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Physical Abuse Tendencies Among Males: Initial Development and Validation of the Likelihood to Physically Abuse

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Physical Abuse Tendencies Among Males: Initial Development and Validation
of the Likelihood to Physically Abuse (LPA) Scale in an American Sample

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A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

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ABSTRACT

Physical Abuse Tendencies Among Males: Initial Development and Validation of the Likelihood to Physically Abuse (LPA) Scale in an American Sample

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Male-perpetrated intimate partner violence (IPV) against women remains as a pervasive and detrimental issue both in the United States and globally. Researchers, counselors, and others often develop psychological measures to help understand the causes of IPV in an effort to prevent this issue from occurring. Debate still persists within IPV research as to the definitive factors that contribute to the perpetration of IPV. The socio-feminist perspective remains as the predominant theoretical basis that drives IPV research and understanding. Despite this, no psychological measure grounded in this theory that predicts IPV perpetration proclivities has been developed and validated to date. The purpose of the current project was to develop and validate a psychological measure that predicts a likelihood to physically abuse a female intimate partner among heterosexual men – the Likelihood to Physically Abuse (LPA) scale. The development of which followed the methods of previously developed and validated measures of likelihood to rape and likelihood to sexually harass. Two studies were conducted that utilized two, independent and samples of adult, English-speaking American men. Study I involved a review of the literature to develop the LPA scale and initial internal reliability testing. Two hundred men were recruited using Qualtrics and were administered the LPA scale online. In Study II, three hundred men were recruited using Qualtrics and were administered the LPA scale along with other measures related to male-perpetrated IPV online. The purpose of the second study was to further test the internal reliability of the LPA scale and test the construct and external validity of this measure. The results from both studies demonstrated good internal reliability and initial evidence for good construct validity of the LPA scale. The LPA scale was concluded to show promising reliability and validity. However, the external validity results require further investigation. Implications for future IPV research and applications, and limitations are discussed.

Keywords: intimate partner violence (IPV), IPV proclivities, scale development and validation, socio-feminist perspective

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I dedicate this work to two very special and important people in my life: my grandmother and my twin sister. To my grandmother – you are the foundation of our family and a source of strength. You survived all forms of abuse throughout your life and while you fought for your own life, you unknowingly survived to give birth to generations after you who would look up to you. The things in life that you survived are unspeakable, but you never complain. You are my inspiration for the work I aspire to accomplish in my life. I remain eternally grateful to you for fighting to survive because it gave me a chance to live too. I will dedicate my life to helping to find ways to ensure that no girl or woman endures the forms of abuse and hardships that you survived.

To my twin sister who is my angel on earth. You have survived things that should not have happened to you but you continue to love others unconditionally and to forgive those who have wronged you. You inspire me to be a better person and are a reflection of the pure love of Jesus Christ. You were my rock during the hardest times we faced. I would not have been able to make it through without you. You are my greatest blessing in this life and I thank God every day that I have you. Thank you for always believing in me and for always loving me.

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Intimate Partner Violence Proclivities

Male-perpetrated violence against women remains as a prevalent issue globally (Alhabib, Nur, & Jones, 2010). One of the prevailing forms of this violence is intimate partner violence (IPV), which is defined by the World Health Organization (WHO) as, “behavior within an intimate relationship that causes physical, sexual, or psychological harm to those in the relationship” (2012, p. 1). Further, it can include acts of physical aggression (e.g., slapping, hitting, etc.), sexual coercion (e.g., forced intercourse and other types of forced sexual acts), psychological abuse (e.g., belittling, threats of harm, etc.), and controlling behaviors (e.g., isolating one from one’s family and friends, restricting one’s access to money, etc.) (WHO). Similar to the WHO, the U.S. Department of Justice (2016) provides a legal definition of IPV as being comprised of physical, psychological, emotional, economic, and sexual abuse. While the U.S. Department of Justice and many legal definitions of IPV in different states are broad, include males and females as perpetrators of abuse, and reflect the fact that different types of abuse exist, a common perception of IPV persists which is that only the physical form of IPV constitutes abuse (Barocas, Emery, & Mills, 2016). Indeed, two thirds of U.S. state legal definitions of IPV include only physical abuse and require that the victim prove that he or she was a victim of physical abuse in order to receive protection or services (Candela, 2016). Physical abuse is the most recognized form of IPV by policy makers and investigated the most by researchers because it is easier to define and measure than other forms of IPV (O’Leary, 1999). While the author of the current project recognizes that other forms of IPV warrant attention and investigation, the IPV discussed and examined in the current project will refer to

physical abuse (i.e., hitting, punching, pushing, or other physical injuries) that occurs in a romantic relationship (Black et al., 2011) as this fits the majority of legal definitions of IPV in the U.S. (Barocas et al., 2016), represents the most prevalent form of IPV worldwide (Heise, Ellsberg, & Gottmoeller, 2002), causes the most harm and damage (Kimmel, 2002), and is easier to define and more tangible for measurement purposes (WHO, 2013).

IPV occurs in all types of relationships (e.g., heterosexual, homosexual, etc.), and is perpetrated by women against men in some instances (Tjaden & Thoennes, 2000). Some researchers argue that men and women perpetrate IPV at equivalent (Dutton, Hamel, & Aaronson, 2010). Although some researchers claim that the percent of female-perpetrated IPV against is equal to that of male-perpetrated IPV against females, other researchers claim that female-perpetrated IPV may actually be a reaction to abuse by a male partner or self-defense (Allen, Swan, & Raghavan, 2009). Still other researchers argue that IPV perpetration rates vary by type of abuse perpetrated, with male abusers still constituting the largest and most threatening proportion of perpetrators (Johnson, 2011). Therefore, while the author of the current project acknowledges that female-perpetrated IPV against males exists, the focus of the current project will be on male-perpetrated violence against women as rates of this type of abuse remain alarmingly high around the world (Wilkinson, 2013), and because the injuries that male abusers inflict on female victims are much more severe (Archer, 2000).

Estimates of IPV vary both within and between countries, but research from the WHO indicates that between 29% and 62% of women worldwide will be abused by a male intimate partner in their lifetimes (2005). In the United States, about one in four women will be physically abused by an intimate partner in their lifetimes (Black et al., 2011). These estimates, while relatively high, may represent an underestimation of male-to-female IPV due to

underreporting (Ruiz-Pérez, Plazaola-Castaño, & Vives-Cases, 2007) Underreporting of IPV can occur because of negative social consequences (e.g., victim blaming, fear of perpetrator retaliation, shame, unhelpful responses from police and other authorities, etc.), and inconsistency in measurement (Garcia, 2004). Inconsistency in measurement can consist of differences in research methods, definitions of violence, sampling methods, training and skills of interviewers, and cultural differences that affect a victim's willingness to disclose her abuse (Garcia-Moreno, Heise, Jansen, Ellsberg, & Watts, 2005; Watts & Zimmerman, 2002). Therefore, violence against women is thought to be more prevalent than the estimates described here and remains unacceptably high (Bostock, Plumpton, & Pratt, 2009).

There are many consequences of IPV against women that affect both the victim and society. For the victims, the ramifications of IPV are detrimental, and often lethal (Garcia-Moreno et al., 2005). Victims of IPV often suffer severe physical injuries, experience mental health problems, and are unable to maintain gainful employment due to sustained physical abuse and health problems (Krug, Mercy, Dahlberg, & Zwi, 2002). Most victims remain in their abusive relationships for years (Anderson et al., 2003). Therefore, their physical injuries, mental health issues, and inability to work are typically not isolated incidences; but rather, are a constant state for many years. Additionally, when a victim tries to leave her abuser she often faces many obstacles, including threats of death (Griffing et al., 2002). Tragically, 40-60% of female murder victims are murdered by their intimate partners yearly in North America alone (Campbell, 2002). It is estimated that this rate of murder by an intimate partner is higher in less industrialized countries (Campbell, 2002). Therefore, IPV remains as a pressing issue for many women in the around the world.

In addition to the consequences IPV victims suffer, society is also adversely affected. Estimates indicate that the amount of hospital visits made by female IPV victims is twice the number of non-victims (Alhabib et al., 2010), which results in increased medical care costs (Robinson & Spilsbury, 2008). Another effect of the repeated injuries that IPV victims suffer is an inability to maintain a consistent job. This inconsistency in holding a stable job adversely affects employers as a large proportion of their workforce is compromised (Krug et al., 2002). Swanberg, Logan, and Macke (2005) found that employers lose about one billion dollars in productivity losses related to IPV. IPV also is detrimental to family life and the development of children and adolescents who witness IPV (Carpenter & Stacks, 2009). Indeed, children and adolescents who are exposed to IPV are at increased risk of developing emotional and behavioral problems (Holt, Buckley, & Whelan, 2008). Additionally, adults who witnessed IPV in their homes as children are at higher risk for illicit drug use, depression, alcoholism, and IPV perpetration and victimization (Cannon, Bonomi, Anderson, & Rivara, 2009). The detrimental effects of witnessing IPV as children and adolescents, then, are both immediate and long-term; often resulting in the transmission of IPV across generations. Therefore, IPV is not only a critical issue for victims, but it is for society as a whole. Research and efforts aimed at finding ways to eliminate IPV against women are, therefore, of the utmost importance.

Researchers and activists alike have worked towards raising awareness about, and finding ways to prevent all forms of violence against women (e.g., sexual assault, rape, IPV, etc.). From these efforts, the Likelihood to Rape (LR) scale, and the Likelihood to Sexually Harass (LSH) scale were developed by Malamuth (1981) and Pryor (1987), respectively. The LR and LSH scales are psychological measures created for the purpose of identifying proclivities of rape and sexual harassment against women, respectively, among heterosexual men (Malamuth, 1981;

Pryor, 1987). Malamuth's (1981) LR scale was the first of its kind to be developed, and Pryor (1987) followed Malamuth's (1981) methods to create the LSH scale. The benefits of both psychological measures have been wide-reaching for research, intervention, and prevention efforts (Bohner et al., 1998; Driscoll, Kelly, & Henderson, 1998). Additionally, the LR and LSH scales have allowed for a consistent and validated way to conduct studies related to both rape and sexual harassment. This impact can be seen in the high volume of citations for both scales; which to date, are 613 (LR) and 319 (LSH) citations. Both the LR and LSH scales have been tested for and found to significantly correlate with behavioral proclivities of sexual harassment (Pryor; 1987; Pryor, LaVite, & Stoller, 1993) and rape (Malamuth, 1986) among heterosexual men. Both scales have had an impact on research about, and intervention and clinical efforts related to both rape and sexual harassment (Bohner et al., 1998; Driscoll et al., 1998).

In subsequent studies to Malamuth's (1981) influential development of his LR scale, the LR scale has correlated with patterns of behavior consistent with convicted rapists (i.e., physiological arousal to rape stimuli), aggression towards women in laboratory settings, and the likelihood to engage in coercive fantasies (McDonel & McFall, 1991). Additionally, Murphy, Coleman, and Haynes (1986) compared other predictors of rape proclivity with the LR scale, and found the LR scale as the strongest predictor of self-reported rape and measured physiological arousal to rape stimuli. The authors noted that Malamuth's (1981) development of the LR scale has created a successful program of research for predictors of rape proclivity among males and has provided validation that social influences and attitudes play a major role in the proclivity of rape.

In addition to its wide use in research, the LR scale has also been implemented in rape prevention program research. Foubert and Newberry (2006) examined the effectiveness of a

rape prevention program among male undergraduates who were fraternity members. The authors noted that using Malamuth's (1981) LR scale as an outcome measure added better insight into potential behavioral changes and brought to light aspects of the program's effectiveness that would have been otherwise neglected. Similarly, the LR scale was implemented to measure the effectiveness of a rape prevention program that showed longitudinal changes in attitudes and likelihood to rape among male college students (Foubert, 2000). The LR scale also provides a way for researchers to divide participants into high-risk and low-risk likelihood to rape groups, which can help improve clinical and intervention applications (Foubert, 2000). Most rape prevention program evaluations that implemented the LR scale have taken place on college campuses. This can be seen as a limitation; however, some authors note that this population represents the most vulnerable age for the incidence of rape and that rape and sexual assault are still a major issue on college campuses in the U.S. (Lonsway, 1996). Research focused on the utilization of the LR scale in intervention programs on college campuses is, therefore, not necessarily a limitation. Overall, the LR scale has been widely used in creating a program of effective research for rape proclivities among men, and in intervention programs aimed at reducing the incidence of rape.

In a similar way to the LR scale, the LSH scale has shown to be effective in creating a program of research for identifying contributing factors of sexual harassment perpetration and as a tool in intervention efforts aimed at reducing sexual harassment. Following its development, the LSH scale has been shown to predict sexually harassing behavior in a variety of studies (Pryor & Stoller, 1994). Additionally, the LSH scale has been used in research that aims to determine why men sexually harass women (Bargh, Raymond, Pryor, & Strack, 1995). Pryor et al. (1993) explored cognitive factors related to men who are high in LSH. They reported that the

LSH scale is effective in showing that men who have sexually harassing proclivities have a desire to dominate women and/or have a desire for social control. Such isolation and analysis of the contributing factors for sexual harassment proclivity are helpful for guiding prevention efforts.

The LSH scale has also been implemented in sexual harassment intervention programs. Pryor's (1987) work has informed sexual harassment policies in the workforce as it has shown that individual traits/attitudes (measured through the LSH scale) are one of the two major contributing factors for sexual harassment (Bell, Quick, & Cychota, 2002). Robb and Doverspike (2001) found that sexual harassment prevention programs are less effective for men who score higher in LSH. This raises an important contribution of the LSH scale in that it can guide practitioners in dividing participants into high-LSH and low-LSH risk groups, and design effective intervention programs accordingly.

While the LR and LSH scales have been widely and effectively implemented in research, clinical, and intervention applications (Bohner et al., 1998; Driscoll et al., 1998), currently there is no comparable scale for predicting intimate partner violence (IPV) proclivities among heterosexual males against females. To this author's knowledge, the only unifying measure that has been developed and validated for predicting IPV proclivities to date is the Propensity of Abusiveness Scale (PAS) developed by Dutton (1995). The PAS is based on the assumption that IPV is perpetrated due to an abuser's psychopathological issues rather than sociocultural and other individual factors (e.g., maintaining dominance over female partner, gender inequalities). In particular, it relies on the assessment of psychological and developmental factors like attachment style, a family history of abuse, and other mental health issues in determining the predictiveness of IPV among heterosexual males. Dutton's PAS was also developed by using a

sample of known abusers, while Malamuth (1981) and Pryor (1987) utilized general samples of men instead in developing their scales related to violence against women. While both methods have merit and worth, it is important to note that as both Malamuth (1981) and Pryor (1987) argued, many perpetrators of violence against women remain unreported. They also argued that convicted perpetrators of rape and sexual harassment are qualitatively different than men who are not reported or convicted of these crimes. Malamuth (1981) and Pryor (1987) concluded that focusing on non-clinical samples could provide insight into potential perpetrators who would be ignored by methods that rely on clinical samples. Therefore, designing a similar scale for IPV proclivities using a non-clinical sample may better capture the likelihood to abuse among men from the general population that may otherwise go undetected.

Additionally, while it is arguable that psychopathology may represent the main contributing factor to male-perpetrated IPV against women, it is equally arguable that individual and sociocultural factors (e.g., gender inequalities, enforcement of traditional gender roles, etc.) may represent main contributing factors to male-perpetrated IPV against women. Indeed, there are different schools of thought for the underlying causes of IPV which guide related research and intervention efforts. These include biological, psychological, feminist and/or sociocultural, social learning, and ecological explanations for the root causes of intimate partner violence against women (Ali & Naylor, 2013). In line with these different schools of thought, research indicates that factors such as alcohol, aggression, mental instability, strict adherence to traditional gender roles, attachment style, poverty, and a host of others contribute to the perpetration of IPV (Costa et al., 2015). The root causes of IPV perpetration, then, remain highly debated in IPV research (Jewkes, 2002).

While developing their respective Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales, both Malamuth (1981) and Pryor (1987) relied on what may be considered feminist or sociocultural explanations of IPV (e.g., condoning attitudes of violence against women, hostility towards women, etc.), and were successful in doing so. It is therefore argued that a validated measure that predicts IPV proclivities in heterosexual men, which follows the methods and theory implemented by Malamuth (1981) and Pryor (1987), could provide the impact and benefits to IPV research and intervention efforts that the LR and LSH scales have created for sexual violence research and prevention efforts. As a result, the purpose of this project was to construct and validate a measure that predicts intimate partner violence proclivities against women among heterosexual men - the Likelihood to Physically Abuse (LPA) scale - utilizing feminist or sociocultural explanations.

Feminist/Socio-Cultural Explanation of IPV

The most common approach to investigating and understanding male-perpetrated IPV against women is the feminist or socio-cultural perspective (Bell & Naugle, 2008). According to this school of thought, inequalities that exist between men and women are main contributors to violence against women (e.g., IPV, sexual assault, etc.) (Namy et al., 2017). Power differences between men and women in various societies worldwide are maintained through IPV (Dobash & Dobash, 1979). Additionally, IPV can be seen as an extreme expression of preserving male domination over females (Hunnicut, 2008). According to this theory of male-perpetrated IPV against women, this social injustice will remain as long as inequalities exist between men and women (Yodanis, 2004). Extensive research and literature has been produced by feminist scholars who investigate IPV over the past few decades (DeKeseredy & Dragiewicz, 2007).

One notable finding from their work is that one of the most consistent predictors of male-perpetrated IPV against females is strict adherence to traditional gender roles (Flood & Pease, 2006). Another noteworthy finding is that rates of IPV and other forms of violence against women (e.g., rape, sexual assault, etc.) are higher in more patriarchal or male-dominated societies than in more egalitarian societies (Archer, 2006). Further, a commonly cited reason given by convicted abusers for physically harming their female partners is their perception of their partner failing in her domestic duties (e.g., housework, cooking, etc.) (Wilkinson & Hamerschlag, 2005). Indeed, female IPV victims who are perceived as not fulfilling their prescribed gender role are at higher risk for being abused (Harris, Firestone, & Vega, 2005), and are subject to higher victim blaming (Glick, Sakallı-Ugurlu, Ferreira, & de Souza, 2002). The findings described here are not an exhaustive list of what feminist or socio-cultural scholars have investigated in relation to IPV. Rather the research briefly described here highlights significant findings that support the feminist or socio-cultural perspective of male-perpetrated IPV against females.

Like other perspectives, the feminist perspective is characterized by strengths and weaknesses, and has been subject to criticism (Dutton & Nicholls, 2005). Additionally, no one perspective alone is sufficient to explain the causes of a complex issue like IPV (Jewkes, 2002). The author of the current project acknowledges the strengths and weaknesses of the feminist perspective, and supports the claim that the feminist perspective needs to be modified to incorporate findings from researchers following other schools of thought such as developmental, biological, ecological, and others (McPhail, Busch, Kulkarni, & Rice, 2007). Additionally, the author acknowledges that in contrast to traditional feminist theory, women are not always victims of and men are not always perpetrators of IPV (Dutton et al., 2010). Many forms of IPV

exist that pervade relationship type (e.g., heterosexual, homosexual, etc.), culture, race/ethnicity, and socioeconomic status (Tjaden & Thoennes, 2000). Further, the feminist theory of violence against women is predominated by Western thought and findings from developed western countries (Davis, 2008). Contributions from Eastern nations and countries from other parts of the world are now being acknowledged and incorporated into IPV research and feminist theory (Sokoloff & Dupont, 2005). The author of this project acknowledges the importance and necessity of perspectives and findings from around the world being incorporated into and playing a pivotal role in further shaping the feminist theory of IPV.

With these acknowledgments in mind, the feminist or socio-cultural perspective still represents a strong and well-supported school of thought for investigating male-perpetrated IPV against women (Johnson, 2011; Kimmel, 2002). The feminist/socio-cultural theory of male-perpetrated violence against women, therefore, guided the development of the current project.

Overview of the Current Project

In order to develop and validate the Likelihood to Physically Abuse (LPA) scale, the methods from Malamuth (1981) and Pryor (1987) were implemented in the current study as the content and aims of this study relate strongly with those that were utilized while developing the Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales. Therefore, the current study was comprised of two studies. In the first study, the LPA scale was developed based on a review of the literature of common causes and factors associated with male-perpetrated IPV against women. Additionally, the internal consistency and reliability of the LPA scale were measured. After this, the second study included a review of the literature of common predictors of male-to-female IPV. From this literature review, commonly used measures for the identified predictive factors of IPV perpetration were selected for the purposes of measuring the

convergent validity of the LPA scale. The relationship of the LPA scale with other scales that have been shown to relate to IPV proclivities in males was then examined. In addition to this, the discriminant validity of the LPA scale was measured. Each study includes its respective results sections with a general discussion section that follows to summarize the two studies and their meaning together. The design of this project followed the steps and methods implemented by Malamuth (1981) and Pryor (1987) in their respective developments of the LR and LSH scales. The development of both scales proved successful by following these steps and methods, and therefore, it was predicted that similar findings will be yielded for the proposed LPA scale.

Study I: Development of a Scale to Measure Likelihood to Physically Abuse

Methods

Participants

The number of participants for the current study was selected based on the recommendations made by Worthington and Whittaker (2006) for an adequate sample size for the development of a psychological scale and by following the sample sizes employed by Malamuth (1981) and Pryor (1987). Both Malamuth (1981) and Pryor (1987) utilized around 200 men in their respective first studies for reliability testing and this falls in line with Worthington and Whittaker's (2006) recommendations measure. Following these guidelines, 200 adult American men (aged 18 years and older) were recruited online for the current study through Qualtrics. Qualtrics is a survey software company that works with researchers and other clients to build surveys and to recruit participants for research. Qualtrics collaborates with market-panel research partners from a variety of sources from which respondents considered highly likely to qualify are randomly selected for participation (Qualtrics, 2014). Additionally, each sample selected from these methods is proportioned to the general population and then

randomizes before a survey is administered (Qualtrics, 2014). These techniques are intended to help provide high quality responses according to the requirements of the client. The 200 American men for this study were recruited through these methods and were informed that this study will only take place with their expressed consent as delineated by the guidelines of the American Psychological Association (APA). They were informed that the purpose of this study was to examine men's relationship conflict strategies and that the survey would take about 30 minutes of their time to complete. Participants were also informed that they would be compensated according to the stipulations outlined by participating in a study hosted by Qualtrics. For the current study, this was \$3.50 for completion of the entire survey. Before completing this study, approval was sought and granted by Brigham Young University's Institutional Review Board (IRB).

Materials and Procedure

The Likelihood to Physically Abuse (LPA) Scale. Following the methods of Malamuth (1981) and Pryor (1987) who successfully created their respective Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales, 10 hypothetical scenarios were developed based on a literature review of common reported reasons for male-perpetrated IPV against women and a consultation with a licensed clinical psychologist who's area of specialization is IPV. These commonly cited factors from police reports, convicted male abusers, and female victims include perceived failure in household or domestic duties (e.g., cleaning, cooking, etc.), (Wilkinson & Hamerschlag, 2005), jealousy caused by fear of infidelity or desertion (Vandello & Cohen, 2003), fear of public humiliation (Vandello & Cohen, 2008), maintenance of control or dominance in the relationship (Whitaker, 2014), victim making her own decision (Babcock, Green, & Robie, 2004), financial or work stress (Flynn & Graham, 2010), and perceived

provocation from the victim (e.g., initiating the argument with a verbal attack, retaliation) (Babcock et al., 2004; Wilkinson, & Hamerschlag, 2005). Because isolation (e.g., financial dependence on male partner, isolation from family, friends, etc.) is another common factor that increases the risk of IPV (Wilkinson & Hamerschlag, 2005), it was included in one of the hypothetical scenarios. Henning, Jones, and Holdford (2005) found social desirability to be a common attribute in their review of convicted male IPV abusers (e.g., denial of the IPV incident and minimization of the abuse). Consequently, in the scenarios in which the protagonist begins to feel upset in front of third party members (e.g., friends, family, etc.), he does not decide to 'deal with' his female partner until they are alone. Additionally, arguments precede 80% of IPV incidents, and most IPV incidents take place in a private setting (Wilkinson & Hamerschlag, 2005). As such, all scenarios include an argument, which takes place in an intimate space where the protagonist and his female partner are alone.

Each scenario depicts a male who is in a relationship with a female, and who has the option to physically abuse his partner in some way (e.g., punch, slap, hit, push, etc.) as a response to different relationship conflicts. As mentioned above, the relationship conflicts were created based on a literature review of common attributed reasons for IPV. Each scenario contains a different relationship (i.e., dating, partner, engaged, or married), and a different relationship problem presented (e.g., female partner appearing to flirt with someone else, perceived insult by female partner's action, etc.). In line with Malamuth (1981) and Pryor's (1987) procedures, participants were asked to imagine that they are the male protagonist, and rate their likelihood of completing three listed options that follow the scenario. Participants were informed that they would face no negative consequences for their actions, and that no one would know which action they decided to take. Following Malamuth (1981) and Pryor's (1987)

methods, participants rated their likelihood of completing the listed options on a five point likert-type scale ranging from 1 (*extremely unlikely*) to 5 (*extremely likely*). Like the LR and the LSH scales, the scenarios in the current study provided an option to engage in physical abuse against an imagined female partner. A sample scenario and its options are listed below (see Appendix A for all 10 scenarios):

Imagine that you are on a date with your girlfriend Sara. The date is going well until her ex-boyfriend shows up to the same restaurant that you two are at, and begins talking with your girlfriend. It seems to you that he is trying to flirt with your girlfriend, which angers you inside. But what makes you even angrier is that Sara seems to be enjoying the attention and is not doing anything to stop the flirting. Now you are not only feeling angry, but also very jealous. Instead of talking to her in the moment, you decide to deal with things when you drop Sara off to her home. When you reach Sara's home, you begin to question Sara about her behavior. Instead of being understanding, Sara becomes defensive. She accuses you of being insecure and jealous. She says that her former boyfriend never acted in such a childish manner. Now you are not only angry with Sara for her behavior, but you also feel hurt and betrayed by her accusations. The argument seems to be getting worse and you two are not reaching a solution. How likely are you to do the following things?

- a. Would you tell Sara that the two of you should resolve this issue tomorrow so you can both cool off?
- b. Assuming that you would not get caught or punished for your actions, would you slap Sara to show her mistake?
- c. Assuming that you would not get caught or punished for your actions, would you call Sara some ugly names, and storm off?

The scoring of the scenarios for the LPA scale followed the scoring used by both Malamuth (1981) and Pryor (1987) for their respective Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales. This included scoring all the *b* options as these represent the physical abuse option, with higher scores indicating a greater likelihood to physically abuse.

Procedure

The procedures for this study were based on those employed by Malamuth (1981) and Pryor (1987) in their respective developments of their Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales, but were conducted online through Qualtrics rather than using pen and paper. Participants first completed a consent form available online through Qualtrics before they proceeded in participating in this study. After providing their consent, participants answered questions on a brief demographic survey. Following the demographic survey, participants were administered the Likelihood to Physically Abuse (LPA) Scale, the items of which, were randomized to avoid any potential order effects.

Data Analytic Strategy

To test the internal reliability of the LPA scale, a Cronbach's Alpha analysis was conducted. Following the recommendations made by Worthington and Whittaker (2006), the proposed single factor model of the latent factor, likelihood to physically abuse (LPA), was first tested in an exploratory phase by conducting a principal components analysis (PCA). Following this, a confirmatory factor analysis (CFA) was conducted to test the model fit of the proposed latent variable, the Likelihood to Abuse. This type of factor analysis is recommended assessing how well items on a psychological measure assess a hypothesized latent variable (Cooksey, 2014; Osborne & Costello, 2009; Worthington & Whittaker, 2006). In order for CFA to be an advantageous statistical analysis, the measure's items must be developed based on a strong

theoretical foundation that is supported by previous literature (Cooksey, 2014). In the current project, the items of the LPA scale were developed based on an extensive review of intimate partner violence (IPV) literature, and they were created with the intention to measure a likelihood to physically abuse (the latent variable). Therefore, it is arguable that a CFA is a good fit for assessing the aims of the current project. This data analytic strategy closely followed the analyses employed by both Malamuth (1981) and Pryor (1987) in their respective developments of the LR and LSH scales. The only difference being that Malamuth (1981) and Pryor (1987) only conducted an exploratory factor analysis rather than a PCA and a CFA. Statistical understanding among social scientists has changed substantially since Malamuth (1981) and Pryor's (1987) original publications. As such, CFA is now recommended for construct validation as it tests for convergent and discriminant validity while adjusting for measurement error; which, is not provided by traditional methods such as multiple regression analysis (Brown, 2015). Consequently, the data analytic strategy for Study I differed from Malamuth (1981) and Pryor's (1987) methods by implementing a confirmatory factor analysis in addition to a principal components factor analysis.

Hypotheses

The original hypotheses formulated before the data analyses were conducted for the current project are summarized below:

Hypothesis 1. The LPA scale will show good internal reliability as reflected by a Cronbach's alpha coefficient ranging from good ($\alpha > .80$) to excellent ($\alpha > .90$) (Cooksey, 2014);

Hypothesis 2. The proposed, single-factor model for the LPA scale will be supported by the principal components factor analysis. This will be supported by the extraction of a

single factor with all 10 of the LPA scale items loading highly on the factor with factor loadings of .50 or higher;

Hypothesis 3. The factor structured extracted by the exploratory phase will be supported and confirmed in the confirmatory phase by the confirmatory factor analysis (CFA). The CFA is anticipated convey that the items of the Likelihood to Physically Abuse (LPA) scale strongly and significantly relate to the latent factor of Likelihood to Physically Abuse (LPA) as indicated by factor loadings of .5 or higher and $p < .05$. The model fit indices are anticipated to indicate a plausible model for the latent variable, LPA, as indicated by root mean square error of approximation (RMSEA) less than or equal to .06, comparative fit index (CFI) greater than or equal to .95, and goodness to fit index (GFI) of equal to or greater than .90 (Brown, 2015);

Results

Data Screening

Before conducting any analyses for this study, the data were screened for missing values and normality of distribution following the recommendations of Jackson et al. (2009). The percentage of missing values in the data set ranged from 0% to 2.5%. Overall, there were very few missing values. Three participants were removed because 10% or more of their data values were missing as prescribed by Jackson, Gillaspay, and Purc-Stephenson (2009). Little MCAR's Test was then conducted to determine if the remaining missing values were missing completely at random (MCAR). This test was not significant, which indicated that the missing values were MCAR. As such, any remaining cases with missing values were removed through listwise deletion. Schlomer, Bauman, and Card (2010) argue that as long as data are MCAR, then using listwise deletion should not significantly alter the results since the data set without missing

values should represent a subset of the original data set. Additionally, listwise deletion can be a viable approach to dealing with missing data when the amount of missing data is 5% or less (Graham, 2009), as was the case in the current study. After the listwise deletion was conducted, 17 cases were removed, leaving 183 cases of the original 200 cases. This represents approximately 92% of the original N of 200 and is, therefore, not a major loss in data. The data were then examined for normality of distribution through visual inspection. All data appeared to be approximately normally distributed. Subsequent data analyses for participant demographic characteristics, a factor analysis to analyze the items of the Likelihood to Physically Abuse (LPA) scale, and testing the internal reliability of the (LPA) scale were then conducted using SPSS Statistics version 25 and Amos Graphics version 24. The subsequent analyses (i.e., Cronbach's alpha and confirmatory factor analysis) were related only to the b items on the LPA scale.

Participant Characteristics

Descriptive statistics for the participants were analyzed including participant's education level, race/ethnicity, marital status, approximate household annual income, and political affiliation based on the demographic survey employed in this study (see Appendix B). All participants were male with an average age of 50 ($SD = 16.92$, $Mdn = 52$). The youngest participant was 18 and the oldest participants was 86. Over half of participants (57.8%) obtained a bachelor's degree or higher level of education in this sample. The majority of participants (76.9%) identified as Caucasian, and a little over half of the participants were married (53.2%). 56.1% of participants indicated an annual household income of \$60,000 or more. Additionally, participants indicated their political affiliation on a scale ranging from 1 (*extremely liberal*) to 7 (*extremely conservative*). Overall, the participants in this sample did not indicate a strong

political affiliation on either end of the political spectrum, with approximately 50% of participants indicating moderate to somewhat conservative political affiliations. These results are summarized in Table 1.

Table 1

Participant Demographic Information in Study I

Age in years	
Mean (<i>SD</i>)	50.0 (16.92)
Range	18-86
Education (Highest level achieved)	
High School Diploma or equivalent	21.4%
Technical School	8.7%
Associate's Degree	12.1%
Bachelor's Degree	35.8%
Post-graduate Degree (Master's, etc.)	22.0%
Race/Ethnicity	
Latino/Hispanic	6.4%
Asian/Pacific Islander	7.5%
African American	6.4%
Caucasian	76.9%
Mixed Race	1.7%
Other	1.2%
Marital Status	
Single	35.5%
Married	53.2%
Divorced	11.0%
Widowed	2.3%
Approximate Household Annual Income	
Less than \$20,000	12.7%
\$20,000-\$40,000	15.6%
\$40,000-\$60,000	15.6%
\$60,000-\$80,000	23.7%
\$80,000-\$100,000	7.5%
\$100,000 or more	24.9%
Political Affiliation	
Extremely Liberal	9.8%
Liberal	15.0%
Somewhat Liberal	9.2%
Moderate	28.9%
Somewhat Conservative	
Conservative	20.8%
Extremely Conservative	9.8%
	6.4%

Preliminary Exploratory Factor Analysis

Following the recommendations of Worthington and Whittaker (2006) for the development and validation of a psychological measure, an exploratory factor analysis was conducted for the b items of the Likelihood to Physically Abuse (LPA) scale. Specifically, a principal components analysis with a promax rotation was used to test for an underlying factor measured by the LPA scale. One factor was extracted by a scree plot analysis based on the leveling off of eigenvalues. The extracted factor had an eigenvalue of greater than one and accounted for 77.2% of the variance and was defined as Likelihood to Physically Abuse. The remaining eigenvalues were equal to or less than .51, accounted for less than or equal to five percent of the variance, and did not have any factor loadings. The items had high loadings onto the extracted factor at .82 or higher. Likewise, the communalities were also relatively high in this analysis ranging from .62 to .90. The factor loadings for the b items onto the one-factor solution and the communalities are summarized in Table 2 by scenario.

Table 2

Factor loadings and communalities based on principal components analysis for b items of the LPA scale by scenario for Study I (n = 183)

Scenarios	Factor Loadings	Communalities
Finances	.90	.81
Ex-boyfriend	.85	.73
Female partner's salary	.90	.81
Job in another state	.90	.80
House chores	.95	.90
Confiding in mutual friend	.87	.75
Meeting with male friend	.92	.84
Female partner's education	.80	.62
Accusation of an affair	.90	.81
Trip with male friends	.82	.70

Internal Reliability Analysis for the Likelihood to Physically Abuse (LPA) Scale

A Cronbach's Alpha analysis was conducted to measure the internal reliability of the b items of the LPA scale. The Cronbach's Alpha was .96 which supports the hypothesis that LPA scale would have an internal reliability in the range of good (>.80) to excellent (>.90) as outlined by Cooksey (2014).

Confirmatory Factor Analysis

To the extracted factor from the exploratory factor analysis, a confirmatory factor analysis (CFA) was conducted using Amos Graphics version 24. Maximum likelihood estimation was selected because the data was approximately normally distributed. According to Kline (2010), there is no standardized way to interpret the results of a CFA. Consequently, the researcher must use his or her best judgement in determining the plausibility of the model tested to determine if the model should be accepted or rejected. There are some guidelines that aid in this process which include examining model test statistics (i.e., Chi square and significance testing), model fit indexes, and the factor loadings to determine both the model's theoretical significance and strengths and limitations of fit (Brown, 2015; Kline, 2010). The results of the CFA employed in the current study were interpreted following these guidelines and are discussed below.

Model test statistics and model fit indexes. χ^2 and its significance level and the following model fit indexes were included in the interpretation of the CFA model: root mean square of approximation (RMSEA), goodness-of-fit index (GFI), Tucker-Lewis fit index (TLI), and comparative fit index (CFI). The results of the model test statistics and model fit indexes taken together were mixed. Specifically, χ^2 indicated poor model fit with a significant result: $\chi^2(35) = 115.81, p < .001$ (Schreiber, Nora, Stage, Barlow, & King, 2006). Additionally the root mean square of approximation was (RMSEA) was .116; above the recommended <.06 level

(Smith & McMillan, 2001). However, some authors argue χ^2 is too sensitive to large sample sizes and, although required to be reported, may not be the best index of model fit (Hooper, Coughlan, & Mullen, 2008). Additionally, while RMSEA showed poor model fit, the goodness of fit index (GFI) showed acceptable fit with a value of .90 (Cheung & Rensvold, 2002).

RMSEA and GFI are both absolute fit indexes and some authors argue for the use of one over the other in particular contexts (Brown, 2015). One potential reason why the RMSEA was above the recommended threshold for acceptable fit is because the model used in the current study was relatively small and simple and as Kline (2010) explains, RMSEA tends to “favor” larger and more complex models with higher degrees of freedom (p. 207). In addition to two absolute fit indexes, both a parsimony fit index (Tucker-Lewis index; TLI) and an incremental or comparative fit index (comparative fit index; CFI) were utilized and showed acceptable to good model fit with respective values of .95 and .96 (Hooper et al., 2008). Using different types of model fit indexes provides a more reliable and conservative estimate of fit (Brown, 2015). The indexes taken together are show mixed results; however, a potential explanation for why RMSEA was not at an acceptable level was provided. Additionally, another type of absolute fit index, GFI, was also provided and was at an acceptable level. It is argued, then, that the model fit indexes provided acceptable to good fit.

Indicator loadings onto latent factor. In addition to examining the model test statistics and model fit indexes to interpret the plausibility of the single-factor CFA model, the strength, relationship direction, and significance of indicators in relation to the latent factor(s) are also important to take into consideration (Brown, 2015). As predicted, each of the 10 items of the LPA scale loaded highly onto the latent factor, likelihood to physically abuse (LPA), with

significant standardized regression weights that ranged from .75-.94 ($p < .001$). These results indicate that the items of the LPA scale reliably predict the latent construct.

The recommendations for interpreting a CFA outlined by Kline (2010) have been followed and the CFA model as a whole is arguably plausible in terms of fit and theoretical significance. The CFA model was, therefore, retained. Taken as a whole, the hypotheses for Study I of high internal reliability for the LPA scale were supported. The model fit indexes for the CFA model are summarized in Table 3 and the CFA model and its indicator loadings are represented in Figure 1.

Table 3

Goodness-of-Fit Indices for Likelihood to Physically Abuse (LPA) Model in Study I (n = 183)

Model	χ^2_{***}	Df	GFI	CFI	TLI	RMSEA
LPA (single factor)	115.83	35	.90	.96	.95	.116

Note. *** $p < .001$

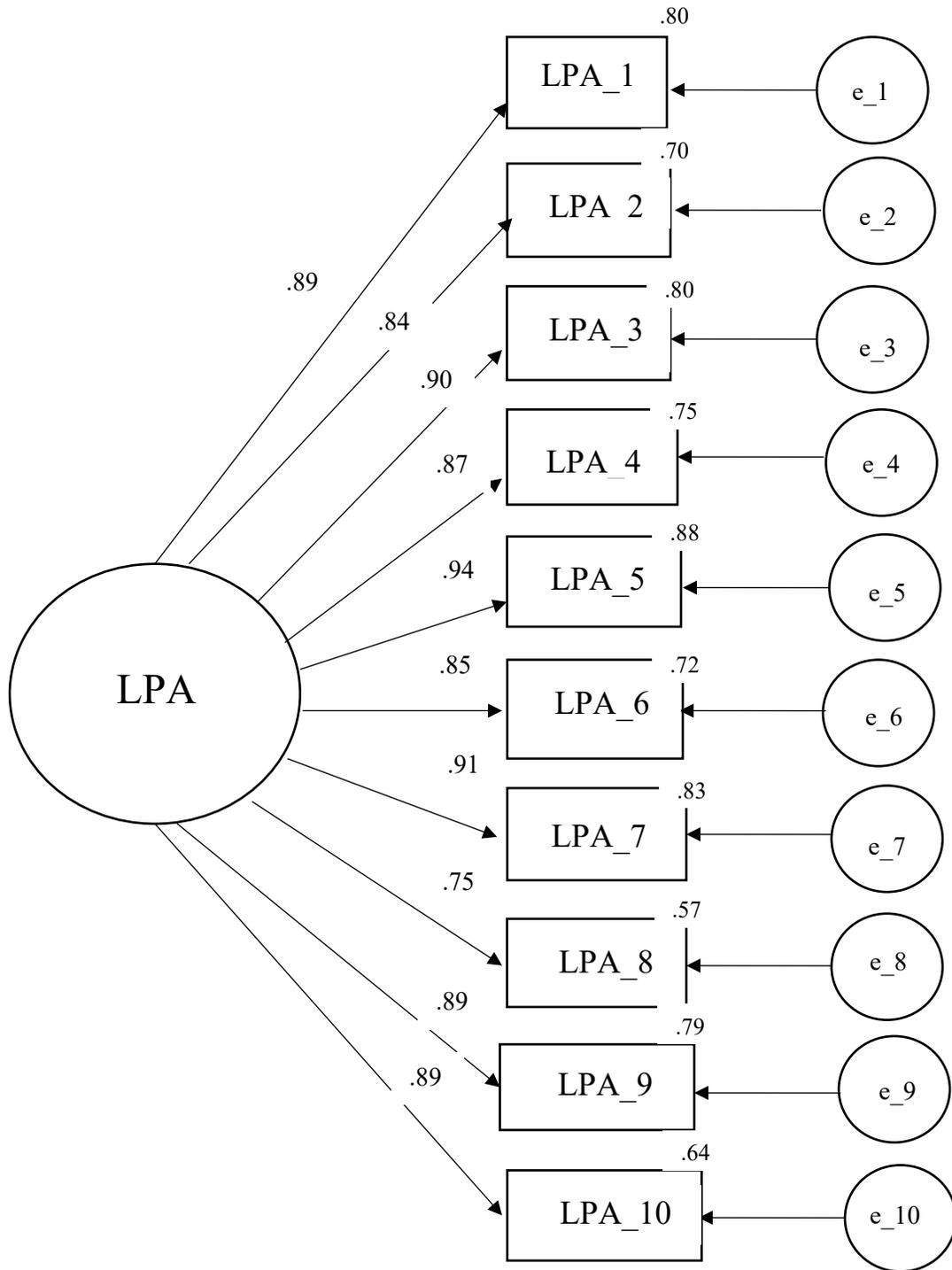


Figure 1. CFA Model of latent factor Likelihood to Physically Abuse (LPA) in Study I. The boxes represent the observed variable, which are items one through ten of the LPA scale. e stands for error.

Study II: Validation of the Likelihood to Physically Abuse (LPA) Scale

Like Study I, the methods of this study followed those of Malamuth (1981) and Pryor (1987) in further assessing the validity of the LPA scale. Both Malamuth (1981) and Pryor (1987) identified common factors associated with the likelihood to rape and the likelihood the sexually harass, respectively. They then assessed the construct validity of their respective Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales with psychological measures that assessed the factors they identified as related to rape and sexual harassment proclivities. The current study followed these methods in initially validating the LPA scale.

In addition to assessing the convergent validity of their LR and LSH scales, both Malamuth (1981) and Pryor (1987) examined the discriminant validity of their measures. In their respective works, Malamuth (1981) and Pryor (1987) hypothesized that measures related to acceptance of feminist attitudes and empathy would be negatively associated with higher scores of likelihood to rape and likelihood to sexually harass. These hypotheses were supported and interpreted as conveying the discriminant validity of the LR and LSH scales. The current study followed these steps in determining the discriminant validity of the LPA scale by including a measure of acceptance of feminist attitudes and a measure of empathy. Additionally, Malamuth (1981) and Pryor (1987) included a measure of social desirability in their original studies in order to determine if participants were answering their questionnaires honestly. Indeed, they found that social desirability was unrelated to the likelihood to rape and the likelihood to sexually harass. The current study followed this step by including a measure of social desirability. Lastly, Malamuth (1981) and Pryor (1987) both included a behavioral paradigm to test the external validity of their respective psychological measures. While the current project

did not include a behavioral paradigm, a well-known and widely used psychological measure of history of IPV perpetration was utilized to assess the external validity of the LPA scale.

Common Factors Associated with Male-Perpetrated IPV

While there is no one known cause for the perpetration of intimate partner violence (IPV), there are consistent predictive factors of IPV among male abuser (Stith, Smith, Penn, Ward, & Tritt 2004). As mentioned previously, there are different theoretical approaches that explain the causes of IPV. In the following section, the predictive factors of IPV perpetration that were included in the current project are discussed first followed by a section addressing the factors that were excluded.

Inclusion Factors

Factor I: Gender-role traditionality and IPV perpetration. One of the most consistent predictors of male-perpetrated IPV against females is a strict adherence to traditional gender roles (Santana, Raj, Decker, La Marche, & Silverman 2006), which for the purposes of this project will be discussed as a strong endorsement of gender-role traditionality (GRT). Someone who scores high on a measure of GRT, then, would strongly uphold patriarchal views (Bryant & Spencer, 2003). Such views include endorsement of men as dominant figures in the home and society, and women as subservient to men and fit for domestic roles (Flood & Pease, 2009). It is not the fulfilling of a traditional gender role itself that increases the risk of IPV, but strict adherence to and perceived need to enforce GRT that is predictive of IPV (Heise et al., 2002). When this occurs, any perceived infraction committed by the female victim is interpreted as her not fulfilling her traditional duties in the relationship, and therefore, ‘deserving’ abuse (Vandello & Cohen, 2003).

In cultures where patriarchal values constitute family norms, IPV rates are the highest (Yllo & Strauss, 1984). Additionally, one of the most commonly reasons for intrafamilial homicide is high conflict related to gender roles (Stark & Flitcraft, 1996). When examining gender differences in aggressive behavior, Richardson and Hammock (2007) concluded that these differences may actually be a reaction to gender roles rather than attributable to gender alone. In a related vein, when examining adherence to GRT and self-reports of abuse, Fitzpatrick, Salgado, Suvak, King, and King (2004) found that men who endorsed more egalitarian gender roles were less likely to report abusing their female partners both psychologically and physically. Strict adherence to GRT, then, is a strong predictor of IPV perpetration among men against women. As a result, GRT was included as a factor in the development of the Likelihood to Physically Abuse (LPA) scale.

Factor II: Hypermasculinity and IPV perpetration. Mosher and Sirkin (1984) first conceptualized hypermasculinity, which is a strict adherence to a traditional conceptualization of manliness or manhood. According to Mosher and Sirkin, hypermasculine men are defined as: (a) holding callous sexual attitudes towards women, (b) viewing using violence as manly, and (c) viewing danger as exciting. The first component of callous sexual attitudes towards women refers to viewing women as sexual objects to be conquered without empathetic concern to their well-being. The second component, violence as manly, includes seeing violence as an acceptable way of dealing with problems; which, includes violence against intimate partners. The third component refers to engaging in high risk behavior (e.g., dangerous driving, excessive alcohol consumption) as a defining component of masculinity. Previous research has established a link between hypermasculinity and physical violence against women; including intimate partner violence, sexual violence against women, and verbal aggression against female intimate partners

(Guerrero, 2009). Higher hypermasculinity is positively correlated with physical aggression that has been measured in both laboratory paradigms, and in self-reports of previous aggression against female intimate partners (Parrott & Zeichner, 2003).

Some researchers suggest that hypermasculinity is related to increased risk of violence against women because of gender role stress, which refers to perceived violations of prescribed gender roles (Cohn & Zeichner, 2006). In terms of hypermasculine males, if they perceive their intimate partner as defying her prescribed gender role, then action is required to put her in her 'place'; which, mainly consists of physical aggression against her. Indeed, many instances of intimate partner violence against women have been related to female intimate partners 'failing' in their 'wifely' duties or in her prescribed role (Stamp & Sabourin, 1995). In a laboratory paradigm designed to measure male participants' aggression against a female confederate, those who scored higher on a measure of hypermasculinity were more aggressive against the female confederate in general. More strikingly, when the female confederate expressed views that contrasted with traditional female gender roles, there was more aggression committed against her (Reidy, Sloan, & Zeichner, 2009). Hypermasculinity, then, may contribute to the risk of perpetrating IPV against women through the perceived need to maintain traditional gender roles through dominance, violence, and control (Reidy, Berke, Gentile, & Zeichner, 2014). Overall, hypermasculinity holds as a consistent predictor of male perpetrated IPV against women (Moore & Stuart, 2005), and was included as a factor in the development of the LPA scale.

Factor III: Empathy and IPV perpetration. When they developed their respective Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales, Malamuth (1981) and Pryor (1987) included a measure of empathy, and found that those participants who scored lower on empathy showed a higher chance of perpetrating rape or sexual harassment. Research that

ensued from Malamuth (1981) and Pryor's (1987) work has shown that empathy is a factor that can discriminate between convicted offenders of sexual aggression and non-offenders (Blake & Gannon, 2008). Wheeler, George, and Dahl (2002) investigated the role of empathy in moderating the risk of sexually aggressive behavior in college males. They found that among college males who were high risk for committing sexual aggression that empathy moderated this risk. That is, even high risk males from this sample who demonstrated high levels of empathy were much less likely to commit sexual aggression than those who showed low levels of empathy. While empathy is not a sole predictor of sexual aggression, it has been found to moderate the risk of committing sexual aggression (Abbey, Parkhill, BeShears, Clinton-Sherrod, & Zawacki 2006). Despite the emphasis of empathy in intimate partner violence (IPV) treatment programs and findings from other research that shows empathy's impact on sexual aggression perpetration, the effects of empathy on IPV perpetration remain relatively unexplored (Covell, Huss, & Langhinrichsen-Rohling, 2007). In the current project, this newer line of study in IPV research was explored by including a measure of empathy in the development of the LPA scale.

Factor IV: Dominance and IPV perpetration. Dominance or a need to control one's intimate partner is another common factor theorized to contribute to IPV perpetration (Hamby, 1996). According to feminist scholars and other researchers, male-perpetrated IPV against women stems from the man's need to control the behavior of his partner as a way of maintaining men's superiority over women (Dobash & Dobash, 1979; Watts & Zimmerman, 2002). Both Malamuth (1981) and Pryor (1987) argued that a form of dominance would be a predictive factor of a man's likelihood to rape (LR) and likelihood to sexually harass (LSH). In Pryor's (1987) original study, he utilized an authoritarianism scale, the F scale, to assess dominance and its relationship to LSH. While some researchers have found that participants who score higher on

measures of authoritarianism uphold attitudes that condone violence against women and are more likely to perpetuate violence against women (Mauricio & Gormley, 2001; Wilkinson & Hamerschlag, 2005), others argue that authoritarianism measures like the Altemeyer's (1981) Right-Wing Authoritarianism (RWA) are best suited for detecting conservative political attitudes (Roiser & Willig, 2002). Instead, it is arguably better to utilize measures that assess trait dominance at the interpersonal level as a predictor of a likelihood to perpetuate violence against an intimate partner.

Indeed, research shows that in societies where the value of male dominance prevails, rates of violence against women are higher (Jewkes, 2002). Some scholars argue that the process of dominance contributing to IPV perpetration involves dependency and submission on the part of victim to her partner (Choi & Ting, 2008). This notion is supported by the fact that an imbalance of economic resources is a common characteristic underlying the IPV in a relationship (Fox, Benson, DeMaris, & Wyk, 2002) as the more dependent women are in a society upon men for daily decisions, tasks, and economic resources, the higher the chances are that they will suffer from violence perpetrated against them (Fox et al., 2002). Krishnan et al. (2010) assert that men abuse their female partners who earn more because their sense of dominance and superiority is threatened and this is a way to maintain a power balance. Indeed, if a woman earns more money than her male partner, she is only more likely to be abused if he supports traditional gender roles (i.e., men should be the primary breadwinners, women should work only in the home, etc.) (Atkinson, Greinstein, & Lang, 2005).

While men who perpetrate IPV against their female partners perceive their own violence as acceptable, they often perceive that their partner is trying to control them, and they in turn behave aggressively to gain control (Ehrensaft & Vivian 1999). This finding that abusive males

use physical force to gain control holds true even when other factors like income and communication patterns are controlled for. (Sagrestano, Heavey, & Christensen 1999). Dominance in a relationship is a consistent predictor of male-perpetrated violence against women, and warrants attention as such a pattern of dominance among men is predictive of more severe IPV (Lawson, 2008). As such, a measure of trait dominance was included in the development of the LPA scale.

Factor V: Violence-condoning attitudes and IPV perpetration. Another factor that both Malamuth (1981) and Pryor (1987) included in developing their respective Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales was supportive attitudes towards violence against women. This factor proved predictive of the likelihood to rape and the likelihood to sexually harass. It is therefore possible that a similar pattern will be found in the development of the Likelihood to Physically Abuse (LPA) scale. Previous research conveys that men who hold positive attitudes towards violence against women are more likely to aggress against women (Stith et al., 2004). Robertson and Murachver (2007) note that some studies do not support the finding that positive attitudes towards violence against women are predictive of IPV. However, they argue that this could be due to social desirability. Additionally, in their investigation of incarcerated male and female perpetrators of IPV, Robertson and Murachver found that hostility against women and supportive attitudes towards violence against women were the strongest predictors of IPV perpetration.

In their extensive review of global IPV literature outside of the U.S. and the U.K., Esquivel-Santoveña, Lambert, and Hamel (2013) identified pro-violent and traditional gender attitudes as risk factors for male-perpetrated IPV against women. Eckhardt, Samper, Suhr, and Holtzworth-Munroe (2012) investigated whether implicit attitudes or explicit attitudes of

condoning violence against women were better predictors of a history of intimate partner violence (IPV) against women. Their results showed that implicit attitudes that condone violence against women were predictive of IPV among men in their sample and were not subject to social desirability effects. While the strength and utility of using implicit measures in diagnostic applications requires further support and investigation, Eckhardt et al.'s findings add support to previous research that claims that attitudes that support violence against women are related to male-perpetrated IPV against women. Based on the findings from previous research, and the methods implemented by Malamuth (1981) and Pryor (1987), a measure examining supportive attitudes towards violence against women was included in developing the LPA scale.

Exclusion Factors

Factor I: Situational factors. While external or situational factors such as alcohol, poverty, and others have consistently been shown to coincide with IPV perpetration (Capaldi, Knoble, Shortt, & Kim, 2012), they alone do not cause this perpetration (Jewkes, 2002). Some scholars argue that situational factors such as financial stress and alcohol abuse contribute to occasional conflicts in couples that escalate to an isolated IPV incident; but individual factors such as a need to control one's partner and attitudes that condone violence against women are contributing factors for a pattern of IPV over time (Johnson & Leone, 2005). A long-term pattern of IPV, sometimes referred to as "intimate partner terrorism" or "intimate terrorism" (Johnson, 2011), is the main focus of the current project. Consequently, situational factors such as alcohol consumption, socioeconomic status (SES), and job stress were not included in the development of the LPA scale.

Factor II: Psychopathology and witnessing IPV. Still other researchers argue that psychopathology, and experiencing or witnessing IPV during childhood and/or adolescence are

key predictive factors of IPV perpetration (Corvo & Johnson, 2013; Dutton, 1994). However, metanalytic and other extensive literature reviews of international IPV research reveal that among other tested predictors, gender inequity stands out as one of the strongest predictors of male-perpetrated IPV against women (Jewkes, 2002). Other researchers argue that studies supporting psychological explanations of IPV causation rely on samples of convicted abusers and are not generalizable to other populations, and fail to explain why all men with psychological issues do not abuse their female partners (Ali & Naylor, 2013). Consequently, potential psychopathology and family of origin experiences with IPV were not included in the development of the LPA scale.

Summary of Predictive Factors

As reviewed in the preceding sections, there are various predictive factors of male-perpetrated IPV against females. However, for a long-term pattern of IPV, some of the strongest predictive factors are those that are considered individual and sociocultural. For the purposes of this project, these factors were referred to as personality factors. These personality factors included the following in the development of the LPA scale, (a) strict adherence to traditional gender roles (gender role traditionality; GRT), (b) hypermasculinity (c), empathy, (d) a dominant or authoritarian personality, and (e) condoning attitudes towards violence against women. These predictive factors fall in line with a feminist or socio-cultural approach to investigating male-perpetrated IPV against women, which is the theoretical perspective of the current project. As mentioned previously, for the purposes of examining the discriminant validity of the LPA scale, measures of empathy and attitudes towards feminism were also included. A measure of social desirability was also utilized to assess whether participants are answering the items of the LPA in

an honest manner. Lastly, a measure of IPV perpetration history was included to assess the external validity of the LPA scale.

Methods

Participants

The number of participants for the current study was selected based on the recommendations made by Worthington and Whittaker (2006) for an adequate sample size for the development of a psychological scale and by following the sample sizes employed by Malamuth (1981) and Pyor (1987). Malamuth (1981), for instance, recruited approximately 300 men in his second study that tested the validity of his LR scale. Three hundred participants also follows the recommendations outline by Worhtington and Wittaker's (2006) for an adequate sample size for validity testing of a psychological measure. Consequently, 300 adult American men (aged 18 years and older) were recruited online for the current study through Qualtrics. Qualtrics is a survey software company that works with researchers and other clients to build surveys and to recruit pariticipants for research. Qualtrics collaborates with market-panel research partners from a variety of sources from which respondents considered highly likely to qualify are randomly selected for participation (Qualtrics, 2014). Additionally, each sample selected from these methods is proportioned to the general population and then randomizes before a survey is administered (Qualtrics, 2014). These techniques are intended to help provide high quality responses according to the requirements of the client. The 300 American men for this study were recruited through these methods and were informed that this study will only take place with their expressed consent as delineated by the guidelines of the American Psychological Association (APA). They were informed that the purpose of this study was to examine men's relationship conflict strategies and that the survey would take about an hour of their time to

complete. Participants were also informed that they would be compensated according to the stipulations outlined by participating in a study hosted by Qualtrics. For the current study, this was \$17 for completion of the entire survey. Before completing this study, approval was sought and granted by Brigham Young University's Institutional Review Board (IRB).

Materials and Measures

Sex-Role Egalitarianism Scale-Abbreviated KK (SRES-KK) Form. To assess the first inclusion factor, the SERS-KK was used to assess GRT. Developed by King and King (1990), the SRES-KK will be included in the following study as a measure of adherence to traditional gender roles or gender-role traditionality (GRT). The SRES-KK contains 25 items that fall under five domains of gender-role traditionality which include (1) marital, (2) employment, (3) parental, and (4) educational, and (5) social-interpersonal-heterosexual. Sample items from each domain of the SRES-KK are, "Things work out best in a marriage if a husband leaves his hands off domestic tasks" (reverse scored; *marital*), "women can handle pressures from their jobs as well as men can" (*employment*), "keeping track of a child's out-of-school activities should be mostly the mother's responsibility" (reverse scored; *parental*), "choice of college is not as important for women as for men" (reverse scored; *educational*), "a person should generally be more polite to a woman than to a man" (reverse scored; *social-interpersonal-heterosexual*). For the purposes of this study, participants rated the SRES on a five point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*)¹, with higher scores representing higher endorsement of egalitarian gender roles. King and King (1990)

¹ Any variation in the Likert-type scale anchors of the different psychological measures that were employed in the current study were standardized based on the recommendations of Weng (2004). Weng recommended for social science researchers to anchor their Likert-type scales at five points or higher for better internal consistency. The current study followed these recommendations by anchoring applicable Likert-type scales at five points.

reported an alpha coefficient of .92 in their initial development of the SRES-KK. See Appendix F for the SRES-KK scale items.

Male Role Norms Inventory–Short Form (MRNI-SF). To assess the second inclusion factor, the MRNI-SF was used to assess hypermasculinity. The MRNI-SF was created by Levant, Hall, and Rankin (2013), and is a measure of traditional masculine identity or hypermasculinity. The MRNI-SF has seven domains which include (1) restrictive emotionality, (2) self-reliance through mechanical skills, (3) negativity toward sexual minorities, (4) avoidance of femininity, (5) importance of sex, (6) toughness, and (7) dominance. The MRNI-SF contains 21 items that are rated on a Likert-type scale that ranges from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores reflecting greater levels of hypermasculinity. A sample item of the MRNI-SF is, “A man should never admit when others hurt his feelings.” Levant et al. reported alpha coefficients of .94 for men and .92 for women in their initial development of the MRNI-SF. See Appendix D for the items of the MRNI-SF.

The Interpersonal Reactivity Index (IRI). To assess the third inclusion factor, the IRI was used to assess empathy. Davis (1980) developed the IRI as a measure of a multidimensional approach to empathy that examines both cognitive and affective aspects. The IRI contains four subscales which are (1) Perspective Taking (cognitive), (2) Fantasy (cognitive), (3) Empathic Concern (affective), and (4) Personal Distress (affective). The IRI contains 28 items in which participants will rate on a four point Likert-type scale that ranges from 1 (*does not describe me well*) to 4 (*describes me very well*), with higher scores indicating higher empathy. Only the Empathetic Concern subscale was included in the current study as its items were the most related to the concept of empathy investigated in IPV literature and to the inclusion factor of the current study. A sample items from the Empathic Concern subscale includes, and “In emergency

situations , I feel apprehensive and ill-at-ease.” Davis reported internal consistencies that ranged from .68 for males and .73 for females for the Empathic Concern subscale. See Appendix H for the items of the Empathic Concern subscale of the IRI.

The Dominance Scale. To assess the fourth inclusion factor, the Dominance Scale was used to assess interpersonal dominance. The purpose of Hamby’s (1996) Dominance scale is to measure dominance in interpersonal relationships. The Dominance scale contains three subscales which include (1) Authority, (2) Restrictiveness, and (3) Disparagement. Because items from the Disparagement subscale assume that the participant is currently in a romantic relationship, it was not be included in the current study as this project does not require that participants be in a relationship or not. 22 of the 32 items of the Dominance scale were included that participants rated on a Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating a higher level of dominance in interpersonal relationships. Sample items from the Authority and Restrictiveness subscales include, “Sometimes I have to remind my partner who’s boss” (*Authority*), and “I have a right to know everything my partner does” (*Restrictiveness*). Hamby reported internal consistencies that ranged between $\alpha = .73-.82$ for each subscale of the Dominance Scale. See Appendix C for the items included in this study from the Dominance scale.

The Attitudes towards Male Physical Dating Violence Scale (AMDV). To assess the fifth inclusion factor, the AMDV was used to measure attitudes towards violence against women. The AMDV scale was developed by Price, Byers, and the Dating Violence Research Team (1999) to examine acceptance of violence against women in the context of a dating relationship. While the initial validation of this scale involved high school students, the AMDV has since been validated in and utilized in adult samples (Luthra & Gidycz, 2006). The ADMV contains 12

items that were rated on a five point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating greater endorsement of male physical violence against women. A sample item from the AMDV is, “A guy usually does not slap his girlfriend unless she deserves it.” For the purposes of this study, the wording of the AMDV will be adjusted slightly. The original wording of the AMDV includes ‘boyfriend’ and ‘girlfriend,’ which will be changed to ‘male partner’ and ‘female partner’ for the current study as this wording better aligns with the variety of heterosexual relationships included in the LPA scale. Price et al. reported internal consistencies of .84 for males and .81 for females in their original development of the AMDV. See Appendix D for the items of the AMDV.

Marlowe-Crowne Social Desirability Short Form C (SDS). To examine for the possibility of participants’ social desirability influencing their responses on the Likelihood to Physically Abuse (LPA) scale, the MCSD-SF-C (referred to SDS in this study for brevity) was included in the current study. Reynolds (1982) developed and validated short versions of the Marlowe-Crowne Social Desirability scale. The original scale and its abbreviated versions assess a participant’s level of social desirability; which is the extent to which a participant is answering questionnaire items in a way that he or she believes will be desirable to the researcher. Of the short versions that Reynolds validated, he recommended short form C due to its high reliability. Form C contains 13 items that are marked true or false, and higher scores indicate greater social desirability. A sample item from the Marlowe-Crowne Social Desirability Short Form C is, “I’m always willing to admit it when I make a mistake.” Reynolds reported an alpha of .76 for this measure. See Appendix G for the items of the SDS form C.

Attitudes towards Feminism and the Women’s Movement (FWM) Scale. As mentioned previously, both Malamuth (1981) and Pryor (1987) hypothesized and found support

for the finding that those who scored higher on their measures of likelihood to rape and likelihood to sexually harass held more negative affective attitudes towards feminism or the women's movement. The current study tested for a similar relationship between negative affective attitudes towards feminism and/or the women's movement and likelihood to physically abuse scores by employing FWM scale. Fassinger's (1994) FWM scale measures affective attitudes towards the women's movement. The FWM scale contains 10 items that were rated on a five point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores reflecting more positive attitudes towards feminism and/or the women's movement. A sample item from the FWM scale is, "Feminists are a menace to this nation and to the world." Fassinger reported an alpha coefficient of .89 in the initial development and validation of the FWM scale. See Appendix I for the items of the FWM scale.

Conflict Tactics Scale Revised Short Form (CTS2-S Short Form). In their initial development and validation of their respective Likelihood to Rape and Likelihood to Sexually Harass scales, Malamuth (1981) and Pryor (1987) included a behavioral paradigm to measure the external validity of their measures. In a similar way, the CTS2-S Short Form was included in the current study to examine the participants' potential history of IPV perpetration. This will help to determine the external validity of the LPA scale. The CTS2-S Short Form is a 20 item scale with five subscales (i.e., Negotiation, Physical Assault, Injury, Sexual Coercion, and Psychological Aggression) that was developed by Straus and Douglas (2004). Only the Physical Assault and Injury subscales for perpetration of IPV were included in the current study as the items of these subscales were the most relevant to perpetration of physical IPV; a main focus of the current project. The CTS2-S Short Form is an abbreviated version of the Conflict Tactics Scale (CTS), which is the most widely used instrument to measure IPV perpetration and victimization. The

CTS2-S Short Form's 20 items ask participants to report how often they committed certain acts or how often their partner performed certain acts in their relationships within the past year on an eight point likert-type scale that includes points ranging from 1 (*once in the past year*), 6 (*more than 20 times in the*), to 8 (*this has never happened*). A sample item from the CTS2-S Short Form Physical Assault subscale is, "I pushed, shoved, or slapped my partner." Because the CTS2-S Short Form consists of five subscales that contain two items each, of which the scores cannot be summed for a total score, an alpha coefficient was not an appropriate measure of its reliability (Straus & Douglas). Instead, Straus and Douglas measured the concurrent validity of the five subscales of the CTS2-SF with the parallel subscales of the CTS. Straus and Douglas reported concurrent validity ranging from $r = .65$ to $r = .94$ for each subscale of the CTS2-S Short Form. See Appendix J for the items of the CTS2-SF.

Procedure

Like Study I, the procedures for this study mirrored those employed by Malamuth (1981) and Pryor (1987) in their respective developments of their Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales, but were completed online via surveys created using Qualtrics software. Participants first completed a consent form available online through Qualtrics before they proceeded in participating in this study. After providing their consent, participants answered questions on a brief demographic survey. Following the demographic survey, participants were administered the following measures: (1) Likelihood to Physically Abuse (LPA) Scale, (2) the Sex-Role Egalitarianism Scale-Abbreviated KK (SRES-KK) Form, (3) the Male Role Norms Inventory-Short Form (MRNI-SF), (4) the Interpersonal Reactivity Index (IRI), (5) the Dominance Scale, (6) the Attitudes Towards Male Physical Dating Violence Scale (AMDV), (7) the Marlowe-Crowne Social Desirability Short Form C, (8)

the Attitudes towards Feminism and the Women's Movement (FWM) Scale, and the Conflict Tactics Scale-Revised Short Form (CTS2-S Short Form). The order of the surveys and their respective items were randomized to control for any potential order effects.

Data Analytic Strategy

Like Study I, the current study followed the data analytic strategy that both Malamuth (1981) and Pryor (1987) utilized in developing their respective LR and LSH scales as closely as possible while considering more contemporary applications. The LPA scale was tested for internal reliability again by conducting a Cronbach's alpha analysis. Following the guidelines of Worthington and Whittaker (2006), an exploratory phase of testing the factor structure of the LPA scale was pursued by conducting a principal-components factor analysis. This was followed by a confirmatory factor analysis (CFA) to test the plausibility of the proposed single-factor latent structure of the LPA scale by using the following model fit indexes as recommended by Brown (2015) and Kline (2010): root mean square error of approximation (RMSEA) less than or equal to .06, comparative fit index (CFI) greater than or equal to .95, and goodness to fit index (GFI) of greater than or equal to .90.

The construct validity of the LPA scale was then examined by testing the convergent and divergent validity of the LPA scale. To test for this, the correlational relationships between the LPA scale and the other measures (SRES-KK Short Form, MRNI-SF, IRI, Dominance Scale, AMDV, Marlowe-Crowne Social Desirability Form C, FWM, and CTS2-S Short Form) was by Pearson's product moment r correlational analyses.

Hypotheses

The original hypotheses for this study before the data analyses were conducted are summarized below:

Hypothesis 1. The LPA scale will show good internal reliability as reflected by a Cronbach's alpha coefficient ranging from good ($\alpha > .80$) to excellent ($\alpha > .90$) (Cooksey, 2014);

Hypothesis 2. The proposed, single-factor model for the LPA scale will be supported by the principal components factor analysis. This will be supported by the extraction of a single factor with all 10 of the LPA scale items loading highly on the factor with factor loadings of .50 or higher;

Hypothesis 3. The factor structured extracted by the exploratory phase will be supported and confirmed in the confirmatory phase by the confirmatory factor analysis (CFA). The CFA is anticipated convey that the items of the Likelihood to Physically Abuse (LPA) scale strongly and significantly relate to the latent factor of Likelihood to Physically Abuse (LPA) as indicated by factor loadings of .5 or higher and $p < .05$. The model fit indices are anticipated to indicate a plausible model for the latent variable, LPA, as indicated by root mean square error of approximation (RMSEA) less than or equal to .06, comparative fit index (CFI) greater than or equal to .95, and goodness to fit index (GFI) of equal to or greater than .90 (Brown, 2015);

Hypothesis 4. The LPA scale is anticipated to show good convergent validity with results of the Pearson r correlational analyses between the LPA scale and the following scales: the Male-Role Norms Inventory-Short Form (MRNI-SF), the Dominance Scale, the Attitudes Towards Male Dating Violence (AMDV) scale. Specifically, these relationships are predicted to be positive and to be significant. The Sex-Role Egalitarianism Scale-Abbreviated KK Form (SRES-KK) is anticipated to show a similar relationship but to have a negative direction because of the way it is scored;

Hypothesis 5. The LPA scale is anticipated to show good divergent validity with significant Pearson r correlations that are negative in direction for the following measures: the Empathy subscale of the Interpersonal Reactivity Index (IRI), the Marlowe-Crowne Social Desirability Form C, and the Attitudes Towards Feminism and the Women's Movement (FWM) scale; and

Hypothesis 6. The LPA scale will show good external validity by the Pearson r correlation analysis results by testing the relationships between it and Physical Assault and Physical Injury subscales of the Conflict Tactics Scale Revised Short Form (CTS2-S Short Form). These subscales are anticipated to significantly and positively correlated with the LPA scale.

Results

Data Screening

Before any analyses were performed, the data were screened for missing data and normality of distribution. Overall, there was 0 - 4.7% of data in the data set that contained 300 cases total. Case 222 had 35.3% of its data missing and was removed; leaving 299 cases total. The remaining data was examined to determine if the missing data patterns were missing completely at random (MCAR) or not by conducting Little's MCAR test. The results were significant; indicating that the data was *not* missing completely at random (MCAR).

Independent samples t tests were conducted to compare the groups with missing values and the groups with non-missing values to test for any significant patterns. The results revealed that there were no significant differences between the groups with missing data and those without missing data with the exception of LPA b items. That is, there was a significant relationship between groups with missing values for LPA b items that was dependent upon an

observed variable – the Conflict Tactics Scale 2 Short Form (CTS2-SF) items. As such, the pattern of missing values was determined to be missing at random (MAR), which is defined as missing data patterns that are dependent upon observed variable(s) (Graham, 2009). Expected Maximization (EM) (a Maximum Likelihood method; ML) was then selected as an appropriate method to handle the missing data values as this method creates a complete data set and is appropriate for data is MAR (Allison, 2003). The data were then screened for normality and outliers by visually inspection of histogram graphs and scatterplots. The data were determined to be approximately normally distributed. Further analyses were then conducted using SPSS version 25 and Amos Graphics version 24.

Participant Characteristics

Participant demographic information was analyzed using the same demographic survey employed in Study I (see Appendix B). As in Study I, all participants in this study were male with an average age of 52 ($SD = 16.28$, $Mdn = 56$). Over half of the participants (55%) obtained a bachelor's degree or a post-graduate degree (e.g., Master's, Ph.D., etc.). The majority of the sample identified as Caucasian (77%) and more than half of the men in this sample were married (56%). A little over half of the participants indicated an approximate household annual income of \$60,000 or greater (53%). Participants showed a relatively even spread of political affiliations across the political spectrum with 35% of participants indicating a moderate political position. The results for the participant demographic information are summarized in Table 4.

Table 4

Participant Demographic Information for Study II (n = 299)

Age in years	
Mean (SD)	52.00 (16.28)
Range	19-88
Education (Highest level achieved)	
High School Diploma or equivalent	20.1%
Technical School	11.7%
Associate's Degree	13.4%
Bachelor's Degree	32.8%
Post-graduate Degree (Master's, etc.)	22.1%
Race/Ethnicity	
Latino/Hispanic	6.0%
Asian/Pacific Islander	6.7%
African American	6.7%
Caucasian	76.7%
Mixed Race	2.3%
Other	1.0%
Marital Status	
Single	29.4%
Married	55.8%
Divorced	10.0%
Widowed	4.7%
Approximate Household Annual Income	
Less than \$20,000	13.0%
\$20,000-\$40,000	14.4%
\$40,000-\$60,000	19.4%
\$60,000-\$80,000	15.7%
\$80,000-\$100,000	9.7%
\$100,000 or more	27.8%
Political Affiliation	
Extremely Liberal	7.7%
Liberal	13.4%
Somewhat Liberal	9.4%
Moderate	35.4%
Somewhat Conservative	12.4%
Conservative	10.7%
Extremely Conservative	11.0%

Preliminary Exploratory Factor Analysis

As in Study I, a principal components analysis (PCA) was conducted to test for any potential factor(s) among the b items of the LPA scale. Similar to Study I, one factor was extracted by a scree plot analysis based on the leveling off of eigenvalues. The extracted factor had an eigenvalue greater than one and accounted for 89% of the variance and was defined as Likelihood to Physically Abuse. The remaining eigenvalues were equal to or less than .25, accounted for less than or equal to 2.5% of the variance, and had no factor loadings. The items had high loadings onto the extracted factor at .91 or higher. Likewise, the communalities were also relatively high in this analysis ranging from .85 to .92. The factor loadings for the b items onto the one-factor solution and the communalities are summarized in Table 5 by scenario.

Table 5

Factor loadings and communalities based on principle components factor analysis for b items of the LPA scale by scenario for Study II (n = 299)

Scenarios	Factor Loadings	Communalities
Finances	.92	.85
Ex-boyfriend	.94	.89
Female partner's salary	.93	.87
Job in another state	.95	.90
House chores	.96	.92
Confiding in mutual friend	.95	.90
Meeting with male friend	.95	.90
Female partner's education	.94	.90
Accusation of an affair	.94	.89
Trip with male friends	.95	.90

Internal Reliability Analysis for the Likelihood to Physically Abuse (LPA) Scale

The following analyses were conducted to examine the b items (10 total) of the LPA scale as these are intended to measure a likelihood to physically abuse. These analyses included

a Cronbach's alpha analysis and a confirmatory factor analysis (CFA). As in Study I, the internal reliability for the LPA scale was high in this study with Cronbach's $\alpha = .99$.

Confirmatory Factor Analysis

To examine how well the extracted factor structure from the exploratory phase fit onto the data, a CFA was conducted using Amos Graphics 24. The steps outlined by Kline (2010) that were taken in Study I to judge the results of the CFA were also followed for Study II. These included examining the model fit test statistics (i.e., χ^2 and significance level), model fit indexes (i.e., RMSEA, GFI, TLI, and CFI), and the indicator loadings onto the latent variable, likelihood to physically abuse (LPA).

Model test statistics and model fit indexes. The initial model fit indexes conveyed poor model fit overall: $\chi^2 (35) = 347.4, p < .001$, goodness-of-fit (GFI) = .82, comparative fit index (CFI) = .94, Tucker-Lewis Index (TLI) = .92, and root mean square equation approximation (RMSEA) = .173. GFI was below the recommended minimum level of .90 for acceptable fit (Brown, 2015). The CFI and TLI fell below the recommended .95 or higher threshold for indicating acceptable model fit (Ding, Velicer, & Harlow, 1995). The RMSEA was also higher than the recommended .05 to .06 cutoff criterion that indicates acceptable model fit (Kline, 2010). Consequently, the model fit indices were examined to determine if the model could be improved as recommended by Cole, Ciesla, and Steiger (2007).

While some caution against adjusting a CFA or SEM model (Smith & McMillan, 2001), others argue that it is acceptable given that too many adjustments are not made to the model and that there is a strong conceptual rationale for making the selected adjustments to the model (Schermelleh-Engel, Moosbrugger, & Müller, 2003). Still others argue that adjusting a CFA or structural equation (SEM) model based on modification indices is a preferred approach since it is

based upon statistical recommendations and that in not doing so, a potentially misleading model may be extracted (Cole et al., 2007). The current project followed the recommendations given by Kline (2010) and Brown (2015) by adjusting the first CFA model based on the modification indices and a strong conceptual rationale

The model fit indices contained suggestions to correlate the error terms between some of the LPA scale items. This is a common occurrence for psychological measures that have similar wording for items (Brown, 2015). Since the items of the LPA scale all involve fictional scenarios that present a conflict between a couple and the three choice items are similar and rated similarly across the entire scale, it is understandable that some adjustment was recommended for the model by correlating error terms of some of the items. Error terms were then correlated based on modification indices of 30 or higher and a logical rationale.

The following error terms for the following items of the LPA scale were correlated: one and eight, two and five, three and four, and seven and nine. The LPA items that showed a potential for improved model fit if their error terms were correlated were then examined to determine if these adjustments also made sense conceptually. Items one and eight contained scenarios in which the female partner ended up accusing the protagonist of being the cause of the relationship issue presented. In item one, the scenario presented includes a financial problem the protagonist and the fictional female partner are facing and concludes with an argument in which the female partner accuses the protagonist of being the cause of the financial stress in their lives. In a comparable way, item eight presents the female partner accusing the protagonist of being the cause of their argument and problems because of his lack of emotional support towards her and his insecurity of his academic accomplishments compared to hers. Both items include an element of accusation that escalates the argument presented in the fictional scenarios.

Correlating the error terms between these items, then, is logical. The second suggested correlation between error terms included items two and five. Similar to the previous suggestion, both of these items also contained an element of accusation that catalyzed the argument between the male protagonist and the female partner. In item two, the scenario presented includes the female partner accusing the protagonist of being the source of their argument and problems because of his jealousy and insecurity. In the scenario included in item five, the female partner accuses the male protagonist of being the source of their argument and problems because of his lack of help with household chores. In both scenarios included in items two and five, the accusations made by the female partner are made after the heated argument has begun and only serve to escalate the heated disagreement further. Because of the similarities between the scenarios presented in items two and five, correlating the error terms between them is arguably a logical step. The third suggested correlation between error terms was between items three and four. In both of these scenarios, the fictional female partner makes a decision about taking a job without informing the protagonist first. In both scenarios, the male protagonist feels hurt, betrayed, and humiliated that his female partner not only took a job without consulting him first, but also because he finds out after the fact. The content and wording of these scenarios are similar in these regards and correlating the error terms between them is argued to be reasonable. The final suggested correlation between item error terms was for items seven and nine. The scenarios for both of these items involves a suspicion and accusations against a partner of infidelity. Item seven involves the male protagonist being suspicious and accusing the female partner of cheating on him. Item nine, on the other hand, involves reversed roles where the female partner accuses the male protagonist of adultery. While the roles are opposite in these scenarios, the themes are similar and the wording is similar in terms of involving descriptions of

suspected infidelity. Because these items are related in these ways, it is argued that correlating the error terms between them contains a supportable rationale.

The model was then adjusted based on these indices and provided improved results in terms of model fit. The model fit indexes of the adjusted model were, $\chi^2(31) = 179.10, p < .001$, GFI: .90, CFI: .97, TLI: .96, and RMSEA: .13. Like Study I, the χ^2 was significant which indicates poor model fit (Schreiber et al., 2006). However, χ^2 is very sensitive to large sample sizes and is almost always significant when this is the case (Smith & McMillan, 2001). Similar to Study I, the CFI and the TLI indicated good model fit; however, RMSEA indicated poor model fit as it was above the suggested .05-.06 threshold. It is not surprising that RMSEA was similar to Study I since the model remained the same and is a relatively small and simple model. As argued by Kline (2010), RMSEA tends to “impose harsher penalties” on simpler models with fewer degrees of freedom (pg. 207). Additionally, GFI, another type of absolute fit index that is less sensitive to model size and complexity (Brown, 2015), indicated good model fit. Taken as a whole, then, the model fit indexes of the adjusted model indicated good model fit.

Indicator loadings onto latent factor. As in Study I, the relationship between the indicators and the latent factor, likelihood to physically abuse (LPA), were also examined in following the guidelines outlined by Kline (2010). Similar to Study I and in line with the project’s initial predictions, each of the 10 items of the LPA scale loaded highly onto the latent factor, with significant standardized regression weights that ranged from .91-.95 ($p < .001$). The high loadings of the indicators onto the LPA latent variable reveal that the items of the LPA scale reliably predict the latent construct. The model fit indexes for this model and the original, unadjusted model are summarized in Table 6.

Table 6

Goodness-of-Fit Indices for Likelihood to Physically Abuse (LPA) Models for Study II (n = 299)

Model	χ^2_{***}	Df	GFI	CFI	TLI	RMSEA
LPA (single factor)	347.4	35	.82	.94	.92	.173
LPA (single factor, adjusted)	179.1	31	.90	.97	.96	.127

Note. *** $p < .001$

The recommended steps for interpreting a CFA provided by Kline (2010) have been followed and the CFA model as a whole is arguably plausible in terms of fit and theoretical significance. The adjusted CFA model was, therefore, retained. Taken as a whole, the hypotheses for high internal reliability for the LPA scale were supported. Figure 2 shows the original CFA model with its indicator loadings for this study while Figure 3 shows the adjusted CFA model with its respective indicator loadings.

Convergent Validity

To test for the construct validity of the LPA scale, the correlational relationships between widely-used, statistically validated measures related to predicting intimate partner violence (IPV) perpetration and the LPA scale were examined using Pearson's r . The measures included in this analysis included: The results were the following: the Dominance Scale, the Male Role Norm Inventory (MRNI), the Attitudes towards Male Dating Violence (AMDV) scale, the Sex Role Egalitarianism Scale (SRES), the Social Desirability Scale the Empathic Concern subscale of the Interpersonal Reactivity Index (IRI), and the Attitudes towards Feminism and the Women's Movement (FWM) scale. The Pearson product moment correlations were the following: the Dominance Scale, $r = .61$, MRNI, $r = .41$, AMDV, $r = .65$, SRES = $-.65$, SDS = $-.27$, Empathic

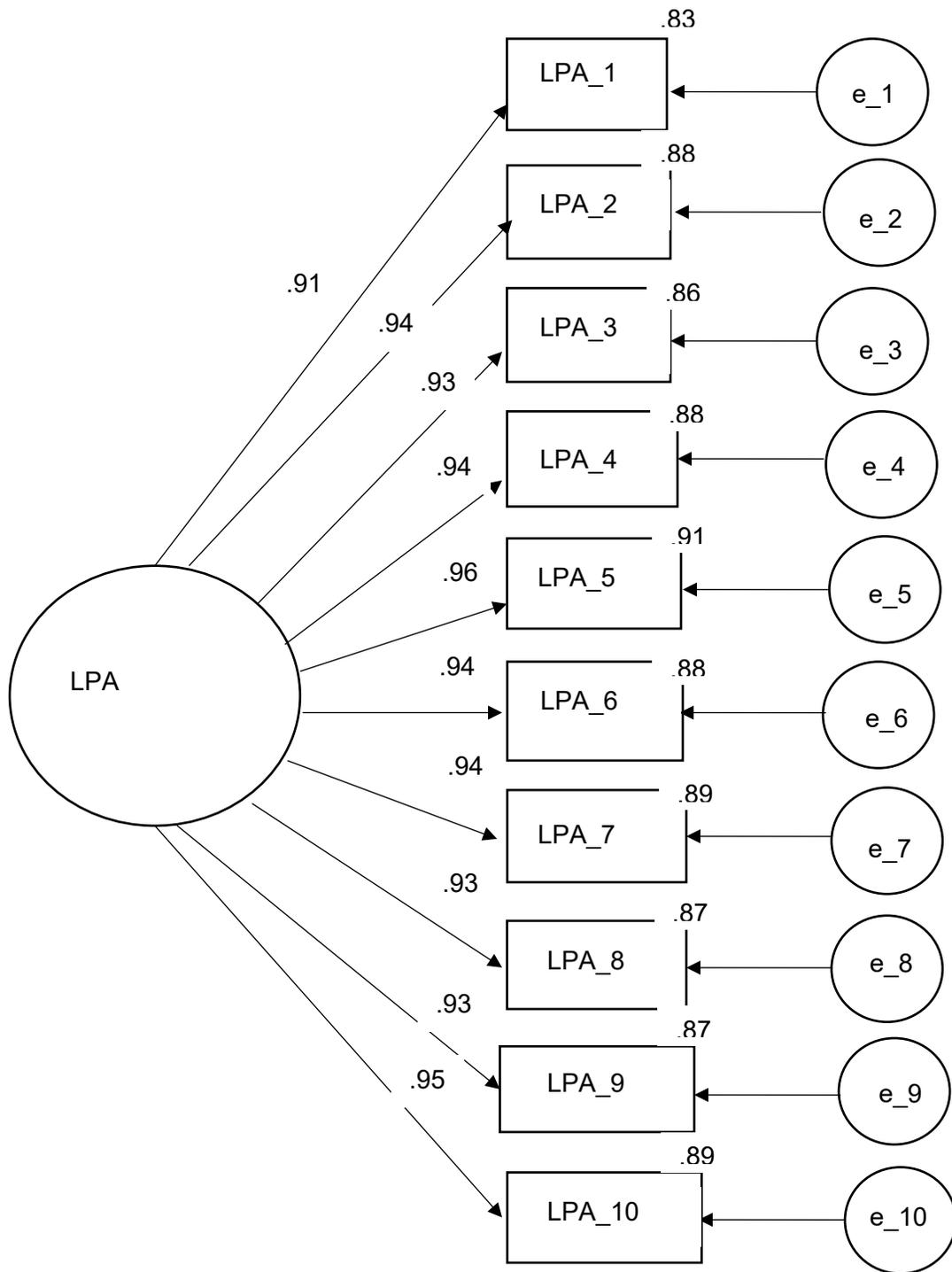


Figure 2. Unadjusted CFA Model of latent factor Likelihood to Physically Abuse (LPA) in Study II. The boxes represent the observed variable, which are items one through ten of the LPA scale. e stands for error.

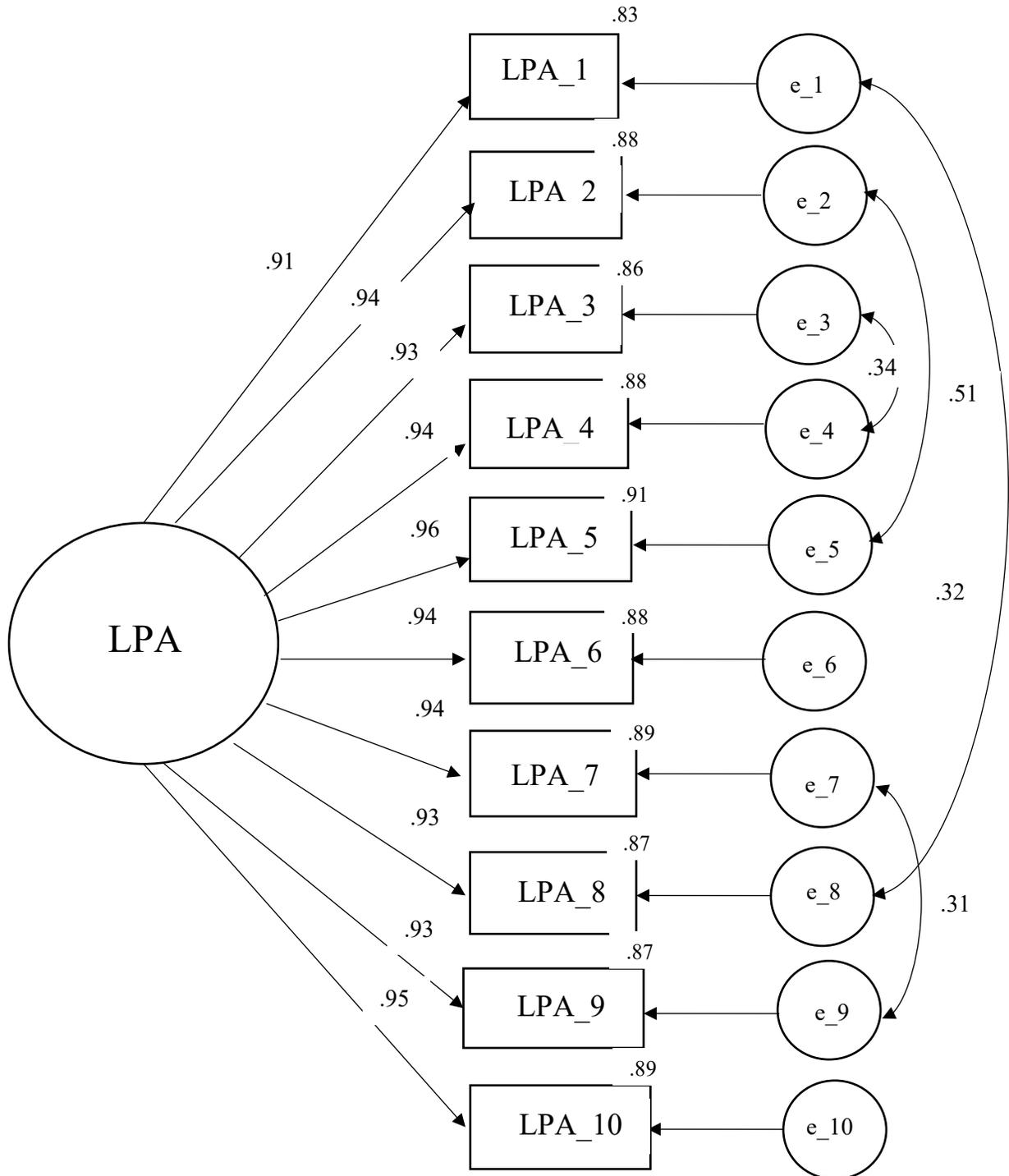


Figure 3. Adjusted CFA Model of latent factor Likelihood to Physically Abuse (LPA) in Study II. The boxes represent the observed variable, which are items one through ten of the LPA scale. e stands for error.

Concern = -.31, and FWM = -.12. The Emphathetic Concern and Personal Ditrress subscales of The correlation between the FWM scale and the LPA scale, although small, was significant at the $p < .05$ level. The remaining measures were significantly related to the LPA scale at the $p = .01$ level. These results are summarized in Table 7.

The direction of the correlational relationships (i.e., negative or positive) between the other measures and the LPA scale match the direction predicted by the hypotheses outlined at the outset of this project. Additionally, in line with the hypotheses outlined at the outset of this project, these correlational relationships were all. The strength of the relationships between the Dominance scale, the AMDV, and the SRES also fell within the strong range ($r = .60$ or higher). Although the remaining relationships between the MRNI, the SDS, and the FWM were lower than $r = .60$, these relationships were still significant, moderate in strength, and followed the predicted relational direction. Therefore, the original hypotheses for the relationships between the LPA scale and other statistically validated and well-known measures related to IPV perpetration were supported.

Table 7

Pearson r Correlations Between the LPA Scale and Other Measures (n = 299)

	Dom	MRNI	AMDV	SRES	SDS	Emp. Concern	FWM
LPA Scale	.61**	.41**	.65**	-.65**	-.27**	-.31**	-.12*

Note. * = $p < .05$, ** $p = .01$. Dom = Dominance, MRNI = Male Role Norm Inventory, AMDV = Attitudes towards Male Dating Violence, SRES = Sex Role Egalitarianism Scale, SDS = Social Desirability Scale, Emp. Concern = Emphathetic Concern subscale, and FWM = Attitudes towards Feminism and the Women’s Movement scale.

External Validity Analysis for the LPA Scale

The correlational relationship between the LPA scale and the Revised Conflict Tactics Scale Short Form (CTS2-SF; Straus & Douglas, 2004) was examined to test the external validity of the LPA scale. The CTS2-SF includes items that ask participants if they have ever perpetrated and/or have been victims of different forms of IPV (e.g., hitting one's partner, being hit by one's partner, etc.) within the last year. As mentioned previously in the review of literature, the CTS2-SF is statistically reliable and is the most widely used psychological measure of IPV perpetration. As such, it was selected as a behavioral measure in the current study. Pearson r correlations were conducted to measure the relationship between the LPA scale and the Physical Assault and Physical Injury subscales of the CTS2. These subscales had respective relationships of $r = .46$ and $r = .48$, $p < .01$. The original hypothesis for the significance and relationship direction between these subscales of the CTS2-S Short Form and the LPA scale were, therefore, supported.

Discussion

While a variety of theoretical approaches have been developed to better understand the causes of the complex and pressing issue of intimate partner violence (IPV), a socio-feminist explanation of IPV remains as the predominant school of thought in IPV research (Ali & Naylor, 2013). According to this theoretical perspective, male-perpetrated IPV against women occurs because of inequalities between men and women. IPV is argued to be an extreme expression of male domination over women according to this perspective (Hunnicut, 2008). An effective method that researchers employ in the attempt to prevent violence against women is by developing methods of identifying risk factors to IPV perpetration such as psychological measures (Martin et al., 2002). While statistically valid and reliable psychological measures

based on socio-feminist theory have been developed for predicting other types of violence against women (i.e., rape, sexual harassment), including Malamuth's (1981) likelihood to rape (LR) scale and Pryor's (1987) likelihood to sexual harass scale, no such psychological measure exists for predicting a potential to perpetrate IPV.

To help address this gap in the IPV literature, the main aim of the current project was to develop a statistically reliable and valid psychological measure, the Likelihood to Physically Abuse (LPA) scale, that predicts IPV perpetration proclivities among heterosexual men from non-clinical populations. The LPA scale differs greatly from Dutton's (1995) Propensity of Abusiveness Scale (PAS) as the former is based upon socio-feminist theory and was developed using non-clinical samples and the latter was created based upon psychopathology and validated using a sample of known abusers. The LPA scale, therefore, is the first of its kind in IPV research. The design and methods of this project follow those of Malamuth (1981) and Pryor (1987) who developed and validated the widely-used Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales, respectively. To achieve this aim, the current project was divided into two studies with large, independent samples of men from America. In Study I, the LPA scale was initially developed and tested for internal reliability and in Study II the internal reliability of the LPA scale was further tested, convergent and discriminant validity were examined to test for construct validity, and external validity was also examined.

Initial Support for the LPA Scale as a Reliable, Valid Measure

The overall results from both Studies I and II provide initial support for the LPA scale as a reliable and valid measure. In line with the project's hypotheses, the internal consistency of the LPA scale was high in both studies (Cronbach's $\alpha > .90$). Additionally, the results of the exploratory factor analyses in Studies I and II supported the hypothesis for the items of the LPA

scale measuring a single factor that was identified as likelihood to physically abuse. This was then later supported and confirmed by the confirmatory factor analyses (CFA) employed in both studies. The only difference between the CFA phase in both studies was the fact that the initial model in Study II required adjustment as the initial model fit indexes were borderline in indicating acceptable fit. The adjustment of the initial CFA model followed the recommendations of Kline (2010) and were made by correlating the error terms of modification indices with values of .30 or higher. Such adjustment is common for analyses utilizing CFA to examine psychological measures with similarly-worded items (Brown, 2015). Additionally, the adjustments were based on theoretical soundness as recommended by (Schreiber et al., 2006). It is argued, then, that the results of the confirmatory factor analyses in both Studies I and II provided support to and confirmed that the LPA scale measures a single, latent factor identified as likelihood to physically abuse. Consequently, the hypotheses of the LPA scale as being a reliable measure were supported.

Another aim of Study II was to examine the construct validity of the LPA scale by testing both the convergent validity and the discriminant validity of this measure. Similar to the steps taken by Malamuth (1981) and Pryor (1987), the convergent validity of the LPA scale was measured by examining the correlational relationship between statistically reliable and validated measures known to be related to male-perpetrated IPV against women and the LPA scale. These included the Dominance scale (Hamby, 1996) to measure dominance in interpersonal relationships, the Male Role Norms Inventory-Short Form (MRNI-SF; Levant et al., 2013) to measure hypermasculinity, the Attitudes towards Male Dating Physical Violence (AMDV; Price et al., 1999) scale to examine attitudes towards violence against women, and the Sex-Role Egalitarianism Scale – Abbreviated KK (SRES-KK; King & King, 1990) Form to examine

adherence to traditional gender roles. The overall results of the correlational analyses supported the initial hypotheses of this project. The strength of these relationships varied from moderate ($r = .41$) to strong ($r = .65$) (Rice & Harris, 2005), were significant ($p < .01$), and followed the predicted direction of the study's hypotheses; thus, supporting the assertion that the LPA scale would be related to validated measures of factors related to IPV perpetration.

The discriminant validity of the LPA scale was also examined by evaluating the relationship between statistically validated measures of constructs thought to not be related to IPV perpetration. The constructs included empathy, measured by the Empathic Concern subscale of the Interpersonal Reactivity Index (IRI; Davis, 1980) and attitudes towards feminism, measured by the Attitudes towards Feminism and the Women's Movement (FWM; Fassinger, 1994) scales. Following the methods of Malamuth (1981) and Pryor (1987) a measure of social desirability, the Marlowe-Crowne Social Desirability Short Form C (SDS; Reynolds, 1982) was also included to determine if participants were answering items on the LPA scale in a way that they thought would be pleasing to the researcher. Like the results reported by Pryor (1987), the Empathic Concern subscale showed significant and meaningful results with $r = -.31$ ($p < .01$). The relationship direction supports the initial hypothesis of this project that greater levels of empathy would predict lower likelihood to physically abuse as this is consistent with previous literature that shows lack of empathy moderates risk of committing sexual aggression against women (Covell et al., 2007), and similar effects are only recently being considered in IPV research (Abbey et al., 2006). After developing his IRI scale, Davis (1983) investigated how the sub-factors of his proposed multidimensional construct of empathy related differently to different factors. He found that the Empathetic Concern subscale was related with selfless for others and emotional reactivity. The results here support his claim as this subscale was negatively related to

higher scores on the LPA scale. The finding from the Empathic Concern subscale of the IRI provides support for the discriminant validity for the LPA scale.

The other correlational relationships examined between the Marlowe-Crowne SDS ($r = -.27, p < .01$) and FWM ($r = -.12, p < .05$) scale did not show as strong of relationships with the LPA scale but were both significant and conveyed the predicted direction of the current project's initial hypotheses. This means that the LPA scale is not strongly related to either measure but that these relationships are still meaningful. For social desirability, it is arguably good that the LPA scale did not have a strong relationship. This can be taken to mean that social desirability may not be related to the way a participant answers the LPA scale, especially since this relationship was negative. As for the FWM scale, this is a much older measure and may not pan out as well as a more current measure related to attitudes towards feminism and the women's movement.

The results of these correlational analyses implemented to test the discriminant validity of the LPA scale were similar to those reported by Pryor (1987) in their strength, direction, and significance level. As such, since all but the subscale of the IRI fell below the threshold of a moderate correlation coefficient (Ferguson, 2009), these results should be interpreted cautiously. Despite this, it is argued that the correlational analyses employed to test the convergent and discriminant validity of the LPA scale convey promising results for the construct validity of this newly developed measure.

In addition to examining the construct validity of the LPA scale, the current project included testing the external validity of the LPA scale. This involved measuring the correlational relationship between the LPA scale and two subscales from the CTS2-S Short form that were most related to the aims of the current project – the Physical Assault and Physical

Injury subscales. The findings of which were in line with the current project's original hypotheses and conveyed support for the LPA scale as being externally reliable. The CTS2-S Short Form was developed based on the Conflict Tactics Scale (CTS), which is the most widely-used measure of IPV perpetration and victimization in both research and clinical settings (Jones, Browne, & Chou, 2017). Research indicates that the short form is comparable in both the established reliability and validity of the CTS (Hines & Saudino, 2003). While both versions are not without criticism or limitations, the external validity of the CTS2-S Short Form is supported by previous research and the results from the current study, then, convey initial support for the external validity of the LPA scale.

Contributions of the LPA Scale to IPV Literature

The initial reliability and validity results of the LPA scale are promising and mirror those of the initial development of both the Likelihood to Rape (LR) and Likelihood to Sexually Harass (LSH) scales. As mentioned previously, the LPA scale represents the first of its kind in the IPV literature that was developed using non-clinical samples and grounded in a socio-feminist explanation of the causes of IPV. It is argued, then, that the LPA scale may impact IPV research in a similar way as Malamuth (1981) and Pryor (1987) did with their respective LR and LSH scales (Bohner et al., 1998; Driscoll et al., 1998). It is postulated that the LPA scale will help to begin a program of research that examines IPV perpetration propensities among men and others from non-clinical populations. This is an important contribution as a gap exists between IPV research findings from clinical samples and non-clinical samples; the former of which is often inappropriately extended to non-clinical populations (Dixon & Graham-Kevan, 2011). Additionally, the findings from this study add to the newer consideration of empathy (or lack thereof) as a contributing factor to IPV perpetration (Covell et al., 2007).

The LPA scale represents a potentially important tool that can be applied in a variety of samples rather than clinical samples alone. This type of application is an important step forward in IPV research to test the assertions of a socio-feminist theoretical explanation of male-perpetrated IPV against women. Additionally, the non-clinical application of this measure may help to uncover other aspects of IPV perpetration that may not have been possible with measures solely developed for and utilized in clinical samples. There may be critical differences between clinical and non-clinical samples examined in IPV research that could be tested by utilizing the LPA scale. This is a noteworthy contribution of the LPA scale as IPV perpetration persists at unacceptably high rates around the world (Wilkinson, 2013) and as such, it is imperative to understand contributing factors to IPV from non-clinical and clinical samples alike.

In addition to providing a way to test the assertions of a socio-feminist theoretical explanation of male-perpetrated IPV against women, the LPA scale can help to add to the literature collecting evidence for typologies of abusers. As Carlson and Dalrye Jones (2010) argue in their review of IPV research, there is a disparity between sociological and psychological research with the former focusing on abuser typologies and the latter relying mainly on feminist theory and psychopathology. The LPA scale may be implemented in testing proposed typologies of abusers to help bridge the gap between these two main approaches to understanding IPV perpetration. The findings from the current project convey that men from the included samples are more likely to condone violence against women interpersonal relationships, to adhere to traditional gender roles, to be less empathetic, to be hypermasculine, and to be dominant in interpersonal relationships. These are important factors to consider in the ongoing investigation of the risk factors of IPV perpetration (Capaldi et al., 2012) and in building a

profile of people who are potential abusers in intimate partner relationships (Cavanaugh & Gelles, 2005).

The LPA scale is also practical in design and may be employed in intervention and prevention programs much like the LR and LSH scales have been (Bell et al., 2002; Foubert & Newberry, 2006). Specifically, the LPA scale could be used to divide participants in an intervention program, for instance, into low, moderate, and high-risk groups as has been done with the LR and LSH scales previously (Foubert, 2000). This is an imperative step to take in intervention and prevention work as these types of programs can be better tailored for the needs of the individuals and communities being served (Robb & Doverspike, 2001).

Limitations

The current project has several limitations. As noted by the title and throughout the project, the LPA scale was initially developed by using two English-speaking, U.S. samples. While this can be seen as a limitation, this project made no claims to creating a universally applicable scale to different cultural contexts. Rather, it is important to contextualize these results and to view them as the initial step to what is intended to be an on-going research endeavor. IPV persists across all cultures, levels of SES, race/ethnicity, education level, and across a variety of demographic variables (Tjaden & Thoennes, 2000). Consequently, it is important to interpret the findings from this project in the context of two English speaking, American male samples that were assumed to be heterosexual. Additionally, the samples were overwhelmingly Caucasian (more than half in both samples). There may be variations among non-English speakers in the U.S. and among men from other racial and ethnic groups. These potential differences are not widely addressed in IPV literature and current understanding remains relatively inconclusive (Cho, 2012). Adaptions of the LPA scale for different cultural-

linguistic variations even within the context of America are important to pursue as the U.S. is diverse in terms of language and race/ethnicity (Ryan, 2013).

Similarly, two measures used to examine the discriminant validity of the LPA scale, the Marlow-Crowne Social Desirability Scale (SDS) and the Attitudes towards Feminism and the Women's Movement (FWM) scale, conveyed significant yet weak relationships. Pryor (1987) found a similar results for social desirability and his LSH scale and concluded that this showed that the constructs were not strongly related. The same could be said for the LPA scale and like Pryor's (1987) findings, the relationship between the LPA scale and the SDS was negative and significant. The FWM scale used in this project is a bit older and this may have contributed to the weak relationship (albeit negative and significant) between it and the LPA scale. Future research should utilize a more up-to-date measure of attitudes towards feminism or the women's movement to help further determine the discriminant validity of the LPA scale.

Another limitation is the fact that during the recruitment of participants for the current study, there was no survey item or check put in place to ensure that all of the participants in the current project were heterosexual. This is a critical factor for the current project that was unfortunately not addressed. Despite this, the results from the current investigation provided strong initial evidence for the LPA scale as a statistically reliable and valid measure. Future studies that further examine the reliability and validity of the LPA scale in heterosexual populations should ensure that the participants in the sample indeed identify as heterosexual.

Lastly and as addressed previously, the intent of the current project was to develop and validate a measure of IPV proclivities among heterosexual men against women from an American sample. Adaptations of this measure for other types of relationships (e.g., homosexual) and other types of abuse (e.g., female-male perpetrated IPV) should also be made

in future research to help create a broader understanding of IPV proclivities among non-clinical samples more generally. Additional adaptations should be made to investigate other forms of abuse (e.g., psychological, sexual, emotional, etc.) as the physical form of IPV is only one of many forms of abuse that often are perpetrated against victims simultaneously (WHO, 2012).

Conclusion

Taken as a whole, the results from the current project provide initial evidence for the LPA scale as a reliable and valid measure of a likelihood to physically abuse among heterosexual men from non-clinical, English-speaking samples in America. In his initial development of his LR scale, Malamtuh (1981) concluded that his measure of likelihood to rape represented a proclivity among men to commit an act of sexual violence against women given certain circumstances. In a similar way, it is important to conclude that the LPA scale is intended to measure an *inclination* among men to commit a physically abusive act against a female partner given certain circumstances. Therefore, it is important to conclude that the LPA scale is an instrument that examines the potential for a heterosexual man becoming physically abusive towards his female partner and does not provide a full prediction that a participant *is* an abuser. This measure can be seen as something that predicts a trait rather than an outcome. This project represents the beginning of what is anticipated to be a successful program of research of IPV perpetration proclivities in non-clinical populations.

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Appendix A

Likelihood to Physically Abuse Scale

Instructions: *Please read the following scenarios, and imagine you are the main character. After reading the scenarios, please rate how likely you would do the listed options that follow on a scale ranging from (1)extremely unlikely to (5) extremely likely. Please answer these questions as honestly as you can. Your identity will remain completely anonymous and you will not be penalized for your answer or face any negative consequences.*

(1) Imagine that you are newly married to your wife Ariana. Tonight you come home late from a long and stressful day at work, and are reviewing your bank statement with Ariana. You two realize that you are in more debt than you thought, and are going to have to file for bankruptcy. You feel this is all Ariana's fault because she is immature and bad at managing finances. Additionally, Ariana is not doing anything to help the situation as she depends on you completely for financial support. But Ariana is blaming you for going bankrupt. She is yelling at you and saying that you are irresponsible, selfish, and that you do not care about her. She also accuses you of spending money. Ariana continues to accuse you of being an excessive spender and of ruining your financial situation. She says that you have destroyed her chances of a happy married life. Now Ariana has crossed the line. Not only are you feeling the stress and pressure of being the only bread winner in the home, but now you feel hurt and betrayed by Ariana's accusations. Your fighting only begins to escalate. How likely are you to do the following things?

- a. Would you suggest to your Ariana that the two of you should get help with managing your finances?
- b. Assuming that you would not get caught or punished for your actions, would you slap Ariana to teach her a lesson?
- c. Assuming that you would not get caught or punished for your actions, would you tell Ariana that this is all her fault and that she needs to get your shared finances together?

(2) Imagine that you are on a date with your girlfriend Sara. The date is going well until her ex-boyfriend shows up. It seems to you that he is trying to flirt with your girlfriend, which angers you inside. But what makes you even angrier is that Sara seems to be enjoying the attention. Now you are very angry and jealous. Instead of talking to her in the moment, you decide to deal with things when you drop Sara off to her home. When you reach Sara's home, you begin to question her. Sara instantly becomes defensive. She accuses you of being insecure and jealous. She says that her former boyfriend never acted in such a childish manner. She says her ex-boyfriend always respected her independence without questioning her loyalty. You are shocked and hurt. You accuse her of still having feelings for her ex-boyfriend. Sara just becomes more upset and says she enjoyed the attention just to spite you. Now she has pushed your limits. You are furious

with Sarah and feel she has betrayed you. The argument seems to be getting worse and you two are not reaching a solution. How likely are you to do the following things?

- a. Would you tell Sara that the two of you should resolve this issue tomorrow so you can both cool off?
- b. Assuming that you would not get caught or punished for your actions, would you hit Sara to show her mistake?
- c. Assuming that you would not get caught or punished for your actions, would you tell Sara to get back together with her ex-boyfriend and storm off?

(3) Imagine that you and your partner, Felicity, are out at dinner with friends. Everything is going great until Felicity announces to everyone that she just accepted a prestigious and high-paying job. This is the first time you have heard this news. You are shocked and feel betrayed that Felicity did not tell you first. And now everyone knows that Felicity will earn more than you in a prestigious job. You are very humiliated and do not understand why Felicity has done this to you when you make enough to support both of you. You wonder if Felicity is doing this to belittle you. But now she has crossed the line by breaking her loyalty to you and humiliating you in front of everyone. You don't want to ruin the mood of the dinner, so you decide to handle things when you two get home. When the two of you reach home, you start asking Felicity why she didn't tell you first. Felicity accuses you of not being supportive of her. She accuses you of being jealous of her success. You are shocked, hurt, and confused by these accusations. You feel like Felicity has really gone too far. The two of you keep arguing, and the argument keeps intensifying. How likely are you to do the following things?

- a. Would you tell Felicity that the two of you need to stop arguing and resolve your issues peacefully?
- b. Assuming that you would not get caught or punished for your actions, would you use physical aggression to put Felicity in her place for humiliating you?
- c. Assuming that you would not get caught or punished for your actions, would you give Felicity the cold shoulder until she apologizes to you?

(4) Imagine that you and your girlfriend, Tania, are seniors in college. You two have been dating for a year now, and are pretty serious. You think that Tania is the girl for you, and you want to get married soon. However, you are insecure because Tania was reluctant to start dating you because she is way out of your league. When Tania comes to meet you in your dorm room today she casually tells you that she has decided to take a job in another state after graduation. You feel betrayed and angry that she made this decision without consulting you. You begin to question Tania about her decision. Tania only becomes defensive and angry. She accuses you of being insecure and not trusting her. You accuse of her trying to leave you by taking a job in another state. Tania does not deny this, and accuses you of suffocating her. She says you two

need space. You feel your inner doubts and insecurities are being justified. Tania says that you do not support her and that you only want to control her. You feel she has really crossed the line today by breaking your trust. You two continue to argue heatedly and cannot seem to reach a resolution. How likely are you to do the following things?

- a. Would you try to explain to help Tania to calm down so you two can discuss this issue in a more mature manner?.
- b. Assuming that you would not get caught or punished for your actions, would you push Tania out of anger and to show her that you are in control of this relationship?
- c. Assuming that you would not get caught or punished for your actions, would you call Tania unpleasant names and threaten to break up with her?

(5) Imagine that you and your wife, Amy, have been married for ten years now, and have been having some issues. One of the main things you argue about repeatedly is household chores. You feel that because Amy is a housewife that the household chores are entirely her responsibility. You come home from a long, stressful day at work to a home that seems messy and dirty. Amy has done this several times before. Sometimes you think she does this on purpose to provoke and insult you. You feel angry that Amy didn't think enough about you to make the house clean before you came home. You begin to question her about why the house is so dirty. Amy immediately fires back and accuses you of not appreciating her. She begins to insult you. She demands that you help with chores too. She accuses you of expecting her to do everything and of taking her for grant it. You are angered and insulted by her accusations. But Amy is not listening and only becomes more upset with you. Now you feel Amy has gone too far. Your heated argument with her only seems to be getting worse with no resolution in sight. How likely would you be to do the following things?

- a. Would you suggest to Amy that the two of you should seek counseling to resolve this ongoing argument?
- b. Assuming that you would not get caught or punished for your actions, would you hit Amy to show her how angry you are and to teach her a lesson?
- c. Assuming that you would not get caught or punished for your actions, would you leave the house for the entire night and ignore Amy's calls to hurt her?

(6) Imagine that you and your partner, Maria, are working professionals in your thirties. You have been dating for two years and have moved in together recently. As time has worn on in your relationship, it seems that you two have been arguing and having issues more than enjoying your time together. Since moving in together, your arguments have escalated and have become more heated. You feel this is because Maria is not understanding about how you like to live, your habits, and your preferences. Today you saw a mutual friend of you and Maria on your way home from work whose name is Carlos. Carlos said something to you that angers you. He

mentions how Maria discussed your relationship problems with him and was asking for help. You instantly feel upset and rush home to confront Maria. When you confront Maria, she does not deny anything and eventually, she admits to discussing your relationship problems with Carlos. You feel enraged, betrayed, and humiliated by Maria's actions. Instead of being understanding as to why you are upset, Maria defends her actions and accuses you of being the source of the relationship problems between you both. The two of you continue arguing heatedly with no resolution in sight. How likely would you be to do the following things?

- a. Would you suggest to Maria that you two need to cool down for a bit, and then try to discuss the possibility of seeing a couple's counselor?
- b. Assuming that you would not get caught or punished for your actions, would you hit Maria so that she learns from her mistake and doesn't betray you again?
- c. Assuming that you would not get caught or punished for your actions, would you threaten to do the same thing to her to betray and humiliate her?

(7) Imagine that you and your long-time college girlfriend Alana just got engaged. You are head-over-heels about her and cannot wait to get married. But sometimes you have doubts about Alana's fidelity. She has a lot of close guy friends and values her independence. This makes you feel insecure. Alana and you were supposed to study together in the library today, but she said she had to meet with her professor after class. You decide to go to the library anyways to study. As you are leaving the library, you see Alana coming out of another building with one of her male friends. They are laughing a lot and Alana touches his shoulder. You instantly feel hurt, betrayed, and jealous. You decide that instead of making a scene, you will handle this situation by meeting Alana in her dorm room later. When you meet Alana later, she does not admit to meeting with her male friend. You then begin to question her behavior with her male friend and her loyalty. Alana instantly becomes defensive. She accuses you of being insecure and of trying to take away her independence. You feel she has taken things way too far. The two of you are not coming to a solution, but your argument is getting worse instead. How likely would you be to do the following?

- a. Would you confront Alana about how she didn't meet you in the library and ask what she did instead to see if she tells the truth?
- b. Assuming that you would not get caught or punished for your actions, would you use physical aggression to show Alana how much she hurt you?
- c. Assuming that you would not get caught or punished for your actions, would you tell Alana that a girl was flirting with you today in the library to make her jealous?

(8) Imagine that you and your partner, Lorena, have become serious and are considering getting married soon after three years of dating. At dinner with your parents, Lorena shares that she was accepted to an ivy-league university for her Ph.D. Your parents joke about how Lorena has

a lot more education and motivation compared to you as you dropped out of college before working. You are hurt, irritated, and feel embarrassed that Lorena agrees with your parents instead of sticking up for you. Sometimes you feel like Lorena is arrogant about her higher level of education. You feel that Lorena constantly rubs it in your face that she is more educated than you. You feel like she is out of control by humiliating you in front of your parents. You decide not to say anything in front of your parents, but to confront Lorena when you two get a chance to be alone. As you confront her, you feel all the frustration and humiliation you have held on to build up and explode at Lorena. She becomes angry and accuses you of not supporting her, and wanting to bring her down because of insecurity. Your argument only gets worse, and you two are not able to find a resolution. How likely would you be to do the following?

- a. Would you tell Lorena that you feel like she is arrogant about her higher education status and that this hurts you?
- b. Assuming that you would not get caught or punished for your actions, would you push Lorena out of anger and to show her how wrong she was?
- c. Assuming that you would not get caught or punished for your actions, would you insult and put down Lorena so that she knows how you feel?

(9) Imagine that you have been married for twenty years to your wife, Aileen. While you argue from time to time, she typically just cries and agrees to whatever your side is to maintain peace. Today you two had a heated argument about you coming home late from work over the past two weeks. Instead of believing what you tell her about having extra assignments at work, Aileen accuses you of having an affair with your close colleague, Rachel. She claims she can find evidence of your affair, and continues to interrogate you. You are shocked, annoyed, and angered by Aileen's behavior. You think it's disrespectful of her to accuse you this way without listening to your side of the story. Aileen is not allowing you to even speak because she is so angry. She continues by accusing you of never caring about her, of using her as a trophy wife, and of being selfish. She begins to call you swear words. In her rage, Aileen begins breaking plates in the kitchen. You feel Aileen has crossed the line. When you try to get her to stop breaking plates, Aileen storms out of the kitchen and starts yelling at you from the living room. Your argument only continues to escalate. How likely would you be to do the following?

- a. Would you leave the house to give time for Aileen to calm down?
- b. Assuming that you would not get caught or punished for your actions, would you slap Aileen so that she stops insulting you and accusing you?
- c. Assuming that you would not get caught or punished for your actions, would you in turn insult and accuse Aileen of things like cheating so that she understands how you feel?

(10) Imagine that you and your girlfriend, Isabella, have been dating since your senior year of high school and decided to attend the same college together. You two just finished your first

semester of finals, and are preparing for your holiday break. Before finals, you and Isabella had discussed the idea of going somewhere together for a weekend before heading home. However, today Isabella informed you that she is going somewhere with her guy friends for the weekend, and doesn't invite you. You are surprised and hurt that Isabella broke her promise to you. Your hurt turns into anger, and you feel jealous that she will be alone with her guy friends. You begin to question her actions and her loyalty. Instead of understanding why you feel betrayed and hurt, Isabella blames you. She says she is getting back at you for neglecting her during the semester. Now you feel she has gone too far. Not only has she broken your trust, but now she is saying that you are insensitive and that you do not care about her. She keeps saying how she did this on purpose to hurt you. You two continue to argue, and you feel the argument begin to escalate. How likely would you be to do the following?

- a. Would you tell Isabella to consult with her parents about her actions so they can explain to her how what she did was wrong?
- b. Assuming that you would not get caught or punished for your actions, would you use some physical aggression to show Isabella to make her understand that what she did was wrong?
- c. Assuming that you would not get caught or punished for your actions, would you storm off and leave immediately for the break without talking to Isabella?

Appendix B

Demographic Survey

Please answer the following questions.

1. Age:
2. Gender:
 - a. Male
 - b. Female
3. Education: Please select one of the following that represents the highest level of education that you have completed.
 - a. High School Diploma or equivalent
 - b. Technical School
 - c. Associate's Degree
 - d. Bachelor's Degree
 - e. Post-graduate degree (Master's, Ph.D., M.D., etc.)
4. Race/Ethnicity:
 - a. Latino/Hispanic
 - b. Asian/Pacific Islander
 - c. African American
 - d. Caucasian
 - e. Mixed Race
 - f. Other
5. Marital Status:
 - a. Single
 - b. Married
 - c. Divorced
 - d. Widowed
6. Your approximate household annual income:
 - a. Less than \$20,000 per year
 - b. \$20,000-\$40,000 per year
 - c. \$40,000-\$60,000 per year
 - d. \$60,000-\$80,000 per year
 - e. \$80,000-\$100,000 per year
 - f. \$100,000 or more per year

7. On the following, please indicate where you would rate your political orientation ranging from: 1 (*extremely liberal*), 2 (*moderately liberal*), 3 (*liberal*), 4 (*moderate*), 5 (*conservative*), 6 (*moderately conservative*), to 7 (*extremely conservative*).

Appendix C

The Dominance Scale (Hamby, 1996)

Intructions: People have many ways of relating to each other. The following statements are all different ways of relating to or thinking about your partner or a potential partner. Please read each statement and rate how much you agree with it on scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. I try to keep my partner from spending time with opposite sex friends.
2. If my partner and I can't agree, I usually have the final say.
3. It bothers me when my partner makes plans without talking to me first.
4. I hate losing arguments with my partner.
5. My partner should not keep any secrets from me.
6. I insist on knowing where my partner is at all times.
7. When my partner and I watch TV, I hold the remote control.
8. My partner and I generally have equal say about decisions.
9. It would bother me if my partner made more money than I did.
10. I tend to be jealous.
11. Things are easier in my relationships if I am in charge.
12. Sometimes I have to remind my partner of who's boss.
13. I have a right to know everything my partner does.
14. I have a right to know everything my partner does.
15. It would make me mad if my partner did something that I had said not to do.
16. Both partners in a relationship should have an equal say about decisions.
17. If my partner and I can't agree, I should have the final say.
18. I understand there are some things my partner may not want to talk about with me.
19. My partner needs to remember that I am in charge.
20. I often tell my partner how to do something.
21. I dominante my partner.
22. I have a right to be involved with anything my partner does.

Appendix D

Male Role Norms Inventory (MRNI; Levant, Hall, & Rankin, 2013)

Instructions. Please complete the questionnaire by circling the number which indicates your level of agreement or disagreement with each statement. Give only one answer for each statement. Please rate your responses on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. Homosexuals should never marry.
2. The President of the US should always be a man.
3. Men should be the leader in any group.
4. Men should watch football games instead of soap operas.
5. All homosexual bars should be closed down.
6. Men should have home improvement skills.
7. Men should be able to fix most things around the house.
8. A man should prefer watching action movies to reading romantic novels.
9. Men should always like to have sex.
10. Boys should prefer to play with trucks rather than dolls.
11. A man should not turn down sex.
12. A man should always be the boss.
13. Homosexuals should never kiss in public.
14. A man should know how to repair his car if it should break down.
15. A man should never admit when others hurt his feelings.
16. Men should be detached in emotionally charged situations.
17. It is important for a man to take risks, even if he might get hurt.
18. A man should always be ready for sex.
19. When the going gets tough, men should get tough.
20. I think a young man should try to be physically tough, even if he's not big.
21. Men should not be too quick to tell others that they care about them.

Appendix E

Attitudes towards Male Physical Dating Violence Scale (AMDV; Price, Byers, & the Dating Research Team, 1999)

Instructions: Please indicate the degree to which you agree with the following statements on a scale that ranges from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. A girl should break up with a guy when he hits her.*.
2. Some girls deserve to be slapped by their boyfriends.
3. It is never O.K. for a guy to hit his girlfriend.*.
4. Sometimes guys just cannot stop themselves from punching girlfriends.
5. There is no good reason for a guy to push his girlfriend.*.
6. Sometimes a guy cannot help hitting his girlfriend when she makes him angry.
7. There is no good reason for a guy to slap his girlfriend.*.
8. Sometimes jealousy makes a guy so crazy that he must slap his girlfriend.
9. Girls who cheat on their boyfriends should be slapped.
10. Sometimes love makes a guy so crazy that he hits his girlfriend.
11. A guy usually does not slap his girlfriend unless she deserves it.
12. It is O.K. for a guy to slap his girlfriend if she deserves it.

*Indicates reverse scored item

Appendix F

Sex-Role Egalitarianism Scale-Abbreviated KK Form (King & King, 1990)

Instructions: Below are statements about men and women. Read each statement and decide how much you agree or disagree by rating each statement on a scale that ranges from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. Women should have as much right as men to go to a bar alone.
2. Clubs for students in nursing should admit only women.
3. Industrial training schools ought to admit more qualified females.
4. Women ought to have the same chances as men to be leaders at work.
5. Keeping track of a child's activities should be mostly the mother's task.
6. Things work out best in a marriage if the husband stays away from housekeeping tasks.
7. Both the husband and wife's earnings should be controlled by the husband.
8. A woman should not be President of the United States.
9. Women should feel as free to "drop in" on a male friend as vice versa.
10. Males should be given first choice to take courses that train people as school principals.
11. When both husband and wife work outside the home, housework should be equally shared.
12. Women can handle job pressures as well as men can.
13. Male managers are more valuable to a business than female managers.
14. A woman should have as much right to ask a man for a date as a man has to ask a woman for a date.
15. The father, rather than the mother, should give teenage children permission to use the family car.
16. Sons and daughters ought to have an equal chance for higher education.
17. A marriage will be more successful if the husband's needs are considered first.
18. Fathers are better able than mothers to decide the amount of a child's allowance.
19. The mother should be in charge of getting children to after-school activities.
20. A person should be more polite to a woman than a man.
21. Women should feel as free as men to express their honest opinion.
22. Fathers are not as able to care for their sick children as mothers are.
23. An applicant's sex should be important in job screening.
24. Wives are better able than husbands to send thank you notes for gifts.
25. Choice of college is not as important for women as men.

Appendix G

Marlowe-Crowne Social Desirability Scale-Short Form C (Reynolds, 1982)

Instructions. Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is *true* or *false* as it pertains to you personally.

1. It is sometimes hard for me to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don't get my way.
3. On a few occasions, I have given up on doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.
5. No matter who I'm talking to, I'm always a good listener.
6. There have been occasions when I took advantage of someone.
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone's feelings.

Appendix H

Interpersonal Reactivity Index (IRI; Davis, 1980)

Empathic Concern Subscale

Instructions: Please answer the following items on a scale that ranges from 1 (*doesn't describe me at all*) to 4 (*describes me very well*)

- 2. I often have tender, concerned feelings for people less fortunate than me.
- 4. Sometimes I don't feel very sorry for other people when they are having problems. (*reverse scored*)
- 9. When I see someone being taken advantage of, I feel kind of protective towards them.
- 14. Other people's misfortunes do not usually disturb me a great deal. (*reverse scored*)
- 18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (*reverse scored*)
- 20. I am often quite touched by things that I see happen.
- 22. I would describe myself as a pretty soft-hearted person.

Appendix I

The Attitudes towards Feminism and the Women's Movement (FWM) Scale (Fassinger, 1994)

Instructions: Please read the following statements and rate the degree to which you agree with them on a scale that ranges from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. The leaders of the women's movement may be extreme, but they have the right idea.
2. There are better ways for women to fight for equality than through the women's movement.
3. More people would favor the women's movement if they knew more about it.
4. The women's movement has positively influenced relationships between men and women.
5. The women's movement is too radical and extreme in its views.
6. The women's movement has made important gains in equal rights and political power for women.
7. Feminists are too visionary for a practical world.
8. Feminists principles should be adopted everywhere.
9. Feminists are a menace to this nation and the world.
10. I am overjoyed that women's liberation is finally happening in this country.

Appendix J

The Conflict Tactics Scale Revised Short Form (CTS2-SF; Straus & Douglas, 2004)

Physical Assault (Perpetrator) and Physical Injury Subcales (Perpetrator)

Instructions: No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please mark how many times you did each to these things in the past year, and how many times your partner did them in the past year. If you or your partner did not do one of these things in the past year, but it happened before that, mark a "7" on your answer sheet for that question. If it never happened, mark an "8" on your answer sheet.

How often did this happen?

- 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
- 8 = This has never happened

Physical Assault:

- 3. I pushed, shoved, or slapped my partner
- 13. I punched or kicked or beat-up my partner

Physical Injury:

- 6. My partner had a sprain, bruise, or small cut or felt pain the next day because of a fight with me
- 16. My partner went to see a doctor (M.D.) or needed to see a doctor because of a fight with me