research can be traced back to the early 1970s with the rise of the women's liberation movement (Freeman 1973; Gill 2021; Lehrner and Allen 2009; Levine 1975; Mirchandani 2004). *Wife battering* or *violence against women* became a salient issue on

the public front, referring initially to physical violence by a man against his wife. Widespread awareness of the problem began in Great Britain before migrating to America; Erin Pizzey's 1977 book, *Scream Quietly or the Neighbours Will Hear*, is often cited as one of the first publications detailing wife battering (Gelles 1978). The feminist perspective on IPV emerged at this time as an attempted explanation of wife battering (Dobash and Dobash 1979). This perspective has been expanded upon throughout the years and remains a popular explanation for IPV (McPhail et al. 2007; Pence and Paymar 1993). Briefly, the feminist perspective states that IPV is a consequence of the patriarchy – a society in which women are subjugated by male oppressors – and the perpetrators of IPV are male with female victims (Dobash and Dobash 1979; McPhail et al. 2007). The feminist model further states that abusive relationships are defined by a pattern of coercive control (Pence and Paymar 1993). Coercive control is defined as a process in which an individual uses multifarious violent and non-violent tactics to maintain absolute authority over their partner by making demands accompanied by credible threats for noncompliance (Dutton and Goodman 2005:746-747). Within this framework, coercive control sets the stage for discrete acts of interpersonal violence.

The other dominant perspective in the field of IPV has been that of family violence theories (e.g., Straus 1979). While feminist researchers emphasized relationship violence perpetrated by men against their wives, family violence theorists explored both sexes as potential perpetrators and victims of violence within a prototypical (i.e., heterosexual) marriage. Rather than citing coercive control as the core of abusive relationships from which violence stems, family violence theorists have not elaborated on the relationship context in which violence takes place (i.e., characteristics of a relationship that may influence the presence of violence), but rather have narrowed their focus to individual or discrete violent behaviors (Straus 1979). In

short, although family violence theorists had a broader, albeit more ambiguous, definition of IPV than feminist scholars, their parameters remained severely limited.

Definitions of Gender and Abuse in Intimate Partner Violence

While feminist researchers have long argued for focusing exclusively on male-to-female IPV (Dobash et al. 1992; Dobash and Dobash 1979; Pence and Paymar 1993), their argument is both conceptually flawed and dangerous, as it omits male victims and sexual and gender minority victims from scientific and public discourse. Although studies have shown that females are more likely to be victimized by their partners than males, meta-analyses and large-scale behavioral surveys show that men also experience victimization by their partners (Archer 2000; Breiding 2014; CDC 2022b). Granted, feminist researchers would refute the validity of these statistics given that they use behavioral checklists that do not account for coercive control and, therefore, may not be representative of abusive relationships (Dobash et al. 1992). While this may be a valid criticism, it is worth noting that feminist researchers have historically come to conclusions based on data from police reports and women's shelters (Dobash et al. 1992), which may equally erroneously represent abusive relationships due to selection bias toward finding women as victims of male perpetrators.

Given the drastically different reported proportions of perpetrators and victims that are male or female and the fact that both methodologies may be biased in their respective directions, the true parameters likely lie between the estimates. Furthermore, the stigmatization of male victims of IPV has been shown to lead to greater reluctance to seek help (Taylor et al. 2022). This suggests that male IPV victimization may be significantly underestimated by community samples taken by feminist researchers and, potentially, large-scale surveys if men's reluctance to seek help can be extrapolated to lower reporting rates. In addition to male victims, some scholars

are beginning to expand their research to sexual and gender minority youth, finding that IPV victimization is particularly prevalent among this population (Dyar et al. 2021). Despite these recent evolutions of IPV research, many researchers continue to rely on obsolete definitions of relationships, forcing others to adapt traditional IPV instruments to target specific populations. For example, Dyar and colleagues (2021) recently created a measurement device for IPV in sexual and gender minority populations by adapting items from three commonly used scales. This dilution and adaptation of measurement devices makes it more difficult to merge findings and determine the intricate nature of violence in intimate relationships.

In addition to disagreements regarding the ideal conceptualizations of gender and relationships in IPV, scholars continue to define IPV in terms of violence rather than a broader range of abusive behaviors and the interpersonal context in which they manifest. Criminologists tend to define violence as the process of an individual intentionally threatening, attempting, or enacting physical harm upon another person (National Research Council 1993). This definition of violence was used by theorists studying wife and child abuse when the topics were first examined in the 1960s and ‘70s (Gelles 1978). Therefore, the term *domestic violence*, and its partial successor *intimate partner violence*, was created with the intent of studying physical harm in the context of a romantic relationship. This definition is visible in early instruments designed to measure IPV that included a majority of items designed to measure physical violence and a minority of items measuring other abusive behaviors such as shouting and degrading (e.g., Straus 1979). Furthermore, sexual abuse (e.g., rape) was not substantively considered in IPV measurement until the mid-1990s (e.g., Straus et al. 1996). A lack of attention to sexual abuse may be due in part to the fact that marital rape was normative behavior that was not made illegal in all 50 states until 1993 (Bennice and Resick 2003; Bergen and Barnhill 2006).

Feminist researchers have long recognized that violence is not the primary diagnostic criterion for IPV (Dobash et al. 1992; Dobash and Dobash 1979; Pence and Paymar 1993); this notion has gained more traction over the years (Bledsoe and Sar 2011; Dutton, Goodman, and Schmidt 2005; Strauchler et al. 2004). Still, the nomenclature has not been updated to reflect this insight (i.e., rephrasing *intimate partner violence* to be more inclusive, such as *intimate partner abuse*). Rather, the former definition of *violence* has been relegated to *physical violence*, and terms such as *sexual violence* and *psychological violence* have been tacked on to conceptualizations of IPV to broaden the range of measured constructs while subserving the belief that abusive relationships are defined by the physically harmful acts that may accompany them. Despite the problematic nature of the term *intimate partner violence*, it will be used throughout this paper as a synonym for *intimate partner abuse* to remain consistent with the literature and accessible to the scientific community.

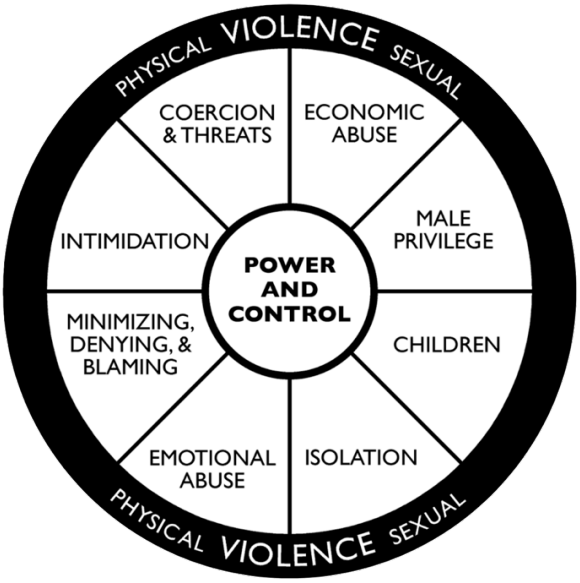
Constituent Behaviors of Intimate Partner Violence

Feminist theorists have built a framework that, despite limitations that will be discussed, provides a useful layout of the multifarious behaviors that may be perpetrated in an abusive relationship (Pence and Paymar 1993). These behaviors are summarized in Pence and Paymar's power and control wheel (1993:3). The power and control wheel (see Figure 1) was initially created to describe abusive behaviors that, along with physical and sexual violence, may be perpetrated by a man against his female partner to gain and maintain control. The center of the wheel comprises coercive control, the hypothesized disposition underlying abusive relationships. The spokes of the wheel contain categories of abusive behaviors hypothesized to develop from and perpetuate this control. As these behaviors orbit explicitly around coercive control, they are described as "tactics" used by the perpetrator to maintain dominance over the victim; here, they

will strictly be considered abusive behaviors, not necessarily subserving control. Finally, the rim of the wheel includes physical and sexual violence, conveying the notion that violence is used to "hold the relationship together" by creating tangible consequences for subversion of the man's control. While the power and control wheel was intended to solely describe male-female abuse in a controlling context, the majority of the behaviors can be extrapolated to account for a broader range of abusive relationships.

Figure 1

Power and Control Wheel (Pence and Paymar 1993)



Note. This model was created to describe male-perpetrated IPV against female victims in the context of coercive control.

The first behavioral category in the power and control wheel is *intimidation* (Pence and Paymar 1993:3). Intimidation involves invoking fear in one's partner using non-verbal communication (e.g., gestures, breaking things, or brandishing weapons). The second category of behaviors is *emotional abuse*. Emotional abuse involves actions that hurt the feelings of one's partner (e.g., degradation or humiliation). The third category is *isolation*, which consists of

restricting one's partner's contact with the outside world (e.g., telling one's partner not to spend time with their friends or preventing one's partner from doing certain things such as browsing the internet). The fourth category is *minimizing, denying, and blaming*; this involves refusing responsibility for one's abusive behaviors and, instead, blaming one's partner (i.e., gaslighting). The fifth category is *economic abuse*. Like isolation, economic abuse involves restricting one's partner's financial independence (e.g., refusing to let one's partner have a career or making important financial decisions without consulting one's partner). The sixth category of abusive behaviors is *coercion and threats*; this involves verbally threatening one's partner to coerce them into certain actions (e.g., threatening to hurt one's partner or kill oneself). The final abusive behavioral categories included in the power and control wheel framework are *physical violence* and *sexual violence*. Physical violence involves tangibly harming one's partner (e.g., hitting or choking) and sexual violence involves compelling one's partner to engage in sexual activities with or without the use of force (e.g., rape or nonconsensual touching) (Pence and Paymar 1993:3).

Pence and Paymar's framework includes two other categories of abusive behaviors: using male privilege and using children; these will not be included in this paper's definition of IPV, as they rely on hetero- and cis-normative conceptualizations that do not consider male victims, female perpetrators, individuals who identify as an alternative gender, or non-heterosexual relationships. A final salient category of abusive behaviors that is not included in the power and control wheel is *stalking*. Stalking is defined as a pattern of undesired attention toward one's partner that leads one's partner to fear for their safety, such as tracking one's partner's cell phone location without their consent or secretly going through their belongings (Breiding et al. 2015). While stalking is widely accepted as a constituent behavior of IPV, this recognition occurred

slightly over a decade ago (Breiding 2014), which explains why it was not included in the power and control wheel.

Creating an Integrative Model for Intimate Partner Violence

The field of intimate partner violence research has been divided into two ostensibly incompatible schools of thought since its conception: the feminist and family violence perspectives. Johnson (2008) was the first to attempt to reconcile these perspectives by creating a typology of domestic violence. He contended that, rather than the two models attempting to describe the same phenomenon, the researchers were illustrating several distinct phenomena affecting independent populations. Johnson's (2008) framework, centered around the presence or absence of control in a relationship, identified four primary categories of relationship violence: intimate terrorism, violent resistance, mutual violent control, and situational couple violence. *Intimate terrorism*, the phenomenon that Johnson claimed feminist scholars were researching, was defined as violence that a perpetrator uses to maintain control over their partner (Johnson 2008:5). *Violent resistance* exists in the same relationships as intimate terrorism but describes violence by the victim against the perpetrator in response to the perpetrator's violent control. Johnson, principally aligned with feminist researchers, claimed that intimate terrorists were almost always men and violent resisters women. *Mutual violent control* was a subtype Johnson used to describe a relationship in which both partners used violence to exert control over each other. Finally, *situational couple violence* is the phenomenon Johnson asserted family violence theorists were exploring, violence by a perpetrator or their partner that is not in service of control. Johnson's typology has been adopted by many and extended by others (Messinger et al. 2014).

While Johnson's (2008) typology is useful for understanding possible manifestations of abuse, it may have inadvertently exacerbated the rift between feminist and family violence theorists by licensing both of their perspectives, thus allowing them to continue their research guided by their respective, oppositional theories. Instead of attempting to design a unified theory that encompassed both perspectives, feminist researchers continued through the lens of coercive control while others continued to focus on discrete violent acts. If scholars believe they are measuring the same phenomenon through two distinct perspectives, they may be reluctant to build on each other's findings because they question the validity of research from those with the opposite perspective. Alternatively, if scholars believe they are measuring two different phenomena, as Johnson contended they were, they may be equally, if not more, reluctant to build on each other's findings, as they do not regard themselves as studying the same population. In either scenario, scholars may be unlikely to accept and build upon each other's findings and implications. If Johnson's model accurately represents all abusive relationships, this would imply that there are multiple subpopulations characterized by IPV, each of which may warrant its own investigation and implications. However, the danger of a typology for a phenomenon with manifestations as diverse as IPV is that it suggests binary distinctions that promote ignorance of the nuanced spectrum of abuse across relationships. Scholars have yet to develop or test a unified framework for IPV that collapses the multiple, seemingly incongruent, perspectives into a single phenomenon. Such a framework, if proven valid, may standardize IPV conceptualizations across the field, precipitating consistent measurement that would allow for easier synthesis of findings and determination of generalizable implications. To this end, models adapted from affective neuroscience research provide a non-typological method of distinguishing and integrating the dominant frameworks of IPV.

In the field of affective neuroscience, several models have attempted to explain the occurrence of discrete emotional states (e.g., fear or sadness) relative to individuals' underlying emotional traits (e.g., neuroticism/negative emotionality). In adapting these models, discrete emotional states translate into discrete acts of violence or abuse and underlying emotional traits translate to the dispositional nature of individual relationships. Family violence theorists who observe the frequency of violent acts, a method that Johnson (2008) believes captures situational couple violence, can be considered as studying an *average* model of IPV. In affective neuroscience, the average model states that emotional traits are nothing more than the mathematical average of the discrete emotional states an individual experiences (e.g., a person who experiences more discrete instances of negative emotion has a higher level of neuroticism than someone who experiences fewer negative emotions). Adapting this model to IPV, an abusive relationship can be defined by the mathematical average of violent acts committed within the relationship.

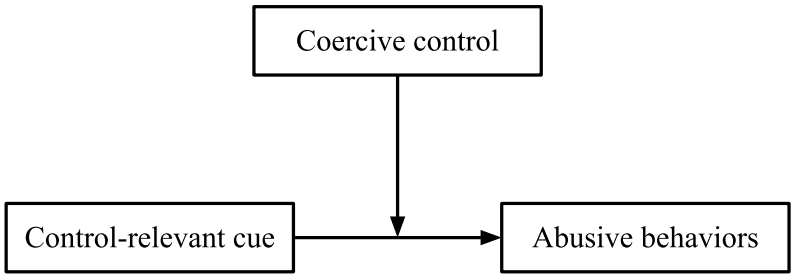
For example, instruments such as the Conflict Tactics Scales (CTS; Straus 1979) measure the frequency of violent acts within a relationship, seemingly implying that the fundamental nature of abusive relationships relies solely on the commonality of acts committed within them. This logic may have some truth to it, but the model is not useful for identifying prevention and intervention strategies for IPV because it cannot explain what causes the violent acts or why individual abusive relationships may differ in their manifestations (e.g., the frequency and severity of non-violent and violent abusive behaviors).

Feminist theorists who view violence in relationships as a product of coercive control, what Johnson (2008) referred to as intimate terrorism, can be encapsulated in an *interactive* model of IPV. In affective neuroscience, the interactive model states that emotional states result

from an interaction between an individual's emotional traits and trait-relevant cues. For example, if someone experiences a fear-provoking stimulus (e.g., a robbery), they may be more likely to report experiencing heightened negative affect if they have a high versus low level of neuroticism. In adapting the model to IPV, coercive control is considered the underlying disposition of an abusive relationship; any violent acts that occur can be seen as interactions between coercive control and control-relevant cues (see Figure 2). A control-relevant cue is an event that leads the perpetrator to believe that their control is being undermined by their partner. Therefore, under this model, violence will ensue when a perpetually coercively controlled victim exhibits a behavior that the perpetrator sees as threatening their control, such as buying something without their permission. Johnson (2008) calls this "contingent violence" (p. 14), as it occurs when a perpetrator perceives noncompliance with their demands and initiates violence as a result. It is important here to avoid victim blaming; although the violence may be in response to the perpetrator's perception of the victim's action, that does not mean in any way that the victim's action warranted violence or would have received violence in any non-abusive relationship. Although this interactive model may explain a subset of violence in abusive relationships, it has two primary limitations. First, the model cannot explain non-calculated violence that occurs in an abusive relationship in the absence of a control-relevant cue, such as violence generated by anger or alcohol.

Figure 2

Interactive Feminist Model for IPV



Note. This model suggests that IPV manifests in relationships characterized by coercive control in response to control-relevant cues (i.e., the perpetrator perceives their control as being undermined).

Second, coercive control is an inherently dichotomous variable. Coercive control describes an abusive relationship in which the perpetrator has complete dominance over their partner and all abusive acts can be labeled as tactics intended to guarantee compliance (Johnson 2008). Therefore, a relationship either has coercive control or it does not. Any abusive relationship that does not reach this threshold of control is not explained by this model.

The model-based analogy above allows for a novel conceptualization of IPV: an *endogenous* model. In affective neuroscience, the endogenous model states that emotional traits modify one's likelihood of experiencing specific emotional states at any given time, in the presence or absence of trait-relevant cues. For example, someone with a high level of neuroticism will be more likely to experience negative affect at any given time than someone with a low level of neuroticism. Adapting this now to IPV, the vital underlying disposition of the abusive relationship is the unequal distribution of power. An unequal distribution of power, or, power imbalance, within an intimate relationship refers to the asymmetry of influence between two partners, encompassing a person's ability to override their partner's decisions and actions (Emerson 1981; Pulerwitz, Gortmaker, and DeJong 2000).

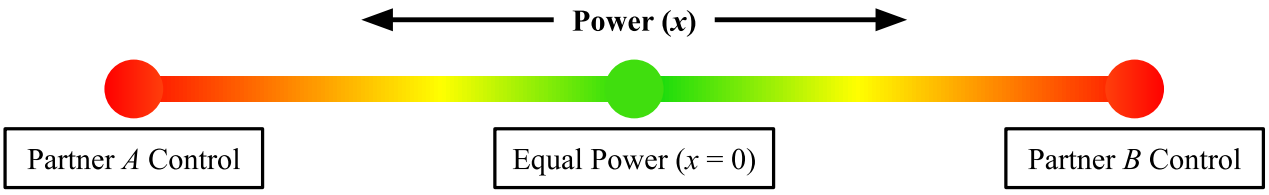
This interpersonal power imbalance can be seen as altering the fundamental nature of the relationship such that violence is more likely to occur at any time, even in the absence of control-relevant cues. The theoretical benefit to understanding IPV through this lens is that it can explain violent behaviors that manifest apart from coercive control while still considering the context of the relationship. Furthermore, coercive control is typically viewed as dichotomous, such that a relationship is either characterized by coercive control or it is not (Pence and Paymar 1993). In contrast, the distribution of power within a relationship can be considered a continuous variable, allowing this model to apply to abusive relationships that coercive control theorists tend to exclude. Power (x) can be quantized on a continuum such that the left extreme represents Partner A holding complete power over Partner B ($x = -1$), the right extreme represents the reverse ($x = 1$), and the midpoint represents an equal distribution of power between partners ($x = 0$) (see Figure 3). Note that a relationship in which neither partner has any power over the other would fall at $x = 0$ as would a relationship in which each partner has a moderate or high, yet equivalent, degree of power over the other (see Table 1 for example power dynamics). In this model, complete power held by each partner at their respective end of the continuum can be conceptualized as coercive control. Thus, this model encompasses abusive relationships described by feminist theorists (i.e., characterized by a pattern of coercive control) and abusive relationships examined by family violence theorists (i.e., violence that does not necessitate a controlling context).

The endogenous model contends that the more unequal an interpersonal power distribution ($>|x|$), the more likely abusive behaviors are to be perpetrated at any moment in the presence or absence of control-relevant cues. While the endogenous model considers power the primary dispositional variable in abusive relationships, coercive control can still be examined

through this lens as the model does not preclude control-relevant interactive violence; it simply expands upon our conceptualization of IPV to account for abuse that occurs in a variety of situations in which it does not subserve control. Although this model has yet to be empirically tested, recent evidence supports interpersonal power imbalances as latent predictors of IPV (Farrell, Simpson, and Rothman 2015; Martín-Lanas et al. 2021). It is also important to note that this model is an oversimplification of IPV as abusive relationships are heterogeneous and discrete acts of abuse likely depend on a variety of dispositional and situational factors. Rather than claiming to explain every abusive relationship and instance of abuse within relationships, the power dynamic model seeks to provide a better understanding of IPV that can later be supplemented and adapted as other factors integral to abuse are uncovered.

Figure 3

Interpersonal Power Distribution Model for IPV



Note. This model suggests that a greater interpersonal power imbalance in either direction (>x) increases the likelihood of abusive behaviors at any point in time.

Table 1

Integrative Power Model Examples

Example Relationship Power Dynamic	Power Score (x)	Likelihood of Abuse
Partner B has complete power over Partner A in their relationship	-1	Highly likely
Neither partner (A nor B) holds any power over the other	0	Unlikely
Partner A holds power over Partner B, but Partner B holds the same degree of power over Partner A	0	Unlikely
Partner A has moderate power over Partner B relative to Partner B's power over Partner A	.5	Moderately likely
Partner A has complete power over Partner B in their relationship	1	Highly likely

Note. This is a non-exhaustive list of relationship power dynamics, where they would fall on the power model's continuum, and their model-predicted likelihood or degree of abuse.

A Note on Interpersonal Power Dynamics

Power dynamics play a significant role in intimate relationships. The interpersonal power distribution that exists in all intimate relationships can be understood through social exchange theory (Emerson 1981). Social exchange in dyadic relationships is a process in which Partner A provides a resource (e.g., economic or sexual) to Partner B in exchange for a distinct resource from Partner B. Within this framework, power (x) is defined as the ability of Partner A to receive the resources they desire at the expense of Partner B. In Emerson's view, power lies in the interaction between two partners, rather than in an individual actor. If partners have equal power in a relationship ($x = 0$), they will exchange resources equitably and both receive favorable outcomes. However, an interpersonal power distribution that is not equal ($x \neq 0$) implies that one partner will more likely achieve favorable outcomes while the other partner is left with unfavorable outcomes. In this theory, power varies systematically with dependence. Dependence describes the degree to which one partner is forced to rely on the other partner in the course of

social exchange. Partner A is dependent upon Partner B to the extent that (1) Partner A values Partner B's resources relative to the resources they will be relinquishing and (2) Partner A perceives less availability of the relevant resources from other sources (i.e., partners).

Dependence is inversely proportional to power such that the partner who is more dependent on the relationship has less power. In sum, the more desired resources Partner A possesses relative to Partner B, the more Partner B values Partner A's resources relative to their own, and the fewer resources Partner B perceives from sources other than Partner A, the more power Partner A holds in the relationship (Emerson 1981; Pulerwitz et al. 2000). For example, if Partner A has a career that provides the necessary economic resources to take care of Partner B and their children, and Partner B does not believe they can find the necessary economic or emotional resources elsewhere, this would give Partner A more power in the relationship. Through this lens, power can be operationalized in several ways, such as the ability of one partner to make decisions in the relationship relative to the other and the degree to which a partner feels trapped in their relationship due to a lack of resources (Emerson 1981; Martín-Lanas et al. 2021; Neilands et al. 2019; Pulerwitz et al. 2000)

This theory suggests two crucial considerations for interpersonal power distributions: a power distribution is intrinsic to any interpersonal relationship and power is expressed through a dynamic process (Emerson 1981). The former suggests that power can be measured in any intimate relationship, meaning a power-based model of IPV has the potential to explain all abusive relationships. The latter implies that any valid model for an interpersonal power distribution must include a temporal factor or assess the average power distribution across a set amount of time in a relationship. The inclusion of a temporal factor poses measurement difficulties, as a retrospective report of power distribution at different time points in a

relationship may be biased toward the couple's contemporaneous power distribution and a prospective methodology (e.g., ecological momentary assessment) may be subject to biases based on the participant's contemporaneous state of mind (i.e., how they feel toward their partner at each point of measurement). On the other hand, assessing an average power distribution over a set amount of time may create an inaccurate representation of the power dynamics. For example, if the power distribution is averaged over 12 months, and Partner A had power over Partner B for 6 months but Partner B had power over Partner A for the other 6 months, the power distribution would deceptively appear equal despite the presence of imbalanced power.

Any research assessing interpersonal power imbalances must take these propositions into account when selecting methods and timeframes and interpreting results, as an interpersonal power distribution of 0 over a year implies equal power regardless of whether the power distribution was consistent or fluctuated between the partners. In terms of conceptualizing IPV, since a power imbalance may temporally oscillate between two partners, a power model elucidates the existence of abusive relationships in which both partners are each other's perpetrators and victims, albeit not concurrently.

The Manifestations and Consequences of Exposure to Intimate Partner Violence

Abusive intimate relationships yield countless adverse consequences for the victims of abuse as well as a range of other individuals. Perhaps the most vulnerable of these individuals exterior to the abusive relationship are children. A wealth of research over the past half-century has been conducted on children's exposure to intimate partner violence (EIPV) detailing its associated adverse developmental outcomes (Holmes et al. 2022). As earlier stated, EIPV refers to when a child lives in an environment in which at least one of their caregivers is involved in an abusive relationship with their partner (Wathen and MacMillan 2013). For parsimony's sake, a

child's caregiver's partner will be encompassed in the word *caregiver* throughout this paper regardless of whether the child sees the partner as their caregiver (such as a parent's boyfriend). While researchers have historically narrowed their focus to interparental violence (e.g., Straus 1979), EIPV encompasses any intimate relationship a child grows up around involving their caregiver(s) (e.g., parent-parent's partner or foster parent-foster parent) (Wathen and MacMillan 2013). Additionally, EIPV can occur at any age in childhood for any length of time, including prenatal exposure (Holden 2003). When studies include EIPV as a variable, its conceptualization is often an afterthought; this is reflected in the methodologies used to assess it. For example, a recent meta-analysis of 29 studies that examined adolescent involvement in IPV and IPV exposure found that 37% of the studies, irrespective of measurement technique, dichotomized exposure as "exposed" or "not exposed" (Evans et al. 2021). Dichotomizing a variable as complex as childhood exposure to IPV is grossly circumscribed, as it neglects the multifarious manifestations of IPV that differentiate each child's experience.

Holden's (2003) taxonomy for exposure to domestic violence provides a useful framework for delineating how a child may be influenced by EIPV. Holden's taxonomy can be divided into three overarching categories: direct involvement, direct exposure, and indirect exposure. Direct involvement comprises four subtypes of exposure. First, a child can be exposed to IPV *prenatally*. Holden (2003) defines prenatal exposure as the effects of IPV on a fetus whose mother is the victim. These effects may manifest through prenatal maternal stress (Mbiydzenyuy, Hemmings, and Qulu 2022; Serpeloni et al. 2019). While Holden makes no mention of the effects of prenatal IPV on a fetus whose mother is the perpetrator, such effects may still exist through epigenetic mechanisms that have yet to be empirically examined. The second facet of direct involvement is *intervening*, referring to when a child uses their words or

actions to stop an abusive act (e.g., a child yells at their mother to stop degrading their father). Related to intervening, a child may be *victimized* during an abusive act (i.e., a child is intentionally or accidentally subject to emotional or physical harm during an instance of IPV). The final facet of direct involvement is *participation*, describing when a child joins the perpetrator in abusing the victim, either voluntarily or against their will. For example, a caregiver may use their child to spy on their partner, or a child may join the caregiver in degrading their partner.

Direct exposure includes two facets in which a child is not directly implicated in the abuse, but they observe it (Holden 2003). Specifically, a child may be an *eyewitness* to an abusive act or they may *overhear* the abusive act without physically seeing it. Holden includes four facets of indirect exposure to IPV, describing ways in which a child may be impacted by abuse without explicitly observing the abusive acts. First, a child may *observe the initial effects* of the abuse, encompassing the immediate outcomes of the abusive act, such as a caregiver in pain or a fist-shaped hole in the wall. Second, a child may *experience the aftermath* of the abuse, representing changes to the child's life resulting from the abusive act, such as a parent spending a night away from the family or a caregiver's enhanced fear and vigilance. Additionally, a child may *hear about* the abusive act, meaning they are either directly told after the fact or overhear someone discussing the abuse. Finally, Holden states a child can be *ostensibly unaware* of the abuse, meaning the person reporting the child's exposure (e.g., caregiver) is under the impression that they are not aware of the abuse, even if they may be.

While Holden's (2003) model is fairly comprehensive and has influenced measurement devices in the years since its publication (e.g., Edleson, Shin, and Johnson Armendariz 2008), it warrants an addendum based on the integrative model for IPV discussed previously. As

described earlier, the integrative model for IPV relies on the concept that a power imbalance is the central feature of an abusive relationship. Therefore, as an additional facet of indirect exposure to IPV, a child may *experience a power imbalance* between their caregiver and the caregiver's partner. Rather than solely observing discrete abusive acts or experiencing the acute or chronic consequences of the abuse, a child may be affected by the imbalanced nature of the caregiver-partner relationship from which the abuse develops. While individual abusive acts may occur without a child's knowledge, and caregivers may hide any potentially observable consequences (e.g., masking depression or pain), it may be more difficult, if not impossible, to hide a relationship's fundamental disposition. For example, a child may notice that one of their caregivers is consistently the household's decision-maker, while the other caregiver consistently deferred decisions to their partner.

Exposure to Intimate Partner Violence as a Form of Child Maltreatment

In recent years, EIPV has been defined and examined as a form of child maltreatment alongside more well-known facets of maltreatment such as abuse and neglect (Artz et al. 2014; Gardner, Thomas, and Erskine 2019; Gilbert et al. 2009; Kimber et al. 2018; Sharratt et al. 2023; Wathen and MacMillan 2013). Broadly speaking, child maltreatment encompasses any action or failure to act by a caregiver that causes or threatens to cause actual or potential harm to a child (Arias et al. 2008:11). EIPV falls under this definition as it is perpetrated by a caregiver or caregiver's partner – who may also fall under the definition of caregiver if they have any custodial responsibilities – and has shown significant associations with a range of negative developmental outcomes such as psychopathological disorders (Artz et al. 2014; Gardner et al. 2019; Holmes et al. 2022). Furthermore, the DSM-5 includes a diagnostic code for children exposed to IPV, stressing the importance of acknowledging this experience in clinical practice

(Bernet et al. 2016). Although there is a dearth of longitudinal evidence regarding the link between EIPV and adverse outcomes (Holmes et al. 2022), and any experimental manipulations would necessarily be unethical, the robust associations warrant considering EIPV as a potential risk factor or adverse childhood experience given the individual and societal burdens of the associated outcomes (Gardner et al. 2019).

While EIPV research often focuses on the effects of exposure to discrete acts of violence (e.g., witnessing physical violence or emotional abuse) (Holmes et al. 2022), evidence supports other mechanisms through which exposure to IPV can impact children. For example, recent work has provided qualitative evidence for children exposed to IPV being affected by the coercive control that may characterize an abusive relationship (i.e., a perpetrator's coercive control of their partner may extend to their child, inflicting similar harms) (Callaghan et al. 2018; Katz 2016; Stark and Hester 2019). This research, while nascent, supports the notion that dispositional attributes of an abusive relationship such as coercive control can affect children who develop in that environment. Extending this logic, an interpersonal power imbalance underlying an abusive relationship may create an environment that alters children's developmental trajectories without requiring exposure to discrete abusive behaviors.

Theory Underlying the Intergenerational Cycle of Violence

In addition to the adverse consequences for children's well-being with which EIPV is associated, EIPV has been repeatedly examined as a potential risk factor for adolescent and adult involvement in IPV through victimization or perpetration (Cochran et al. 2017; Evans et al. 2021; Holmes et al. 2022). This pathway, referred to as the intergenerational cycle or transmission of violence, is often understood through the lens of social learning theory (SLT; Akers 1973). SLT posits that an individual will adopt a behavior when four elements are satisfied

(Cochran et al. 2017). First, the individual is exposed to others they often hold in positive regard (e.g., caregivers), who engage in the behavior and define the behavior positively (differential association). Defining a behavior as favorable means that an individual believes that the behavior is justified or beneficial in general or in specific situations. Following this exposure, the individual develops definitions of the behavior that are more favorable than unfavorable (definitions). Third, the individuals imitate the behavior in their own life (imitation). Finally, the behavior is reinforced and the individual believes it will continue to be reinforced in the future (differential reinforcement). A behavior is differentially reinforced when it results in the actor either receiving a desirable consequence (positive reinforcement) or avoiding an undesirable consequence (negative reinforcement).

Applying this framework to the intergenerational cycle of violence, a child grows up in a home with a caregiver whose intimate relationship is characterized by IPV and whom the child perceives to endorse this relationship (differential association). As the child gets older, they begin to define IPV as more favorable than not (definitions). The child then imitates the IPV in their own life in adolescence or adulthood (imitation); the IPV is reinforced in some way and the now-adolescent or adult believes it will be continually reinforced (differential reinforcement). Therefore, the now-adult continues their relationship(s) characterized by IPV. Additionally, if the exposed child goes on to have children in their own abusive relationship, their children will be exposed to IPV and the cycle will continue. SLT can be used to describe both victimization and perpetration of IPV, meaning a child can theoretically imitate and adopt the IPV-related behavior of either a victim or a perpetrator. SLT has been extensively tested and corroborated in many different models of deviant behavior including physical IPV perpetration (Sellers, Cochran, and Branch 2005) and victimization (Cochran et al. 2011, 2017). It is important to note that SLT is a

learning theory, meaning it does not stipulate that the caregivers to whom the child is exposed must be genetically related to the child.

While SLT provides a strong basis for the interpersonal transmission of definitions and behaviors, learning and modeling of discrete violent behaviors cannot fully explain the intergenerational cycle of violence. The first limitation of this SLT application is that it requires a child to be exposed to the relevant behavior frequently enough that they develop positive definitions of it. This precludes children who grow up in abusive homes in which the abusive acts are sparse or primarily occur when the caregivers are alone. Secondly, this explanation has traditionally been limited to physical harm (Cochran et al. 2011, 2017), while perpetrators often engage in a diverse range of abusive behaviors outside of violence (Ali, Dhingra, and McGarry 2016; Pence and Paymar 1993). Furthermore, if SLT is extended to include non-violent abusive behaviors, it would still imply that the child has been exposed to all of the abusive behaviors in which they are involved. Finally, violent behaviors rarely manifest initially, and are not universal, in abusive relationships (Fisher 2019; Giordano et al. 2010), suggesting that learned violent behaviors against one's partner are not sufficient to explain learned intimate partner abuse. These limitations may be mitigated by situating SLT into the interpersonal power distribution framework discussed earlier.

Rather than learning and modeling discrete violent behaviors, a child may learn and model the dispositional power imbalance that underlies their caregiver's abusive relationship. In this framework, a child learns the power dynamic they observe between their caregivers. Once the child gets older and forms their own intimate relationship, they imitate the inter-caregiver power differential with which they grew up with their partner; discrete violent and non-violent abusive behaviors manifest as a result. This adapted implementation of SLT abates the

limitations of describing discrete abusive behaviors. Since a child is consistently exposed to the dispositional nature of their caregiver's relationship, they have ample opportunity to learn and recreate it. Furthermore, abusive behaviors manifesting as the result of a learned power imbalance would explain the non-universality and lack of early appearance of physical violence in abusive relationships. Although this modification of SLT in the context of the intergenerational cycle of violence has not been tested, it has a sound theoretical basis that warrants empirical investigation.

Rigorous Measurement Must Be Grounded in Valid Definitions

Despite tremendous advances in violence research over the past 50 years, we have made disturbingly scarce progress in understanding the intergenerational cycle of violence; this is partially attributable to considerable methodological limitations. A recent systematic review of the interaction between childhood exposure to IPV and adulthood IPV perpetration by Kimber and colleagues found that, out of 19 quantitative studies published between 1984 and 2015, 16 found a significant, positive association while three had null results (2018). However, the review also noted stark methodological disparities between and insufficiencies within the analyzed studies. Due to these measurement weaknesses, the authors were unable to synthesize the studies to provide generalized implications for policy and practice. Instead, they were constrained to include suggestions for improving the rigor of future studies so that more robust conclusions may be drawn (Kimber et al. 2018). Another systematic review examining the link between EIPV and victimization and perpetration of adolescent dating violence examined 29 studies published between 1998 and 2020 and similarly concluded that methodological inconsistencies precluded the derivation of any practical, non-research-based implications (Evans et al. 2021). Despite these conclusions, researchers continue to publish studies with outdated definitions and

operationalizations that teach us little more than what not to do (e.g., Cheung and Huang 2022; Plouffe, Wilson, and Saklofske 2022; Williams and Adams Rueda 2022). It is crucial to keep in mind that these methodological flaws exist in operationalizations of both variables of interest – involvement in IPV (Wincentak et al. 2017) and exposure to IPV (Bogat, Levendosky, and Cochran 2023) – when they are examined separately as well as together (Holmes et al. 2022).

Common Devices for Measuring Intimate Partner Violence

IPV researchers use varying measurement devices, which is a problem of its own, but one of the most widely used devices is the Revised Conflict Tactics Scales (CTS2; Straus et al. 1996). The CTS2 was created by family violence theorists Straus and colleagues in 1996 as a revision of the Conflict Tactics Scales (CTS or CTS1) developed by Straus in 1979. The device is considered a behavioral checklist; it measures the frequency at which an individual perpetrates various abusive behaviors against their partner and the frequency at which their partner perpetrates the behaviors against them. The CTS and CTS2 represent the average model of IPV discussed earlier, meaning they do not take into account the dispositional features of abusive relationships, just the frequency of discrete abusive acts committed within them. As stated by Straus and colleagues (1996), the primary goals of the CTS2 relative to the CTS were to increase content validity, reliability, and contrast between minor and severe abusive behaviors within each scale, annex scales to measure physical injury and sexual coercion, and reconfigure the device to streamline survey administration. When Straus et al. developed the CTS2, the CTS had been used to measure intrafamily conflict in hundreds of studies with over 70,000 participants (Straus et al. 1996). Today, 28 years after the development of the CTS2 and 45 years after the development of the CTS, they remain the most widely used instruments to measure intimate partner and family violence (Archer 2000; Evans et al. 2021, 2022; Holmes et al. 2022).

Furthermore, the CTS and CTS2 have heavily influenced the creation of many other devices for measuring IPV, such as the Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe et al. 2001) which is an extremely common tool for measuring IPV in adolescent populations.

Behavioral checklists such as the CTS2 often find that men and women commit acts of violence at a similar frequency (Dobash et al. 1992). Feminist researchers claim these devices, and their findings by extension, are invalid regarding IPV because they believe that abusive relationships are defined by control rather than violence (Dobash et al. 1992). Straus and colleagues repudiate this charge, stating that the purpose of the CTS and CTS2 is not to elucidate the context in which violence takes place, but simply to assess the existence of violence in relationships (Straus et al. 1996). Straus and colleagues further state that the CTS or CTS2 can be used in conjunction with other devices designed to capture other constructs hypothesized to play a role in the presence or absence of violence in relationships (Straus et al. 1996). Despite this, the fact remains that countless studies use the CTS or CTS2 alone to identify abusive relationships (Latzman et al. 2017; Savopoulos et al. 2022). Whether measuring discrete acts of violence is useful for determining abusive relationships depends on one's conceptualization of abuse. If discrete acts of violence invariably constitute an abusive relationship irrespective of the context in which they occur, the CTS or CST2 alone may be sufficient to pinpoint abuse. However, if a latent relationship factor such as control is the primary criterion for abuse, the CTS or CTS2 would prove inadequate to measure IPV. Using the power model described previously, measuring discrete acts of violence is necessary but not sufficient to capture IPV, as the distribution of power must also be examined.

Rather than using the aforementioned devices, feminist theorists tend to opt for more 'objective' forms of measurement, including court, police, domestic violence shelter, and emergency room records, and data from the National Crime Victimization Survey (Dobash et al. 1992). These data sources may be useful for exploring the most imminently life-threatening cases of IPV, but they fail to capture the majority of abusive relationships necessary to piece together the phenomenon in its entirety. The feminist perspective on IPV was primarily crafted through a grounded theory approach in which researchers interviewed women in domestic violence shelters and similar purposive samples of severe abuse victims (e.g., Dobash and Dobash 1979). Researchers then used the data from these community samples to extrapolate to all abusive relationships (e.g., Dobash and Dobash 1979). While this measurement technique is valid if one is attempting to create a theory specifically tailored to severe abuse, it may be substantially less valid if one attempts to apply the data to a more diverse population than the population in which it was collected.

To measure exposure to IPV, researchers often choose one of three options. The first option is to administer a behavioral checklist – commonly a standardized or original adaptation to the CTS2 – to children to obtain their perceptions of their caregivers' behavior (Evans et al. 2021, 2022; Holmes et al. 2022; Toplu-Demirtaş and Hatipoğlu-Sümer 2023). The standardized adaptation of the CTS2 is the child assessment version of the CTS2 (CTS2-CA; Straus 1999); other adaptations often modify the physical violence subscale from the CTS2 to assess exposure rather than involvement (Evans et al. 2021, 2022; Holmes et al. 2022). Another less-used yet more recent behavioral checklist designed to measure EIPV is the Child Exposure to Domestic Violence Scale (CEDV; Edleson et al. 2008). The second familiar technique is to administer a standardized or original adaptation of the CTS2 to adults to assess their prior childhood exposure

to IPV, commonly referred to as an adult-recall device (Evans et al. 2021, 2022; Holmes et al. 2022; Straus 1999). The final common method is to administer a behavioral checklist – often the CTS2 – to parents or caregivers of children and extrapolate their children's exposure to IPV based on their involvement in IPV (Evans et al. 2021, 2022; Holmes et al. 2022).

Methodological Limitations of Current Measurement Techniques

When measuring involvement in IPV, common devices like the CTS2 fail in several fundamental ways, the first of which is relying on a limited definition of violence when determining what constructs will be evaluated. Explicitly, instruments used to assess IPV often overly rely on physical violence (Evans et al. 2021; Holmes et al. 2022; Jewkes 2002; Straus 1979; Straus et al. 1996; Wincentak et al. 2017; Wolfe et al. 2001). Research has repeatedly shown that physical violence is not the most critical aspect of IPV (Bledsoe and Sar 2011; Coker et al. 2000; Fisher 2019; Giordano et al. 2010; Pence and Paymar 1993; Strauchler et al. 2004). Even neglecting the dispositional context, non-violent abuse is prevalent and often impacts victims more severely than physical abuse (Arias and Pape 1999; Outlaw 2009). The lack of measurement of non-violent abusive behaviors compels researchers to limit their focus to violent abuse (WHO 2021). For example, although the CTS2 contains a subscale for psychological aggression, many researchers only use the physical assault scale in their methodologies (Bender et al. 2022; Evans et al. 2021; Holmes et al. 2022). In addition to an overreliance on physical abuse, using a discrete definition of abuse leads to most if not all questions being behavior- or act-based (e.g., Straus 1979; Straus et al. 1996; Wolfe et al. 2001). As mentioned previously, when using a dispositional framework (e.g., power or coercive control), act-based questions are not sufficient to identify IPV (Dobash et al. 1992; Narayan et al. 2017). A valid instrument should therefore account for diverse abusive behaviors and the dispositional context in which

they occur. In this paper's model, the relevant interpersonal disposition is the power differential between partners. An ideal instrument using this model would measure discrete abusive behaviors and a relationship's power differential, culminating in a dyadic score that may more effectively represent individuals involved in IPV than simple behavioral checklists.

Another way in which common instruments for measuring involvement in IPV fail is by unnecessarily narrowing the population of interest based on outdated definitions of relationships in which IPV may exist. This is primarily seen by the consistent use of hetero- and cis-normative language throughout survey instructions and items. For instance, the CTS2, despite using less exclusionary language than its predecessor the CTS which used "husband" and "wife" (Straus 1979:87), uses the pronouns "his" and "her" in its survey items rather than "their," the more inclusive alternative (Straus et al. 1996:311). Additionally, one of the seven sexual coercion items asks about forced sex without a condom and is therefore specific to heterosexual relationships (Straus et al. 1996:311). As another example, the CADRI, which measures IPV in adolescent populations, has two versions: a female version and a male version (Wolfe et al. 2001). The female version of the CADRI asks about the participant's experiences with her "boyfriend," while the male version asks about the participant's experiences with his "girlfriend" (Wolfe et al. 2001:291). Since these devices were not designed to assess non-hetero- nor cis-normative populations, these populations are either neglected or given adapted instruments with questionable validity.

When measuring childhood exposure to IPV, there are multiple pervasive methodological insufficiencies in addition to the above-discussed weaknesses in IPV involvement measurement that inevitably leech into devices assessing exposure (e.g., heteronormative questions evolve into ignorance of children who grow up in non-heteronormative households). These methodological

weaknesses largely stem from a tendency to create instruments by adapting involvement scales without considering the relevant differences between what occurs within an abusive relationship and what a child may perceive (e.g., Straus 1999). The first of these insufficiencies is a dramatic ignorance of EIPV mechanisms apart from directly witnessing abuse (Holmes et al. 2022). As mentioned, researchers often administer adaptations of the CTS2 (e.g., CTS2-CA) to children or adults to measure their current or prior caregivers' actions or administer the CTS2 to caregivers and equate their involvement in abuse with their children's exposure to the abuse (Holmes et al. 2022). The former only captures direct witnessing of abuse and does not attempt to differentiate between facets of exposure (Holden 2003). The latter assumes that children are exposed to all abuse in which their caregivers are involved; this is particularly dangerous since caregivers may engage in abuse when their children are not present, meaning their experiences likely do not translate to their children's perceptions of their experiences (Holden 2003; Holmes et al. 2022; Margolin 2005).

While the CEDV, unlike other behavioral checklists, accounts for several facets of exposure to violence (e.g., overhearing or seeing the aftermath), it still relies primarily on discrete behaviors rather than considering the dispositional nature of the caregivers' relationship. While it is necessary to understand the extent to which children are exposed to abuse between their caregivers, measuring and assessing the child's perception of the dispositional power imbalance between their caregivers may aid in identifying children exposed to IPV who may not be privy to the abuse itself. Furthermore, measuring the perceived dispositional power imbalance is necessary to elucidate the cycle of violence through the power model that contends that abusive behaviors are indirectly transferred intergenerationally through the direct transmission of interpersonal power differentials.

The Danger of Discordant Devices

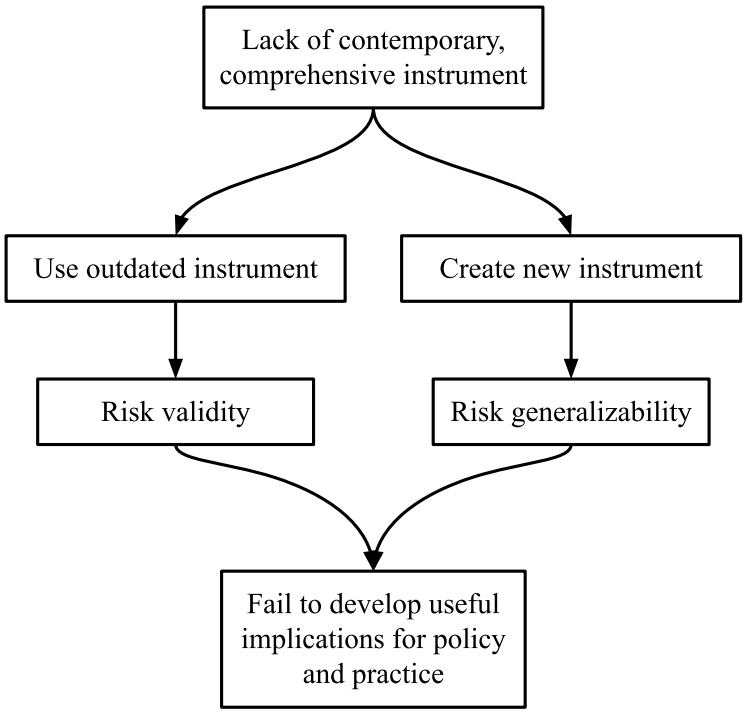
The creation and implementation of effective intervention and prevention strategies for any phenomenon requires a nuanced understanding of the phenomenon across the population in which it manifests (i.e., the *evidence* underlying evidence-based practices). Obtaining sufficient evidence to develop such an understanding is not a feat for a lone researcher; it requires many scholars with diverse experiences to conduct studies in various segments of the population so that the data may be aggregated and analyzed collectively. Here, a crucial distinction must be made between scholars having distinct backgrounds that help generate a multifaceted, integrative perspective on a phenomenon and scholars having antagonistic conceptualizations of a phenomenon; the latter currently characterizes the field of IPV research. These incongruent perspectives (i.e., feminist and family violence theories) culminate in discordant measurement devices across studies (e.g., whether an instrument considers coercive control).

Not only are devices that purport to measure IPV and EIPV disparate from current knowledge (e.g., the breadth of facets of abuse and exposure) but they are misaligned from each other. This lack of a contemporary, comprehensive instrument for measuring exposure to and involvement in IPV creates the perfect storm for failing to identify concrete implications for ameliorating the intergenerational cycle of violence by forcing researchers to forgo either validity or reliability and generalizability in designing their studies. Specifically, if a researcher wants to explore the intergenerational cycle of violence, they have two primary options. They can either use an outdated instrument (e.g., CTS2), or they can create their own instrument. Using the outdated instrument means that the researcher would be risking validity, as the conceptualization on which the instrument was built is likely inconsistent with current thinking. On the other hand, creating a new instrument means risking reliability and generalizability, as

other researchers will likely maintain the use of instruments with which they are familiar. This is especially true given that researchers using their own measurement instruments often create devices that are study-specific (e.g., Karlsson et al. 2018; Martín-Lanas et al. 2021; Ruel et al. 2020; Temple et al. 2013), making it more difficult for other researchers to use them. Importantly, regardless of which path a researcher decides to take, the result is the same: failing to develop useful implications for policy and practice (see Figure 4).

Figure 4

A Path Model of Measurement Limitations



Note. This model describes the measurement options researchers have in the absence of a valid, widely applicable instrument.

Current Research

Despite extensive research over the past 50 years on exposure to and involvement in intimate partner violence (Holmes et al. 2022), we know little about the link between these

phenomena: the intergenerational cycle of violence. Prior attempts to understand, and thereby develop implications to prevent and ameliorate the harm caused by, this cycle have been stagnated by a cacophony of measurement devices that do not align with contemporary conceptualizations of intimate partner violence and exposure to family violence (Evans et al. 2021; Kimber et al. 2018). Specifically, current measurement devices narrowly focus on physically violent abusive behaviors, include heterocentric items and language, ignore indicators of abuse that are not discrete behaviors (e.g., relationship dispositions), and do not discriminate between facets of childhood exposure to violence. The absence of valid and reliable measurement of IPV and EIPV is partially attributable to discrepancies among definitions of IPV, making it difficult to synthesize findings across studies and populations. Therefore, the current study develops and tests an instrument designed to measure exposure to and involvement in IPV, grounded in a novel power dynamic-based model of IPV that integrates current perspectives and addresses the aforementioned insufficiencies of current devices. To determine the efficacy of this instrument in capturing individuals affected by exposure to and involvement in IPV and, by extension, the efficacy of the integrative model, participants were randomly assigned either the novel instrument or the current most widely used device, the Revised Conflict Tactics Scales (Straus 1999; Straus et al. 1996) via a self-report survey. The research questions and hypotheses are as follows:

RQ1: Will a novel integrative power-model-based instrument for measuring IPV and EIPV find higher, lower, or similar rates of abuse as the current standard instrumentation?

H1: The novel instrument's behavioral items will find higher rates of IPV and EIPV than the current instrument due to more inclusive operationalizations of the concepts.

RQ2: Will the novel device find a positive association between a relationship's power imbalance and its degree of abuse?

H2: The novel instrument will find a positive correlation between a relationship's power imbalance and its degree of abuse.

RQ3: Within each measurement device, will involvement in abuse be positively correlated with childhood exposure to abuse?

H3: Within both instruments, involvement in abuse and childhood exposure to abuse will be positively correlated.

Chapter 3: Data and Methodology

Population of Interest

The population examined in this study was United States residents of at least 18 years of age who were contemporaneously or previously in a romantic relationship. Participants who did not meet these eligibility criteria were excluded from the study. The minimum age was set to 18 to encompass a wide range of relationships and increase the potential sample size while removing the need to obtain parental consent. Furthermore, individuals under the age of 18 are significantly more likely to live with their caregivers, meaning they may be exposed to and involved in IPV simultaneously. This introduces a potential source of bias and makes it difficult to analyze the association between exposure to and involvement in IPV. Although participants near the minimum age (e.g., 18-22) may reference relationships that occurred while they were living with their caregivers, it is crucial to include this segment of the population since they have recent exposure to their caregiver's romantic relationship, which may lessen their recall bias and permit the exploration of IPV in early post-exposure adult relationships. Similarly, the absence of an age cap may increase the presence of recall bias by including older individuals, but it allows for the examination of age-graded manifestations of involvement in IPV as it relates to IPV exposure. Although age is not explored as a variable in this study, it is important to include subjects with a variety of ages to ensure the results of this pilot study most closely resemble the future uses of this device. Furthermore, this study opted not to discriminate against respondents based on the time elapsed since an individual's relationship may have ended rather than arbitrarily assigning a cutoff for the referent period.

Since involvement in and childhood exposure to IPV can both comprise stressful, emotionally salient events, it is important to consider the effects such events may have on recall. Specifically, stressful situations can induce hypervigilance which disrupts one's ability to concentrate on anything irrelevant to immediate survival and increase glucocorticoid (stress hormone) release to the hippocampus, negatively affecting one's episodic memory (i.e., long-term memory of personal experiences) of the associated events (Meaney 2001). Conversely, glucocorticoids released during stressful, emotionally salient situations can also travel to the amygdala to positively impact one's learning and episodic memory of the relevant events (Meaney 2001). As these attentional and neurobiological mechanisms that antithetically impact retrospective recall can occur in response to the same stimuli, it is difficult to determine the degree to which an individual will remember stressful events. As such, results based on recall of stressful events must be interpreted with caution. The randomization to each survey device may, however, sufficiently offset these biases as they should be equally distributed across each survey device.

Sampling Method

Recruitment and retention of subjects for IPV research are well-known, yet under-researched, issues due to the relative rarity of IPV and the vulnerability of individuals involved (Dutton et al. 2003). As such, one of Dutton and colleagues' suggestions (2003) is to collaborate with community organizations to recruit participants more effectively. A similar strategy used more broadly to recruit participants in hard-to-reach populations is facility-based sampling in which participants are recruited from facilities that the target population is known to inhabit (Shaghaghi, Bhopal, and Sheikh 2011). Both of these techniques are akin to targeted or purposive sampling in which subgroups of the population are identified and individuals who are

known or believed to be members of relevant subgroups are intentionally recruited (Shaghaghi et al. 2011). Although these suggestions primarily seek to improve access to individuals involved in a high degree of abuse, they can be paired with a broader sample of the general population to increase the probability of finding subjects involved in and exposed to varying degrees of abuse.

In recognition of the difficulty inherent to recruitment in IPV research, this study used a two-pronged non-random sampling design. The first prong consisted of a general snowball sample. For this sampling technique, a link to the survey was shared on multiple social media platforms (e.g., X (formerly Twitter), Instagram, and Facebook) as well as with the researchers' friends, family, and acquaintances. Advertisements for the survey were also placed around the University of Maryland College Park's campus. Potential participants were asked if they would share the link with their social network. The purpose of this snowball sample was to capture as broad a cross-section of the population of interest as possible to maximize the chance of obtaining participants with a wide range of relationships (e.g., non-heterosexual relationships and relationships with varying degrees of violence and power imbalances).

While this snowball sample was designed to comprise relationships with a spectrum of levels of abuse, it had a limited capacity to account for late-stage abusive relationships – characterized by severe, persistent abuse – which are relatively rare events in which the victim may not have access to or fear filling out a survey about IPV. To increase the likelihood of obtaining respondents involved in more severe forms of IPV, a second prong was added to the sample. Specifically, this prong included a facility-based, purposive sampling technique in which flyers were placed in centers for victims of domestic violence, and victim advocates were asked to consider distributing the survey to IPV survivors who are no longer in a dangerous situation but still have experience with IPV (Dutton et al. 2003; Shaghaghi et al. 2011). Domestic violence

centers and victim advocates were acquired by searching online for domestic violence centers nationwide to increase generalizability. Centers were contacted through their listed phone number or email address and asked to help disseminate the survey to survivors of IPV. Additionally, domestic violence centers to which the researcher had prior connections in Maryland, New Hampshire, and Pennsylvania were contacted. Two centers for domestic and family violence agreed to assist with survey distribution. For the sake of anonymity, these centers will not be named, yet it is worth noting that the centers were in Oklahoma and Tennessee, slightly increasing the sample's diversity.

Data Collection

This study used a self-report survey designed by the researcher to assess participants' (1) childhood exposure to IPV (EIPV) and (2) adult involvement in IPV through victimization and perpetration. The survey was administered online via Qualtrics XM through the University of Maryland's license and was open from January 16th, 2024 to March 2nd, 2024. The survey asked participants to retrospectively reflect on the relationship between their caregiver and their caregiver's partner in the year in which they were 13 years old and reflect on their current or most recent intimate relationship. The age 13 years old was used for three reasons; first, it gives participants a concrete period on which to focus, making results consistent across subjects and potentially making it easier to recall childhood events. Similarly, most children are transitioning through puberty at 13 years old, making this period particularly salient. Finally, 13 years old is one of the referent periods suggested by the traditional exposure device, meaning results will be easier to compare across devices. This referent period does not preclude the use of other periods in future studies. However, psychometrics should be obtained for any adaptation of the instrument, rather than assumed to be the same.

Instructions were included in the survey to account for participants whose caregivers were not in a relationship when they were 13 years old. Specifically, if a participant's caregiver did not have a partner when the participant was 13 years old but did have a partner when the participant was younger than that, participants were instructed to focus on the most recent year of the relationship they could recall. If a participant's caregiver did not have a partner when they were 13 years old or younger but did have a partner when the participant was between 14 and 18 years old (a timespan in which caregiver relationships may still heavily influence them), participants were instructed to focus on the most recent year of the relationship they could recall. If a participant's caregiver did not have an intimate relationship during their childhood within memory, participants were instructed to skip the exposure section. Participants were presented with items assessing their demographics, exposure to IPV, and involvement in IPV, discussed further in the measures section. The survey was designed to take approximately 10 minutes to complete. Participants completed an informed consent form at the beginning of the survey in which they were told their responses would be anonymous and were free to withdraw from the study at any time. Additionally, the survey included a list of IPV and mental health-related resources (see Appendix A).

The primary goal of this self-report survey was to preliminarily assess the efficacy of a novel measurement device targeting the intergenerational cycle of violence (i.e., IPV and EIPV), the Intimate Partner Abuse Scales (IPAS). The IPAS is split into two components: the IPAS-I (to measure involvement in IPV) and the IPAS-E (to measure exposure to IPV). Throughout this paper, *IPAS* will be used when referring to the IPAS-I and the IPAS-E as a single unit. Two versions of the survey were created to test the IPAS against the current most commonly used device, the Revised Conflict Tactics Scales (CTS2; Straus et al. 1996), and its adaptation, the

Revised Conflict Tactics Scales - Child Assessment (CTS2-CA; Straus 1999). The two survey versions were identical outside of their primary devices. In Survey A, the IPAS-I and IPAS-E were used to measure IPV and EIPV respectively, whereas the CTS2 and CTS2-CA were respectively used to measure these variables in Survey B. Through Qualtrics, participants were randomly assigned to receive either Survey A or Survey B; this means that when a participant clicked on the survey link they were randomly directed to one of the two survey versions. Furthermore, the order in which participants saw the IPV involvement and exposure blocks was randomized, although the blocks were always consecutive (i.e., participants either saw the involvement section directly followed by the exposure section or vice versa).

Sample Characteristics

The data were downloaded from Qualtrics with $N = 340$ responses. From here, 26 subjects were removed from the data as they were never assigned a survey device, likely because they opened the survey and then closed it before reaching the point at which they would have been randomly assigned to either the IPAS or CTS2 condition. This left the sample with $n = 314$ subjects. Of these subjects, $n = 159$ were assigned to the IPAS condition while $n = 155$ were assigned to the CTS2 condition. When the data were more closely examined, a high degree of missing data was found across a large proportion of the subjects. Missing data were pervasive in both survey device conditions across all abuse-related items. Two steps were taken to account for this missing data. First, any subjects who were missing more than 80% of their behavioral abuse responses were removed from the analysis, leaving the IPAS with $n = 101$ subjects and the CTS2 with $n = 85$ subjects. 80% was chosen to eliminate subjects who answered only a few of the items while maintaining subjects who may have completed either the exposure or involvement section but not both. Following this, missing data was addressed uniquely per analysis such that,

for each analysis, subjects were only included if they answered 100% of the relevant items. For example, a subject may have answered every exposure item but only some of the involvement items, in which case they would be counted for any tests of the exposure sections but excluded for any analyses involving the involvement section. As another example, if a subject answered every psychological abuse item but only some of the physical abuse items, they would be included for analyses of psychological abuse but excluded for analyses of physical abuse or aggregate abuse.

The systematic exclusion of participants maximized the number of subjects included in each analysis while maintaining the integrity of measurement by removing subjects with missing data for relevant items. Due to this technique, sample sizes vary across analyses. Therefore, the demographics of the sample will be discussed for subjects who filled out every exposure item or every involvement item on their assigned device (n = 178), either the IPAS (n = 97) or the CTS2 (n = 81), as this is largely representative of the subjects included in the analyses overall. See Appendix B for a full breakdown of demographics across survey conditions and Appendix C for the demographic survey items. Briefly, the majority of the sample identified as female (67.24%), heterosexual (74.43%), aged 18-26 (41.57%), Caucasian (69.49%), and either Christian (29.65%) or Jewish (29.07%). Furthermore, most of the sample came from the snowball sampling method (97.45%) compared to the purposive sampling method of known abuse victims (2.55%).

Design Validity

This study used a correlational, cross-sectional design to assess the IPAS. EIPV can be considered the predictor variable and IPV the criterion variable, although this study was more concerned with the ability of the IPAS to measure each variable than the relationship between

them. A correlational, cross-sectional design was chosen since this is a pilot study intended to garner preliminary evidence for the instrument's efficacy before resources are expended to test it using more time-consuming methodologies (e.g., longitudinal studies). Additionally, the cross-sectional nature of the study coupled with the online dissemination of the survey increased the likelihood of obtaining a large, representative sample. The random assignment of participants to each device allowed for valid instrument comparison without heightening the risk of survey fatigue or acquiescent responding that may be induced by administering both instruments to every subject. Furthermore, the random assignment of block order was implemented to minimize the likelihood of order effects, as it is possible that reflecting on either one's childhood exposure to IPV or current/recent involvement in IPV influenced how a participant perceived and responded to questions in the opposite section. This is especially warranted given the overlapping language in many of the questions.

Incentives

To incentivize potential participants to complete the survey, it was advertised that 100 participants would be randomly chosen at the end of the survey period to receive $5 gift cards. This incentive was reiterated in the informed consent form at the beginning of the survey. Participants were given the option at the end of the survey to provide their email addresses if they wished to be considered for the gift card lottery. It was specified that participants' email addresses would be separated from the rest of their data so their responses would remain anonymous.

Measures

The primary variables of interest in this study were *IPV involvement* – parsed into *IPV perpetration* and *IPV victimization* – and *IPV exposure*. The two devices used in this study were

the Intimate Partner Abuse Scales and the Revised Conflict Tactics Scales. As discussed, participants were randomly assigned to receive either the CTS2 or the IPAS-I to measure IPV perpetration and victimization and the CTS2-CA or the IPAS-E to measure IPV exposure. Importantly, although IPV involvement and IPV exposure were measured in two separate survey blocks, the survey was engineered such that participants would either receive the IPAS-I and the IPAS-E or the CTS2 and the CTS2-CA. This design allowed for a valid between-subjects comparison of the two devices while permitting within-subjects analysis of the relationship between IPV involvement and exposure as identified by each device.

The Revised Conflict Tactics Scales

The Revised Conflict Tactics Scales (CTS2) comprises 78 items which can also be viewed as 39 pairs of items. Each item pair consists of an item asking about the subject's perpetration against their partner of a specific behavior followed by an item asking about the subject's victimization by their partner of the same behavior. The majority of victimization items are phrased as "My partner did this to me," referring to the behavior in the previous item (e.g., "I insulted or swore at my partner") (Straus et al. 1996:311). The CTS2 items represent five subscales: physical assault (12 items), injury (six items), sexual coercion (seven items), psychological aggression (eight items), and negotiation (six items) (Straus et al. 1996). Negotiation items comprise positive behaviors that a partner may exhibit within an argument (e.g., "I showed respect for my partner's feelings about an issue.") (Straus et al. 1996:311). The CTS2's response categories fall on a frequency scale; participants are asked to choose the response corresponding to the frequency at which the behavior occurred in the past year. Specifically, 1 = "Once in the past year," 2 = "Twice in the past year," 3 = "3-5 times in the past year," 4 = "6-10 times in the past year," 5 = "11-20 times in the past year," 6 = "More than 20

times in the past year," 7 = "Not in the past year, but it did happen before," and 0 = "This has never happened."

The CTS2 was kept as similar as possible to the original to avoid compromising its structure. However, minor changes were made to allow for a valid comparison against the IPAS. The first edit involves changing the referent period from the past year of the individual's current relationship to the past year or most recent year of the individual's current or most recent relationship. The purpose of this modification was to align the CTS2's referent period with that of the IPAS so respondents to either survey could complete the items regardless of whether they are currently in a relationship. Straus et al. (1996) mention possible changes to the referent period in their publication, suggesting that this alteration may be common and should not significantly impact the device's validity or reliability. The second edit involves a semantic change to one of the victimization items. Specifically, "My partner explained *his or her* side of a disagreement to me" (Straus et al. 1996:311) was changed to "My partner explained *their* side of a disagreement to me." This edit was made to make the questionnaire inclusive to gender minority individuals.

Finally, items from the CTS2 were arranged in a carousel format such that each item appeared on a card in the center of the screen with the response categories below and the instructions above. When participants responded to an item, the next item automatically appeared on a new card, while the response categories and instructions remained. This was done for both survey devices to streamline participation and make participants more likely to finish the survey. Since only one item was displayed at a time, the instances in which the victimization items are phrased "My partner did this to me," were changed to include the behavior listed in the perpetration item to avoid confusion (e.g., "My partner did [something to spite] me") (Straus et

al. 1996:311). These changes allowed any differences seen in the analyses of the two instruments to be attributed to intentional, substantial deviations, rather than semantic or expected modifications. This is not to say that the small changes did not potentially improve the CTS2's validity, simply that these improvements were not the primary focus of this comparative analysis. Barring these modifications, the CTS2 was administered as intended by the original authors.

The creators of the CTS2 recommend assigning each participant two scores: one for prevalence and one for chronicity of abuse (Straus et al. 1996). The prevalence score is dichotomous for each scale and represents whether a participant noted at least one act within a given scale as happening at least once, in which case they are assigned a 1, or the participant noted that none of the acts within the scale occurred within their relationship, in which case they are assigned a 0. For this score, responses that fall under category 7 (not in the past year, but it did happen before) are treated as a 1 to account for prevalence across the participant's entire relationship. The prevalence score can be further parsed into victimization and perpetration such that each participant is assigned three prevalence scores per scale, one for victimization, one for perpetration, and one for overall prevalence (i.e., victimization and perpetration).

Chronicity represents the number of times all of the acts in a given scale occurred in the past year assuming the participant's prevalence score on the scale is not 0. Chronicity, like prevalence, can be split into victimization, perpetration, and combined victimization and perpetration scores. The response categories for the CTS2 are scored based on the approximate midpoint of each category. Specifically, 0 (this has never happened), 1 (once in the past year), and 2 (twice in the past year) are scored as 0, 1, and 2, respectively, while 3 (3-5 times), 4 (6-10 times), and 5 (11-20 times) were scored as 4, 8, and 15 respectively. While category 6 (more

than 20 times) is traditionally scored as 25, it was scored as 15 for this paper to avoid inaccurate comparisons with the novel survey device. While this forgoes some variation in responses, it creates equality in that, for both devices, participants who report that an event occurred at least 10 times will be scored as a 15. For chronicity, category 7 is scored as 0. More details on how participants' chronicity scores were calculated are discussed in the measures section that describes the involvement portion novel device. In addition to assigning participants prevalence and chronicity scores for perpetration, victimization, and aggregate abuse within each subscale, several subscales were compounded to create more accurate measures of abuse given the relative rarity of events in certain subscales such as physical assault. The compounded subscales from which these scores were derived are (1) physical assault, injury, and sexual coercion, and (2) aggregate abuse (comprising all subscales except negotiation).

The Revised Conflict Tactics Scales – Child Assessment

The Revised Conflict Tactics Scales - Child Assessment (CTS2-CA; Straus 1999) was developed as an adaptation of the CTS2 designed to measure exposure to IPV. While the CTS2-CA was primarily created to be administered to children to assess their current/recent exposure to IPV, its additional stated purpose was as an adult-recall device to measure adults' childhood exposure to IPV (Straus 1999). The CTS2-CA is similar to the CTS2 with a few notable differences. First, the CTS2-CA was designed to assess an interparental relationship, specifically intended for a heteronormative married couple (i.e., mother and father). Instead of "I did [X behavior] to my partner" and "My partner did [X behavior] to me," the items are phrased as "My mother did [X behavior] to my father" and "My father did [X behavior] to my mother." Second, the referent period for the CTS2-CA was designed to be *in the year when you were about 13 years old* or *in the last year you lived at home with them* when used as an adult-recall device or

in the past year if the participant is a child. The current study used the year in which a participant was around 13 years old as the referent period. Finally, the CTS2-CA does not contain items assessing sexual abuse; the subscales are physical assault, injury, psychological aggression, and negotiation.

All the response categories for the CTS2-CA are the same as in the CTS2 except for "7," which, in this device, refers to a behavior that did not happen in the referent year but did happen either before or after that year. The CTS2-CA was used as intended except for a few semantic modifications. First, in the instructions before the items, the word "parents" was changed to either "adults" or "caregivers" to make it more inclusive. Second, the CTS2-CA gives additional instructions to use if a participant's mother and father are not living together; these were modified to instruct participants to answer about the caregivers in the house in which they spent the most time if they had multiple sets of caregivers. Third, the CTS2-CA items are written with the words "mother" and "father." To make the survey inclusive for participants who did not grow up in heteronormative households, participants were asked about their relationship with each of the people in the caregiving couple (e.g., "mother" and "stepmother") to which they will refer and their responses were piped into the items from the CTS2-CA. Finally, a few items that contained pronouns (he, she, her, or his) were modified for inclusivity to she/he/they and her/his/their. Items from the CTS2-CA were arranged in a matrix format with breaks every approximately 8 items to reiterate the response categories. The CTS2-CA was scored in the same manner as the CTS2, with two notable exceptions. First, chronicity scores were not calculated as the disparate number of items between the CTS2-CA and the novel device does not allow for reliable comparison. Second, since this study was interested in individuals' aggregate childhood exposure to abusive acts, rather than which parent or guardian perpetrated the abusive acts,

separate scores for perpetration and victimization were not calculated. This means that each participant had a prevalence score per scale or compounded scales. The compounded scales are also the same as for the CTS2, barring the sexual coercion subscale.

The Intimate Partner Abuse Scales – Involvement

The Intimate Partner Abuse Scales (IPAS) was developed to assess the presence and degree of abuse in intimate relationships. The IPAS was grounded in the novel endogenous model of IPV discussed previously, stressing the measurement of both discrete violent acts and the dispositional distribution of power in a relationship. The IPAS comprises two parts, the involvement questionnaire (IPAS-I) and the exposure questionnaire (IPAS-E). The questionnaires can be used independently when assessing either involvement in or exposure to IPV, or together when assessing both variables as in the current study. In light of the limitations of prior instruments, the IPAS was designed with non-heteronormative language and items encompassing a diverse range of abusive behaviors. To create the IPAS-I, 317 items from 11 instruments measuring elements of intimate partner abuse and dynamics were aggregated (Bledsoe and Sar 2011; CDC 2022a; Dyar et al. 2021; Frankland and Brown 2014; Martín-Lanas et al. 2021; Murphy and Hoover 1999; Neilands et al. 2019; Straus et al. 1996; Straus and Douglas 2004; Tolman 1989; Wolfe et al. 2001). These items comprised 237 two-part items (accounting for victimization and perpetration) and 80 dispositional items. Items represented a wide range of abusive behaviors (e.g., economic abuse, isolation, and verbal threats). The subscales reported by the authors of each device were examined and recategorized into new standardized subscales. Finally, items were systematically excised such that the final survey maintained its heterogeneity of behaviors while sufficiently accounting for each subscale and aiming to take a similar amount of time to complete as the CTS2.

The IPAS-I contains 30 two-part behavioral items (i.e., 30 victimization and 30 perpetration items) and 20 dispositional power dynamic items (see Appendix D). The dispositional items include nine items assessing Partner A's (the subject's) power over their partner, nine items assessing their partner's power over them, and two items assessing overall inequality of power (e.g., "My partner is my equal"). The referent period for the IPAS-I in this study is the most recent year a participant has been in a relationship. This allows the device to capture abusive acts that may be relatively rare while also allowing participants to engage in the survey regardless of whether they are currently involved in a romantic relationship. The response categories for the power dynamic items fall on a Likert scale from "Strongly disagree" to "Strongly agree." Participants were asked how much they agreed or disagreed with the list of statements about the most recent year of their intimate relationship (e.g., "I watch what I say because my partner might get angry."). The power dynamic section was followed by a section on discrete abusive behaviors.

The behavioral items encompass psychological abuse (17 two-part items), physical abuse (five two-part items), sexual abuse (five two-part items), and positive relationship behaviors (three two-part items). The psychological abuse items can be further broken down into economic abuse, emotional abuse, intimidation, isolation, stalking, and verbal threats. However, for this analysis, these subscales will solely be identified as psychological abuse. The response categories for the behavioral items fall on a frequency scale: 1 = "Once in the past year," 2 = "2-4 times in the past year," 3 = "5-10 times in the past year," 4 = "More than 10 times in the past year," 5 = "Not in the past year, but it did happen before in this relationship," 6 = "Not in this relationship, but it did happen in a previous relationship," and 0 = "This has never happened." This frequency scale was based on that of the CTS2, but some of the categories were collapsed to

make it easier for participants to respond while maintaining the range necessary for proper analysis. Additionally, "6" was added to allow participants to reveal abuse that they have experienced in a prior relationship. The items were displayed to participants in a matrix format with the instructions repeating after every approximately eight two-part items.

The IPAS-I comprises different scores for the behavioral items, the dispositional power dynamic items, and a dyadic score considering both sets of items. Scoring for the behavioral items of the IPAS-I is similar to that of the CTS2 with a few exceptions. Participants were assigned prevalence and chronicity scores for each subscale as well as compounded subscales. Two types of prevalence can be calculated with the IPAS-I, one considering the history of the subject's current/most recent relationship (i.e., relationship prevalence) and the second considering abuse across their lifespan (i.e., lifetime prevalence). For relationship prevalence, if a participant noted that at least one event in the subscale happened at least once in the past year (categories 1 through 4) or they noted that an event happened before within their relationship (category 5), they were given a 1. If they noted that every event in the subscale either never happened (category 0) or only occurred in a previous relationship (category 6), they are given a 0. Lifetime prevalence is calculated in the same manner as relationship prevalence except for category 6, denoting events that occurred in a previous relationship, which is scored as a 1 instead of a 0. Since two types of prevalence scores can be assigned, each participant is given six scores per subscale: perpetration, victimization, and overall (perpetration and victimization) scores for relationship prevalence and the same three scores for lifetime prevalence.

Like the CTS2, response categories for chronicity were scored based on the approximate midpoints of each category. Specifically, 0 (this has never happened), 5 (not in the past year, but it did happen before in this relationship), and 6 (not in this relationship but it did happen in a

previous relationship) were scored as 0, as chronicity only focuses on the most recent year of the participant's relationship, while 1 (once in the past year), 2 (2-4 times in the past year), 3 (5-10 times in the past year) and 4 (more than 10 times in the past year) are scored as 1, 3, 8, and 15, respectively. As was the case for the CTS2, chronicity was only calculated if a participant indicated that at least one event in the subscale occurred at least once in the most recent year of their current relationship; this is to avoid averaged chronicity scores being skewed toward zero by accounting for the frequency of abuse in subjects who had not perpetrated abusive behaviors nor been victimized. Chronicity is also calculated for perpetration items, victimization items, and an overall chronicity score.

The first step in calculating chronicity is summing a participant's responses on the relevant subscale, scored as the previously discussed midpoints, to determine the approximate number of times they were involved in those events. After the participant's responses were summed, the sum was divided by the total possible chronicity score on the given subscale. For example, a participant's chronicity score for perpetration and victimization of psychological abuse (34 items) would be the sum of their responses to the psychological abuse items divided by the maximum possible score (15*34=510) with 15 being the maximum midpoint per item and 34 being the number of items in the psychological abuse scale (17 perpetration and 17 victimization items). Chronicity, therefore, is on a scale from 0 to 1 with 0 denoting the lowest possible chronicity proportion and 1 denoting the highest possible chronicity proportion. Note that the lowest possible score on this scale is 1/(maximum possible chronicity score) because any subjects who responded 0 to every item were excluded from measurement. In addition to prevalence and chronicity scores for each subscale (psychological abuse, physical abuse, sexual abuse, and positive items), certain subscales were aggregated to increase measurement validity.

Specifically, participants were assigned aggregate abuse scores (all subscales except positive items) and physical and sexual abuse scores (all abuse items except psychological abuse).

For the dispositional items, participants were assigned a power score denoting the degree of power imbalance within their relationship. Items assessing Partner A's power over Partner B and vice versa maintained their coding on the Likert scale from 1 (strongly disagree) to 7 (strongly agree) with multiple items being reverse coded such that a higher number consistently indicates greater power over one's partner. The two overall power inequality items were also reverse coded such that a higher score indicated a greater imbalance of power. Partner A's power, Partner B's power, and power inequality scores were calculated by summing the participant's responses. These three scores were then normalized on a scale from 0 to 1 by subtracting the lowest possible score and dividing by the maximum score minus the minimum score. For example, since there are nine items for Partner A's power, each with a lowest possible response of 1 and highest possible response of 7, Partner A's power score is calculated as the participant's responses minus 9 (the minimum response per item times the number of items) divided by 54 (the maximum score (7*9=63) minus the minimum score (1*9=9)). A power score for Partner A of 0 would indicate that the participant responded 1 (strongly disagree) to every item on that scale. From here, the absolute value was taken of Partner B's power score minus Partner A's power score to determine the difference in power. This value was multiplied by a weight of 0.9 and added to the inequality power item score times a weight of 0.1, to allocate more weight to the 18 items assessing each partner's power over the other than the two items assessing general inequality of power. This creates a normalized, weighted power score ranging from 0 to 1, with 0 indicating perfectly equal power and 1 indicating the maximum possible power imbalance between partners. Although the IPAS allows for the designation of directional

power imbalance scores that specify which individual, the subject or their partner, has greater power in the relationship, assessing these scores was beyond the scope of this pilot study. A dyadic abuse score using the IPAS is based on a subject's chronicity score for overall abuse (aggregation of all abusive subscales for both perpetration and victimization) and their power score. However, due to limitations of the data and the need for further research before the formula for a dyadic score is designed, subjects in this study were not assigned dyadic scores.

The Intimate Partner Abuse Scales – Exposure

The exposure section of the IPAS (IPAS-E) was developed differently than the IPAS-I despite relying on the same model. First, several instruments designed to measure EIPV were examined, including the Children's Perception of Interparental Conflict Scale (CPIC; Grych, Seid, and Fincham 1992) and the Child Exposure to Domestic Violence Scale (CEDV; Edleson et al. 2008). Although the CEDV sufficiently encompassed Holden's (2003) conceptualization of EIPV, neither the CPIC nor the CEDV encompassed enough abusive behaviors and facets of exposure to violence to sufficiently measure EIPV. Therefore, most of the items in the IPAS-E were designed using concepts from the literature to account for diverse methods of abuse and exposure to abuse. Homologous to the IPAS-I, the IPAS-E included a section measuring the child's perception of the dispositional power imbalance of their caregivers' relationship and a section measuring the child's perception of discrete abusive behaviors. Although the IPAS-E was initially designed as an adult recall device, measuring participants' exposure to IPV when they were approximately 13 years old, the instrument could be easily adapted to be administered directly to children for use in longitudinal or cross-sectional studies.

The IPAS-E includes 26 two-part behavioral items assessing children's exposure to abusive acts by each caregiver against the other (e.g., mother-father and father-mother) and 15

items assessing the power dynamic between the caregivers (see Appendix E). These 15 dispositional items include five items assessing caregiver A's power over caregiver B, five items assessing the opposite, and five items assessing overall power and abuse dynamics. The survey asked participants how they refer to the caregiver and caregiver's partner from the caregiver-partner relationship they were most frequently exposed to when they were 13 years old. These responses were integrated into later items about their caregivers' relationship. Participants were also asked whether they were biologically related to each of these adults, allowing for a genetically sensitive design (Margolin 2005).

The behavioral items account for Holden's (2003) typology of EIPV by having separate items assessing different types of exposure (e.g., direct witness and participation). The response categories for the behavioral section of the IPAS-E are the same as for the IPAS-I except they don't include "6", which references a previous relationship in the IPAS-I, and "5" is "Not that year, but it did happen before or after," allowing participants to describe abuse between their caregivers that did not happen when they were 13 years old but did happen before or after that. The power dynamic section of the IPAS-E includes 15 items, four of which were developed by the researcher based on the literature, and 11 of which were adapted from involvement instruments designed to measure power imbalances in intimate relationships (Martín-Lanas et al. 2021; Neilands et al. 2019). These power dynamic items were posed the same way as in the IPAS-I, on a Likert scale from "Strongly disagree" to "Strongly agree," asking participants to describe how strongly they agree or disagree with each of the statements about their caregivers' relationship when they were 13 years old.

Scoring of the IPAS-E mirrored that of the IPAS-I with a few modifications. First, as was true for the CTS2-CA, scores were not parsed based on victimization or perpetration, even

though the device allows for the creation and analysis of these scores. Second, only one prevalence score was created per subscale or combination of subscales, rather than creating two separate scores for relationship and lifetime prevalence. For this prevalence score, participants who responded with 1, 2, 3, 4, or 5 to at least one of the items in the relevant subscale were scored as a 1, while those who responded 0 to every item were scored as a 0. Chronicity scores were calculated in the same manner as for the IPAS-I. Dispositional power imbalance scores were also calculated in the same manner as for the IPAS-I, except for the weights applied to the difference between caregiver A and B's power scores and the general inequality of power score. Instead of weighting the scores as 0.9 and 0.1 respectively, they were weighted as 0.8 and 0.2 since there was a higher proportion of general inequality items in the IPAS-E (five out of 15) than in the IPAS-I (two out of 20). Despite having the same number of items as caregiver A's power score and caregiver B's power score, the general inequality power score was given a smaller weight based on the hypothesis that the subject's perception of their power and their partner's power would be a stronger predictor of a power imbalance than their perception of the general power disparities, or lack thereof, within their relationship.

Analytic Strategy

At the end of the survey period, data were downloaded from Qualtrics, cleaned in Excel, and analyzed using RStudio. Missing data were addressed using the previously described technique. Items were recoded for prevalence and chronicity estimates so that scores could be calculated for each subscale and combination of subscales. From here, each research question was assessed through descriptive statistics, visualizations, and inferential statistics. For the first research question, asking how the rates of abuse will differ between the IPAS and CTS2, abuse prevalence and chronicity scores were compared across survey conditions. The measures of

central tendency and distributions of scores for the IPAS and CTS2 were analyzed to determine if they were significantly different and, if so, in what direction. Significance was analyzed using chi-square tests of independence for the dichotomous abuse prevalence scores and Kolmogorov–Smirnov tests for the continuous abuse chronicity scores. Analyzing the proportion of subjects involved in or exposed to abuse and the frequency at which subjects are involved in abuse serves to identify whether the IPAS can detect a higher degree of abuse than the CTS2.

For the second research question, Spearman's rank correlation was used to examine the association between the power imbalance and abuse chronicity in a subject's relationship – on the IPAS-I – as well as in the relationship to which the subject was exposed in childhood – on the IPAS-E. For the final research question, asking if the degree of abuse to which subjects were exposed in their childhood was associated with the degree of abuse they experience in their own relationships, subjects' abuse chronicity involvement scores were compared to their abuse chronicity exposure scores within the IPAS and the CTS2. A Spearman's rank correlation was used to determine if involvement in abuse chronicity was significantly correlated with exposure to abuse chronicity and, if so, in what direction.

Chapter 4: Results

Abuse Rates Across Survey Device Conditions

Abuse Prevalence Scores Differed Across Involvement Devices

To determine whether the IPAS and CTS2 differentially estimated whether individuals were involved in and exposed to IPV, the abuse prevalence rates were compared across devices. This study hypothesized that the prevalence rate (i.e., the proportion of individuals involved in IPV) detected by the behavioral items on the IPAS would be higher than the prevalence rate detected by the CTS2, both for the involvement and exposure scales. As discussed in the methods section, sample sizes vary across analyses because subjects must have answered every item in the tested subscale(s) to be included. For the prevalence scores calculated based on the aggregation of all abusive subscales for the involvement devices (n = 153), 92.86% of the subjects who took the IPAS-I had a prevalence score of 1 (involved in abuse) versus 71.01% of the subjects who took the CTS2 (see Table 2 for a more detailed breakdown). For the aggregate abuse prevalence scores calculated for the exposure devices (n = 122) – the IPAS-E and CTS2-CA – 84.93% of the subjects who took the IPAS-E had a prevalence score of 1 versus 77.55% of those who took the CTS2-CA (see Table 3).

Table 2

Prevalence of Aggregate Abuse - Involvement

	IPAS-I	CTS2	Row total
0 (No abuse)	6 (7.14%)	20 (28.99%)	26
1 (Abuse)	78 (92.86%)	49 (71.01%)	127
Column total	84	69	153

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

Table 3

Prevalence of Aggregate Abuse - Exposure

	IPAS-E	CTS2-CA	Row total
0 (No abuse)	11 (15.07%)	11 (22.45%)	22
1 (Abuse)	62 (84.93%)	38 (77.55%)	100
Column total	73	49	122

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

As both survey device (IPAS or CTS2) and prevalence score (involved/exposed to abuse or not involved/exposed to abuse) are binary variables, a chi-square test of independence was performed to test whether prevalence differed significantly across the survey devices. Although the sample for this study was not obtained via random sampling, subjects were randomly assigned to a survey device, meaning any differences observed between the IPAS and CTS2 should be attributable to systematic differences between the devices rather than systematic differences between the two sub-samples. Furthermore, the variable categories are mutually

exclusive since participants were assigned either the IPAS or CTS2 and were categorized as either involved/exposed to abuse or not involved/exposed to abuse. For all chi-square tests, the expected frequency ((row total x column total) / *n*) for at least 80% of the response categories was ≥ 5, per a fundamental assumption of chi-square analysis. This study used an alpha level of .05 for all statistical tests. The first chi-square test showed a significant relation between aggregate abuse *involvement* prevalence scores and survey device, X^2 (1, n = 153) = 11.31, p < .001 (see Figure 5). Subjects who took the IPAS-I were more likely to have a prevalence score of 1 for aggregate abuse than subjects who took the CTS2. In other words, the IPAS-I found a significantly higher proportion of subjects who experienced at least one abusive act in their romantic relationship than the CTS2. The next chi-square test examined the relation between aggregate abuse *exposure* prevalence scores and survey device. The proportion of subjects who had an aggregate abuse exposure prevalence score of 1 did not differ significantly across survey device X^2 (1, n = 122) = 0.64, p = .42 (see Figure 6).

Figure 5

Prevalence of All Abuse Involvement Across Survey Device

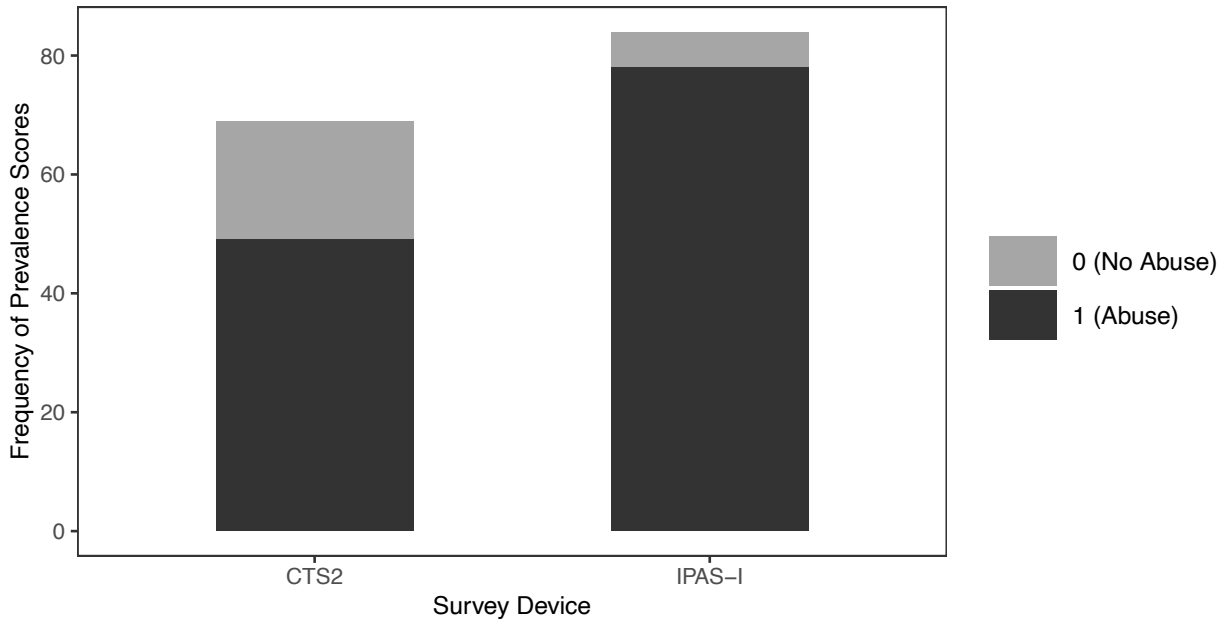
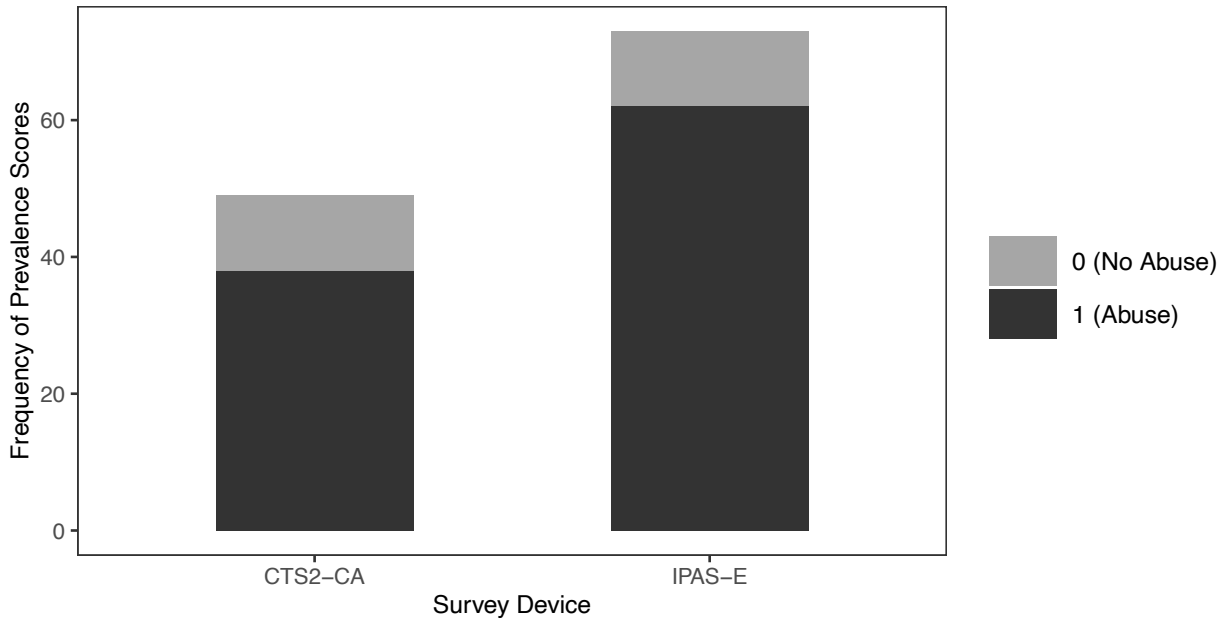


Figure 6

Prevalence of All Abuse Exposure Across Survey Device



Since prevalence scores for aggregate abuse involvement differed significantly across survey devices, the next step was to determine the source of this distinction. To assess this, aggregate abuse involvement was parsed into perpetration and victimization scores (see methods section for details on score calculation). For the aggregate abuse perpetration prevalence scores (n = 169), 89.29% of the subjects who took the IPAS-I had a prevalence score of 1 compared to 56.47% of those who took the CTS2 (see Table 4). For the aggregate abuse victimization prevalence scores (n = 149), 88.89% of the subjects who took the IPAS-I had a prevalence score of 1 compared to 69.12% of those who took the CTS2 (see Table 5). Two additional chi-square tests were run to determine if these differences in prevalence rates were significant. Aggregate abuse *perpetration* prevalence scores were significantly related to survey device, X^2 (1, n = 169) = 21.34, $p < .001$ (see Figure 7). Subjects who took the IPAS-I were more likely to have a prevalence score of 1 for aggregate abuse perpetration than subjects who took the CTS2. Furthermore, aggregate abuse *victimization* prevalence scores were significantly related to survey device, X^2 (1, n = 149) = 7.80, p = .005 (see Figure 8). Subjects who took the IPAS-I were more likely than subjects who took the CTS2 to have a prevalence score of 1 for aggregate abuse victimization.

Table 4

Prevalence of Aggregate Abuse Perpetration - Involvement

	IPAS-I	CTS2	Row total
0 (No abuse)	9 (10.71%)	37 (43.53%)	46
1 (Abuse)	75 (89.29%)	48 (56.47%)	123
Column total	84	85	169

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

Table 5

Prevalence of Aggregate Abuse Victimization - Involvement

	IPAS-I	CTS2	Row total
0 (No abuse)	9 (11.11%)	21 (30.88%)	30
1 (Abuse)	72 (88.89%)	47 (69.12%)	119
Column total	81	68	149

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

Figure 7

Prevalence of All Abuse Perpetration Across Survey Device

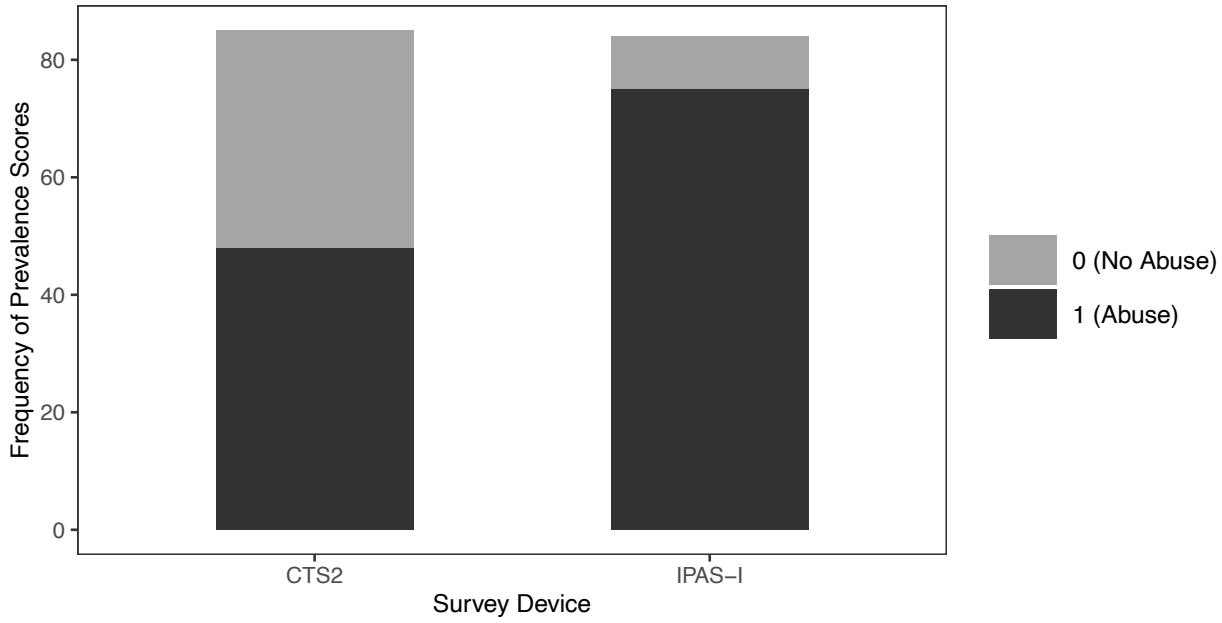
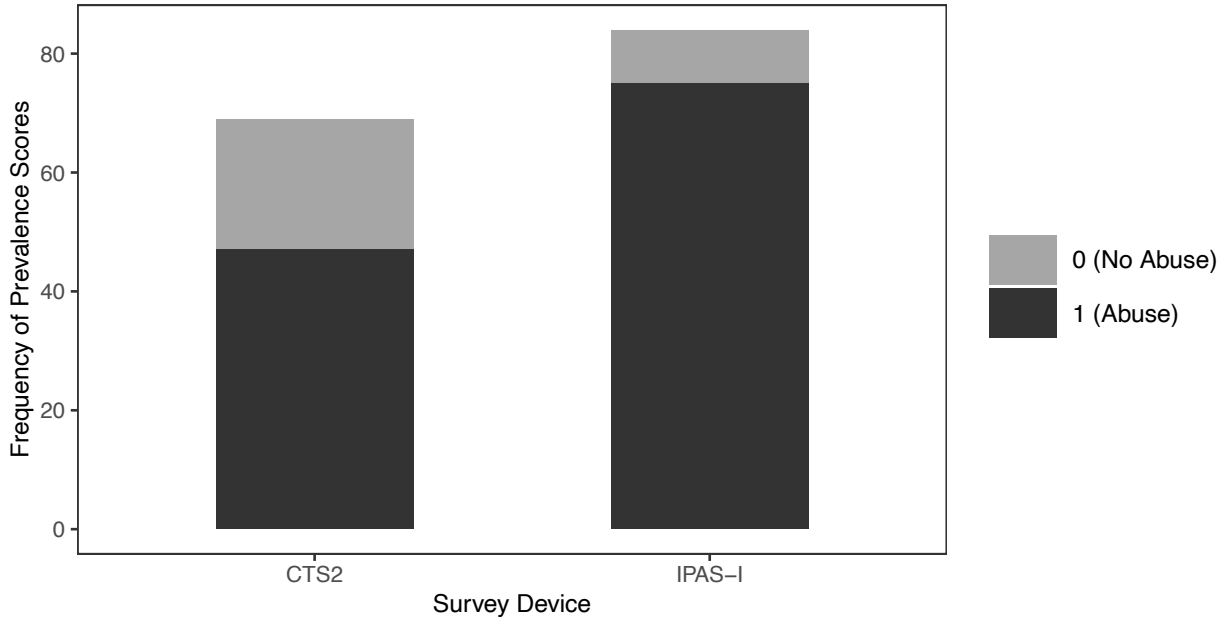


Figure 8

Prevalence of All Abuse Victimization Across Survey Device



To further understand the source of variation between the involvement devices, combined perpetration and victimization scores were calculated and compared for the psychological abuse subscale and the compounded physical and sexual abuse subscales, including the injury subscale from the CTS2. For psychological abuse involvement prevalence scores, (n = 154), 92.86% of the subjects who took the IPAS-I had a prevalence score of 1 compared to 67.14% of those who took the CTS2 (see Table 6). For the compounded physical and sexual abuse (and injury on the CTS2) involvement prevalence scores, (n = 157), 38.64% of the subjects who took the IPAS-I had a prevalence score of 1 compared to 33.33% of those who took the CTS2 (see Table 7). Psychological abuse prevalence scores were significantly related to survey device, X^2 (1, n = 154) = 14.88, $p < .001$ (see Figure 9). In contrast, compounded physical and sexual abuse (and injury) prevalence scores were not significantly related to survey device, X^2 (1, n = 157) = 0.27, $p = .604$ (see Figure 10). As additional clarification, positive behavior subscales were examined across involvement devices, although it is important to note that these subscales were not included in the aggregate abuse prevalence scores. For positive behavior prevalence scores, (n = 157), 94.44% of the subjects who took the IPAS-I had a prevalence score of 1 compared to 94.03% of those who took the CTS2 (see Table 8). The expected frequency of the cell corresponding to the CTS2 and prevalence score of 0 was less than 5, meaning that less than 80% of the expected frequencies were 5 or greater. Since this violates one of the core assumptions of the chi-square test, the analysis could not be conducted. However, based on the cell frequencies, it seems that the prevalence of positive behaviors did not vary across devices (see Table 8).

Table 6

Prevalence of Psychological Abuse - Involvement

	IPAS-I	CTS2	Row total
0 (No abuse)	6 (7.14%)	23 (32.86%)	29
1 (Abuse)	78 (92.86%)	47 (67.14%)	125
Column total	84	70	154

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

Table 7

Prevalence of Physical and Sexual Abuse and Injury - Involvement

	IPAS-I	CTS2	Row total
0 (No abuse)	54 (61.36%)	46 (66.67%)	100
1 (Abuse)	34 (38.64%)	23 (33.33%)	57
Column total	88	69	157

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

Figure 9

Prevalence of Psychological Abuse Involvement Across Survey Device

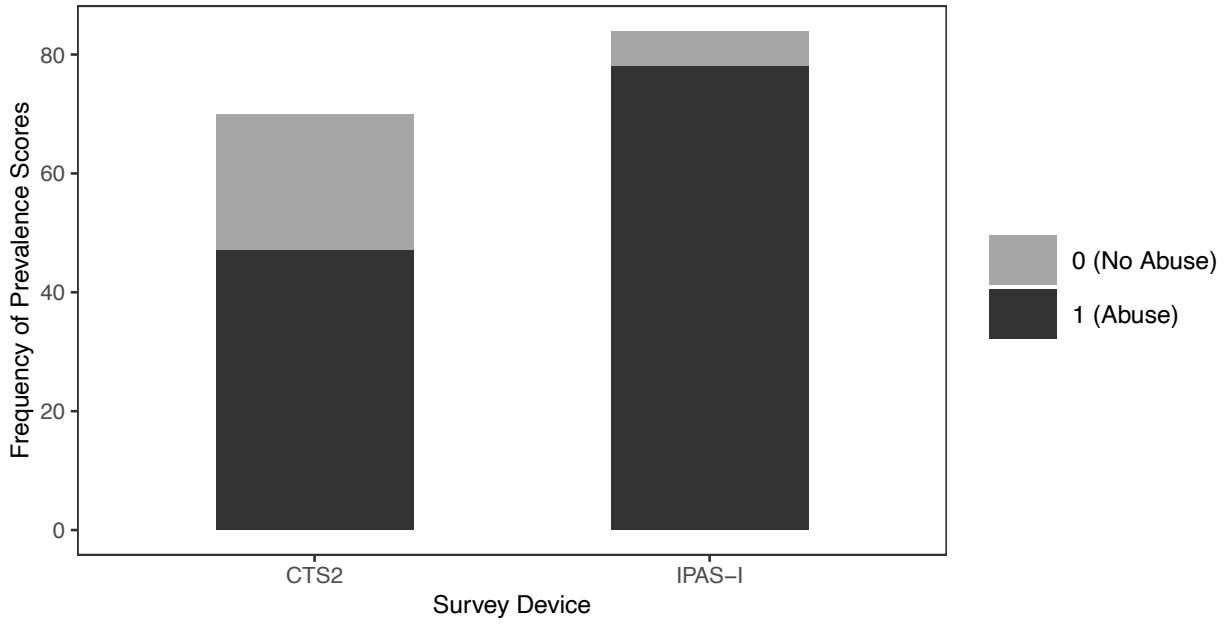


Figure 10

Prevalence of Physical and Sexual Abuse Involvement Across Survey Device

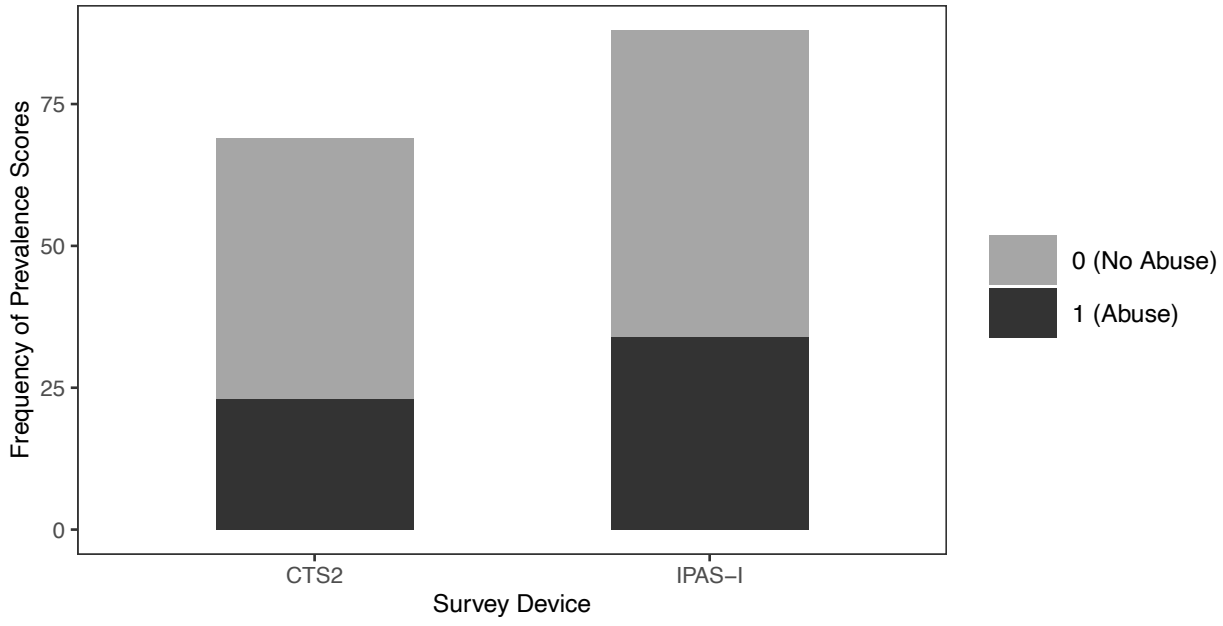


Table 8

Prevalence of Positive Behaviors - Involvement

	IPAS-I	CTS2	Row total
0 (No positive)	5 (5.56%)	4 (5.97%)	9
1 (Positive)	85 (94.44%)	63 (94.03%)	148
Column total	90	67	157

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of positive behaviors) or 1 (at least one positive behavior)

Finally, to confirm the above results, psychological abuse involvement scores were compared across survey devices for perpetration and victimization separately. For psychological abuse *perpetration* prevalence scores, (n = 154), 92.86% of the subjects who took the IPAS-I had a prevalence score of 1 compared to 67.14% of those who took the CTS2 (see Table 9). Psychological abuse perpetration prevalence scores were significantly related to survey device, X^2 (1, n = 154) = 14.88, $p < .001$ (see Figure 11). For psychological abuse *victimization* prevalence scores, (n = 154), 89.29% of the subjects who took the IPAS-I had a prevalence score of 1 compared to 67.14% of those who took the CTS2 (see Table 10). Psychological abuse victimization prevalence scores were significantly related to survey device, X^2 (1, n = 154) = 10.07, p = .002 (see Figure 12).

In sum, the prevalence rate of psychological abuse for the IPAS-I was significantly higher than the prevalence rate for the CTS2 for both perpetration and victimization behaviors, while no other subscales significantly differed. Additionally, there were no significant differences among the prevalence rates obtained from the IPAS-E and CTS2-CA.

Table 9

Prevalence of Psychological Abuse Perpetration - Involvement

	IPAS-I	CTS2	Row total
0 (No abuse)	6 (7.14%)	23 (32.86%)	29
1 (Abuse)	78 (92.86%)	47 (67.14%)	125
Column total	84	70	154

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

Figure 11

Prevalence of Psychological Abuse Perpetration Across Survey Device

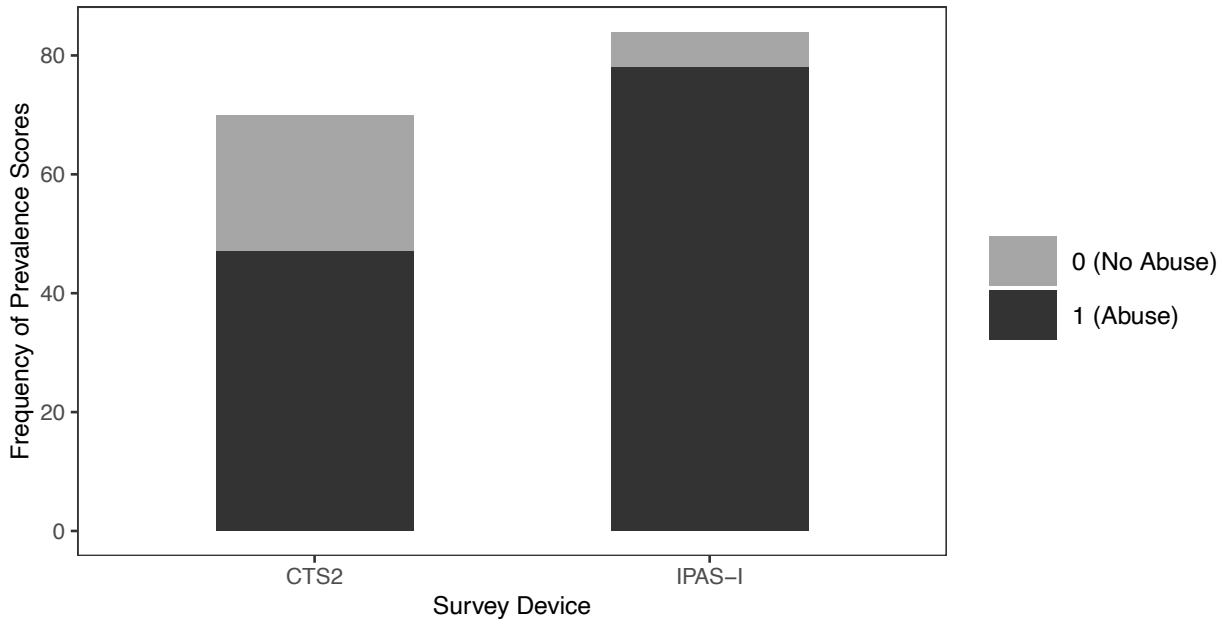


Table 10

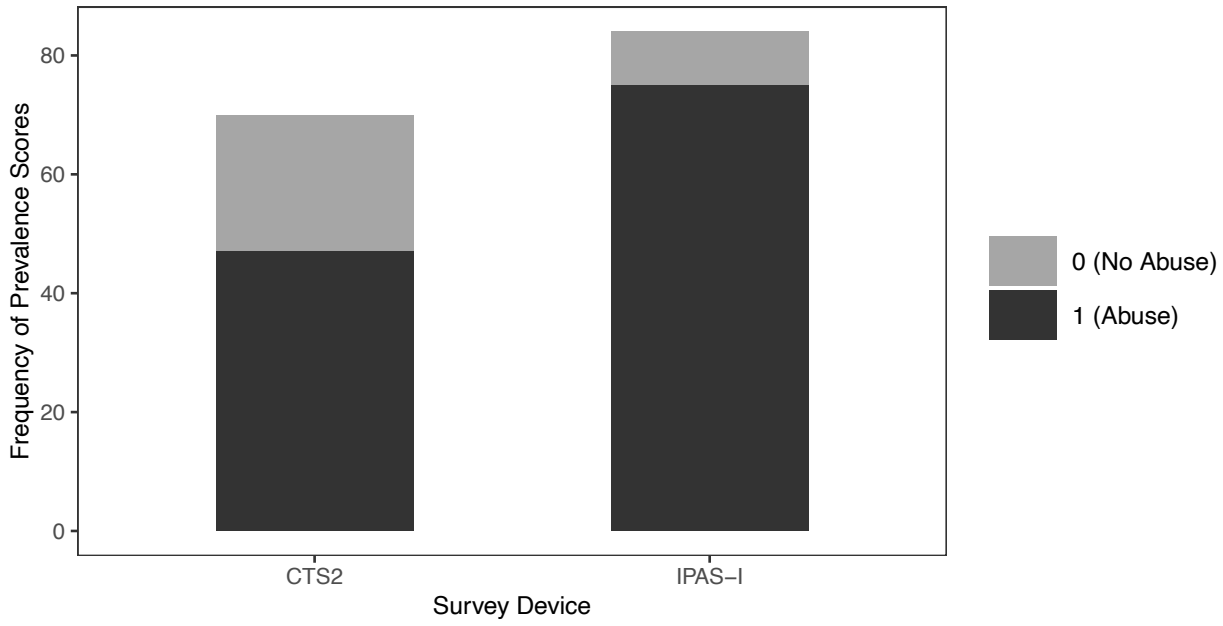
Prevalence of Psychological Abuse Victimization - Involvement

	IPAS-I	CTS2	Row total
0 (No abuse)	9 (10.71%)	23 (32.86%)	32
1 (Abuse)	75 (89.29%)	47 (67.14%)	122
Column total	84	70	154

Note. The first number represents the count and the number in parentheses represents the column percentage of subjects whose prevalence scores were 0 (no instances of abuse) or 1 (at least one instance of abuse)

Figure 12

Prevalence of Psychological Abuse Victimization Across Survey Device



Abuse Chronicity Scores Differed Across Involvement Devices

To determine if the involvement sections of the IPAS and CTS2 varied in the degree of abuse they detected, in addition to differing in their prevalence rates, subjects' chronicity scores were compared across survey devices. This analysis compared the aggregate abuse chronicity

scores (all abusive subscales) from the IPAS-I (n = 75) to the compounded psychological, physical, and sexual abuse scores from the involvement section of the CTS2 (n = 49). The reasons for including all abusive subscales for the IPAS and neglecting the injury subscale for the CTS2 are twofold. First, ignoring the injury items from the CTS2 involvement section when calculating the abuse score for this test leaves the CTS2 with 54 items (27 two-part items for victimization and perpetration of abuse, excluding positive items), which is the same number of items as the IPAS-I excluding positive items. Therefore, the chronicity scores should be mathematically comparable. Second, ignoring the injury items allows for a one-to-one mapping of subscales across devices (i.e., each device's chronicity score incorporates psychological, physical, and sexual abuse subscales). As a reminder, the chronicity score is calculated as the summed number of times the subject indicated that each of the abusive acts occurred in the past year divided by the maximum possible instances of abuse. Therefore, the chronicity score for the involvement section ranges from 0 to 1 with 0 indicating no abuse and 1 indicating the maximum amount of abuse in the most recent year of the subject's relationship. As subjects whose chronicity score would be 0 are excluded from measurement to avoid extremely skewed results, the lowest possible score for this specific measurement is 1/(15*54) = 0.001 where 1 is the minimum number of instances of abuse, 15 is the maximum response category midpoint per item, and 54 is the number of items.

To determine if abuse chronicity scores differed across involvement devices, chronicity scores for the IPAS-I (see Figure 13) and CTS2 (see Figure 14) were first plotted separately to examine their distributions. Both distributions of chronicity scores were highly right skewed with several apparent outliers. Additionally, when visualizing the data in tandem (see Figure 15), the IPAS-I appears to have a slightly larger range and higher average than the CTS2. Indeed, both

the mean (m = .07, SD = .09) and median (Mdn = .04, IQR = .05) of the IPAS-I chronicity scores were higher than the mean (m = .04, SD = .09) and median (Mdn = .02, IQR = .03) of the CTS2 chronicity scores respectively, although this must be taken with a grain of salt due to the non-normal distributions. To empirically test if these two distributions were different, given their non-normality and outliers, a Kolmogorov–Smirnov test, also known as the KS test, was performed, as it is a non-parametric test that is robust to non-normal distributions. The Kolmogorov–Smirnov test was conducted with the null hypothesis that the chronicity scores in the IPAS condition and those in the CTS2 condition are part of one continuous distribution, rather than two distinct distributions. This analysis found that there was a significant difference between the chronicity scores of the IPAS and those of the CTS2 (D = .29, p = .008), thus rejecting the null hypothesis that the two distributions are statistically inseparable.

In sum, the distribution of aggregate abuse chronicity scores for the involvement section of the IPAS had a higher mean and median than that of the CTS2, and the two distributions were statistically significantly different. In other words, overall, subjects who took the IPAS-I were found to have perpetrated or been victimized through discrete abusive acts in their relationships more frequently than subjects who took the CTS2. This analysis was not repeated for the IPAS-E and CTS2-CA since, with or without the injury items, the two scales had different numbers of items, paving the way for measurement bias.

Figure 13

Density Plot of IPAS Chronicity Scores for Abuse Involvement Items

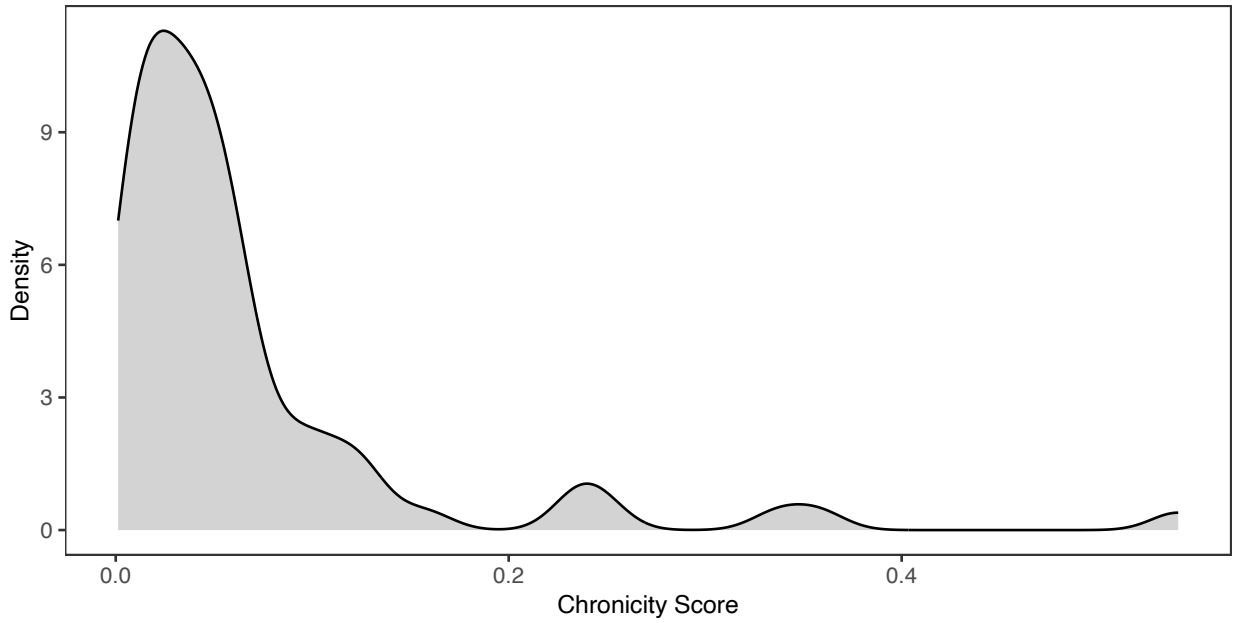


Figure 14

Density Plot of CTS2 Chronicity Scores for Non-Injury Abuse Involvement Items

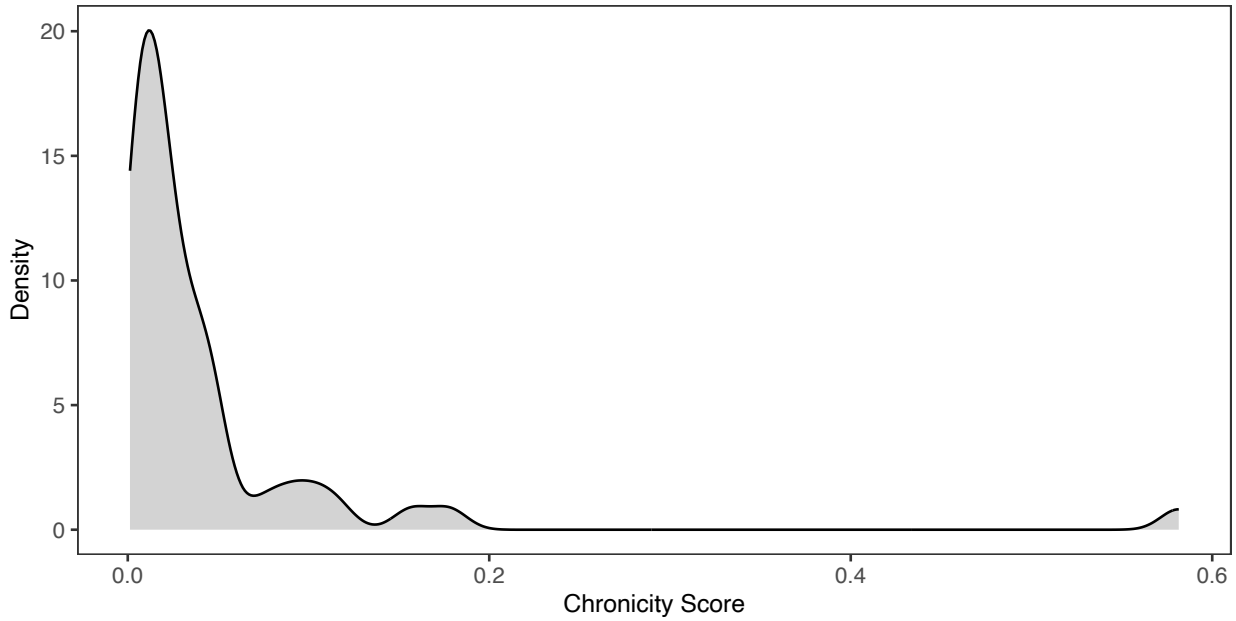
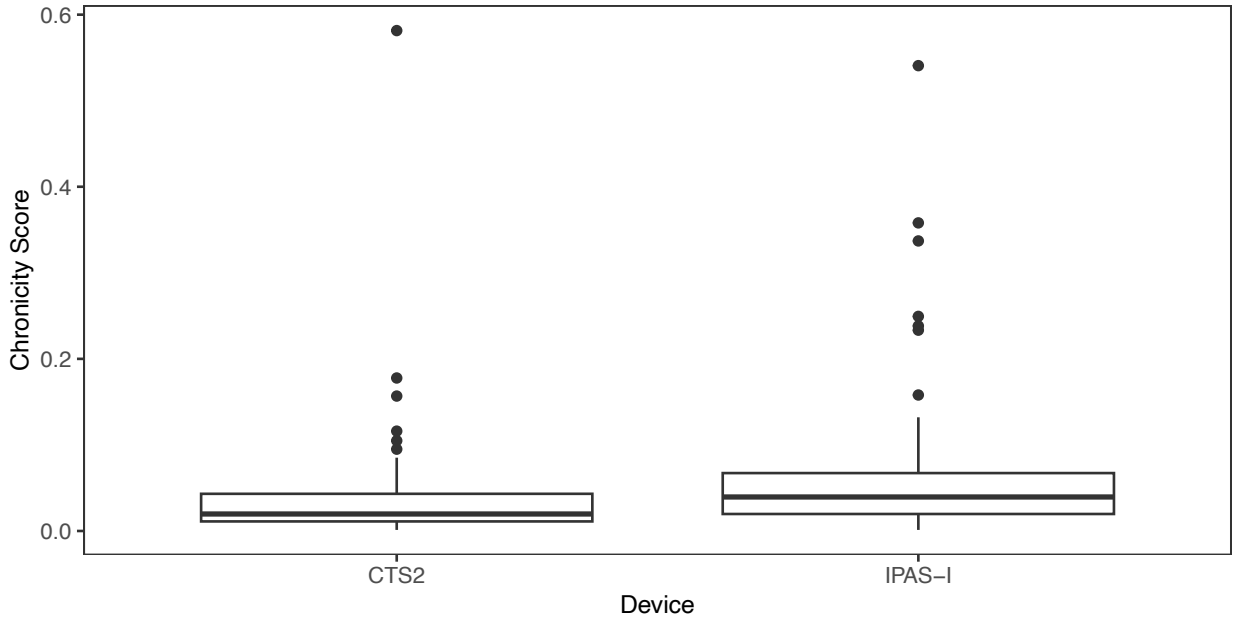


Figure 15

Boxplot of Abuse Involvement Chronicity Scores Across Survey Device



The Association Between Power Imbalance and Abuse Chronicity

As a preliminary test of the integrative power model on which the IPAS was based, a within-subjects analysis was conducted to determine if subjects' power imbalance scores were associated with their behavioral abuse chronicity scores both for the involvement and exposure sections of the IPAS. If subjects' power imbalance scores were found to be positively correlated with their behavioral abuse chronicity scores, it would support the power model by demonstrating that subjects whose relationships are characterized by a greater imbalance of power experience more frequent instances of abuse through both victimization and perpetration. The power imbalance score ranges from 0 to 1 with 0 indicating equal power between partners and 1 indicating that one partner has complete power over the other. The chronicity score for behavioral abuse also ranges from 0 to 1 with 0 meaning that none of the abusive behaviors on the relevant subscale(s) occurred within the year in question (i.e., the most recent year of a

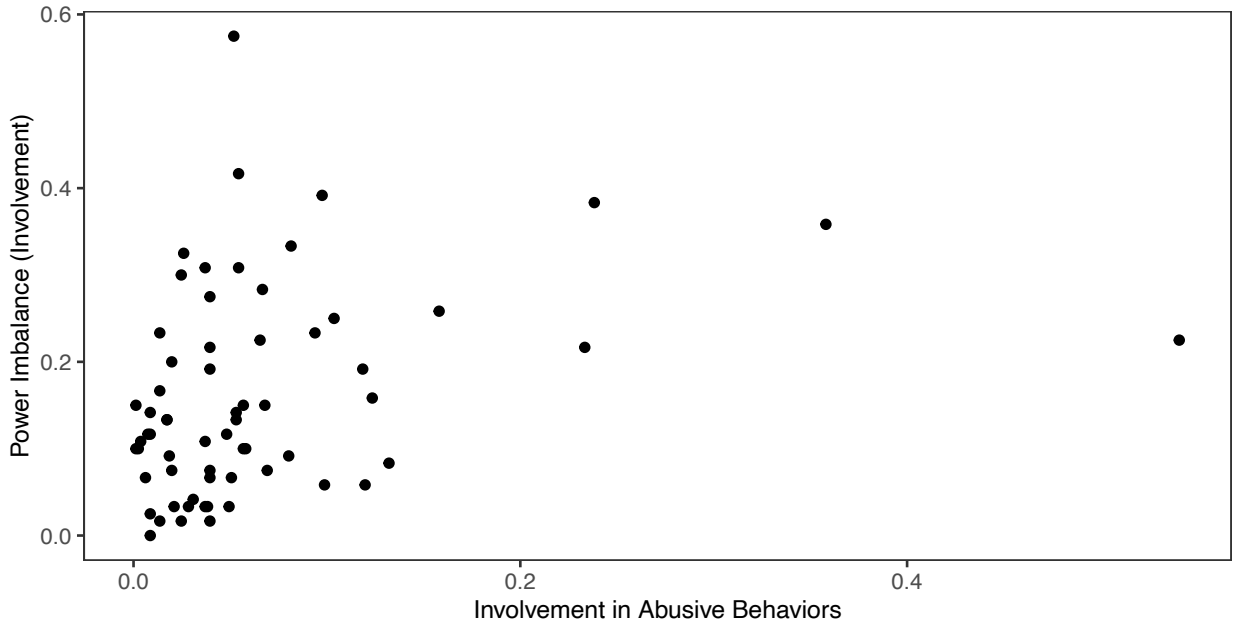
subject's relationship for involvement or the year in which they were 13 years old for exposure), and 1 meaning that all of the abusive behaviors occurred the maximum number of times (i.e., 10 or more times on the IPAS) in the referent year. For this analysis, subjects' chronicity scores were calculated for the IPAS-I and IPAS-E based on all items (perpetration and victimization) from all behavioral abuse subscales (i.e., all behavioral items except for the positive items). Subjects who had any missing data on the analyzed subscales were excluded from the analysis. Furthermore, subjects who indicated that they did not experience any of the behavioral abuse items in the referent year (i.e., those who would have a chronicity score of 0) were not assigned chronicity scores, and, therefore, were excluded from the analysis.

Before analyzing the association between power imbalance *involvement* and aggregate abuse *involvement* chronicity scores, due to the relatively small sample size of subjects who answered every item on the IPAS-I ($n = 64$) and the relative rarity of abuse, IPAS-I power imbalance scores and aggregate abuse scores were plotted together to examine their distributions and ensure approximate normality (see Figure 20). Both the distribution of power imbalance scores versus abuse chronicity scores for the IPAS-I appeared to be skewed toward 0, non-normal, and nonlinear, implying the need to use the median as a descriptive statistic and a non-parametric test rather than a Pearson's r which would traditionally be chosen given the continuous nature of both variables under study. For subjects who responded to all IPAS-I items, the median power imbalance involvement score was .13 ($IQR = .15$) and the median abuse involvement chronicity score was .04 ($IQR = .05$). Spearman's rank correlation was chosen as the test statistic because, although the distribution appears nonlinear, it does appear monotonic, satisfying a basic assumption of the Spearman's correlation test. This analysis tested the hypothesis that power imbalance is positively correlated with abuse chronicity. The Spearman's

rank correlation showed that power imbalance score was significantly positively correlated with abuse chronicity score within the involvement section of the IPAS, $r(62) = .37$, $p = .003$ (see Figure 20). Since $p < .05$, the null hypothesis of no relationship is rejected in favor of the alternative hypothesis that power imbalance and abuse chronicity scores within the IPAS-I are positively related. Additionally, an r of .37 suggests a moderately strong correlation between the two variables.

Figure 16

Association Between Abusive Behaviors and Power Imbalance (IPAS-I)



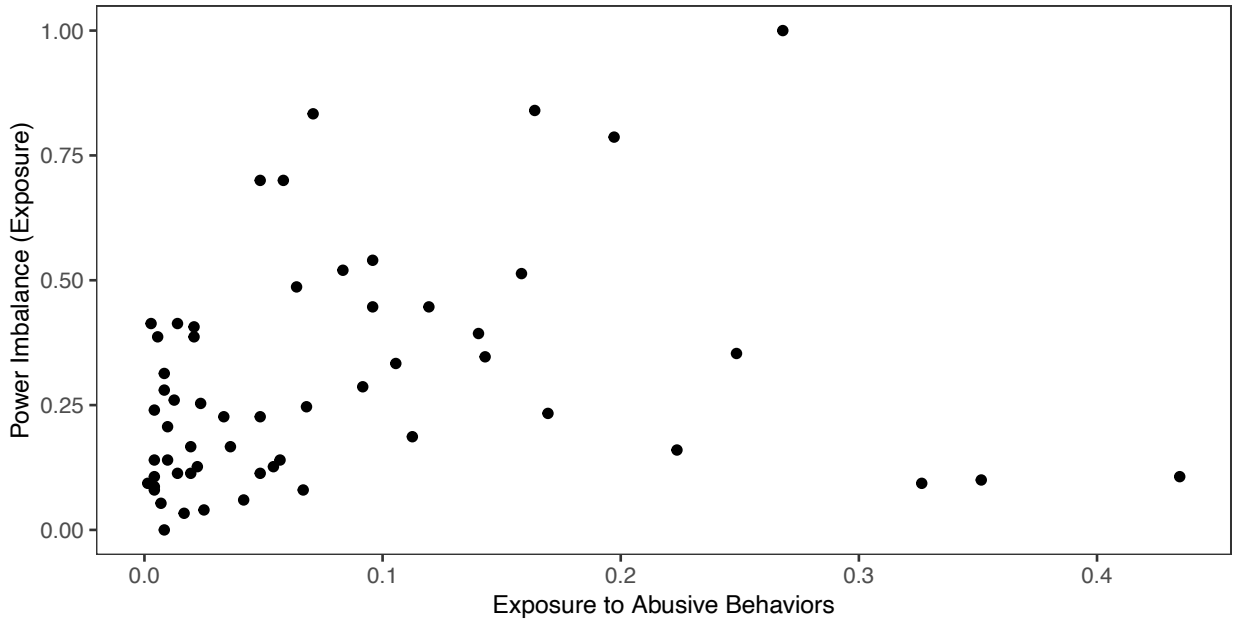
The above procedure was repeated to analyze the association between power imbalance *exposure* and aggregate abuse *exposure* chronicity scores. Again, due to the small sample size of subjects who answered every item on the IPAS-E ($n = 57$), power imbalance scores were plotted against aggregate abuse scores for the IPAS-E (see Figure 21) to check their distributions for normality. As was the case with the involvement section of the IPAS, the distributions of both variables appeared to be skewed toward 0, non-normal, and nonlinear. Therefore, a non-

parametric test was required to determine the association between these two variables. For subjects who answered all IPAS-E items, the median power imbalance exposure score was .23 (*IQR* = .29) and the median abuse exposure chronicity score was .05 (*IQR* = .09). Since the data appeared monotonic, Spearman's rank correlation was chosen to test the hypothesis that power imbalance score is positively correlated with abuse chronicity score within the IPAS-E. The analysis showed that power imbalance score was significantly positively correlated with abuse chronicity score for the exposure section of the IPAS, $r(55) = .35$, $p = .007$, rejecting the null hypothesis of no relation (see Figure 21) An *r* of .35 here suggests a moderate strength of association between power imbalance score and abuse chronicity score for the IPAS-E.

In short, subjects' power imbalance scores were correlated with their abuse chronicity scores on the IPAS-I as well as the IPAS-E, and both correlations were of moderate strength. This means that, overall, subjects with a greater power imbalance in their romantic relationships experienced more frequent abuse through perpetration and victimization behaviors than subjects in relationships with more equal power. Furthermore, overall, subjects who were exposed to greater inter-caregiver power imbalances during childhood were exposed to more frequent abuse between their caregivers than subjects whose caregivers had a more balanced power dynamic.

Figure 17

Association Between Abusive Behaviors and Power Imbalance (IPAS-E)



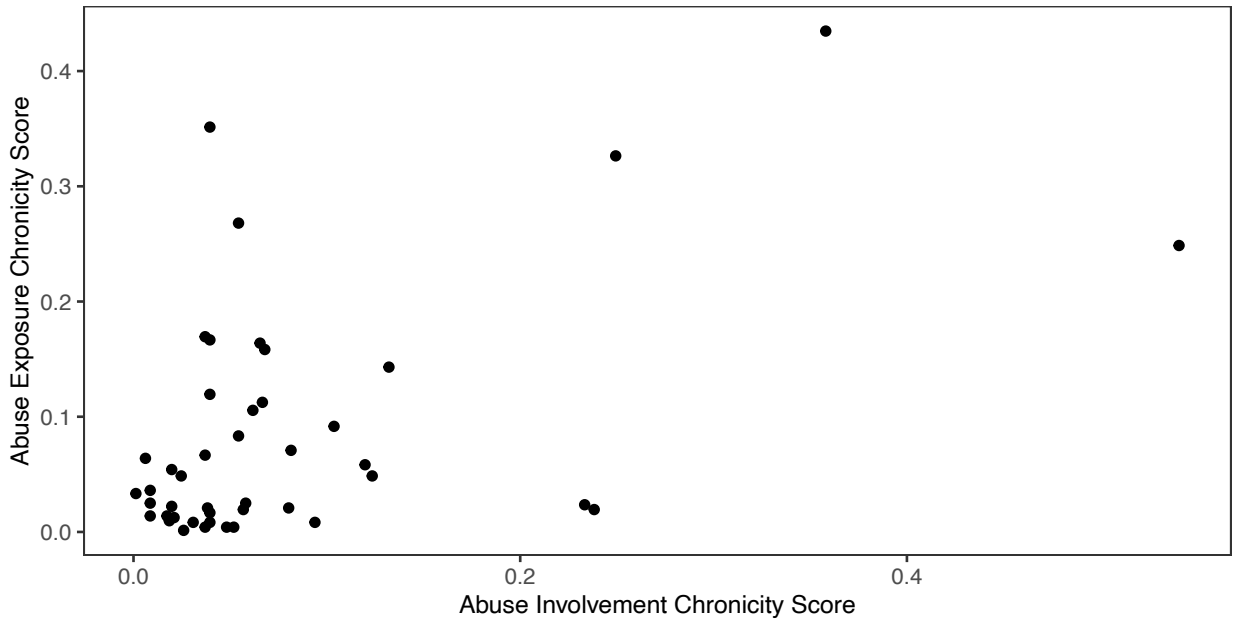
The Association Between Abuse Exposure Chronicity and Abuse Involvement Chronicity

To justify a device (i.e., the IPAS) designed to measure both exposure to and involvement in intimate partner violence to analyze the relationship between them as well as with third variables, subjects' chronicity scores for the exposure section of each survey device were compared to their chronicity scores for the involvement section of the same device. This was, therefore, a within-subjects correlational analysis. For the IPAS, subjects' chronicity scores for all behavioral abuse items on the IPAS-I were compared to their scores for all behavioral abuse items on the IPAS-E. Any subjects who failed to answer at least one of the behavioral abuse items on either the IPAS-I or IPAS-E were excluded from the analysis, leaving this test with a sample size of $n = 44$. The distribution of subjects' IPAS-I chronicity scores plotted against their IPAS-E chronicity scores appeared to be skewed toward 0, non-normal, and nonlinear, yet monotonic (see Figure 22). Therefore, Spearman's rank correlation was chosen as

the correlation coefficient to analyze the association between these scores. For subjects who answered all IPAS-I and IPAS-E items, the median abuse involvement chronicity score was .04 (*IQR* = .05) and the median abuse exposure chronicity score was .05 (*IQR* = .09). A Spearman's rank correlation test showed that subjects' IPAS involvement and exposure scores were significantly positively correlated, $r(42) = .38$, $p = .01$, rejecting the null hypothesis of no relation between the two variables (see Figure 22). An *r* of .38 suggests a moderately strong association between the subjects' IPAS-I and IPAS-E chronicity scores.

Figure 18

Association Between Abuse Involvement and Exposure Chronicity Scores (IPAS)



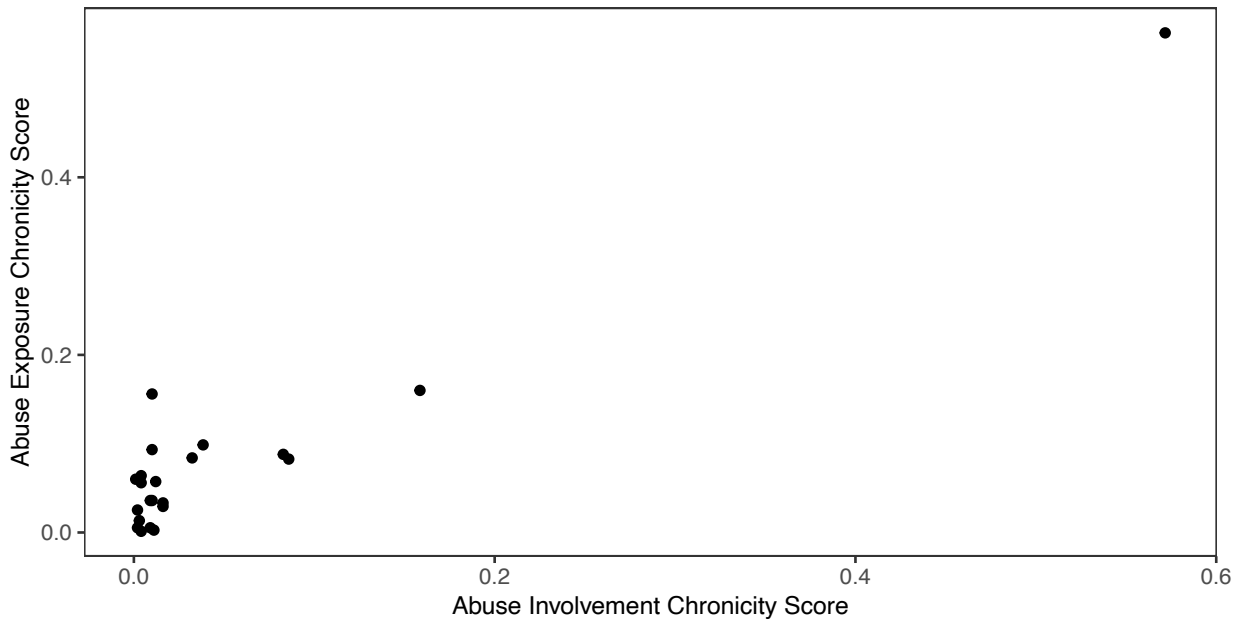
The above procedure was repeated for abuse involvement and exposure chronicity scores on the CTS2 and CTS2-CA. The distribution of subjects' abuse chronicity scores for the involvement and exposure sections of the CTS2 appeared to be skewed toward 0 non-normal, and nonlinear yet monotonic with one extreme outlier (see Figure 23). Therefore, Spearman's rank correlation was chosen as the correlation coefficient for this analysis. For subjects who

answered all CTS2 and CTS2-CA items (n = 22), the median abuse involvement chronicity score was .01 (*IQR* = .02) and the median abuse exposure chronicity score was .06 (*IQR* = .06). A Spearman's rank correlation test showed that subjects' CTS2 involvement and exposure scores were significantly positively correlated, $r(20) = .59$, $p = .004$, rejecting the null hypothesis of no relation between the two variables (see figure 23). An r of .59 suggests a relatively strong relation between abuse chronicity scores on the CTS2 and CTS2-CA.

Overall, subjects' abuse chronicity scores on the involvement section of their assigned survey device were positively correlated with their abuse chronicity scores on the exposure section of the same device, both for the IPAS and CTS2 conditions. This means that, on average, subjects who experienced a higher frequency of abuse in their intimate relationships were exposed to a higher frequency of abuse between their childhood caregivers.

Figure 19

Association Between Abuse Involvement and Exposure Chronicity Scores (CTS2)



Supplemental Analysis – Missing Data

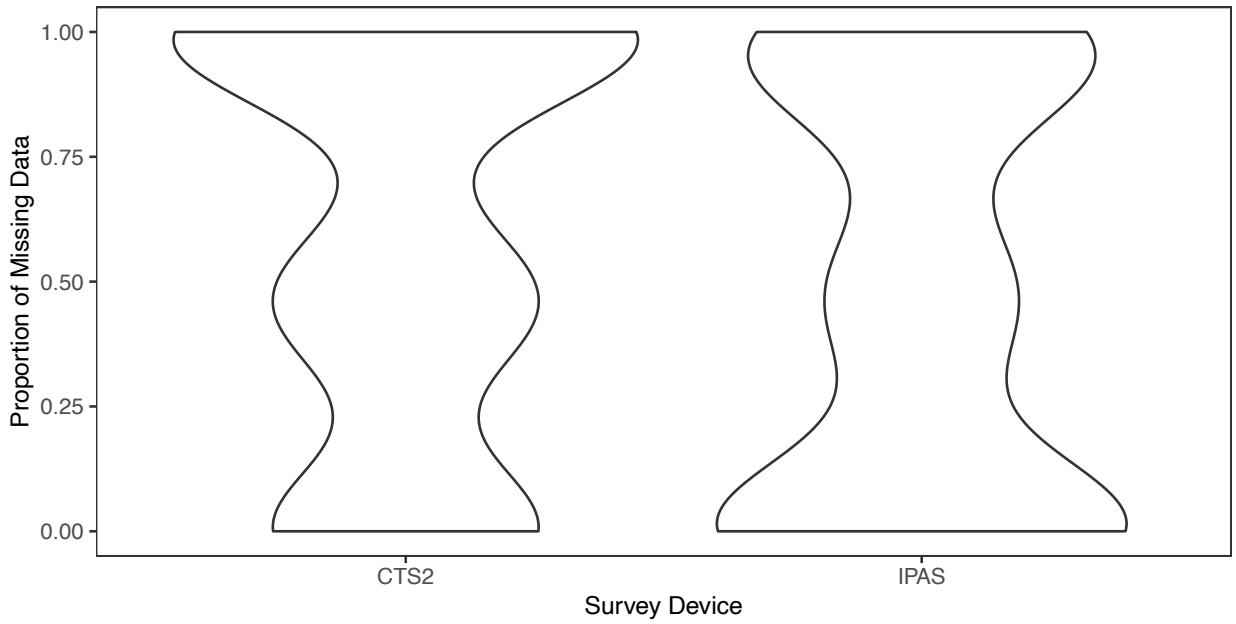
As previously mentioned, there was a high degree of missing data across both survey devices, calculated by summing the number of items on the scale or subscale that a participant did not answer and dividing that number by the total number of items on the scale or subscale. Therefore, the missing data scores are continuous, with a score of 0 meaning a participant answered every item on the specified subscale(s) (no missing data) and a score of 1 meaning a participant did not answer any of the items (all missing data). To identify if missing data systematically differed between survey devices, the missing data scores for all 147 items on the IPAS (n = 159), including behavioral and dynamic items for both the involvement and exposure sections, were compared to the missing data scores for all 140 items on the CTS2 (n = 155) including items in both the involvement and exposure sections.

Before analysis, the distributions of missing data scores were examined for the IPAS and CTS2 (see Figure 16) to assess normality. Both distributions appear to be trimodal, with the majority of the data falling around 0, .5, and 1. Due to this apparent trimodality, in stark contrast to unimodal normal distributions, comparative visualizations were used to summarize the data instead of common descriptive statistics, such as the mean and standard deviation. Furthermore, the Kolmogorov–Smirnov test was chosen to assess if there was a significant difference between the two distributions given their non-normality. In visualizing the data (see Figure 16), it appears that the IPAS has a higher degree of missing data scores near 0 than the CTS2, while the CTS2 appears to have a higher degree of missing data than the IPAS near .5 and 1. To test if the distributions of missing data scores for the IPAS and CTS2 significantly differed, a Kolmogorov–Smirnov test was conducted under the null hypothesis that the missing data values in the IPAS condition and the missing data values in the CTS2 condition are part of the same

distribution or population, rather than two separable distributions. This analysis found that there was a significant difference between the missing data scores of the IPAS and those of the CTS2 ($D = .22$, $p < .001$). This result rejects the null hypothesis of one continuous distribution in favor of the alternative hypothesis that the two distributions are significantly distinct.

Figure 20

Missing Data Scores Across Survey Device

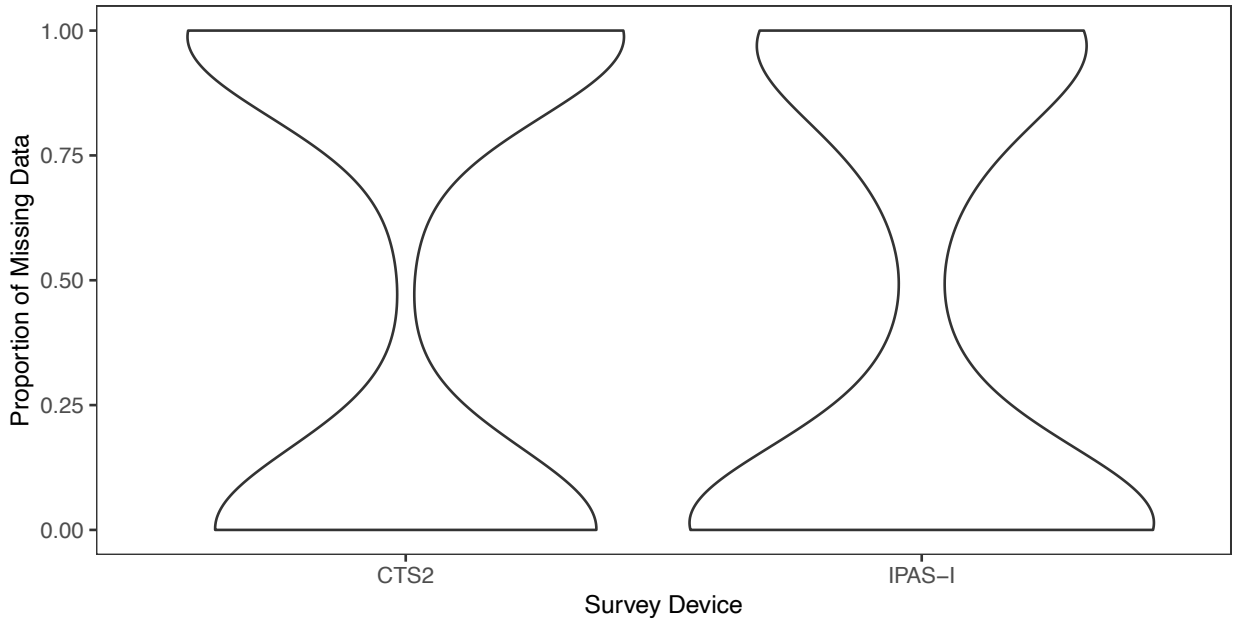


To further understand the difference in missing data between the two survey devices, the above-described procedure was repeated for the missing data scores of the involvement devices (IPAS-I versus CTS2) and the exposure devices (IPAS-E versus CTS2-CA). Before comparing the missing data scores based on all 80 items on the involvement section of the IPAS ($n = 159$) to the scores based on all 78 items on the involvement section of the CTS2 ($n = 155$), both distributions were plotted to assess normality (see Figure 17). The distributions of both devices appeared bimodal and non-normal, with most of the data clustering around 0 and 1. Due to this deviation from normality, the Kolmogorov–Smirnov test was again chosen to assess whether

there was a significant difference between the missing data on the involvement sections of the IPAS and CTS2. Additionally, the median was chosen to describe the data since it may describe whether a scale has more data near a score of 0 (no missing data) or more data near a score of 1 (all missing data). However, it is worth noting that the median by itself is not informative given the bimodal distributions, and must be considered in concert with the data visualization. The median missing data score across all involvement items in the IPAS condition (*Mdn* = .18, *IQR* = .98) was lower than the median missing data score in the CTS2 involvement condition (*Mdn* = .96, *IQR* = .99). Furthermore, in examining the distributions (see Figure 17), it appears that the IPAS-I has more data near 0 than the CTS2 involvement section, while the CTS2 appears to have more data near 1 than the IPAS-I. A Kolmogorov–Smirnov test was performed to determine whether these two distributions were significantly different. The analysis found a significant difference between the missing data scores for the involvement sections of the IPAS-I and CTS2 ($D = .24$, $p < .001$), rejecting the null hypothesis of no difference.

Figure 21

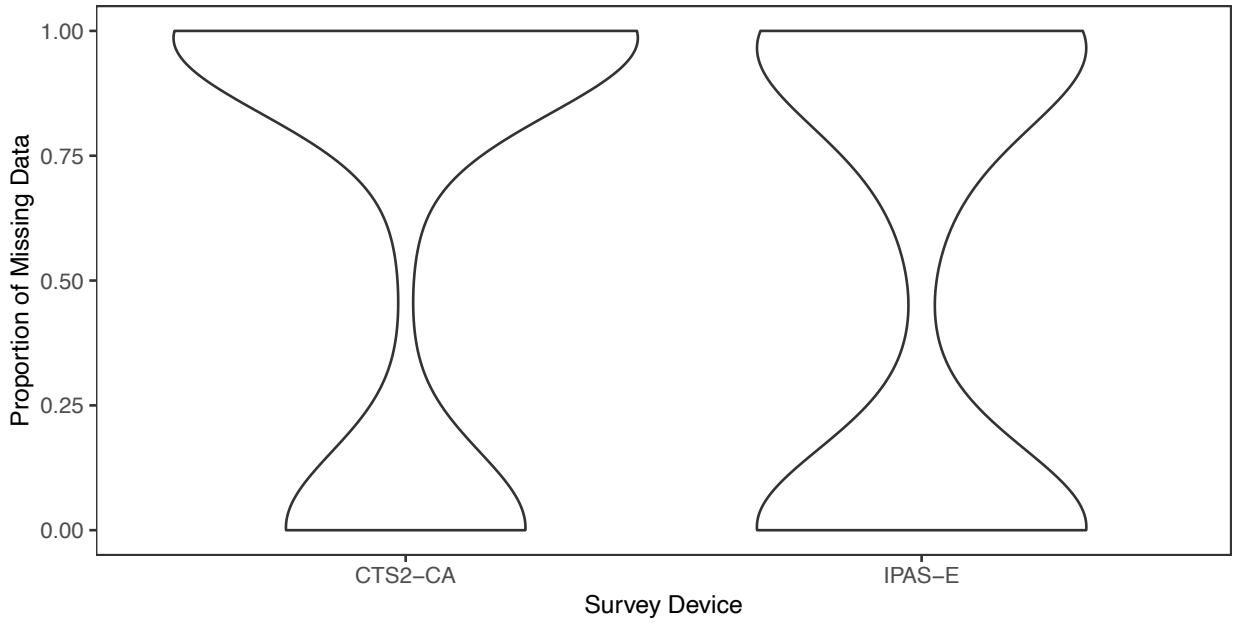
Missing Data Scores Across Survey Device (Involvement)



In examining the missing scores for all 67 items on the exposure section of the IPAS (IPAS-E) compared to all 62 items on the exposure section of the CTS2 (CTS2-CA), the distributions of missing scores for both devices appeared bimodal and non-normal (see figure 18). Therefore, the procedure conducted for the involvement sections was repeated here. The median missing data score across all involvement items in the IPAS condition (*Mdn* = .72, *IQR* = .97) was lower than the median missing data score in the CTS2 involvement condition (*Mdn* = .98, *IQR* = 1). In visually examining the data (see Figure 18), the IPAS-E appears to have more data near 0 than the CTS2-CA, while the CTS2-CA appears to have more data near 1 than the IPAS-E. To test if these two distributions were significantly different, a Kolmogorov–Smirnov test was conducted. The test found that the distribution of missing data scores for the IPAS-E was significantly different than the distribution of missing data scores for the CTS2-CA ($D = .28$, $p < .001$), thus rejecting the null hypothesis of no difference between the distributions.

Figure 22

Missing Data Scores Across Survey Device (Exposure)



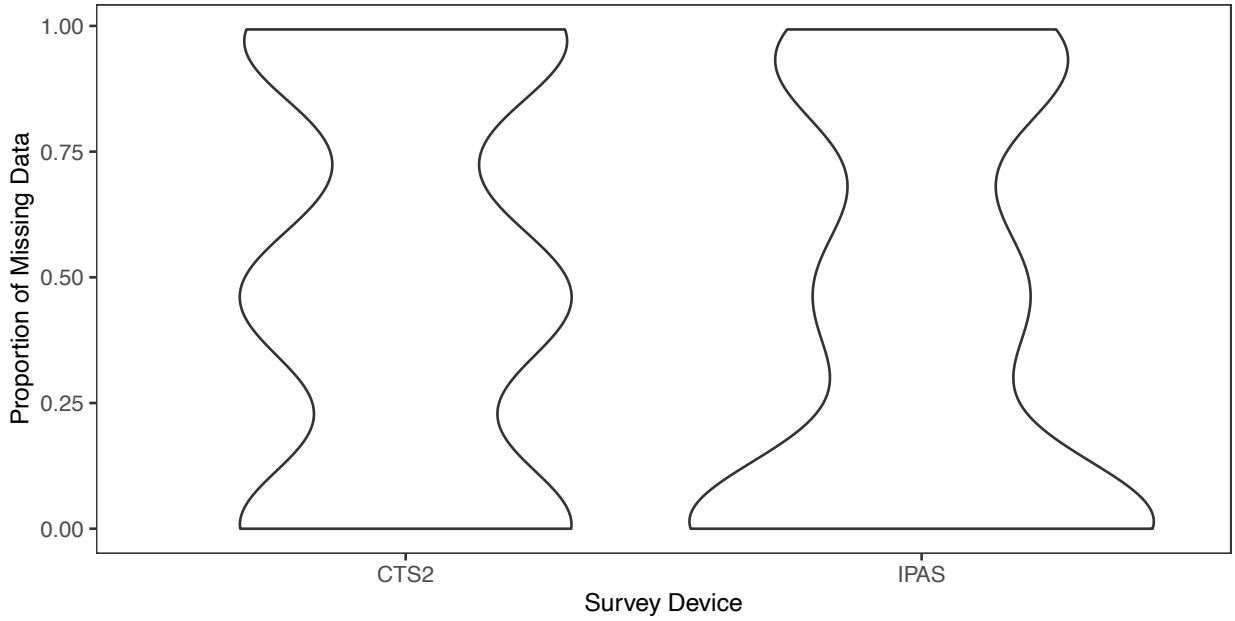
Finally, to minimize the chance that the above results are due to a non-systematic difference in subjects who didn't answer any of the items, and, therefore, may have not engaged with the relevant items at all, the missing data scores calculated based on all items on the IPAS-I and IPAS-E were again analyzed in comparison to the missing data scores for all items on the CTS2 and CTS2-CA, with the modification that any subjects who didn't answer a single relevant question (i.e., had a missing data score of 1) were excluded from the sample. This leaves the data with only subjects who answered at least one item of their assigned survey device, either the IPAS (n = 144) or CTS2 (n = 124). In visually examining the missing data scores for the IPAS and CTS2, both distributions appeared trimodal and non-normal (see Figure 19). Due to the trimodality, descriptive statistics were not calculated due to their inability to effectively summarize the data. Instead, the data visualizations were compared based on the apparent peaks and valleys of the distributions. Like before, the IPAS appeared to have more data near 0, while

the CTS2 appeared to have more data near 1. A Kolmogorov–Smirnov test was conducted to determine if these distributions were significantly different from each other. The analysis found that the distribution of missing data, excluding scores of 1, for the IPAS was significantly different than the distribution for the CTS2, (D = .18, p = .03). This rejects the null hypothesis of one statistical distribution in favor of the alternative hypothesis that the distributions for the IPAS and CTS2 are indeed statistically distinct.

In sum, missing data scores appeared to be lower for the IPAS than for the CTS2. This was true when including all items, parsing the data into involvement and exposure sections, and excluding subjects who did not answer any items. This means that, overall, subjects who took the IPAS answered significantly more non-demographic items than subjects who took the CTS2 on both the involvement and exposure sections of the devices.

Figure 23

Missing Data Scores Across Survey Device Excluding Y=1 Subjects



Chapter 5: Discussion

While there is a great deal of consensus in the scientific community regarding both exposure to and involvement in intimate partner violence as pervasive public health concerns (Garrido et al. 2011; Jewkes 2002; Rosser-Limiñana, Suriá-Martínez, and Mateo Pérez 2020), this is roughly where the consensus ends. The field of IPV research has been divided since its inception when feminist researchers developed theories based on qualitative interviews of women in domestic violence shelters (Dobash and Dobash 1979) while family violence researchers developed theories based on behavioral checklists that focused primarily on physical violence and failed to account for a relationship's underlying disposition (Straus 1979). Both groups of scholars have attempted to generalize their findings to the larger population of individuals in abusive relationships despite lacking sufficient data to back up their assertions (Jewkes 2002). Fifty years later, we remain reliant on outdated definitions of IPV that inhibit our measurement and understanding of the phenomenon, thereby inhibiting our ability to develop successful early intervention and prevention strategies that can be applied to the population (Holmes et al. 2022). A systematic review of intervention programs for perpetrators of IPV found that most programs were ineffective in reducing IPV (Babcock et al. 2016). Furthermore, these programs can only be applied to late-stage abusive relationships rather than early abusive relationships that may be more amenable to intervention. This study may mark the beginning of a new era of intimate partner violence research defined by synchronicity among scholars and measurement tools that are both valid and reliable, ultimately leading to effective interventions for reducing IPV.

Primary Findings

This study involved the development and pilot test of a novel measurement device for involvement in and exposure to intimate partner violence based on an integrative power-dynamic-based model focusing on the key role that power plays in abusive relationships. The novel instrument, the IPAS, was tested against the current most used instrument, the CTS2, in an online survey through which participants were randomly assigned to receive either the IPAS or CTS2. The first research question asked if and how the rates of IPV and EIPV would differ in the IPAS condition relative to the CTS2 condition. The corresponding hypothesis was that the behavioral abuse items on the IPAS would be associated with higher rates of abuse than the behavioral abuse items on the CTS2, as the IPAS accounts for a broader range of behaviors that have been shown to manifest in abusive relationships (Ali, Dhingra, and McGarry 2016; Pence and Paymar 1993). To test this hypothesis, abuse prevalence scores (whether or not a subject had been involved in or exposed to any abuse in their most recent relationship) and abuse chronicity scores (the degree to which a subject who indicated at least one instance of abuse had been involved in or exposed to abuse in the referent year) were compared across devices.

In congruence with this study's hypothesis, the novel IPAS-I metric found a higher prevalence rate of involvement and abuse, for both perpetration and victimization behaviors, than the traditional CTS2 device. This difference in prevalence rates is primarily attributable to differences in psychological abuse prevalence, with the IPAS-I uncovering more psychological abuse than the CTS2, whereas the IPAS-I and CTS2 found similar prevalence rates of physical and sexual abuse. Furthermore, this finding held when examining victimization and perpetration of psychological abuse separately; the IPAS-I found higher victimization and perpetration rates of psychological abuse than the CTS2. These findings suggest that the IPAS-I's inclusion of a

greater spectrum of psychologically abusive behaviors than the CTS2 may increase its capacity to identify the presence of abuse in situations or relationships that the CTS2 would overlook.

As discussed earlier, the CTS2 and other similar IPV measurement devices are heavily reliant on physical violence, despite physical violence being only one aspect of IPV that may not exist in every abusive relationship (Bledsoe and Sar 2011; Coker et al. 2000; Evans et al. 2021; Fisher 2019; Giordano et al. 2010; Holmes et al. 2022). The fact that the IPAS-I and CTS2 found similar prevalence rates of physical and sexual abuse shows that even though the CTS2 contains many more violence-related items than the IPAS, the IPAS sufficiently captures violent abuse. Furthermore, this allows one to extrapolate that it is likely the greater diversity of psychological abuse behaviors, not solely the larger number of items, that allows the IPAS-I to capture more psychological abuse than the CTS2. One could argue conversely that the higher prevalence rate of psychological abuse on the IPAS-I relative to the CTS2 is a result of measurement hypersensitivity, allowing the IPAS to count relationships that are not truly abusive but occasionally contain "mutual" fights. While the IPAS-I may be slightly over-sensitive to psychological abuse, this is unlikely given that every item on the IPAS-I stemmed from a previously validated measure of IPV. Moreover, it is better to identify non-abusive relationships as being abusive than it is to fail to identify abuse in abusive relationships, particularly since one of the potential uses for the IPAS is in clinical and other intervention-focused settings as a screening tool for IPV. For example, a doctor should provide a preliminary diagnosis for a patient who exhibits early signs of a disorder and continue to monitor them rather than dismiss a patient who does not meet the primary diagnostic criteria, only for their disorder to become malignant in the shadows.

In addition to over-sensitivity to abuse being preferable to under-sensitivity in an IPV screening device, the IPAS also includes a section on power dynamics that can be used in tandem with the behavioral items to discriminate between abusive relationships and couples who fight. For example, if an individual indicates a high power imbalance but only a few instances of discrete abusive behaviors, they may be in the early stages of an abusive relationship. On the other hand, if an individual indicates many instances in which they perpetrated and were victimized by abusive behaviors, but equal power between them and their partner, they may simply be in an unhealthy relationship. One must consider the behaviors that occur within a relationship together with the relationship's underlying disposition to accurately estimate whether an individual is involved in an abusive relationship, as a perpetrator or a victim.

Prevalence findings for the exposure sections of the IPAS and CTS2 are moderately disparate from those discussed above for the involvement sections. In contrast to this study's hypothesis, despite the IPAS-E finding a higher prevalence of abuse than the CTS2-CA (see Figure 6), this difference was not statistically significant. There are several potential reasons for this lack of significance despite significant findings for the involvement sections. First, the sample size for the exposure sections test was smaller than the sample size for the involvement test. Thus, a greater sample size may have altered the results toward or further from significance. Second, while items on the IPAS-I were taken from previously tested and validated devices, items on the IPAS-E are novel and have yet to be validated. As such, the IPAS-E may simply need further testing and refinement to achieve validity. Additionally, while the CTS2-CA provides a list of abusive behaviors and inquires how often each one happened, the IPAS-E provides items that consider the mode of exposure (e.g., direct witnessing, participation) by specifying it for each item (e.g., "I saw…," "I joined…") (Holden 2003). Therefore, a participant

may have been exposed to some of the items on the IPAS-E through a different mode than was specified, leading the device to undercount the true prevalence of abuse relative to the CTS2 which did not specify the mode of abuse.

The benefit to measuring which facets of exposure to IPV an individual may have experienced is that it allows for a deeper understanding of the effects of exposure since children of caregivers in an abusive relationship may have massively heterogeneous outcomes that may be influenced by how a child is exposed to abuse (Holden 2003). One way to rectify the IPAS-E potentially undercounting abuse would be to ask if an individual was exposed to an abusive behavior (similar to the CTS2) followed by a brief list of potential modes of exposure of which the individual may select multiple. Indeed, a similar measurement technique is used on the Child Exposure to Domestic Violence Scale (Edleson et al. 2008). The reason for attempting to circumvent this adaptation is that it would increase the amount of time it would take to complete the IPAS-E, an already extensive device, increasing the risk of participant attrition. Furthermore, this attrition effect would more severely impact subjects who had been exposed to a higher degree of abuse, a population whose responses are crucial to understanding EIPV. Although this is a non-exhaustive list of potential explanations for the lack of significant difference between prevalence rates obtained by the IPAS-E and CTS2-CA, it stresses the need to more closely examine the IPAS-E to ensure maximum efficacy in identifying EIPV.

In addition to the involvement section of the IPAS finding a higher prevalence rate of abuse than the CTS2, the IPAS-I found, overall, a higher chronicity of abuse than the CTS2. In other words, not only did the IPAS-I identify a higher percentage of subjects involved in abuse compared to the CTS2, but it also found a higher frequency of abuse among subjects who were involved. The difference in abuse chronicity across survey devices suggests that the difference in

prevalence rates between the IPAS-I and CTS2 is not solely due to a greater number of items providing participants more opportunities to indicate that a behavioral act occurred once. The fact that the CTS2 found a lower frequency of abuse in subjects' relationships than the IPAS-I also indicates that the CTS2 may underestimate the degree to which individuals are involved in abuse. The finding that the IPAS-I seems to be more able to detect abuse than the CTS2 suggests that the IPAS-I has significant potential to be used in the future to detect IPV for research and intervention.

In addition to the IPAS-I being more sensitive to abuse, particularly psychological abuse, than the CTS2, another promising finding for use of the device is the fact that participants filled out a larger percentage of items on the IPAS compared to the CTS2, leaving the IPAS with less missing data, across both the involvement and exposure subsections. Across both survey devices, most subjects answered either approximately all items, none or one of the items, or roughly 50% of the items. However, more subjects on the IPAS than the CTS2 answered approximately all the items, whereas more subjects on the CTS2 answered 50%, none, or one of the items. The large number of subjects who only filled out approximately 50% of the items is largely attributable to subjects filling out either the involvement or the exposure section, and neglecting to complete the other section. This can be seen in the difference between Figure 16 and Figures 17 and 18, as the quantity surrounding .5 disappeared when the missing data was examined separately on the involvement and exposure sections. It is currently unclear why participants completed a larger proportion of items on the IPAS than on the CTS2, but one potential explanation is that the instructions or wording of the items on the IPAS-I made subjects, overall, more comfortable and willing to engage with the survey and divulge their history. This increased comfort may also partially explain the IPAS's higher prevalence and chronicity rates compared to the CTS2, as

subjects may have been more willing to divulge their specific experiences with abuse. Since IPV is a highly sensitive subject that is difficult to research (Dutton et al. 2003), a measurement instrument that makes participants more likely to discuss their history of abuse is invaluable.

To test this study's second hypothesis that the IPAS would find a positive association between a relationship's power imbalance and the frequency of abuse in the relationship, subjects' power scores were tested against their chronicity scores within the IPAS-I and IPAS-E. In line with this hypothesis, power imbalance and abuse chronicity were positively correlated within both IPAS-I and IPAS-E. This suggests that, on average within the sample, the greater the power imbalance in a relationship, the more frequently abusive acts occurred, in both subjects' romantic relationship and the inter-caregiver relationship to which they were exposed as children. These data must not be assumed to have high external validity, as the majority of power and chronicity scores fell close to 0 and the sample sizes for the involvement and exposure tests were relatively small. However, this lack of external validity does not compromise the integrity of the study, as the data are not meant to validate the integrative power imbalance model on which the IPAS is based nor are they meant to be generalizable to the larger population. Rather, this finding serves to provide preliminary evidence for the integrative power model to show the potential utility of the IPAS and support its future development.

To examine the third hypothesis that subjects' degree of involvement in abuse would be positively associated with the degree of abuse to which they were exposed in childhood, subjects' involvement chronicity scores were tested against their exposure chronicity scores within both the IPAS and CTS2. For both the IPAS and CTS2 conditions, the frequency of abuse in subjects' relationships and the frequency of abuse to which they were exposed were positively correlated. This means that, on average, subjects who experience a higher frequency of abuse in

their romantic relationships were exposed to a higher frequency of abuse between their caregivers. As with the correlation between subjects' power and chronicity scores, the majority of subjects' involvement and exposure chronicity scores for both the IPAS and CTS2 fell near 0. Furthermore, the sample sizes were particularly small for both the IPAS and CTS2 correlation tests since subjects were only included if they responded to every behavioral abuse item on both the involvement and exposure sections of their assigned device. This departure from normality and small sample size, combined with the presence of outliers, means these data, despite their statistical significance, should not be taken as generalizable to individuals outside of the sample. However, as with the previous correlation, the positive association between the frequency of abuse between subjects' caregivers and the frequency of abuse in their current or most recent relationship serves as preliminary evidence of the intergenerational cycle of violence that the IPAS seeks to understand.

Implications

The IPAS exists to serve four ultimate goals: (1) understanding the role of interpersonal power dynamics in IPV, (2) understanding the relation between involvement in and exposure to IPV, (3) implementing an accurate screening device to determine if individuals are or were involved in or exposed to IPV, and (4) facilitating a unified framework for IPV that allows scholars with diverse viewpoints to synthesize their research and work more effectively together toward ameliorating IPV. This study served as the first step in an iterative, grounded process toward creating a valid, reliable, and – perhaps most importantly – widely-used instrument for measuring IPV and EIPV; there is minimal value in creating a valid and reliable device if it is not shared by other scholars who can implement it in novel ways through their own perspectives.

Each of the four goals of the IPAS could not be achieved through current instrumentation. The measurement devices that exist are disconnected from each other and the literature, whereas the IPAS was developed by synthesizing extant devices with recent knowledge in the field of IPV. For example, power dynamics are a vital aspect of every relationship (Agnew and Harman 2019; Dunbar 2015), yet many IPV devices either ignore power entirely or view it only in its extreme form, control (Bledsoe and Sar 2011; Stark and Hester 2019; Strauchler et al. 2004). An unequal power distribution creates a relationship disposition in which one partner, to some extent, depends on the other and the less dependent partner has a greater ability to make decisions and dictate certain things that their partner should or should not do (Emerson 1981). This may precipitate discrete abusive behaviors by creating an environment in which the partner with more power views themself in a position of superiority and, therefore, views their actions toward their partner as without consequence. In this way, an imbalance of power can influence abuse without one partner having complete control over the other. Preliminary findings garnered from the IPAS do not enhance our understanding of power in abusive relationships, but they do provide support for power as a potentially relevant continuous variable for IPV.

A great deal of research has examined factors that may influence involvement in IPV in addition to the potential consequences of being exposed to IPV in childhood (Bogat et al. 2023; Evans et al. 2022; Lichter and McCloskey 2004). Furthermore, several studies have explicitly examined the intergenerational cycle of violence to determine if exposure to IPV is related to involvement in IPV (Augsburger, Basler, and Maercker 2019; Evans et al. 2022; Jung et al. 2019; Temple et al. 2013). However, these studies pay little heed to their measurement of IPV and EIPV, leading to inconsistent and invalid results (Latzman et al. 2017). Unlike common

devices, the IPAS was specifically designed with two sections to measure involvement in and exposure to IPV so that the two phenomena may be measured either together or separately. For example, a researcher may use the IPAS-E in conjunction with measures of mental health to gain a more nuanced understanding of how EIPV affects children's cognitive well-being and development (Carpenter and Stacks 2009; Williams and Adams Rueda 2022). This study provided positive correlational results that suggest a potential relation between IPV and EIPV that warrants further study.

While there have been many attempted intervention and prevention strategies for IPV (Jewkes 2002; Wathen and MacMillan 2013), there has yet to be a successful early intervention that can be widely applied to perpetrators or victims in abusive relationships. This may be, in part, because many past studies have focused on individuals in abusive relationships with a significantly higher frequency of abuse than one might see in a non-shelter-based sample (e.g., Dobash and Dobash 1979). One of the factors that may be precluding an intervention that can extend to less stereotypical abusive relationships is the lack of an accurate screening tool that can detect abuse in relationships with lower levels of abuse chronicity. While devices such as the CTS2 may be able to identify relationships with a high degree of physical abuse, it may miss out on early abusive relationships in which violence has yet to manifest as well as other abusive relationships characterized primarily by psychological abuse and manipulation.

This pilot study found promising results for the IPAS-I to be used to identify abusive relationships at early stages and low frequencies of abuse in addition to abusive relationships at later stages and high frequencies of abuse. The IPAS-I found a significantly higher proportion of subjects involved, in some capacity, in abuse than the CTS2 via a measure of prevalence. Furthermore, within the subjects who were involved in at least one instance of abuse in the most

recent year of their relationship, the IPAS-I seemed to find higher frequencies of abuse than the CTS2. These data provide preliminary evidence that the IPAS-I may be sensitive enough to screen for IPV even in early abusive stages of relationships, thus making it a viable option as a screening tool to implement for early intervention and prevention strategies, rather than only being able to target individuals already heavily involved in abuse. Since the IPAS had a lower proportion of missing data than the CTS2, in addition to being more sensitive to psychological abuse, it may make individuals more likely to respond truthfully to the abuse-related items, thus making it more effective than the CTS2 in diagnosing IPV. However, this hypothesis will require additional research, as the current findings cannot be generalized much past the sample itself.

The final goal of the IPAS was to create a device that integrates several prominent perspectives on IPV, such that scholars across the field will recognize it as a valid instrument and thus be willing to use it in their research, making it easier to synthesize findings both on an operational and conceptual level. Johnson's typology for IPV is highly regarded as it manages to explain IPV by incorporating the viewpoints of both feminist and family violence researchers (2008). However, Johnson's typology did not solve the problem of a divided field of scholars each researching their own subtype of IPV in a manner that does not promote knowledge synthesis across subtypes. Whereas Johnson's model split IPV into several subtypes, each based on a different theory, the IPAS is based on a model that unifies the seemingly disparate theories to explain a spectrum of abusive relationships through a singular lens, thus allowing for concordant methodologies across studies. While this study is primarily exploratory and does not seek to generalize findings to the entire population, it has nonetheless provided support for the continued development of the IPAS as a tool that may provide valid and reliable measurement of IPV and EIPV so that we can work to understand and ameliorate these phenomena.

Limitations and Future Directions

Despite this study being a pilot test of a novel instrument rather than a study seeking to explain IPV and EIPV, several limitations must be addressed. The first few limitations surround this study's sample. To wit, this study's sample was non-random and small relative to what is often necessary to study uncommon and sensitive phenomena such as IPV. This sample limitation makes it difficult to achieve certain assumptions of inferential tests, such as normality, thus weakening the validity of this study's inter-device comparisons by constraining the analysis to less powerful, non-parametric tests. Furthermore, this limitation impacts this study's generalizability, making it difficult to gauge how this instrument would fare in a larger, more representative sample of the population. For example, most of the subjects in this study were heterosexual, meaning the IPAS may not be as effective in non-heterosexual relationships. To assess this, future tests of the IPAS may involve intentionally over-sampling from under-represented communities. In the same vein, only four subjects in the sample were obtained from victim advocates or domestic violence shelters (see Appendix B). While this does not necessarily impede this study's support for the identification of abuse in the general population, it does signify the need to focus future tests on subjects known to be or have been victimized by chronic abuse. Further, a broader range of chronicity scores would create a less skewed distribution that may be easier to analyze. While this study's sampling technique included a prong to account for victims of chronic abuse, a third prong was not included to account for perpetrators of chronic abuse as this pilot study did not have the resources necessary to access this population. This does not affect the validity of this study's results but does mean that the IPAS may operate distinctly in known perpetrators of abuse; this population should be explicitly examined in future tests of the device. The other sample-related limitation involves the potential of self-selection bias

influencing this study's external validity. In other words, individuals who opted to engage in this voluntary study may be systematically different than individuals who were aware of the study yet opted not to participate. This flaw implies that the IPAS may have produced different results if participation was mandatory.

In addition to testing the IPAS in larger, more representative samples of the population, the IPAS allows for the creation of several scores that were not analyzed in this study. One such score is the lifetime prevalence of abuse, discussed in the IPAS-I methods section, which indicates whether an individual has experienced abusive behaviors in their most recent relationship or previous relationships. The lifetime prevalence statistic that can be calculated with the IPAS may, eventually, be used to supplement or replace the WHO's measurement devices, allowing them to represent IPV more accurately in the global population by providing a tailored, sensitive measurement tool that individuals may be more likely to engage with than other devices. Of course, IPAS-calculated lifetime prevalence scores require significant testing in population-representative samples before the device is used to report official statistics that guide policy.

Along with lifetime prevalence scores, although perpetration and victimization of IPV, both between a subject and their partner and between the subject's caregivers, were not directly compared in this study, items on the IPAS allow for directional scores indicating whether a subject perpetrated or was victimized by each abusive act, as well as whether the direction of a power imbalance. The reason for largely ignoring the distinction between perpetration and victimization within the behavioral items is that abusive relationships often contain abusive behaviors perpetrated both by the primary perpetrator and the primary victim. For example, victims of IPV may engage in anticipatory violence in which they initiate a fight to gain control

over when an altercation will occur (e.g., when children are at school) if they cannot control whether it will occur (Fisher 2019). Therefore, even if an individual has high chronicity scores for both victimization and perpetration, they may still be in an abusive relationship, rather than in an unhealthy relationship in which the couple engages in mutual violence. The key difference may be found in a relationship's distribution of power, hence the power dynamic section of the IPAS. This showcases the reason for the existence of another IPAS-calculated score that was not addressed directly in this study, the dyadic score. A subject's dyadic abuse score, derived from their aggregate abuse chronicity and power imbalance scores, is intended to provide a more nuanced operationalization of abuse that can separate truly abusive relationships from mutually toxic relationships without relying solely on the frequency or direction of abusive behaviors. Although the dyadic score was discussed in this paper, it was not calculated due to sampling-induced constraints. Furthermore, the mathematical formula for the dyadic score has yet to be refined, as the results from this pilot study must first be used to elevate the IPAS to increase our understanding of the power-abuse association, to represent a subject's involvement in or exposure to abuse more precisely through a single score.

As previously discussed, the IPAS-E, unlike the IPAS-I, did not find a significantly higher prevalence of abuse compared to the CTS2-CA. Therefore, future studies may be used to refine and retest the IPAS-E, administered to both adults and children, to make it a robust predictor of EIPV, with a focus on psychological abuse. Additionally, the IPAS may be paired in the future with qualitative interviews to more thoroughly assess its ability to screen for IPV and EIPV. Qualitative research of a sample representative of the population, rather than a sample of known abuse victims and perpetrators, is crucial to the IPAS's success. An instrument can claim to have found the phenomenon for which it was screening, but if this finding has never been

paired with other, distinct, measures (e.g., qualitative interviews or direct observation) then it may be the metaphorical equivalent of a tired child counting sheep without realizing that what they thought were sheep were actually llamas. Indeed, the child would never know that they were counting the wrong animal unless they received confirmation from a separate source of information, such as their caregiver. This is all to say that grounded research of the IPAS in diverse populations is essential to ensuring that it is not only reliable but valid as well.

Conclusion

The study of involvement in and exposure to intimate partner violence is plagued by conceptual and methodological inconsistencies that inhibit the synthesis of valid, reliable findings that precede generalizable explanations for human behavior. These flaws in definition and measurement, such as negligence of psychological abuse and dispositional traits of a relationship that may subserve abuse, lead to severe variability in findings (e.g., Wincentak, Connolly, and Card 2017) and cast doubt that reliable findings may not be as valid or widely applicable as they are presumed to be. As there is no contemporary measurement device for IPV and EIPV that is broadly accepted as both valid and reliable, researchers either opt for outdated devices due to their extensive past use and reliability – such as the CTS2 – or design single-use, study-specific instruments. To develop a comprehensive understanding of IPV and EIPV and implement effective early intervention and prevention strategies, these phenomena must be analyzed across an array of populations using a single valid instrument that paves the way for effective systematic reviews and meta-analyses. Swift application of these strategies is imperative to combat the immense impact that intimate partner violence has on victims and society as a whole.

This pilot study provided preliminary support for the implementation of a novel measurement tool, the IPAS, grounded in a model that integrates current perspectives on IPV by focusing on the role of both a relationship's underlying power dynamic and the abusive acts that occur within it. The evidence described in this study showcases the IPAS's potential to succeed where current instrumentation has not. Namely, the involvement section of the IPAS found higher prevalence and chronicity rates of psychological abuse than the CTS2, suggesting it is more sensitive and able to identify abusive relationships that are not contemporaneously characterized by the level of physical and psychological abuse required to be detected by the CTS2. Furthermore, subjects answered significantly more questions on the IPAS than the CTS2, across both involvement and exposure sections, illuminating the IPAS's potential to increase individuals' levels of comfort and make them more likely to engage with the device; this is particularly crucial given the stigma surrounding IPV and vulnerability of many individuals who are exposed to and involved in IPV. This study also provided early support for the novel power dynamic model and the intergenerational cycle of violence model on which the IPAS was built by showing positive correlations between subjects' relational power imbalances and the frequency at which they are exposed to or involved in abuse and positive correlations between subjects' childhood exposure to and current involvement in abuse.

Together, these findings support two primary implications. First, the findings highlight the potential of the IPAS as a valid measurement device for IPV and EIPV that, after further testing and refinement, can be used in diverse communities to obtain a holistic image of individuals involved in and exposed to IPV. The second, perhaps more severe, implication of this research is that the most commonly used device to measure intimate partner violence, the CTS2, is insufficient to identify IPV given the knowledge we have garnered since its creation in 1996.

Since the CTS2 only measures discrete abusive behaviors and pays minimal attention to psychological abuse, we must question its validity in measuring IPV. The higher rates of psychological abuse captured by the IPAS serve as evidence that studies using the CTS2 to examine IPV may be overlooking individuals in early abusive relationships defined primarily by psychological abuse and dispositional power imbalances. Our understanding of IPV cannot advance if we continue to study it with an obsolete measure that neglects vital segments of the population we perceive it to encapsulate. While this study does not prove that the IPAS is the optimal device to measure intimate partner violence moving forward, it does serve as a clear warning of the scientific stagnation that will persist as long as our measurement devices remain tied to the past rather than rooted in the present.

Appendices

Appendix A. Resources Provided on the Survey's Final Page

National Suicide and Crisis Lifeline (available 24/7)
Dial or text 988
SAMHSA National Mental Health Helpline (available 24/7)
1-800-662-HELP (4357)
National Domestic Violence Hotline (available 24/7)
1-800-799-SAFE (7233)
Text START to 88788
www.thehotline.org
National Sexual Assault Hotline (available 24/7)
1-800-656-HOPE (4673)
House of Ruth Maryland
24-Hour Hotline: 410-889-7884
Legal Hotline: 1-888-880-7884
Find shelters and resources in your local area:
https://www.thehotline.org/get-help/domestic-violence-local-resources/
Maryland Helpline (available 24/7)
Dial or text 211
Can help connect you to shelters, domestic violence resources, legal resources, and more
National Dating Abuse Helpline (available 24/7)
1-866-331-9474
text "LOVEIS" to 22522
National Child Abuse Hotline (available 24/7)
1-800-4-A-CHILD (1-800-422-4453)
Maryland Coalition Against Sexual Assault
www.mcasa.org
Additional intimate partner violence resources:
www.cdc.gov/violenceprevention/intimatepartnerviolence/resources.html
https://ncadv.org/RESOURCES

Appendix B. Demographics Breakdown Across Survey Device

	IPAS	CTS2	Total
Gender			
Male	25 (26.60%)	25 (31.25%)	50 (28.74%)
Female	66 (70.21%)	51 (63.75%)	117 (67.24%)
Non-binary	3 (3.19%)	3 (3.75%)	6 (3.45%)
Other	0 (0.00%)	1 (1.25%)	1 (0.57%)
Sex			
Male	31 (32.29%)	25 (30.86%)	56 (31.64%)
Female	65 (67.71%)	55 (67.90%)	120 (67.80%)
Intersex	0 (0.00%)	1 (1.23%)	1 (0.56%)
Sexual orientation			
Asexual	1 (1.04%)	3 (3.75%)	4 (2.27%)
Bisexual	18 (18.75%)	10 (12.50%)	28 (15.91%)
Gay or lesbian	1 (1.04%)	3 (3.75%)	4 (2.27%)
Heterosexual	71 (73.96%)	60 (75.00%)	131 (74.43%)
Pansexual	1 (1.04%)	2 (2.50%)	3 (1.70%)
Queer	3 (3.13%)	2 (2.50%)	5 (2.84%)
Other	1 (1.04%)	0 (0.00%)	1 (0.57%)
Age			
18-26	39 (40.21%)	35 (43.21%)	74 (41.57%)
27-33	20 (20.62%)	13 (16.05%)	33 (18.54%)

34-40	5 (5.15%)	8 (9.88%)	13 (7.30%)
41-47	7 (7.22%)	8 (9.88%)	15 (8.43%)
48-54	4 (4.12%)	3 (3.70%)	7 (3.93%)
55-61	4 (4.12%)	6 (7.41%)	10 (5.62%)
≥ 62	18 (18.56%)	8 (9.88%)	26 (14.61%)
Race			
Asian	4 (4.17%)	5 (6.17%)	9 (5.08%)
Black	8 (8.33%)	8 (9.88%)	16 (9.04%)
Hispanic/Latinx	4 (4.17%)	4 (4.94%)	8 (4.52%)
Middle Eastern/North African	1 (1.04%)	1 (1.23%)	2 (1.13%)
Native American/Alaska Native	1 (1.04%)	1 (1.23%)	2 (1.13%)
Native Hawaiian/Pacific Islander	0 (0.00%)	0 (0.00%)	0 (0.00%)
White	68 (70.83%)	55 (67.90%)	123 (69.49%)
Mixed race	9 (9.38%)	6 (7.41%)	15 (8.47%)
Other race	1 (1.04%)	1 (1.23%)	2 (1.13%)
Religion			
Agnostic	14 (14.89%)	11 (14.10%)	25 (14.53%)
Atheist	9 (9.57%)	12 (15.38%)	21 (12.21%)
Buddhist	1 (1.06%)	0 (0.00%)	1 (0.58%)
Christian	28 (29.79%)	23 (29.49%)	51 (29.65%)
Hindu	0 (0.00%)	1 (1.28%)	1 (0.58%)
Jewish	30 (31.91%)	20 (25.64%)	50 (29.07%)

Muslim	1 (1.06%)	2 (2.56%)	3 (1.74%)
Sikh	0 (0.00%)	0 (0.00%)	0 (0.00%)
Non-religious	11 (11.70%)	6 (7.69%)	17 (9.88%)
Other	0 (0.00%)	3 (3.85%)	3 (1.74%)
Education			
Less than high school	0 (0.00%)	0 (0.00%)	0 (0.00%)
High school or GED	8 (8.33%)	9 (11.25%)	17 (9.66%)
Some college, no degree	25 (26.04%)	13 (16.25%)	38 (21.59%)
Associate's degree	7 (7.29%)	5 (6.25%)	12 (6.82%)
Bachelor's degree	23 (23.96%)	23 (28.75%)	46 (26.14%)
Master's degree	13 (13.54%)	13 (16.25%)	26 (14.77%)
Professional degree	7 (7.29%)	5 (6.25%)	12 (6.82%)
Doctorate	13 (13.54%)	12 (15.00%)	25 (14.20%)
Recruitment method			
Social media	46 (53.49%)	28 (39.44%)	74 (47.13%)
Flyer at University of Maryland	5 (5.81%)	6 (8.45%)	11 (7.01%)
Directly from researcher	33 (38.37%)	35 (49.30%)	68 (43.31%)
From a victim advocate	1 (1.16%)	2 (2.82%)	3 (1.91%)
From a DV shelter flyer	1 (1.16%)	0 (0.00%)	1 (0.64%)

Note. The first number in each cell is the count, while the second number is the percentage within the demographic category. "Total" consists of aggregated counts and percentages for both survey devices. Additionally, counts may not sum to the sample size for each device, as certain subjects may have neglected to answer demographic items.

Appendix C. Eligibility and Demographic Items

Please use this slider to select your current age in years.

Are you currently a resident of the United States?

- Yes
- No

Are you currently, or have you ever been in a romantic relationship of any length?

- Yes
- No

What races/ethnicities do you identify with? Select all that apply.

- Asian
- Black or African American
- Hispanic or Latino/a/x
- Middle Eastern or North African
- Native American or Alaska Native
- Native Hawaiian or other Pacific Islander
- White or Caucasian
- Other race/ethnicity (please specify)

What sex were you assigned at birth?

- Female
- Male
- Intersex

What gender do you most identify with?

- Cisgender female
- Cisgender male
- Non-binary
- Transgender female
- Transgender male
- Other gender identity (please specify)
- Prefer not to say

Which of these best describes your sexual orientation?

- Asexual
- Bisexual
- Gay or Lesbian

- Heterosexual or Straight
- Pansexual
- Queer
- Other sexual orientation (please specify)
- Prefer not to say

What is your religious affiliation?

- Agnostic
- Atheist
- Buddhist
- Christian
- Hindu
- Jewish
- Muslim
- Sikh
- Non-religious
- Other religious affiliation (please specify)
- Prefer not to say

What is the highest level of schooling you have completed?

- Less than a high school diploma
- High school or GED
- Some college, but no degree
- Associate's degree
- Bachelor's degree
- Master's degree
- Professional degree (for example: MD, JD)
- Doctorate

What is your marital status?

- Single (never married)
- Married
- Living with partner
- Separated
- Divorced

Widowed

Appendix D. Intimate Partner Abuse Scales – Involvement

Note. While Appendices A-D accurately represent the substance and wording of the survey device, they do not represent the device's layout or formatting.

Please answer the questions on this page by reflecting on your current or most recent romantic relationship. This relationship can be of any kind (such as a marriage, partnership, or situationship) as long as it is romantic or intimate in nature. Please answer to the best of your ability and keep in mind that your responses will be completely anonymous.

When did this relationship begin? (please give your best estimate)

When did this relationship end? (please give your best estimate)

What is your partner's gender identity?

- Cisgender female
- Cisgender male
- Non-binary
- Transgender female
- Transgender male
- Other gender identity (please specify)

Which of these best describes your partner's sexual orientation?

- Asexual
- Bisexual
- Gay or Lesbian
- Heterosexual or Straight
- Pansexual
- Queer
- Other sexual orientation (please specify)

The statements below describe different parts of your relationship. When answering, please think about the most recent year of the relationship.

How much do you agree or disagree with these statements about your relationship?
1 = Strongly disagree
2 = Disagree
3 = Slightly disagree
4 = Neutral
5 = Slightly agree

6 = Agree
7 = Strongly agree

1. I hold back my feelings in order to avoid conflict with my partner.
2. I watch what I say because my partner might get angry.
3. When my partner and I disagree, I don't express my feelings to avoid making my partner angry.
4. I feel able to change things in my relationship if I don't like them.
5. My partner makes me feel valued.
6. My partner can talk to me about anything.
7. My partner is my equal.
8. I wish I had more say over the kinds of things my partner does with their friends.
9. I wish my partner would just go along with decisions about everyday kinds of things.
10. I wish I could in some way monitor my partner's texts, emails, or phone calls.
11. My partner gives in to keep me from getting angry.
12. My partner is afraid to disagree with me.
13. I prefer to be in charge in my relationship.
14. When my partner and I disagree, I usually get my way.
15. I tell my partner how to act.
16. My partner is controlling.
17. I am afraid of my partner.
18. Within my relationship with my partner, I have felt inhibited, without freedom.
19. Within my relationship with my partner, I have felt afraid, with fear.
20. I have felt trapped in my relationship with my partner.

Below is a list of things that may happen in a relationship, especially during an argument or fight. Please choose how many times you did each of these things in the past year (or the most recent year you were in the relationship if it is over) and how many times your partner did them in the past year (or most recent year). If one of these things between you and your partner did not happen in the past/most recent year, but happened before that, select "5". If one of these things did not happen in this relationship, but it did happen in a previous relationship, choose "6".

How often did this happen?
1 = Once in the past year
2 = 2-4 times in the past year
3 = 5-10 times in the past year
4 = More than 10 times in the past year
5 = Not in the past year, but it did happen before

6 = Not in this relationship, but it did happen in a previous relationship
0 = This has never happened

1. I spent money or made financial decisions without talking to my partner.
2. My partner spent money or made financial decisions without talking to me.
3. I controlled or limited my partner's access to money.
4. My partner controlled or limited my access to money.
5. I called my partner names, put them down, made them feel bad, or swore at them.
6. My partner called me names, put me down, made me feel bad, or swore at me.
7. I withheld approval, affection, or sex from my partner as punishment.
8. My partner withheld approval, affection, or sex from me as punishment.
9. I shouted or yelled at my partner.
10. My partner shouted or yelled at me.
11. I stood or hovered over my partner during a conflict or disagreement.
12. My partner stood or hovered over me during a conflict or disagreement.
13. I destroyed or threatened to destroy something my partner valued.
14. My partner destroyed or threatened to destroy something I valued.
15. I deliberately tried to frighten my partner.
16. My partner deliberately tried to frighten me.
17. I got angry because my partner went somewhere without telling me.
18. My partner got angry because I went somewhere without telling them.
19. I tried to make my partner feel guilty for not spending enough time with me.
20. My partner tried to make me feel guilty for not spending enough time with them.
21. I blamed my partner when upset even if they had nothing to do with it.
22. My partner blamed me when upset even if I had nothing to do with it.
23. I pushed, shoved, or shook my partner.
24. My partner pushed, shoved, or shook me.
25. I threw something at my partner that could hurt.
26. My partner threw something at me that could hurt.
27. I twisted my partner's arm or hair.
28. My partner twisted my arm or hair.
29. I slapped my partner.
30. My partner slapped me.
31. I punched, kicked, or beat up my partner.
32. My partner punched, kicked, or beat up me.
33. I agreed to try a solution to a disagreement my partner suggested.
34. My partner agreed to try a solution to a disagreement I suggested.
35. I told my partner that I was partly to blame.

36. My partner told me that they were partly to blame.
37. I took responsibility for my problems or behaviors.
38. My partner took responsibility for their problems or behaviors.
39. I touched my partner sexually when they didn't want me to.
40. My partner touched me sexually when I didn't want them to.
41. I used force (like hitting, holding down, or using a weapon) to make my partner have sex, oral sex, or anal sex.
42. My partner used force (like hitting, holding down, or using a weapon) to make me have sex, oral sex, or anal sex.
43. I insisted on sex, oral sex, or anal sex when my partner did not want to (but did not use physical force).
44. My partner insisted on sex, oral sex, or anal sex when I did not want to (but did not use physical force).
45. I refused to use the safe sex methods that my partner requested to use (such as a condom, dental dam, etc.).
46. My partner refused to use the safe sex methods that I requested to use (such as a condom, dental dam, etc.).
47. I had sex, oral sex, or anal sex with my partner when they were unable to consent because they were so high, drunk, or passed out.
48. My partner had sex, oral sex, or anal sex with me when I was unable to consent because I was so high, drunk, or passed out.
49. I monitored my partner’s time and made them account for their whereabouts.
50. My partner monitored my time and made me account for my whereabouts.
51. I secretly searched through my partner’s belongings.
52. My partner secretly searched through my belongings.
53. I threatened to hurt or harm my partner.
54. My partner threatened to hurt or harm me.
55. I sent my partner texts or emails that threatened, harassed, or insulted them.
56. My partner sent me texts or emails that threatened, harassed, or insulted me.
57. I changed the subject on purpose when my partner was trying to discuss a problem.
58. My partner changed the subject on purpose when I was trying to discuss a problem.
59. I did not let my partner talk about their feelings.
60. My partner did not let me talk about my feelings.

Appendix E. Intimate Partner Abuse Scales – Exposure

Note. MOTHER and FATHER in the survey items below are placeholders. Participants' responses to the preceding items regarding their caregivers' titles were piped into the later questions for inclusivity.

In this section, we will ask about the romantic relationship between your caregivers when you were about 13 years old. For example, your parents, your foster parents, or your parent and your parent's boyfriend. If you were exposed to more than one relationship when you were 13 (such as father-stepmother and mother-stepfather), please choose the couple who you lived with more often. If your caregiver did not have a partner when you were 13 years old but they did have one when you were younger than that, please focus on the most recent year of the relationship you remember (for example, the year when you were about 9 years old). Keep this year consistent throughout the survey. If your caregiver did not have a partner when you were 13 years old or younger, but they did have one between ages 14 and 18, please focus on the most recent year of the relationship you remember (for example, the year when you were 16 years old). If your caregiver was never in a relationship when you were a child, please select that option on the next page and this section will be skipped.

Please select the option that best describes *your* relationship with one of your caregivers in the couple you saw most often when you were 13 years old. If you were only related to one of the people in this couple, please choose that person here.

- MOTHER
- FATHER
- GRANDMOTHER
- GRANDFATHER
- STEPMOTHER
- STEPFATHER
- Other (please specify)

Were you related to this person by birth?

- Yes
- No
- Unsure

Please select the option that best describes *your* relationship with the other person in the couple you saw most often when you were 13 years old (your MOTHER's partner).

- MOTHER
- FATHER
- GRANDMOTHER

- GRANDFATHER
- STEPMOTHER
- STEPFATHER
- MOTHER'S PARTNER
- FATHER'S PARTNER
- GRANDMOTHER'S PARTNER
- GRANDFATHER'S PARTNER
- STEPMOTHER'S PARTNER
- STEPFATHER'S PARTNER
- Other (please specify)

Were you related to this person by birth?

- Yes
- No
- Unsure

How old were you when this relationship began?

- __ years old
- This relationship began before I was born
- Unsure

How old were you when this relationship ended?

- __ years old
- This relationship is still going on
- Unsure

For each question below, please choose the answer that best fits the relationship between your MOTHER and FATHER when you were about 13 years old.

How much do you agree or disagree with these statements about their relationship?
1 = Strongly disagree
2 = Disagree
3 = Slightly disagree
4 = Neutral
5 = Slightly agree
6 = Agree
7 = Strongly agree

1. My MOTHER or FATHER would break or throw things during their arguments.
2. My MOTHER and FATHER had calm, quiet discussions about their problems.
3. My MOTHER and FATHER often had fights that lasted days or weeks.
4. My MOTHER and FATHER's arguments were over pretty quickly.
5. When my MOTHER and FATHER had arguments, they usually went my MOTHER's way.
6. My MOTHER and FATHER were equals.
7. My MOTHER often gave in to keep my FATHER from getting angry.
8. My MOTHER was afraid to disagree with my FATHER.
9. My FATHER preferred to be in charge in the relationship.
10. My MOTHER told my FATHER how to act.
11. My MOTHER was controlling in the relationship.
12. My FATHER was afraid of my MOTHER.
13. Within the relationship between my MOTHER and FATHER, my MOTHER felt inhibited, without freedom.
14. Within the relationship between my MOTHER and FATHER, my FATHER felt afraid, with fear.
15. My MOTHER felt trapped in the relationship with my FATHER.

Below is a list of things that might have happened when your MOTHER and FATHER had fights or argued. Please choose how many times each of these things happened in the year when you were about 13 years old. If one of these things between your MOTHER and FATHER did not happen in the year when you were about 13 years old but happened before or after that, circle "5".

1 = Once that year
2 = 2-4 times that year
3 = 5-10 times that year
4 = More than 10 times that year
5 = Not that year, but it did happen before or after
0 = This never happened

1. My MOTHER was hurting my FATHER and I physically or verbally tried to stop the fight.
2. My FATHER was hurting my MOTHER and I physically or verbally tried to stop the fight.
3. My MOTHER was yelling at my FATHER and I tried to get my MOTHER to stop.
4. My FATHER was yelling at my MOTHER and I tried to get my FATHER to stop.

5. My MOTHER was insulting or swearing at my FATHER and I tried to get my MOTHER to stop.
6. My FATHER was insulting or swearing at my MOTHER and I tried to get my FATHER to stop.
7. I tried to stop my MOTHER from hurting my FATHER and I got physically hurt in the process.
8. I tried to stop my FATHER from hurting my MOTHER and I got physically hurt in the process.
9. I tried to stop my MOTHER from yelling at my FATHER and SHE started yelling at me.
10. I tried to stop my FATHER from yelling at my MOTHER and HE started yelling at me.
11. My MOTHER made me spy on my FATHER.
12. My FATHER made me spy on my MOTHER.
13. I joined my MOTHER in insulting or yelling at my FATHER.
14. I joined my FATHER in insulting or yelling at my MOTHER.
15. I saw my MOTHER shout or yell at my FATHER.
16. I saw my FATHER shout or yell at my MOTHER.
17. I saw my MOTHER insult, degrade, or swear at my FATHER.
18. I saw my FATHER insult, degrade, or swear at my MOTHER.
19. I saw my MOTHER blame my FATHER for my MOTHER being upset or angry.
20. I saw my FATHER blame my MOTHER for my FATHER being upset or angry.
21. I saw my MOTHER try to scare or bully my FATHER.
22. I saw my FATHER try to scare or bully my MOTHER.
23. I saw my MOTHER hovering over my FATHER when they argued.
24. I saw my FATHER hovering over my MOTHER when they argued.
25. I saw my MOTHER push, shove, or shake my FATHER.
26. I saw my FATHER push, shove, or shake my MOTHER.
27. I saw my MOTHER throw something at my FATHER that could hurt.
28. I saw my FATHER throw something at my MOTHER that could hurt.
29. I saw my MOTHER slap my FATHER.
30. I saw my FATHER slap my MOTHER.
31. I saw my MOTHER punch, kick, or beat up my FATHER.
32. I saw my FATHER punch, kick, or beat up my MOTHER.
33. I saw my MOTHER accept part of the blame in an argument with my FATHER.
34. I saw my FATHER accept part of the blame in an argument with my MOTHER.
35. I saw my MOTHER agree to try a solution to a disagreement my FATHER suggested.
36. I saw my FATHER agree to try a solution to a disagreement my MOTHER suggested.
37. I overheard my MOTHER sexually assault my FATHER.
38. I overheard my FATHER sexually assault my MOTHER.
39. I overheard my MOTHER physically hurt my FATHER.

40. I overheard my FATHER physically hurt my MOTHER.
41. I overheard my MOTHER shout or yell at my FATHER.
42. I overheard my FATHER shout or yell at my MOTHER.
43. I overheard my MOTHER threaten to hurt or harm my FATHER.
44. I overheard my FATHER threaten to hurt or harm my MOTHER.
45. I saw bruises on my FATHER after my MOTHER and FATHER had a fight.
46. I saw bruises on my MOTHER after my FATHER and MOTHER had a fight.
47. I saw my MOTHER angry after an argument with my FATHER.
48. I saw my FATHER angry after an argument with my MOTHER.
49. My MOTHER spent a night away from the family because of an argument with my FATHER.
50. My FATHER spent a night away from the family because of an argument with my MOTHER.
51. I learned that my MOTHER physically hurt my FATHER soon after it happened.
52. I learned that my FATHER physically hurt my MOTHER soon after it happened.

Bibliography

Agnew, Christopher R., and Jennifer J. Harman, eds. 2019. *Power in Close Relationships*. Cambridge, United Kingdom: Cambridge University Press.

Akers, Ronald L. 1973. "Deviant Behavior: A Social Learning Approach."

Ali, Parveen Azam, Katie Dhingra, and Julie McGarry. 2016. "A Literature Review of Intimate Partner Violence and Its Classifications." *Aggression and Violent Behavior* 31:16–25. doi: 10.1016/j.avb.2016.06.008.

Archer, John. 2000. "Sex Differences in Aggression between Heterosexual Partners: A Meta-Analytic Review." *Psychological Bulletin* 126(5):651–80. doi: 10.1037/0033-2909.126.5.651.

Arias, Ileana, Rebecca T. Leeb, Cindi Melanson, Leonard J. Paulozzi, and Thomas R. Simon. 2008. *Child Maltreatment Surveillance; Uniform Definitions for Public Health and Recommended Data Elements*. Atlanta: Centers for Disease Control and Prevention.

Arias, Ileana, and Karen T. Pape. 1999. "Psychological Abuse: Implications for Adjustment and Commitment to Leave Violent Partners." *Violence and Victims* 14(1):55–67. doi: 10.1891/0886-6708.14.1.55.

Artz, Sibylle, Margaret A. Jackson, Katherine R. Rossiter, Alicia Nijdam-Jones, István Géczy, and Sheila Porteous. 2014. "A Comprehensive Review of the Literature on the Impact of Exposure to Intimate Partner Violence on Children and Youth."

Augsburger, Mareike, Kayley Basler, and Andreas Maercker. 2019. "Is There a Female Cycle of Violence after Exposure to Childhood Maltreatment? A Meta-Analysis." *Psychological Medicine* 49(11):1776–86. doi: 10.1017/S0033291719000680.

Babcock, Julia, Nicholas Armenti, Clare Cannon, Katie Lauve-Moon, Fred Buttell, Regardt Ferreira, Arthur Cantos, John Hamel, Don Kelly, Catheleen Jordan, Peter Lehmann, Penny A. Leisring, Christopher Murphy, K. Daniel O'Leary, Sarah Bannon, Katie Lee Salis, and Ingrid Solano. 2016. "Domestic Violence Perpetrator Programs: A Proposal for Evidence-Based Standards in the United States." *Partner Abuse* 7(4):355–460. doi: 10.1891/1946-6560.7.4.355.

Bender, Anna E., Sherise J. McKinney, Megan M. Schmidt-Sane, Jamie Cage, Megan R. Holmes, Kristen A. Berg, Jessica Salley, Marissa Bodell, Emily K. Miller, and Laura A. Voith. 2022. "Childhood Exposure to Intimate Partner Violence and Effects on Social-Emotional Competence: A Systematic Review." *Journal of Family Violence*. doi: 10.1007/s10896-021-00315-z.

Bennice, Jennifer A., and Patricia A. Resick. 2003. "Marital Rape: History, Research, and Practice." *Trauma, Violence, & Abuse* 4(3):228–46. doi: 10.1177/1524838003004003003.

Bergen, Raquel Kennedy, and Elizabeth Barnhill. 2006. "Marital Rape: New Research and Directions." *VAWnet.Org*. Retrieved December 9, 2023 (https://vawnet.org/material/marital-rape-new-research-and-directions).

Bernet, William, Marianne Z. Wamboldt, and William E. Narrow. 2016. "Child Affected by Parental Relationship Distress." *Journal of the American Academy of Child & Adolescent Psychiatry* 55(7):571–79. doi: 10.1016/j.jaac.2016.04.018.

Bledsoe, Linda K., and Bibhuti K. Sar. 2011. "Intimate Partner Violence Control Scale: Development and Initial Testing." *Journal of Family Violence* 26:171–84.

Bogat, G. Anne, Alytia A. Levendosky, and Kara Cochran. 2023. “Developmental Consequences of Intimate Partner Violence on Children.” *Annual Review of Clinical Psychology* 19(1):303–29. doi: 10.1146/annurev-clinpsy-072720-013634.

Breiding, Matthew J. 2014. “Prevalence and Characteristics of Sexual Violence, Stalking, and Intimate Partner Violence Victimization—National Intimate Partner and Sexual Violence Survey, United States, 2011.” *Morbidity and Mortality Weekly Report. Surveillance Summaries (Washington, D.C. : 2002)* 63(8):1–18.

Breiding, Matthew J., Kathleen C. Basile, Sharon G. Smith, Michele C. Black, and Reshma R. Mahendra. 2015. *Intimate Partner Violence Surveillance : Uniform Definitions and Recommended Data Elements. Version 2.0*. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Callaghan, Jane E. M., Joanne H. Alexander, Judith Sixsmith, and Lisa Chiara Fellin. 2018. “Beyond ‘Witnessing’: Children’s Experiences of Coercive Control in Domestic Violence and Abuse.” *Journal of Interpersonal Violence* 33(10):1551–81. doi: 10.1177/0886260515618946.

Carpenter, Georgia L., and Ann M. Stacks. 2009. “Developmental Effects of Exposure to Intimate Partner Violence in Early Childhood: A Review of the Literature.” *Children and Youth Services Review* 31(8):831–39. doi: 10.1016/j.childyouth.2009.03.005.

CDC. 2022a. *The National Intimate Partner and Sexual Violence Survey: 2016/2017 Methodology Report*.

CDC. 2022b. *The National Intimate Partner and Sexual Violence Survey: 2016/2017 Report on Intimate Partner Violence*.

Cheung, Shannon P., and Chien-Chung Huang. 2022. “Childhood Exposure to Intimate Partner Violence and Teen Dating Violence.” *Journal of Family Violence*. doi: 10.1007/s10896-022-00377-7.

Cochran, John K., Jon Maskaly, Shayne Jones, and Christine S. Sellers. 2017. “Using Structural Equations to Model Akers’ Social Learning Theory With Data on Intimate Partner Violence.” *Crime & Delinquency* 63(1):39–60. doi: 10.1177/0011128715597694.

Cochran, John K., Christine S. Sellers, Valerie Wiesbrock, and Wilson R. Palacios. 2011. “Repetitive Intimate Partner Victimization: An Exploratory Application of Social Learning Theory.” *Deviant Behavior* 32(9):790–817. doi: 10.1080/01639625.2010.538342.

Coker, Ann L., Paige H. Smith, Lesa Bethea, Melissa R. King, and Robert E. McKeown. 2000. “Physical Health Consequences of Physical and Psychological Intimate Partner Violence.” *Archives of Family Medicine* 9(5):451. doi: 10.1001/archfami.9.5.451.

Devries, K. M., J. Y. T. Mak, C. García-Moreno, M. Petzold, J. C. Child, G. Falder, S. Lim, L. J. Bacchus, R. E. Engell, L. Rosenfeld, C. Pallitto, T. Vos, N. Abrahams, and C. H. Watts. 2013. “The Global Prevalence of Intimate Partner Violence Against Women.” *Science* 340(6140):1527–28. doi: 10.1126/science.1240937.

Dobash, R. Emerson., and Russell Dobash. 1979. *Violence against Wives : A Case against the Patriarchy*. New York: Free Press.

Dobash, Russell P., R. Emerson Dobash, Margo Wilson, and Martin Daly. 1992. “The Myth of Sexual Symmetry in Marital Violence*.” *Social Problems* 39(1):71–91. doi: 10.2307/3096914.

Dunbar, Norah E. 2015. “A Review of Theoretical Approaches to Interpersonal Power.” *Review of Communication* 15(1):1–18. doi: 10.1080/15358593.2015.1016310.

Dutton, Mary Ann, and Lisa A. Goodman. 2005. “Coercion in Intimate Partner Violence: Toward a New Conceptualization.” *Sex Roles* 52(11):743–56. doi: 10.1007/s11199-005-4196-6.

Dutton, Mary Ann, Lisa A. Goodman, and R. James Schmidt. 2005. *Development and Validation of a Coercive Control Measure for Intimate Partner Violence: Final Technical Report*. National Institute of Justice, Office of Justice Programs, US Department of ….

Dutton, Mary Ann, Amy Holtzworth-Munroe, Ernest Jouriles, Renee McDonald, Satya Krishnan, Judith McFarlane, and Cris Sullivan. 2003. “Recruitment and Retention in Intimate Partner Violence Research.” *Rockville, MD US: Department of Justice*.

Dyar, Christina, Adam M. Messinger, Michael E. Newcomb, Gayle R. Byck, Parks Dunlap, and Sarah W. Whitton. 2021. “Development and Initial Validation of Three Culturally Sensitive Measures of Intimate Partner Violence for Sexual and Gender Minority Populations.” *Journal of Interpersonal Violence* 36(15–16):NP8824–51. doi: 10.1177/0886260519846856.

Edleson, Jeffrey L., Narae Shin, and Katy K. Johnson Armendariz. 2008. “Measuring Children’s Exposure to Domestic Violence: The Development and Testing of the Child Exposure to Domestic Violence (CEDV) Scale.” *Children and Youth Services Review* 30(5):502–21. doi: 10.1016/j.childyouth.2007.11.006.

Emerson, Richard M. 1981. “Social Exchange Theory.” Pp. 30–65 in *Social psychology: Sociological perspectives*, edited by M. Rosenberg and R. H. Turner. New York: Basic Books.

Evans, Kylie E., Hyunjune Lee, Katie N. Russell, Megan R. Holmes, Kristen A. Berg, Anna E. Bender, and Dana M. Prince. 2021. "Adolescent Dating Violence Among Youth Exposed to Intimate Partner Violence: A Systematic Review." *Journal of Family Violence*. doi: 10.1007/s10896-021-00289-y.

Evans, Kylie E., Megan M. Schmidt-Sane, Anna E. Bender, Kristen A. Berg, and Megan R. Holmes. 2022. "Children's Exposure to Intimate Partner Violence and Acceptance or Appraisals of IPV: A Systematic Review." *Journal of Family Violence*. doi: 10.1007/s10896-021-00318-w.

Farrell, Allison K., Jeffry A. Simpson, and Alexander J. Rothman. 2015. "The Relationship Power Inventory: Development and Validation." *Personal Relationships* 22(3):387–413. doi: 10.1111/pere.12072.

Fisher, Cortney. 2019. *Something Bad Happened Last Night: The Study of the Victim's Role in the Criminal Justice System*. 2nd ed. Dubuque, IA: Kendall Hunt Publishing Company.

Frankland, Andrew, and Jac Brown. 2014. "Coercive Control in Same-Sex Intimate Partner Violence." *Journal of Family Violence* 29(1):15–22. doi: 10.1007/s10896-013-9558-1.

Freeman, Jo. 1973. "The Origins of the Women's Liberation Movement." *American Journal of Sociology*. doi: 10.1086/225403.

Gardner, Madeleine J., Hannah J. Thomas, and Holly E. Erskine. 2019. "The Association between Five Forms of Child Maltreatment and Depressive and Anxiety Disorders: A Systematic Review and Meta-Analysis." *Child Abuse & Neglect* 96:104082. doi: 10.1016/j.chiabu.2019.104082.

Garrido, Edward F., Sara E. Culhane, Christie L. M. Petrenko, and Heather N. Taussig. 2011. "Psychosocial Consequences of Intimate Partner Violence (IPV) Exposure in Maltreated

Adolescents: Assessing More than IPV Occurrence." *Journal of Family Violence* 26(7):511–18. doi: 10.1007/s10896-011-9386-0.

Gelles, Richard J. 1978. "Violence in the American Family." Pp. 169–82 in *Violence and the Family*, edited by J. P. Martin. New York: John Wiley & Sons.

Gilbert, Ruth, Cathy Spatz Widom, Kevin Browne, David Fergusson, Elspeth Webb, and Staffan Janson. 2009. "Burden and Consequences of Child Maltreatment in High-Income Countries." *The Lancet* 373(9657):68–81. doi: 10.1016/S0140-6736(08)61706-7.

Gill, Hague. 2021. *History and Memories of the Domestic Violence Movement: We've Come Further Than You Think*. Policy Press.

Giordano, Peggy C., Danielle A. Soto, Wendy D. Manning, and Monica A. Longmore. 2010. "The Characteristics of Romantic Relationships Associated with Teen Dating Violence." *Social Science Research* 39(6):863–74. doi: 10.1016/j.ssresearch.2010.03.009.

Grych, John H., Michael Seid, and Frank D. Fincham. 1992. "Assessing Marital Conflict from the Child's Perspective: The Children's Perception of Interparental Conflict Scale." *Child Development* 63(3):558–72. doi: 10.1111/j.1467-8624.1992.tb01646.x.

Hamby, Sherry, David Finkelhor, Heather Turner, and Richard Ormrod. 2011. *Children's Exposure to Intimate Partner Violence and Other Family Violence*. U.S. Department of Justice: Office of Justice Programs.

Holden, George W. 2003. "Children Exposed to Domestic Violence and Child Abuse: Terminology and Taxonomy." *Clinical Child and Family Psychology Review* 6(3):151–60. doi: 10.1023/A:1024906315255.

Holmes, Megan R., Kristen A. Berg, Anna E. Bender, Kylie E. Evans, Kari O'Donnell, and Emily K. Miller. 2022. "Nearly 50 Years of Child Exposure to Intimate Partner Violence

Empirical Research: Evidence Mapping, Overarching Themes, and Future Directions." *Journal of Family Violence*. doi: 10.1007/s10896-021-00349-3.

Jewkes, Rachel. 2002. "Intimate Partner Violence: Causes and Prevention." *The Lancet* 359(9315):1423–29. doi: 10.1016/S0140-6736(02)08357-5.

Johnson, Michael P. 2008. *A Typology of Domestic Violence: Intimate Terrorism, Violent Resistance, and Situational Couple Violence*. Northeastern University Press.

Jung, Hyunzee, Todd I. Herrenkohl, Martie L. Skinner, Jungeun Olivia Lee, J. Bart Klika, and Ashley N. Rousson. 2019. "Gender Differences in Intimate Partner Violence: A Predictive Analysis of IPV by Child Abuse and Domestic Violence Exposure During Early Childhood." *Violence Against Women* 25(8):903–24. doi: 10.1177/1077801218796329.

Karlsson, Marie E., Maegan Calvert, Juventino Hernandez Rodriguez, Rebecca Weston, and Jeff R. Temple. 2018. "Changes in Acceptance of Dating Violence and Physical Dating Violence Victimization in a Longitudinal Study with Teens." *Child Abuse & Neglect* 86:123–35. doi: 10.1016/j.chiabu.2018.09.010.

Katz, Emma. 2016. "Beyond the Physical Incident Model: How Children Living with Domestic Violence Are Harmed By and Resist Regimes of Coercive Control." *Child Abuse Review* 25(1):46–59. doi: 10.1002/car.2422.

Kimber, Melissa, Sami Adham, Sana Gill, Jill McTavish, and Harriet L. MacMillan. 2018. "The Association between Child Exposure to Intimate Partner Violence (IPV) and Perpetration of IPV in Adulthood—A Systematic Review." *Child Abuse & Neglect* 76:273–86. doi: 10.1016/j.chiabu.2017.11.007.

Kourti, Anastasia, Androniki Stavridou, Eleni Panagouli, Theodora Psaltopoulou, Chara Spiliopoulou, Maria Tsolia, Theodoros N. Sergentanis, and Artemis Tsitsika. 2023. "Domestic Violence During the COVID-19 Pandemic: A Systematic Review." *Trauma, Violence, & Abuse* 24(2):719–45. doi: 10.1177/15248380211038690.

Latzman, Natasha E., Alana M. Vivolo-Kantor, A. Monique Clinton-Sherrod, Cecilia Casanueva, and Christine Carr. 2017. "Children's Exposure to Intimate Partner Violence: A Systematic Review of Measurement Strategies." *Aggression and Violent Behavior* 37:220–35. doi: 10.1016/j.avb.2017.10.009.

Lehrner, Amy, and Nicole E. Allen. 2009. "Still a Movement After All These Years?: Current Tensions in the Domestic Violence Movement." *Violence Against Women* 15(6):656–77. doi: 10.1177/1077801209332185.

Levine, Montague B. 1975. "Interparental Violence and Its Effect on the Children: A Study of 50 Families in General Practice." *Medicine, Science and the Law* 15(3):172–76. doi: 10.1177/002580247501500305.

Lichter, Erika L., and Laura A. McCloskey. 2004. "The Effects of Childhood Exposure to Marital Violence on Adolescent Gender-Role Beliefs and Dating Violence." *Psychology of Women Quarterly* 28(4):344–57. doi: 10.1111/j.1471-6402.2004.00151.x.

Margolin, Gayla. 2005. "Children's Exposure to Violence: Exploring Developmental Pathways to Diverse Outcomes." *Journal of Interpersonal Violence* 20(1):72–81. doi: 10.1177/0886260504268371.

Martín-Lanas, Raquel, Alfonso Osorio, Elena Anaya-Hamue, Adrián Cano-Prous, and Jokin de Irala. 2021. "Relationship Power Imbalance and Known Predictors of Intimate Partner Violence in Couples Planning to Get Married: A Baseline Analysis of the AMAR Cohort

Study." *Journal of Interpersonal Violence* 36(21–22):10338–60. doi: 10.1177/0886260519884681.

Mbiydzenyuy, Ngala Elvis, Sian Megan Joanna Hemmings, and Lihle Qulu. 2022. "Prenatal Maternal Stress and Offspring Aggressive Behavior: Intergenerational and Transgenerational Inheritance." *Frontiers in Behavioral Neuroscience* 16.

McDonald, Renee, Ernest N. Jouriles, Suhasini Ramisetty-Mikler, Raul Caetano, and Charles E. Green. 2006. "Estimating the Number of American Children Living in Partner-Violent Families." *Journal of Family Psychology* 20:137–42. doi: 10.1037/0893-3200.20.1.137.

McHugh, Maureen C., Nichole A. Livingston, and Amy Ford. 2005. "A Postmodern Approach to Women's Use of Violence: Developing Multiple and Complex Conceptualizations." *Psychology of Women Quarterly* 29(3):323–36. doi: 10.1111/j.1471-6402.2005.00226.x.

McPhail, Beverly A., Noël Bridget Busch, Shanti Kulkarni, and Gail Rice. 2007. "An Integrative Feminist Model: The Evolving Feminist Perspective on Intimate Partner Violence." *Violence Against Women* 13(8):817–41. doi: 10.1177/1077801207302039.

Meaney, Michael J. 2001. "Maternal Care, Gene Expression, and the Transmission of Individual Differences in Stress Reactivity Across Generations." *Annual Review of Neuroscience* 24(1):1161–92. doi: 10.1146/annurev.neuro.24.1.1161.

Messinger, Adam M., Deborah A. Fry, Vaughn I. Rickert, Marina Catallozzi, and Leslie L. Davidson. 2014. "Extending Johnson's Intimate Partner Violence Typology: Lessons From an Adolescent Sample." *Violence Against Women* 20(8):948–71. doi: 10.1177/1077801214546907.

Mirchandani, Rekha. 2004. "Battered Women's Movement Ideals and Judge-Led Social Change in Domestic Violence Courts." *The Good Society* 13(1):32–37.

Murphy, Christopher M., and Sharon A. Hoover. 1999. “Measuring Emotional Abuse in Dating Relationships as a Multifactorial Construct.” *Violence and Victims* 14(1):39–53. doi: 10.1891/0886-6708.14.1.39.

Narayan, Angela J., Madelyn H. Labella, Michelle M. Englund, Elizabeth A. Carlson, and Byron Egeland. 2017. “The Legacy of Early Childhood Violence Exposure to Adulthood Intimate Partner Violence: Variable- and Person-Oriented Evidence.” *Journal of Family Psychology* 31(7):833–43. doi: 10.1037/fam0000327.

National Research Council. 1993. *Understanding and Preventing Violence: Volume 1*. Washington, DC: The National Academies Press.

Neilands, Torsten B., Shari L. Dworkin, Deepalika Chakravarty, Chadwick K. Campbell, Patrick A. Wilson, Anu Manchikanti Gomez, Kirk K. Grisham, and Colleen C. Hoff. 2019. “Development and Validation of the Power Imbalance in Couples Scale.” *Archives of Sexual Behavior* 48(3):763–79. doi: 10.1007/s10508-018-1190-y.

Outlaw, Maureen. 2009. “No One Type of Intimate Partner Abuse: Exploring Physical and Non-Physical Abuse Among Intimate Partners.” *Journal of Family Violence* 24(4):263–72. doi: 10.1007/s10896-009-9228-5.

Pence, Ellen, and Michael Paymar. 1993. *Education Groups for Men Who Batter: The Duluth Model*. New York, NY, US: Springer Publishing Company.

Plouffe, Rachel A., Claire A. Wilson, and Donald H. Saklofske. 2022. “Examining the Relationships Between Childhood Exposure to Intimate Partner Violence, the Dark Tetrad of Personality, and Violence Perpetration in Adulthood.” *Journal of Interpersonal Violence* 37(5–6):NP3449–73. doi: 10.1177/0886260520948517.

Pulerwitz, Julie, Steven L. Gortmaker, and William DeJong. 2000. “Measuring Sexual Relationship Power in HIV/STD Research.” *Sex Roles* 42(7):637–60. doi: 10.1023/A:1007051506972.

Rosser-Limiñana, Ana, Raquel Suriá-Martínez, and Miguel Ángel Mateo Pérez. 2020. “Children Exposed to Intimate Partner Violence: Association Among Battered Mothers’ Parenting Competences and Children’s Behavior.” *International Journal of Environmental Research and Public Health* 17(4):1134. doi: 10.3390/ijerph17041134.

Ruel, Catherine, Francine Lavoie, Martine Hébert, and Martin Blais. 2020. “Gender’s Role in Exposure to Interparental Violence, Acceptance of Violence, Self-Efficacy, and Physical Teen Dating Violence Among Quebec Adolescents.” *Journal of Interpersonal Violence* 35(15–16):3079–3101. doi: 10.1177/0886260517707311.

Sardinha, Lynnmarie, Mathieu Maheu-Giroux, Heidi Stöckl, Sarah Rachel Meyer, and Claudia García-Moreno. 2022. “Global, Regional, and National Prevalence Estimates of Physical or Sexual, or Both, Intimate Partner Violence against Women in 2018.” *The Lancet* 399(10327):803–13. doi: 10.1016/S0140-6736(21)02664-7.

Savopoulos, Priscilla, Christina Bryant, Alison Fogarty, Laura J. Conway, Kelly M. Fitzpatrick, Patrick Condron, and Rebecca Giallo. 2022. “Intimate Partner Violence and Child and Adolescent Cognitive Development: A Systematic Review.” *Trauma, Violence, & Abuse* 15248380221082081. doi: 10.1177/15248380221082081.

Sellers, Christine S., John K. Cochran, and Kathryn A. Branch. 2005. “Social Learning Theory and Partner Violence: A Research Note.” *Deviant Behavior* 26(4):379–95. doi: 10.1080/016396290931669.

Serpeloni, Fernanda, Karl M. Radtke, Tobias Hecker, Johanna Sill, Vanja Vukojevic, Simone G. de Assis, Maggie Schauer, Thomas Elbert, and Daniel Nätt. 2019. "Does Prenatal Stress Shape Postnatal Resilience? – An Epigenome-Wide Study on Violence and Mental Health in Humans." *Frontiers in Genetics* 10.

Shaghaghi, Abdolreza, Raj S. Bhopal, and Aziz Sheikh. 2011. "Approaches to Recruiting 'Hard-To-Reach' Populations into Research: A Review of the Literature." *Health Promotion Perspectives* 1(2):86–94. doi: 10.5681/hpp.2011.009.

Sharratt, Kathryn, Samantha J. Mason, Gillian Kirkman, Dominic Willmott, Danielle McDermott, Susan Timmins, and Nadia M. Wager. 2023. "Childhood Abuse and Neglect, Exposure to Domestic Violence and Sibling Violence: Profiles and Associations With Sociodemographic Variables and Mental Health Indicators." *Journal of Interpersonal Violence* 38(1–2):1141–62. doi: 10.1177/08862605221090562.

Stark, Evan, and Marianne Hester. 2019. "Coercive Control: Update and Review." *Violence Against Women* 25(1):81–104. doi: 10.1177/1077801218816191.

Strauchler, Orin, Kathy McCloskey, Kathleen Malloy, Marilyn Sitaker, Nancy Grigsby, and Paulette Gillig. 2004. "Humiliation, Manipulation, and Control: Evidence of Centrality in Domestic Violence Against an Adult Partner." *Journal of Family Violence* 19(6):339–46. doi: 10.1007/s10896-004-0679-4.

Straus, Murray A. 1979. "Measuring Intrafamily Conflict and Violence: The Conflict Tactics (CT) Scales." *Journal of Marriage and Family* 41(1):75–88. doi: 10.2307/351733.

Straus, Murray A. 1999. "Child-Report, Adult-Recall, and Sibling Versions of the Revised Conflict Tactics Scale." *Durham, NC: Family Research Laboratory*.

Straus, Murray A., and Emily M. Douglas. 2004. “A Short Form of the Revised Conflict Tactics Scales, and Typologies for Severity and Mutuality.” *Violence and Victims* 19(5):507–20. doi: 10.1891/vivi.19.5.507.63686.

Straus, Murray A., Sherry L. Hamby, Sue Boney-McCoy, and David B. Sugarman. 1996. “The Revised Conflict Tactics Scales (CTS2): Development and Preliminary Psychometric Data.” *Journal of Family Issues* 17(3):283–316. doi: 10.1177/019251396017003001.

Taylor, Julie C., Elizabeth A. Bates, Attilio Colosi, and Andrew J. Creer. 2022. “Barriers to Men’s Help Seeking for Intimate Partner Violence.” *Journal of Interpersonal Violence* 37(19–20):NP18417–44. doi: 10.1177/08862605211035870.

Temple, Jeff R., Ryan C. Shorey, Susan R. Tortolero, David A. Wolfe, and Gregory L. Stuart. 2013. “Importance of Gender and Attitudes about Violence in the Relationship between Exposure to Interparental Violence and the Perpetration of Teen Dating Violence.” *Child Abuse & Neglect* 37(5):343–52. doi: 10.1016/j.chiabu.2013.02.001.

Tolman, Richard M. 1989. “The Development of a Measure of Psychological Maltreatment of Women by Their Male Partners.” *Violence and Victims* 4(3):159–77. doi: 10.1891/0886-6708.4.3.159.

Toplu-Demirtaş, Ezgi, and Zeynep Hatipoğlu-Sümer. 2023. “Aggression Begets Aggression: Psychological Dating Aggression Perpetration in Young Adults from the Perspective of Intergenerational Transmission of Violence.” *Current Psychology* 42(14):11539–51. doi: 10.1007/s12144-021-02461-5.

Wathen, C. Nadine, and Harriet L. MacMillan. 2013. “Children’s Exposure to Intimate Partner Violence: Impacts and Interventions.” *Paediatrics & Child Health* 18(8):419–22. doi: 10.1093/pch/18.8.419.

Williams, Lela Rankin, and Heidi Adams Rueda. 2022. "Witnessing Intimate Partner Violence Across Contexts: Mental Health, Delinquency, and Dating Violence Outcomes Among Mexican Heritage Youth." *Journal of Interpersonal Violence* 37(5–6):NP3152–74. doi: 10.1177/0886260520946818.

Wincentak, Katherine, Jennifer Connolly, and Noel Card. 2017. "Teen Dating Violence: A Meta-Analytic Review of Prevalence Rates." *Psychology of Violence* 7:224–41. doi: 10.1037/a0040194.

Wolfe, David A., Katreena Scott, Deborah Reitzel-Jaffe, Christine Wekerle, Carolyn Grasley, and Anna-Lee Straatman. 2001. "Development and Validation of the Conflict in Adolescent Dating Relationships Inventory." *Psychological Assessment* 13:277–93. doi: 10.1037/1040-3590.13.2.277.

World Health Organization. 2021. "Violence against Women Prevalence Estimates, 2018: Global, Regional and National Prevalence Estimates for Intimate Partner Violence against Women and Global and Regional Prevalence Estimates for Non-Partner Sexual Violence against Women."

Yount, Kathryn M., Yuk Fai Cheong, Zara Khan, Irina Bergenfeld, Nadine Kaslow, and Cari Jo Clark. 2022. "Global Measurement of Intimate Partner Violence to Monitor Sustainable Development Goal 5." *BMC Public Health* 22(1):465. doi: 10.1186/s12889-022-12822-9.