

**Examining Potential Pathways to Adolescent Dating Violence and the Impact of Youth  
Relationship Education on Common Correlates of Adolescent Dating Violence**

by

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## Abstract

Romantic relationships play a significant role in adolescent development and set the framework for future relationship behaviors (Collins, 2003; Collins & Steinberg, 2006; Kerpelman et al., 2010). A national study recently revealed that roughly two-thirds of adolescents have been involved in an unhealthy or abusive relationship (Taylor & Mumford, 2016). Thus, there is a recent effort to focus on identifying the predictors of dating violence experiences as well as the effects of promising prevention efforts such as youth relationship education on reducing rates of adolescent dating violence. Building upon the existing literature, this two-study dissertation examined the potential processes through which the transmission of violence from parents to adolescents occurs as well as the impact of youth relationship education on common correlates of adolescent dating violence and dating violence experiences.

The purpose of the first study was to develop a clearer understanding of the transmission of violence by examining the direct and indirect effects of exposure to interparental violence (IPV) and parents' IPV acceptance on adolescents' dating violence perpetration and victimization. In addition to being one of the first studies to consider the potential impact of parents' IPV acceptance on adolescents' dating violence experiences, this study is also one of few to test the individual effects of IPV exposure, adolescents' dating violence acceptance, adolescents' gender role beliefs, and parents' IPV acceptance on the frequency of adolescents' overall, physical, and psychological dating violence perpetration and victimization. Utilizing a

nationally-representative sample of adolescents and their parents ( $n = 512$ ;  $M_{age} = 15.39$  years), I tested the potential mediating effects of adolescents' dating violence acceptance and traditional gender role beliefs on the effects of exposure to IPV and parents' self-reported IPV acceptance on adolescents' dating violence experiences. Results from this study reveal two common themes: (1) measurement of dating violence and IPV exposure matters and (2) parents' experiences and attitudes matter. I found support for the direct transmission of violence from IPV exposure to adolescents' dating violence experiences; however there was limited evidence of adolescents' dating violence acceptance and gender role beliefs serving as mediators. I also found direct effects of parents' IPV acceptance on adolescents' physical dating violence experiences and an indirect effect on adolescents' psychological dating violence experiences through both adolescents' dating violence acceptance and gender role beliefs, suggesting that parents have the ability to either enhance or lessen children's vulnerability for unhealthy relationship experiences.

These findings also support the need for more complex measures of both IPV exposure and dating violence experiences. This study advanced the dating violence literature by measuring physical and psychological dating violence perpetration and victimization separately and using a frequency score rather than focusing solely on the absence or presence of violence. In doing so, I found differential mediating effects by type of violence. Thus these findings provide a novel perspective on the transmission of violence; specifically, the ways in which parents and experiences within the home are directly or indirectly related to adolescents' dating violence experiences. Additionally, the evidence from this suggests that programs seeking to prevent

adolescent dating violence may consider targeting adolescents' dating violence acceptance and traditional gender role beliefs, as they are direct predictors of adolescents' dating violence experiences.

The purpose of the second study was to determine the directional nature of the relationship between dating violence acceptance and gender role beliefs in a diverse sample of youth relationship education participants ( $N = 1,902$ ;  $M_{age} = 15.62$  years) up to six months following program completion. This was the first study to determine the directional nature of the relationship between dating violence acceptance and gender role beliefs. It was also the first to test the comparative impact of both dating violence acceptance and gender role beliefs on physical dating violence perpetration and victimization up to six months after the program as well as the potential moderating effect of gender on these associations. Adolescents' pre-program gender role beliefs significantly predicted dating violence acceptance immediately following the program, such that adolescents with more traditional gender role beliefs at the start of the program were more accepting of dating violence immediately following the program. On average, adolescents' higher dating violence acceptance, but not gender role beliefs, at baseline predicted higher rates of dating violence perpetration immediately following the program and greater increases in perpetration between pre- and post-program for boys, but not girls. Pre-program dating violence acceptance was also a stronger predictor of post-program victimization for boys than girls. Higher pre-program dating violence acceptance was associated with greater increases in victimization for boys than girls between pre- and post-program. Although studies of youth relationship education have demonstrated significant shifts towards less traditional gender role beliefs for some adolescents (Savasuk-Luxton et al., 2018), this is not explicitly addressed nor is it a primary outcome of interest in most relationship education studies. The results of this

study seem to suggest that, considering the direct effect of gender role beliefs on dating violence acceptance, incorporating a discussion or lesson on gender role beliefs in youth relationship education may have widespread benefits.

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## Chapter I. General Introduction

Romantic relationship involvement is a hallmark of adolescent development (Collins, 2003; Collins & Steinberg, 2006). Studies indicate that over 70% of adolescents report having had at least one romantic partner by the age of 18 (Collins, 2003). The quality of the romantic relationship, more so than simply involvement, plays an influential role in adolescent development (Collins & Steinberg, 2006). Specifically, these early romantic experiences are believed to play a considerable role in adolescents' identity development and other long-term outcomes (e.g., depressive symptoms, substance abuse, sexual risk-taking behaviors; Bonomi, Anderson, Nemeth, Rivara, & Buettner, 2013; Collins, 2003; Collins & Steinberg, 2006; Foshee & Reyes, 2011; Furman & Shaffer, 2003). These early experiences, both good and bad, also set the framework for behaviors and expectations in adult romantic relationships (Collins, 2003; Collins & Steinberg, 2006; Kerpelman et al., 2010).

Healthy romantic relationships in adolescence can positively facilitate adolescents' identity development and interpersonal skills (Collins & Steinberg, 2006; Collins, Welsh, & Furman, 2009). Unfortunately, dating violence perpetration and victimization are quite prevalent in adolescence. A national study recently found that roughly two-thirds of adolescents report experiencing some form of dating violence perpetration or victimization, including physical and sexual violence or psychological abuse in the last twelve months (Taylor & Mumford, 2016). Adolescent dating violence is associated with a range of adverse outcomes including depressive symptoms, suicidal thoughts, poorer educational outcomes, substance abuse, unhealthy eating behaviors, and sexual risk-taking (Bonomi, Anderson, Nemeth, Rivara, & Buettner, 2013; Cui,

Ueno, Gordon, & Fincham, 2013; Foshee & Reyes, 2011). Involvement in an unhealthy or abusive relationship in adolescence is also associated with a greater risk of both dating violence perpetration and victimization in adulthood (Bonomi et al., 2013; Cui et al., 2013; Foshee & Reyes, 2011; Gómez, 2011). Thus, a growing body of research has centered on identifying the predictors of adolescent dating violence perpetration and victimization as well as promising prevention and intervention efforts, such as youth relationship education. This two-study dissertation had two primary goals: (1) to advance our understanding of the etiology of adolescent perpetration and victimization by examining a more complex model of the transmission of violence; and (2) to examine the mitigating effects of youth relationship education on common adolescent dating violence correlates (e.g., dating violence acceptance and traditional gender role beliefs) and adolescent dating violence perpetration and victimization.

### **Examining the Complexity of the Intergenerational Transmission of Violence**

There is a sizable amount of research to date focusing on the antecedents of adolescent dating violence perpetration and victimization, with many studies examining the impact of exposure to violence within the home (i.e., interparental violence). These studies are often guided by social learning theory (Bandura, 1973), which suggests that behaviors are learned through observation. More specifically, individuals learn which behaviors are acceptable and unacceptable through attentive observation of the actions of others (i.e., models). The most influential models tend to be those who maintain a position of power, such as a parent or parental figure (1973). As such, individuals who are exposed to intimate partner violence (IPV) involving a parent are at arguably greater risk for perpetration and victimization in their own romantic relationships in both adolescence (Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004; Reitzel-Jaffe & Wolfe, 2001) and adulthood (Black, Sussman, & Unger, 2010; Ehrensaft et al., 2003;

Rivera & Fincham, 2015). This association is often referred to as the intergenerational transmission of violence (hereafter referred to as “transmission of violence”), or more informally, the cycle of violence. Not all studies, however, find support for this association, suggesting that there is greater complexity to the transmission of violence than often described (see Haselschwerdt, Savasuk, & Hlavaty, 2017 for a review of this association with young adult romantic relationships). Understanding the process through which the transmission of violence occurs can help to inform the development of intervention and prevention initiatives seeking to address adolescent dating violence and, in turn, later IPV.

Prevention science research focuses on identifying and addressing the potential risk factors associated with unhealthy or maladaptive outcomes (Coie et al., 1993). This framework suggests that researchers must move beyond simplistic models (i.e., one predictor to one outcome) to understand the developmental processes through which unhealthy and undesirable outcomes, such as adolescent dating violence, emerge. One way to address the causal processes of adolescent dating violence is to consider the potential mediating factors of the association between IPV exposure and adolescent dating violence perpetration and victimization. As such, the first study builds upon the current literature by examining two frequently studied correlates of adolescent dating violence as potential mediators of the transmission of violence.

Two commonly identified correlates of adolescent dating violence perpetration and victimization are dating violence acceptance and traditional gender role beliefs. Research reveals that individuals who are more accepting of violence in romantic relationships as well as those who hold more traditional gender role beliefs often report higher rates of dating violence perpetration and victimization (Center for Disease Control, 2014; Foshee, Benefield, Ennett, Bauman, & Suchindran, 2004; Foshee et al., 2016; Nabors & Jasinski, 2009; O’Keefe, 2005;

Stith, Smith, Penn, Ward, & Tritt, 2003). Like behaviors, social learning theory suggests that attitudes are also likely to be transmitted through modeling and reinforcement (Bandura, 1973). Findings suggest that IPV exposure is associated with adolescents' increased acceptance of romantic relationship violence (Graham-Bermann & Brescoll, 2000; Kinsfogel & Grych, 2004; Temple, Shorey, Tortolero, Wolfe, & Stuart, 2013). According to social learning theory (Bandura, 1973), although parents may not explicitly state that they condone the use of violence, this message is implied through their modeling of violent behavior in their romantic relationships. Adolescents' perception of their parents' attitudes towards violence is associated with adolescent dating violence perpetration, such that adolescents who believe that their parents condone the use of violence are more likely to use physical violence in their own romantic relationships (Miller, Gorman-Smith, Sullivan, Oprinas, & Simon, 2009). To date there are a handful of studies examining the potentially mediating role that dating violence acceptance may play in the transmission of violence, yet the findings are mixed (Clarey, Hokoda, & Ulloa, 2010; Karlsson, Temple, Weston, & Le, 2016; Temple et al., 2013). These studies, however, are limited due to their use of small, convenience samples as well as cross-sectional data. Additionally, no studies have examined dating violence acceptance as a potential mediator of parents' IPV acceptance and adolescents' dating violence perpetration and victimization.

Similar to dating violence acceptance, beliefs about gender "appropriate" roles and behaviors may also be acquired through the observation of behaviors modeled in the home. One study (Graham-Bermann & Brescoll, 2000) found that IPV-exposed adolescents also tend to have more traditional gender role beliefs. Feminist scholars argue that traditional gender role beliefs are rooted in male power and privilege, often restricting women to submissive and subservient roles (Hill, 2002; Wingood & DiClemente, 2002). Within this framework, men's use

of violence is often viewed as a way to maintain their power and control in the relationship. Studies find that individuals who hold more traditional gender role beliefs are, on average, more accepting of the use of violence (Flood & Pease, 2009; Reyes et al., 2016; Ulloa et al., 2004). Therefore, it is plausible that, in relationships where violence is occurring, gender-stereotypical roles and behaviors are also modeled and reinforced. Yet, no studies have examined traditional gender role beliefs as a potential mediator of the transmission of violence.

Considering the association between IPV exposure, dating violence acceptance, and traditional gender role beliefs, it is possible that the transmission of violence may be explained or mediated by these violence-related attitudes. As such, study one intends to explore the potential developmental processes leading to adolescent dating violence perpetration and victimization by using data from a national, longitudinal study focused on understanding the prevalence and predictors of adolescent dating violence. In this study, I examined whether adolescents' dating violence acceptance and traditional gender role beliefs mediate the relationship between IPV exposure and dating violence perpetration and victimization. Furthermore, this study includes tests of the potential influence of parents' self-reported IPV acceptance on adolescents' dating violence perpetration and victimization, as well the potential mediating effects of adolescents' dating violence acceptance and traditional gender role beliefs on this association. Developing a better understanding of the potential mediators of the transmission of violence can provide valuable insight as to what components should be addressed in intervention programs targeting IPV-exposed youth.

## **The Impact of Youth Relationship Education on Common Correlates and Experiences of Adolescent Dating Violence**



As previously mentioned, research suggests that both dating violence acceptance and traditional gender role beliefs are key cognitive components associated with adolescent dating violence perpetration and victimization (Center for Disease Control, 2014; Flood & Pease, 2009; O’Keefe, 2005). Therefore, a handful of studies of programs that seek to promote healthy relationships and prevent adolescent dating violence, such as youth relationship education, have examined the impact of program participation on dating violence acceptance and traditional gender role beliefs. Results of these studies suggest that participation in youth relationship education elicits desirable changes in both dating violence acceptance and traditional gender role beliefs (Antle, Sullivan, Dryden, Karam, & Barbee, 2011; Kerpelman et al., 2010; Whittaker, Adler-Baeder, & Garneau, 2014). However, the relationship between these attitudes has not been explored in the context of a program experience. The modified theory of propositional control (Ajzen & Fishbein, 1973) suggests that the attitudinal factor (e.g., dating violence acceptance) may be influenced by the normative factor (e.g., traditional gender role beliefs). There is initial evidence suggesting that dating violence acceptance is associated with traditional gender role beliefs (Berkel, Vandiver, & Bahner, 2004; Reyes, Foshee, Niolon, Reidy, & Hall, 2015; Ulloa, Jaycox, Marshall, & Collins, 2004), but no studies have examined whether the inverse relationship is also plausible. Furthermore, no studies have examined how the relationship between these two factors impacts adolescent dating violence perpetration and victimization.

The prevention science framework (Coie et al., 1993) argues that researchers should consider how risk factors are connected and, in turn, how altering these risk factors can prevent undesirable outcomes. Additionally, outcomes should be examined beyond immediate post-program assessment to understand the process of change over time as well as to uncover any potential-lagged effects following program participation. Yet, no studies to date have examined

the directional relationship between dating violence acceptance and traditional gender role beliefs as well as their influence on adolescent dating violence perpetration and victimization over time, let alone in the context of an intervention and over multiple time-points. To build upon what is known in the literature on precursors to adolescent dating violence perpetration and victimization as well as the effects of promising intervention programs such as youth relationship education, the second study examined the process of change in dating violence acceptance and traditional gender role beliefs following youth relationship education participation by testing a more comprehensive, longitudinal model of change. More specifically, I further explored the relationship between dating violence acceptance and traditional gender role beliefs to determine whether change in dating violence acceptance predicts longer-term change in traditional gender role beliefs or vice versa. Furthermore, I examined how change in dating violence acceptance and traditional gender role beliefs impacts change in adolescents' physical dating violence perpetration and victimization rates over time. Taken together, these two studies seek to gain a better understanding of the developmental process leading to adolescent dating violence as well as the potential short-term longitudinal effects of youth relationship education participation on mitigating adolescents' involvement in unhealthy and abusive relationships.

## II. Study 1 – Understanding violence in adolescent romantic relationships: Moving toward a more comprehensive model of the intergenerational transmission of violence

### **Introduction and Overview**

Adolescent dating violence is prevalent in the United States. As reported in a recent summary of the 2013 National Youth Risk Behavior Survey, approximately 20% of females and 10% of males reported experiencing physical or sexual violence or both by a romantic or dating partner in the last 12 months (Vagi, Olsen, Basile, & Vivolo-Kantor, 2015). When a more comprehensive measurement approach is used that includes experiences of psychological abuse, the prevalence rate increases. For example, a different national study on adolescent dating violence that included psychological abuse questions along with physical and sexual violence, found that 69% of adolescents currently or recently in a romantic relationship experienced dating violence in the previous 12 months (Taylor & Mumford, 2016).

Considering the prevalence of adolescent dating violence as well as its association with short and long-term maladaptive adjustment for many youth (Bonomi, Anderson, Nemeth, Rivara, & Buettner, 2013; Cui, Ueno, Gordon, & Fincham, 2013), there has been increased focus on identifying the risk and protective factors for experiencing adolescent dating violence. One commonly identified correlate of adolescent dating violence is exposure to intimate partner violence (IPV) involving at least one parent. Studies suggest that IPV-exposed youth are at greater risk for both adolescent dating violence perpetration and victimization in their own romantic relationships (Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004; Reitzel-Jaffe &

Wolfe, 2001). Research on the transmission of violence, however, has its limitations. Most studies focus primarily on physical violence, overlooking other forms of violence and abuse (e.g., psychological abuse). Furthermore, the evidence supporting the association between IPV exposure and later involvement in adolescent dating violence or IPV is mixed, suggesting that additional factors may be involved in the process (Haselschwerdt et al., 2017). Thus, it appears that developing more complex predictive models is critical to our understanding of the transmission of violence (Smith-Marek et al., 2015).

Research suggests that certain beliefs or attitudes, such as dating violence acceptance and traditional gender role beliefs, may explain the relationship between IPV exposure and adolescent dating violence experiences (Clarey, Hokoda, & Ulloa, 2010; Karlsson, Temple, Weston, & Le, 2016; Kinsfogel & Grych, 2004; O’Keefe, 1998; Temple, Shorey, Tortolero, Wolfe, & Stuart, 2013). Initial evidence provides support for the mediating effects of dating violence acceptance (e.g., Clarey et al., 2010; Karlsson et al., 2016; Temple et al., 2013), such that exposure to IPV and adolescent dating violence are indirectly linked once adolescents’ dating violence acceptance is accounted for. Additionally, findings suggest that IPV-exposed adolescents report more traditional gender role beliefs than non-IPV exposed adolescents (Graham-Bermann & Brescoll, 2000); yet, the potential mediating effect of traditional gender role beliefs on the relationship between IPV exposure and adolescent dating violence has not been examined.

According to social learning theory (Bandura, 1973), adolescents’ behaviors and attitudes or beliefs may be learned through exposure to their parents’ attitudes and behaviors. To date, only one study has examined the relationship between adolescents’ perceived parental support for the use of violence or aggression and adolescent dating violence perpetration (Miller,

Gorman-Smith, Sullivan, Oprinas, & Simon, 2009). Miller and colleagues (2009) found that adolescents who believed their parents were supportive of the use of violence or aggression reported higher rates of physical dating violence perpetration (Miller, Gorman-Smith, Sullivan, Oprinas, & Simon, 2009). Although it is also likely that parents' attitudes towards violence in relationships are associated with their adolescents' acceptance of aggression, no studies have investigated this association. Additionally, evidence suggests that there is a strong association between dating violence acceptance and traditional gender role beliefs for both adolescents and adults (e.g., Flood & Pease, 2009; Reyes, Foshee, Niolon, Reidy, & Hall, 2016; Ulloa, Jaycox, Marshall, & Collins, 2004). Studies also suggest that parents' attitudes often inform their children's attitudes and beliefs (e.g., Castelli, Dea, & Nesdale, 2008; Cunningham, 2001; Cunningham & Thornton, 2006; Willoughby, Carroll, Vitas, & Hill, 2012). As such, it is possible that parents' attitudes regarding the use of violence also are associated with adolescents' traditional gender role beliefs and their subsequent use of aggression in relationships; however, this association has gone untested.

Building upon what is known about the association between IPV exposure and adolescent dating violence, the study sought to develop a better understanding of the pathways to adolescent dating violence by examining the relationship between IPV exposure and parental support for the use of violence or aggression and adolescents' physical and psychological dating violence perpetration and victimization over time. This study also examined adolescents' dating violence acceptance and traditional gender role beliefs as potential mediators of the association between IPV exposure and parental support for the use of violence or aggression and adolescent dating violence perpetration and victimization over time.

### **Exposure to Interparental Violence and Adolescent Dating Violence Experiences**

Exposure to IPV is a relatively frequently studied predictor of violence and abuse in adolescent and adult relationships. Studies often report a positive association between exposure to violence and later dating violence experiences, such that individuals who have been exposed to IPV are more likely to perpetrate and be a victim of violence in their romantic relationships in adolescence and adulthood. A recent meta-analysis by Smith-Marek and colleagues (2015) reveals that, although the effect size is small ( $r = .24$ ), witnessing IPV as a child is associated with an increased risk of dating violence perpetration and victimization in adulthood. This association also appears to hold true for adolescents. More specifically, those exposed to IPV tend to report more incidents of adolescent dating violence perpetration and victimization compared to non-IPV exposed adolescents (Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004; Reitzel-Jaffe & Wolfe, 2001; Temple et al., 2013). The transmission of violence may occur because these behaviors may be learned through exposure to violence and aggression (Bandura, 1973). Social learning theory suggests that the likelihood of behavior reproduction increases when the individual modeling the behavior is significant to the observer, such as a parent or parent-figure (Bandura, 1973; 1989). Yet despite theoretical foundation, not all studies of adolescent dating violence find support for the transmission of violence (e.g., Brendgen, Vitaro, Tremblay, & Wanner, 2002; Lichter & McCloskey, 2004). These contradicting findings highlight the complexity of the violence transmission process and suggests that other variables may explain or account for when this relationship does and does not exist.

### **Violence Related Attitudes and Exposure to IPV**

Research suggests that adolescents who condone the use of violence in romantic relationships and endorse traditional gender role beliefs are at greater risk of both dating violence perpetration and victimization (Center for Disease Control, 2014; Foshee, Benefield, Ennett,

Bauman, & Suchindran, 2004; Foshee et al., 2016; Nabors & Jasinski, 2009; O'Keefe, 2005; Stith, Smith, Penn, Ward, & Tritt, 2003). The majority of research examining the relationship between dating violence acceptance and traditional gender role beliefs, however, focuses on their direct effect on dating violence perpetration and victimization in romantic relationships; a growing, but limited body of research focuses on the how these attitudes are developed.

**Exposure, dating violence acceptance, and adolescent dating violence.** Exposure to IPV has been consistently linked with adolescents' acceptance of violence, such that adolescents who have been exposed to IPV are more likely to justify the use of violence in romantic relationships (Graham-Bermann & Brescoll, 2000; Kinsfogel & Grych, 2004; Lichter & McCloskey, 2004; Temple et al., 2013). For example, Lichter and McCloskey (2004) found that adolescents who were exposed to father-to-mother-perpetrated violence were more likely to condone the use of violence in their romantic relationships. Similarly, Kinsfogel and Grych (2004) found that exposure to verbal and physical aggression between mothers and fathers is associated with increased dating violence acceptance.

Within the current literature examining the relationship between IPV exposure, adolescents' dating violence acceptance, and adolescent dating violence experiences, a handful of studies suggest that dating violence acceptance may fully, or at least partially, mediate the relationship between IPV exposure and later adolescent dating violence experiences (e.g., Clarey et al., 2010; Karlsson et al., 2016; Kinsfogel & Grych, 2004; O'Keefe, 1998; Temple et al., 2013). For example, Clarey and colleagues (2010) found that dating violence acceptance fully mediated the relationship between IPV exposure and adolescent dating violence perpetration in a sample of Mexican adolescents. On the other hand, Kinsfogel and Grych only found partial support, suggesting that there are both direct and indirect effects of IPV exposure on adolescent

dating violence perpetration. Similarly, Karlsson and colleagues (2016) found that the relationship between IPV exposure and adolescents' physical and psychological dating violence victimization is partially accounted for by adolescents' dating violence acceptance.

Though these studies have been instrumental in developing our current understanding of the transmission of violence, there remain gaps in the literature due to the sole use of small samples or convenience sampling and this association remains largely theoretical due to the use of cross-sectional data. These approaches hinder our ability to understand the impact of IPV exposure over time and in a diverse, nationally representative sample. The findings of these studies are also limited due to some methodological decisions, such as measurement of adolescent dating violence perpetration and victimization and analytic design. More specifically, most studies treat adolescent dating violence as a dichotomous variable, limiting our understanding of how dating violence acceptance may mediate the relationship between IPV exposure and specific forms of adolescent dating violence (e.g., physical and psychological) as well as the severity of adolescent dating violence perpetration and victimization. Additionally, most research has focused solely on dating violence perpetration, limiting our understanding of the potential mediating effect of dating violence acceptance on the relationship between IPV exposure and dating violence victimization. As such, one goal of this study was to advance the current literature by using a nationally-representative sample over a one-year time period that includes a broader range of adolescent dating violence perpetration and victimization experiences to examine whether the association between IPV exposure and differing forms of adolescent dating violence is explained by adolescents' dating violence acceptance.

**Exposure, traditional gender role beliefs, and adolescent dating violence.** Traditional gender role beliefs are often rooted in beliefs about male power and control, and the idea that



women should be subservient to their male counterparts (Hill, 2002). These diverging roles often support male dominance and use of aggression as a means of maintaining power and control, particularly in cross-sex relationships (Wingood & DiClemente, 2002). To date, only one study has examined and provided support for the relationship between IPV exposure and traditional gender role beliefs (e.g., Graham-Bermann & Brescoll, 2000). Graham-Bermann and Brescoll (2000) found that children whose mothers reported greater frequency of physical and psychological abuse victimization held more traditional gender role beliefs than children whose mothers reported less or no physical or psychological abuse victimization. Like behaviors, these beliefs (i.e., traditional gender role beliefs) may be acquired through observation of modeled behaviors (i.e., violence and abuse) within the family context and the attitudes that may be transmitted through behaviors parents display in their relationship (Bandura, 1989). As such, it is possible that traditional gender role beliefs may also explain the relationship between IPV exposure and adolescent dating violence experiences.

There is considerable evidence demonstrating the association between adolescents' traditional gender role beliefs and adolescent dating violence experiences (e.g., Foshee et al., 2004; Lichter & McCloskey, 2004; Reyes et al., 2016). Although one study examined the effect of IPV exposure on adolescents' gender role beliefs and found that exposure to IPV was associated with more traditional gender role beliefs (Graham-Bermann & Brescoll, 2000), no studies have examined the linkages between IPV exposure, traditional gender role beliefs, and adolescent dating violence. With over one in six youth reporting IPV exposure in their lifetime (Finkelhor, Turner, Shattuck, Hamby, & Kracke, 2015), understanding how exposure directly or indirectly impacts later adolescent dating violence experiences is essential for prevention and intervention programs. To better understand the transmission of violence, this study tested

whether adolescents' traditional gender role beliefs mediate the association between IPV exposure and adolescents' physical and psychological dating violence perpetration and victimization.

**Parental beliefs, adolescents' beliefs, and adolescent dating violence experiences.** As noted, parents or parental figures often act as children's model for both behaviors and attitudes (Bandura, 1973); therefore, it is likely that parental support for the use of violence may influence adolescents' use of aggression as well as their beliefs about the acceptability of violence in romantic relationships. Only one study to date has examined the relationship between adolescents' perceived parental acceptance of the use of violence and adolescent dating violence perpetration (Miller et al., 2009). The results of this study suggest that adolescents who believe their parents support the use of violence or aggression are more likely to use physical violence in their own romantic relationships. There are no studies to date linking parental support for the use of violence on adolescents' dating violence acceptance or adolescent dating violence victimization. However, studies examining the intergenerational transmission of attitudes in other areas (e.g., marriage attitudes, gender role attitudes, social attitudes, and racial prejudice) suggest that children model their behaviors and attitudes based on both the verbal and non-verbal cues displayed by their parents (Castelli, Dea, & Nesdale, 2008; Cunningham, 2001; Cunningham & Thornton, 2006; Willoughby, Carroll, Vitas, & Hill, 2012). As such, it is likely that adolescents' whose parents are more accepting of violence will share similar beliefs regarding the use of violence and aggression in their romantic relationships.

Research also suggests that there is a significant, positive association between dating violence acceptance and traditional gender role beliefs among both adolescents and adults (e.g., Flood & Pease, 2009; Reyes et al., 2016; Ulloa, Jaycox, Marshall, & Collins, 2004). More

specifically, individuals who are more accepting of violence in their romantic relationships also tend to hold more traditional gender role beliefs and vice versa (Flood & Pease, 2009; Reyes et al., 2016; Ulloa et al., 2004). Considering this evidence, it is likely that parents' attitudes about violence in romantic relationships are associated with their beliefs about gender roles. Under this assumption, parents who are more accepting of the use of violence may also maintain more traditional gender role beliefs and/or exhibit traditional gender role behaviors in the home. Therefore, another goal of the current study was to determine whether adolescents whose parents are more accepting of IPV hold more traditional gender role beliefs.

### **The Current Study**

Taken together, study one builds on and extends the literature on adolescent dating violence perpetration and victimization by testing more complex models of relationships among adolescents' IPV exposure, parents' self-reported dating violence acceptance, adolescents' self-reported dating violence acceptance, adolescents' self-reported gender role beliefs, and adolescents' self-reported dating violence perpetration and victimizations experiences using a large, nationally representative sample of adolescents across two time-points (baseline and 1-year follow up). Based on previous research I expected that: (H1) Exposure to IPV and parental acceptance of IPV uniquely and directly predict adolescents' dating violence acceptance and traditional gender role beliefs; (H2) Exposure to IPV, adolescents' dating violence acceptance, adolescents' traditional gender role beliefs, and parents' IPV acceptance uniquely and directly predict adolescents' overall dating violence perpetration and victimization; (H3) Exposure to IPV, adolescents' dating violence acceptance, adolescents' traditional gender role beliefs, and parents' IPV acceptance uniquely and directly predict adolescents' physical dating violence perpetration and victimization; (H4) Exposure to IPV, adolescents' dating violence acceptance,

adolescents' traditional gender role beliefs, and parents' IPV acceptance uniquely and directly predict adolescents' psychological dating violence perpetration and victimization. In addition, the current study tested indirect effects based on the following research questions: (1) Does adolescents' dating violence acceptance mediate the relationship between IPV exposure and adolescent dating violence perpetration and victimization (i.e, overall, physical, and psychological) over time? (2) Do adolescents' gender role beliefs mediate the relationship between IPV exposure and adolescent dating violence perpetration and victimization (i.e, overall, physical, and psychological) over time? (3) Does adolescents' dating violence acceptance mediate the relationship between parents' self-reported IPV acceptance and adolescent dating violence perpetration and victimization (i.e, overall, physical, and psychological) over time? and (4) Do adolescents' gender role beliefs mediate the relationship between parents' self-reported IPV acceptance and adolescent dating violence perpetration and victimization (i.e, overall, physical, and psychological) over time? Figure 1 presents a conceptual model including all direct and mediating pathways that were explored in this study. Testing the direct and indirect effects of IPV exposure on each of the forms of dating violence measured in this study (i.e., physical and psychological) individually provides a clearer, and more descriptive understanding of the ways in which the transmission of violence occurs. This approach is a step beyond the typical use of a simple dichotomous indicator of dating violence experiences.

Though the transmission of violence has been previously studied, the current study approaches the transmission of violence in several novel ways. Most studies to date have focused solely on physical dating violence perpetration and victimization, often overlooking how these paths may vary when considering other forms of violence and abuse. Therefore, this study also explored the hypothesized pathways and research questions on physical and psychological dating

violence perpetration and victimization separately. Despite the evidence of the association between parents' and children's attitudes (e.g., Castelli, Dea, & Nesdale, 2008; Cunningham, 2001; Cunningham & Thornton, 2006; Willoughby, Carroll, Vitas, & Hill, 2012), this study is the first to explore the relationship between parents' IPV acceptance and adolescents' dating violence acceptance and gender role beliefs. In turn, this is also the first study to consider the potential mediating effects of adolescents' dating violence acceptance and gender role beliefs on the relationship between parents' IPV acceptance and adolescents' dating violence perpetration and victimization. Lastly, it is the first study to explore the potential mediating effects of adolescents' dating violence acceptance and gender role beliefs on the relationship between IPV exposure and adolescents' overall, physical, and psychological dating violence perpetration and victimization separately.

## **Methods**

### **Participants**

The nationally representative sample was obtained from the federally funded, National Survey on Teen Relationships and Intimate Violence (STRiV) study, which was designed to take a comprehensive approach to examining national rates and correlates of adolescent dating violence perpetration and victimization. Participants were recruited through KnowledgePanel, a probability-based panel, which covers roughly 97% of households in the United States. Panelists were initially selected via random-digit dialing, but this has since been changed to address-based sampling. Internet services and computers with internet access were provided to those households that did not have access to the internet or internet capable computers at the time they were selected to join the panel. For the STRiV study, KnowledgePanel panelists, both

parents/caregivers (hereafter referred to as parent) and adolescents, were invited to take part in a survey on adolescent dating violence.

Of those households recruited into the study ( $N = 5,105$ ), only 2,354 were eligible (i.e., had an adolescent in the household) and chose to participate. Children between the ages of 10 and 11 were not provided with all dating violence questions and, as such, will not be included in this study ( $n = 538$ ). Additionally, only adolescents who were either currently or recently (within the past year) in a romantic relationship responded to the questions about dating violence experiences. Because this study focuses on predictors of adolescent dating violence perpetration and victimization at the second time point, the final sample of 512 includes adolescents between the ages of 12 and 18 who were currently or had recently been in a romantic relationship during Wave 2 and their parents. The parent sample was diverse (56.1% White-Non-Hispanic, 24.3% Hispanic, 12.2% Black-Non-Hispanic, 7.4% Other Non-Hispanic) and fairly balanced on gender (58.2% female, 41.8% male). The average age of adolescents in this study was 15.39 years ( $SD = 1.87$ ) and the sample was balanced on gender (51.6% girls, 48.4% boys).

## Measures

**Exposure to IPV.** Exposure to IPV was assessed at Wave 1 using two items: “At any time in your life, did you see a parent get pushed, slapped, hit, punched, or beat up by another parent, or their boyfriend or girlfriend?” and “At any time in your life, did you hear a parent get pushed, slapped, hit, punched, or beat up by another parent, or their boyfriend or girlfriend?” Adolescents responded yes or no to each of the items which were then combined to create one dichotomous IPV exposure item (0 = *No exposure*, 1 = *Exposed to IPV*).

**Parents’ IPV acceptance attitudes.** Four individual items of the IPV subscale of the Velicer Attitudes Towards Violence scale (e.g., “It is alright for a partner to slap the other’s face

if he or she has been insulted or ridiculed by that person” and “It is alright to force one’s partner into sexual activity when they are not interested;” Anderson, Benjamin Jr., Wood, & Bonacci, 2006) were used to measure parents’ IPV acceptance during Wave 1. Parents responded to these items using a 7-point Likert scale (1 = *Strongly disagree* to 7 = *Strongly agree*;  $\alpha = .71$ ). These four individual items were used as indicators of the latent construct: parents’ IPV acceptance. Factor loadings for parents’ IPV acceptance attitudes ranged from .34 to .71 ( $M = .66$ ) and tests of measurement fit revealed adequate model fit ( $\chi^2 (2) = 4.57, p = ns$ ; CFI = .96; RMSEA = .05,  $p = ns$ ).

**Adolescents’ dating violence acceptance.** Adolescents reported on their dating violence acceptance at Wave 1 using a measure adapted from Giordano and colleagues (2010). There were a total of eight items, four measuring adolescents’ acceptance of violence against a boyfriend (e.g., “It’s ok for someone to hit their boyfriend because he made him/her mad;”  $\alpha = .89$ ) and four measuring adolescents’ acceptance of violence against a girlfriend (e.g., “It’s ok for someone to hit their girlfriend because she made him/her mad;”  $\alpha = .92$ ). Adolescents responded using a 4-point Likert scale (1 = *Strongly disagree* to 4 = *Strongly agree*). The individual items in these two subscales were used to create two latent constructs (i.e., acceptance of violence against a male partner, acceptance of violence against a female partner;  $\alpha = .92$ ). Factor loadings for acceptance of violence against a boyfriend ranged from .63 to .89 ( $M = .81$ ). Factor loadings for acceptance of violence against a girlfriend ranged from .69 to .96 ( $M = .88$ ). These two latent constructs were used as indicators for a second-order latent construct of dating violence attitudes and factor loadings were 1.01 and .69 respectively. Tests of measurement fit revealed adequate model fit ( $\chi^2 (34) = 130.38, p < .001$ ; CFI = .93; RMSEA = .07,  $p < .05$ ).

**Adolescents' gender role beliefs.** Gender role beliefs were measured at Wave 1 using a 7-item, modified version of the Attitudes Towards Women Scale for Adolescents (AWSA; Galambos, Petersen, Richards, & Gitelson, 1985). These items were used to assess perceptions regarding role expectations and equal treatment of girls and boys (e.g., "Girls should have the same freedom as boys" and "It is more important for boys than girls to do well in school") as well as their perceptions regarding innate tendencies of boys and girls (e.g., "Girls are always trying to manipulate boys"). Adolescents responded to a 4-point Likert scale (1 = *Strongly disagree* to 4 = *Strongly agree*;  $\alpha = .69$ ). These individual items were used as indicators to create a latent construct for adolescent gender role beliefs. Factor loadings for adolescents' gender role beliefs ranged from .47 to .68 ( $M = .54$ ) and tests of measurement fit revealed adequate model fit ( $\chi^2 (9) = 22.49, p < .01$ ; CFI = .96; RMSEA = .05,  $p = ns$ ).

**Adolescent dating violence perpetration and victimization.** Prevalence and type of dating violence perpetration and victimization were measured at Wave 2 using a modified version of the Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe et al., 2001). This modified version consisted of 8 items measuring the frequency of adolescents' physical perpetration ( $\alpha = .80$ ) and 8 items measuring physical victimization (e.g., "kicked, hit, or punched;"  $\alpha = .90$ ). Additionally, 10 items were used to measure psychological abuse perpetration ( $\alpha = .87$ ) and 10 items were used to measure victimization (e.g., "ridiculed or made fun of in front of others;"  $\alpha = .91$ ). Responses to each item range from 0 = *Never* to 3 = *Often*. The individual items for physical violence perpetration and victimization were used to create latent variables of physical perpetration and physical victimization. Factor loadings for physical perpetration ranged from .68 to .90 ( $M = .77$ ) and tests of measurement fit revealed adequate model fit ( $\chi^2 (14) = 19.22, p = ns$ ; CFI = .97; RMSEA = .03,  $p = ns$ ). Factor loadings for physical



victimization ranged from .55 to .88 ( $M = .77$ ) and tests of measurement fit revealed adequate model fit ( $\chi^2 (14) = 23.46, p = ns$ ; CFI = .96; RMSEA = .04,  $p = ns$ ). Similarly, the individual items for psychological abuse perpetration and victimization were used as indicators to create the latent variables for both psychological perpetration and victimization. Factor loadings for psychological dating violence perpetration ranged from .55 to .70 ( $M = .64$ ) and tests of measurement fit revealed adequate model fit ( $\chi^2 (35) = 66.32, p < .001$ ; CFI = .96; RMSEA = .04,  $p = ns$ ). Factor loadings for psychological dating violence victimization ranged from .62 to .76 ( $M = .71$ ) and tests of measurement fit revealed adequate model fit ( $\chi^2 (35) = 82.31, p < .001$ ; CFI = .96; RMSEA = .05,  $p = ns$ ). Subscales were created for physical and psychological dating violence perpetration and victimization. These two subscales were used as indicators for overall dating violence perpetration and overall dating violence victimization. Higher scores indicate more frequent dating violence perpetration and victimization.

### **Analytic Strategy**

To test the hypotheses and research questions outlined in the conceptual model, a series of structural equation models were fit using Mplus 8.0 (Muthén & Muthén, 1998 - 2017). An observed variable was used for exposure to IPV, latent variables were created using the individual items outlined above for parents' IPV attitudes, adolescents' dating violence attitudes, adolescents' gender role beliefs, and adolescents' dating violence perpetration and victimization. The first set of models examined the direct effects of IPV exposure and parents' IPV attitudes on adolescents' dating violence acceptance and gender role beliefs (H1). The next set of models examined the direct effects of adolescents' IPV exposure, dating violence acceptance, gender role beliefs, and parents' IPV acceptance on adolescents' overall dating violence perpetration and victimization (H2). These models were also fit by type of dating violence experiences (i.e.,

physical and psychological). The following set of models included tests of the direct effects of adolescents' IPV exposure, dating violence acceptance, gender role beliefs, and parents' IPV acceptance on adolescents' physical dating violence perpetration and victimization (H3). The final set of direct effects models tested the direct effects of adolescents' IPV exposure, dating violence acceptance, gender role beliefs, and parents' IPV acceptance on adolescents' psychological dating violence perpetration and victimization (H4).

Once the direct effects were established for each outcome (i.e., overall dating violence perpetration/victimization, physical perpetration/victimization, and psychological perpetration/victimization), another series of models were fit to examine whether adolescents' dating violence acceptance and traditional gender role beliefs mediate the relationship between IPV exposure and adolescent dating violence perpetration and victimization (i.e., overall, physical, and psychological). Lastly, a series of models were fit to examine whether adolescents' dating violence acceptance and traditional gender role beliefs mediate the relationship between parents' IPV acceptance and adolescent dating violence perpetration and victimization (i.e., overall, physical, and psychological). Examining each individual pathway prior to testing for mediation allows us to determine whether the initial pathways (i.e., exposure to IPV and parents' IPV attitudes to adolescents' dating violence perpetration and victimization) are no longer significant once adolescents' dating violence attitudes and gender role beliefs are included. Restricted maximum likelihood (MLR) is an effective estimator when using data that violate basic normality assumptions (Cora, Maas, & Brinkhuis, 2010) and therefore was used due to issues of skewness in the primary outcomes of interest (i.e., dating violence experiences). Additionally, for the current study, the chi-square test of model fit, comparative fit index (CFI), and the root mean square error approximation (RMSEA) were used as goodness-of-fit indices.

Using these indices, a model is considered to have adequate model fit if the chi-square test of model fit has a non-significant p-value or a normed chi-square value less than 5 (Hooper, Coughlan, & Mullen, 2008; Kline, 2005), if the CFI has a value of .90 or greater (Hu & Bentler, 1999; Kline, 2005), and if the RMSEA is less than .10 and has a non-significant p-value (Hooper et al., 2008; MacCallum, Browne, & Sugawara, 1996).

## **Results**

Descriptive statistics and bivariate correlations were examined prior to testing the study's hypotheses and research questions. Descriptive statistics and bivariate correlations between key study variables can be found in Table 1. It is important to note that, on average, there were relatively low levels of IPV exposure and dating violence experiences, particularly physical dating violence. More specifically, many adolescents had not been exposed to IPV and did not experience frequent physical dating violence perpetration nor victimization. Additionally, the results for each of the hypothesized direct effects can be found in Table 2. Though significant, on average, the direct effects of the variables of interest (i.e., IPV exposure, dating violence acceptance, gender role beliefs, and parents' IPV acceptance) were relatively small.

### **Hypothesis 1: Examining the Direct Effect of Adolescents' IPV Exposure and Parents' IPV Acceptance on Adolescents' Dating Violence Acceptance and Gender Role Beliefs.**

Four separate models were fit to determine the unique, direct effect of each predictor (i.e., IPV exposure and parents' IPV acceptance) on each of the mediating variables of interest (i.e., dating violence acceptance and gender role beliefs).

**DV acceptance.** Two separate models were fit to determine the unique effect of IPV exposure on adolescents' dating violence acceptance and the unique effect of parents' IPV acceptance on adolescents' dating violence acceptance. Goodness of fit indices from the model

testing the direct effect of IPV exposure on adolescents' dating violence acceptance revealed that the model fit the data well ( $\chi^2(42) = 145.58, p < .001$ ; CFI = .94; RMSEA = .07,  $p < .05$ ).

Aligning with my first hypothesis, results suggest that IPV exposure was positively associated with adolescents' dating violence acceptance ( $\beta = .15, p < .01$ ), such that adolescents who were exposed to IPV were often more accepting of the use of violence in their own romantic relationships. Similarly, goodness of fit indices from the model testing the direct effect of parents' self-reported IPV acceptance revealed that the model fit the data ( $\chi^2(74) = 205.02, p < .001$ ; CFI = .93; RMSEA = .06,  $p = .06$ ). Parents' self-reported IPV acceptance was also positively associated with adolescents' dating violence acceptance ( $\beta = .18, p < .05$ ), such that higher levels of parental IPV acceptance was associated with higher levels of dating violence acceptance in adolescents.

**Gender role beliefs.** Two separate models were also fit to determine the unique effect of IPV exposure on adolescents' gender role beliefs as well as the unique effect of parents' IPV acceptance on adolescents' gender role beliefs. Goodness of fit indices from the model testing the direct effect of IPV exposure on adolescents' gender role beliefs revealed that the model did not fit the data ( $\chi^2(20) = 114.13, p < .001$ ; CFI = .80; RMSEA = .10,  $p < .001$ ). Results suggest that IPV exposure was not associated with adolescents' gender role beliefs ( $\beta = .11, p = ns$ ). Goodness of fit indices from the model testing the direct effect of parents' self-reported IPV acceptance and adolescents' gender role beliefs revealed that the model did not fit the data well ( $\chi^2(43) = 181.48, p < .001$ ; CFI = .73; RMSEA = .08,  $p < .001$ ). Results suggest that parents' IPV acceptance was positively associated with adolescents' gender role beliefs ( $\beta = .15, p < .01$ ).

**Hypothesis 2: Examining the Direct Effect of Adolescents' IPV Exposure, Dating Violence Acceptance, Gender Role Beliefs, and Parents' IPV Acceptance on Adolescents' Overall Dating Violence Experiences.**

**Perpetration.** Hypothesis two focused on examining the direct effects of adolescents' IPV exposure, dating violence acceptance, traditional gender role beliefs, and their parents' IPV acceptance on adolescents' overall dating violence perpetration. Goodness of fit indices from the model testing the direct effect of IPV exposure on adolescents' overall perpetration revealed that the model fit the data well ( $\chi^2 (0) = 0.00, p < .001$ ; CFI = 1.00; RMSEA = .00,  $p < .001$ ). Results suggest that IPV exposure was significantly and positively associated with adolescents' overall dating violence perpetration, such that IPV exposure was associated with higher rates of overall dating violence perpetration ( $\beta = .22, p < .01$ ). Similarly, goodness of fit indices revealed that the model testing the direct effect of adolescents' dating violence acceptance on their overall dating violence perpetration fit the data well ( $\chi^2 (51) = 180.56, p < .001$ ; CFI = .93; RMSEA = .07,  $p < .001$ ). Adolescents' dating violence acceptance was significantly and positively associated with adolescents' overall dating violence perpetration, such that more acceptance of dating violence was associated with higher rates of overall dating violence perpetration ( $\beta = .31, p < .05$ ). Though adolescents' gender role beliefs were positively associated with adolescents' overall dating violence perpetration ( $\beta = .28, p < .05$ ), goodness of fit indices revealed that the model testing the direct effect of gender role beliefs on overall perpetration did not fit the data well ( $\chi^2 (26) = 133.05, p < .001$ ; CFI = .81; RMSEA = .09,  $p = .08$ ). When examining the direct effects of parents' self-reported IPV acceptance on adolescents' overall dating violence perpetration, goodness of fit indices revealed acceptable model fit ( $\chi^2 (8) = 12.21, p = .14$ ; CFI = .96; RMSEA = .03,  $p = .81$ ). There was a positive association between parents' self-reported IPV acceptance

on adolescents' overall dating violence perpetration ( $\beta = .27, p < .01$ ), such that adolescents whose parents were more accepting of the use of violence in their romantic relationships tended to report higher rates of overall dating violence perpetration in their own romantic relationships.

**Victimization.** I also hypothesized (H2) that there would be a significant, positive association between adolescents' IPV exposure, dating violence acceptance, traditional gender role beliefs, and their parents' self-reported IPV acceptance with adolescents' overall dating violence victimization. Goodness of fit indices from the model testing the direct effect of IPV exposure on adolescents' overall dating violence victimization revealed adequate model fit ( $\chi^2(0) = 0.00, p < .001$ ; CFI = 1.00; RMSEA = .00,  $p < .001$ ). Results suggest that IPV exposure was not significantly associated with adolescents' overall dating violence victimization ( $\beta = .10, p < .10$ ). The next model examined the direct effect of adolescents' dating violence acceptance on their overall dating violence victimization; goodness of fit indices revealed adequate model fit ( $\chi^2(51) = 179.92, p < .001$ ; CFI = .94; RMSEA = .07,  $p < .01$ ). There was a significant, positive association between adolescents' dating violence acceptance and their overall dating violence victimization ( $\beta = .15, p < .05$ ), such that higher levels of dating violence acceptance were associated with higher rates of overall dating violence victimization. Though there was a significant, positive association between adolescents' gender role beliefs and their overall dating violence victimization ( $\beta = .32, p < .01$ ), goodness of fit indices for the model examining the direct effects of adolescents' gender role beliefs on their overall dating violence victimization revealed that the model did not fit the data ( $\chi^2(26) = 132.11, p < .001$ ; CFI = .80; RMSEA = .09,  $p < .001$ ). Lastly, I examined the direct effect of parents' self-reported IPV acceptance on adolescents' overall dating violence victimization. Goodness of fit indices revealed that the model fit the data well ( $\chi^2(8) = 11.62, p = .17$ ; CFI = .97; RMSEA = .03,  $p = .81$ ) and that there

was a significant, positive association ( $\beta = .27, p < .05$ ) between parents' self-reported IPV acceptance and adolescents' overall dating violence victimization, such that adolescents whose parents were more accepting of IPV reported higher rates of overall adolescent dating violence victimization.

### **Hypothesis 3: Examining the Direct Effect of Adolescents' IPV Exposure, Dating Violence Acceptance, Gender Role Beliefs, and Parents' IPV Acceptance on Adolescents' Physical Dating Violence Experiences**

**Perpetration.** I also hypothesized (H3) that there would be a significant, positive association between adolescents' IPV exposure, dating violence acceptance, traditional gender role beliefs, and their parents' self-reported IPV acceptance with adolescents' physical dating violence perpetration. Goodness of fit indices revealed that the model testing the direct effect of IPV exposure on adolescents' physical dating violence perpetration revealed that fit the data ( $\chi^2 (20) = 27.44, p = .12$ ; CFI = .97; RMSEA = .03,  $p = .95$ ). Results suggest that IPV exposure was positively associated with adolescents' physical dating violence perpetration, such that IPV exposure was associated with higher rates of physical dating violence perpetration ( $\beta = .13, p < .05$ ). Similarly, goodness of fit indices for the model testing the direct effect of adolescents' dating violence acceptance on their physical dating violence perpetration revealed that the model fit the data ( $\chi^2 (116) = 238.61, p < .001$ ; CFI = .94; RMSEA = .05,  $p = .82$ ). Adolescents' dating violence acceptance was positively associated with their physical dating violence perpetration ( $\beta = .18, p < .05$ ), such that adolescents who were more accepting of the use of violence in their romantic relationships often reported higher rates of physical dating violence perpetration. In testing the direct effect of adolescents' gender role beliefs on their physical dating violence perpetration, goodness of fit indices revealed that the model fit the data ( $\chi^2 (76) = 148.97, p <$

.001; CFI = .91; RMSEA = .04,  $p = .85$ ). Contrary to my expectations, adolescents' gender role beliefs were not significantly associated with their physical dating violence perpetration ( $\beta = .15$ ,  $p < .10$ ). Goodness of fit indices revealed that the model examining the direct effect of parents' self-reported IPV acceptance on adolescents' physical dating violence perpetration fit the data well ( $\chi^2 (43) = 58.62$ ,  $p = .06$ ; CFI = .96; RMSEA = .03,  $p = .99$ ). Aligning with my expectations, parents' self-reported IPV acceptance was positively associated with adolescents' physical dating violence perpetration ( $\beta = .27$ ,  $p < .05$ ), such that adolescents whose parents were more accepting of the use of violence in their romantic relationships reported higher rates of physical dating violence perpetration their own romantic relationships.

**Victimization.** I also hypothesized (H3) that there would be a significant, positive association between adolescents' IPV exposure, dating violence acceptance, traditional gender role beliefs, and their parents' self-reported IPV acceptance with adolescents' physical dating violence victimization. The first model tested the direct effect of IPV exposure on adolescents' physical dating violence victimization. Goodness of fit indices revealed that the model fit the data ( $\chi^2 (27) = 45.21$ ,  $p < .001$ ; CFI = .94; RMSEA = .04,  $p = .89$ ). Results suggest that IPV exposure was significantly associated with adolescents' physical dating violence victimization ( $\beta = .14$ ,  $p < .05$ ) such that IPV exposed adolescents reported higher rates of physical dating violence victimization. Tests of the direct effect of adolescents' dating violence acceptance on their physical dating violence victimization revealed adequate model fit ( $\chi^2 (132) = 273.64$ ,  $p < .001$ ; CFI = .93; RMSEA = .05,  $p = .81$ ). Adolescents' dating violence acceptance was not significantly associated with their physical dating violence victimization ( $\beta = .15$ ,  $p = ns$ ). The next model examined the direct effect of adolescents' gender role beliefs on physical dating violence victimization. Goodness of fit indices revealed adequate model fit ( $\chi^2 (89) = 184.54$ ,  $p <$



.001; CFI = .89; RMSEA = .05,  $p = .76$ ). Adolescents' gender role beliefs were not associated with their physical dating violence victimization ( $\beta = .16$ ,  $p = ns$ ). Lastly, I examined the direct effect of parents' self-reported IPV acceptance on adolescents' physical dating violence victimization. Goodness of fit statistics revealed that the model fit the data well ( $\chi^2 (53) = 83.91$ ,  $p < .01$ ; CFI = .94; RMSEA = .03,  $p = .98$ ). There was a significant, positive association between parents' IPV acceptance and adolescents' physical dating violence victimization ( $\beta = .25$ ,  $p < .05$ ), such that higher levels of parental IPV acceptance were associated with more frequent physical dating violence victimization.

#### **Hypothesis 4: Examining the Direct Effect of Adolescents' IPV Exposure, Dating Violence Acceptance, Gender Role Beliefs, and Parents' IPV Acceptance on Adolescents' Psychological Dating Violence Experiences**

**Perpetration.** I also hypothesized (H4) that there would be a significant, positive association between adolescents' IPV exposure, dating violence acceptance, traditional gender role beliefs, and their parents' self-reported IPV acceptance with adolescents' psychological dating violence perpetration. Goodness of fit indices revealed that the model testing the direct effect of IPV exposure on adolescents' psychological dating violence perpetration fit the data ( $\chi^2 (44) = 78.57$ ,  $p < .001$ ; CFI = .96; RMSEA = .04,  $p = .90$ ). Results suggest that IPV exposure was positively associated with adolescents' psychological dating violence perpetration, such that adolescents who were exposed to IPV reported higher rates of psychological dating violence perpetration in their own romantic relationships ( $\beta = .19$ ,  $p < .01$ ). Similarly, upon testing the direct effect of adolescents' dating violence acceptance on their psychological dating violence perpetration, I found that the model fit the data well ( $\chi^2 (167) = 364.52$ ,  $p < .001$ ; CFI = .94; RMSEA = .05,  $p = .23$ ). Adolescents' dating violence acceptance was positively associated with

adolescents' psychological dating violence perpetration ( $\beta = .23, p < .01$ ), such that adolescents who were more accepting of dating violence were likely to report higher rates of psychological dating violence perpetration in their romantic relationships. Additionally, goodness of fit indices for the model testing the direct effect of adolescents' gender role beliefs on their psychological dating violence perpetration revealed that the model fit the data well ( $\chi^2 (118) = 253.72, p < .001$ ; CFI = .91; RMSEA = .05,  $p = .69$ ). As hypothesized, adolescents' gender role beliefs were positively associated with their psychological dating violence perpetration ( $\beta = .24, p < .001$ ) such that adolescents who reported more traditional gender role beliefs reported higher rates of psychological dating violence perpetration. Goodness of fit indices for the model examining the direct effect of parents' self-reported IPV acceptance on adolescents' psychological dating violence perpetration revealed that the model fit the data ( $\chi^2 (76) = 126.83, p < .001$ ; CFI = .94; RMSEA = .04,  $p = .98$ ). Also aligning with my expectations, parents' self-reported IPV acceptance was positively associated with adolescents' psychological dating violence perpetration ( $\beta = .21, p < .01$ ), such that adolescents whose parents were more accepting of the use of violence in romantic relationships reported higher rates of psychological dating violence perpetration in their own romantic relationships.

**Victimization.** I also hypothesized (H4) that there would be a significant, positive association between adolescents' IPV exposure, dating violence acceptance, traditional gender role beliefs, and their parents' self-reported IPV acceptance with adolescents' psychological dating violence victimization. Goodness of fit indices revealed that the model testing the direct effect of IPV exposure on adolescents' psychological dating violence victimization fit the data well ( $\chi^2 (44) = 95.86, p < .001$ ; CFI = .96; RMSEA = .05,  $p = .58$ ). Results suggest that IPV exposure was significantly associated with adolescents' psychological dating violence

victimization ( $\beta = .18, p < .01$ ), such that adolescents who were exposed to IPV reported higher rates of psychological dating violence victimization in their own romantic relationships. The next model tested the direct effect of adolescents' dating violence acceptance on their psychological victimization. Goodness of fit indices revealed adequate model fit ( $\chi^2 (167) = 364.52, p < .001$ ; CFI = .95; RMSEA = .05,  $p = .67$ ). As hypothesized, adolescents' dating violence acceptance ( $\beta = .15, p < .05$ ) was significantly associated with their psychological dating violence victimization. More specifically, adolescents who were more accepting of the use of dating violence were likely to report higher rates of psychological dating violence victimization. Upon testing the direct effect of adolescents' gender role beliefs on their psychological dating violence victimization goodness of fit indices revealed that the model fit the data ( $\chi^2 (118) = 289.58, p < .001$ ; CFI = .92; RMSEA = .05,  $p = .23$ ). Adolescents' gender role beliefs were positively associated with their psychological dating violence victimization ( $\beta = .18, p < .01$ ). More specifically, more traditional gender role beliefs were associated with higher rates of psychological dating violence victimization. Lastly, I examined the direct effect of parents' self-reported IPV acceptance on adolescents' psychological dating violence victimization. Goodness of fit indices revealed that the model fit the data well ( $\chi^2 (76) = 139.70, p < .001$ ; CFI = .95; RMSEA = .04,  $p = .93$ ). There was a significant, positive association between parents' self-reported IPV acceptance and adolescents' psychological dating violence victimization ( $\beta = .14, p < .05$ ). More specifically, adolescents whose parents were more accepting of violence in romantic relationships reported higher rates of psychological dating violence victimization

### **Tests of Mediation**

In addition to this study's hypotheses, I also sought to answer several research questions. Specifically, this study aimed to determine whether adolescents' dating violence acceptance and

gender role beliefs mediated the pathways between exposure to IPV and adolescents' dating violence perpetration and victimization as well as the pathways between parents' IPV acceptance and adolescents' dating violence perpetration and victimization. These models were tested separately for overall, physical, and psychological dating violence perpetration and victimization. However, inherently, mediational designs must include a significant, direct relationship between the predictor and mediator as well as a significant, direct relationship from the mediator to the outcome of interest (Hayes, 2009; MacKinnon, Warsi, & Dwyer, 1995). Not all pathways in this study met this criteria and, as such, the models in which there was not an initial direct effect from the predictor to the outcome or from the mediator to the outcome were unable to be tested. More specifically, tests including the following pathways were excluded from mediation analyses: (1) IPV exposure to gender role beliefs; (2) dating violence acceptance to physical dating violence victimization; (3) gender role beliefs to physical dating violence perpetration; and (4) gender role beliefs to physical dating violence victimization. Therefore, the following results entirely exclude the second research question regarding the potential mediating effects of adolescents' gender role beliefs on the association between IPV exposure and adolescents' overall, physical, and psychological dating violence perpetration and victimization.

**Research Question 1: Testing the Potential Mediating Effect of Adolescents' Dating Violence Acceptance on the Relationship between IPV Exposure and Adolescents' Dating Violence Perpetration and Victimization**

**Overall dating violence perpetration.** Goodness of fit indices for the full mediation model including adolescents' dating violence acceptance, IPV exposure, and overall dating violence perpetration revealed that the model fit the data well ( $\chi^2(61) = 195.09, p < .001$ ; CFI = .94; RMSEA = .06,  $p < .05$ ). Adolescents' dating violence acceptance did not mediate the

relationship between IPV exposure and adolescents' overall dating violence perpetration.

Controlling for all else in the model, the direct positive association between IPV exposure and overall dating violence perpetration remained significant ( $\beta = .28, p < .01$ ). Results indicate that there was not a significant indirect effect of IPV exposure on overall dating violence perpetration ( $\beta = .02, S.E. = .01$ ; lower CI = .02; upper CI = .14;  $p = .12$ ). Taken together, the predictors in this model accounted for 12.6% of the variance in adolescents' overall dating violence perpetration.

**Overall dating violence victimization.** Goodness of fit indices for the mediation model including adolescents' dating violence acceptance, IPV exposure, and overall dating violence victimization revealed that the model fit the data well ( $\chi^2 (61) = 195.62, p < .001$ ; CFI = .93; RMSEA = .07,  $p < .01$ ). Adolescents' dating violence acceptance did not mediate the relationship between IPV exposure and adolescents' overall dating violence victimization.

Controlling for all else in the model, the direct positive association between IPV exposure and overall dating violence victimization remained significant ( $\beta = .08, p < .05$ ). Results indicate that there was no significant indirect effect of IPV exposure on overall dating violence victimization ( $\beta = .01, SE = .02$ ; lower CI = .01; upper CI = .15;  $p = .48$ ). Taken together, the predictors in this model accounted for 9.4% of the variance in adolescents' overall dating violence victimization.

**Physical dating violence perpetration.** Goodness of fit indices for the mediation model including adolescents' dating violence acceptance, IPV exposure, and adolescents' physical dating violence perpetration revealed that the model fits the data ( $\chi^2 (131) = 265.80, p < .001$ ; CFI = .94; RMSEA = .05,  $p = .86$ ). The results of the mediation model indicate that adolescents' dating violence acceptance did not mediate the relationship between IPV exposure and adolescents' physical dating violence perpetration. Controlling for all else in the model, the

direct positive association between IPV exposure and physical dating violence perpetration was no longer significant when adolescents' dating violence acceptance was entered as the mediator ( $\beta = .11, p = .07$ ). However, results revealed that the indirect effect of IPV exposure on adolescents' physical dating violence perpetration was not significant ( $\beta = .01, SE = .02$ ; lower CI =  $-.01$ ; upper CI =  $.04$ ;  $p = .32$ ). Taken together, the predictors in the model accounted for 5.7% of the variance in adolescents' physical dating violence perpetration.

**Psychological dating violence perpetration.** Goodness of fit indices for the mediation model including adolescents' dating violence acceptance, IPV exposure, and adolescents' psychological dating violence perpetration revealed that the model fit the data ( $\chi^2 (185) = 376.08, p < .001$ ; CFI =  $.94$ ; RMSEA =  $.05, p = .90$ ). The results of the mediation model indicate that adolescents' dating violence acceptance partially mediated the relationship between IPV exposure and adolescents' psychological dating violence perpetration. More specifically, controlling for all else in the model, the direct positive association between IPV exposure and psychological dating violence perpetration, although still significant, had weakened ( $\beta = .16, p < .01$ ; see Figure 2). Additionally, results indicate that the indirect effect of IPV exposure on adolescents' psychological dating violence perpetration was trending towards significance ( $\beta = .03, SE = .02$ ; lower CI =  $-.01$ ; upper CI =  $.07$ ;  $p = .06$ ). Taken together, the predictors in the model accounted for 7.8% of the variance in adolescents' psychological dating violence perpetration.

**Psychological dating violence victimization.** Goodness of fit indices for the mediation model including adolescents' dating violence acceptance, IPV exposure, and adolescents' psychological dating violence victimization revealed that the model fits the data ( $\chi^2 (185) = 384.31, p < .001$ ; CFI =  $.95$ ; RMSEA =  $.05, p = .85$ ). The results of the mediation model indicate

that adolescents' dating violence acceptance did not mediate the relationship between IPV exposure and adolescents' psychological dating violence victimization. More specifically, controlling for all else in the model, the direct positive association between IPV exposure and psychological dating violence victimization remained significant ( $\beta = .18, p < .001$ ). The mediating effect of dating violence acceptance on the link between IPV exposure and adolescents' psychological dating violence victimization was not significant ( $\beta = .02, SE = .02$ ; lower CI =  $-.01$ ; upper CI =  $.06; p = .17$ ). Taken together, the predictors in the model accounted for 5.1% of the variance in adolescents' psychological dating violence victimization.

**Research Question 3: Testing the Potential Mediating Effect of Adolescents' Dating Violence Acceptance on the Relationship between Parents' Self-reported IPV Acceptance and Adolescents' Dating Violence Perpetration and Victimization.**

**Overall dating violence perpetration.** Goodness of fit indices for the full mediation model including adolescents' dating violence acceptance, parents' self-reported IPV acceptance, and adolescents' overall dating violence perpetration revealed that the model fit the data well ( $\chi^2(99) = 256.99, p < .001$ ; CFI =  $.93$ ; RMSEA =  $.06, p = .12$ ). Adolescents' dating violence acceptance partially mediated the relationship between parents' IPV acceptance and adolescents' overall dating violence perpetration. Controlling for all else in the model, the direct positive association between parents' IPV acceptance and overall dating violence perpetration, although still significant, had weakened ( $\beta = .23, p < .05$ ; see Figure 3). Results indicate that there was a significant indirect effect of parents' IPV acceptance on adolescents' overall dating violence perpetration ( $\beta = .03, SE = .02$ ; lower CI =  $.00$ ; upper CI =  $.06; p < .05$ ). Taken together, the predictors in this model accounted for 14.3% of the variance in adolescents' overall dating violence perpetration.

**Overall dating violence victimization.** Goodness of fit indices for the full mediation model including adolescents' dating violence acceptance, parents' self-reported IPV acceptance, and adolescents' overall dating violence victimization revealed that the model fit the data well ( $\chi^2(99) = 251.90, p < .001$ ; CFI = .93; RMSEA = .06,  $p = .16$ ). Adolescents' dating violence acceptance fully mediated the relationship between parents' IPV acceptance and adolescents' overall dating violence victimization. Controlling for all else in the model, the direct positive association between parents' IPV acceptance and overall dating violence victimization was no longer significant ( $\beta = .13, p = ns$ ; see Figure 4). Results indicate that there was a significant indirect effect of parents' IPV acceptance on adolescents' overall dating violence victimization ( $\beta = .03, SE = .02$ ; lower CI =  $-.01$ ; upper CI =  $.05$ ;  $p < .05$ ). Taken together, the predictors in this model accounted for 6.9% of the variance in adolescents' overall dating violence victimization.

**Physical dating violence perpetration.** Goodness of fit indices for the full mediation model including adolescents' dating violence acceptance, parents' self-reported IPV acceptance, and adolescents' physical dating violence perpetration revealed that the model fit the data well ( $\chi^2(184) = 340.38, p < .001$ ; CFI = .93; RMSEA = .04,  $p = .98$ ). Adolescents' dating violence acceptance did not mediate the relationship between parents' IPV acceptance and adolescents' physical dating violence perpetration. Controlling for all else in the model, the direct positive association between parents' IPV acceptance and physical dating violence perpetration remained significant ( $\beta = .20, p < .05$ ). Results indicate that there was not a significant indirect effect of parents' IPV acceptance on adolescents' physical dating violence perpetration ( $\beta = .02, SE = .01$ ; lower CI =  $-.01$ ; upper CI =  $.04$ ;  $p = .17$ ). Taken together, the predictors in this model accounted for 10.2% of the variance in adolescents' physical dating violence perpetration.



**Psychological dating violence perpetration.** Goodness of fit indices for the mediation model including adolescents' dating violence acceptance, parents' self-reported IPV acceptance, and adolescents' psychological dating violence perpetration revealed that the model fit the data ( $\chi^2 (247) = 471.19, p < .001$ ; CFI = .94; RMSEA = .04,  $p = .99$ ). Adolescents' dating violence acceptance partially mediated the relationship between parents' self-reported IPV acceptance and adolescents' psychological dating violence perpetration. More specifically, controlling for all else in the model, the direct positive association between parents' IPV acceptance and adolescents' physical dating violence perpetration, although still significant, had weakened ( $\beta = .18, p < .05$ ; see Figure 5). Additionally, results indicate that the indirect effect of parents' IPV acceptance on adolescents' psychological dating violence perpetration was trending towards significance ( $\beta = .04, SE = .02$ ; lower CI =  $-.01$ ; upper CI =  $.08$ ;  $p = .06$ ). Taken together, the predictors in the model accounted for 8.3% of the variance in adolescents' psychological dating violence perpetration.

**Psychological dating violence victimization.** Goodness of fit indices for the mediation model including adolescents' dating violence acceptance, parents' self-reported IPV acceptance, and adolescents' psychological dating violence victimization revealed that the model fit the data ( $\chi^2 (247) = 466.48, p < .001$ ; CFI = .94; RMSEA = .04,  $p = .99$ ). The results of the mediation model indicate that adolescents' dating violence acceptance mediated the relationship between parents' self-reported IPV acceptance and adolescents' psychological dating violence victimization. More specifically, controlling for all else in the model, the direct positive association between parents' IPV acceptance and adolescents' psychological dating violence victimization was no longer significant ( $\beta = .11, p = ns$ ; see Figure 6). The indirect effect of parents' IPV acceptance on adolescents' psychological dating violence victimization was

trending towards significance ( $\beta = .03$ ,  $SE = .02$ ; lower CI =  $-.01$ ; upper CI =  $.07$ ;  $p = .09$ ).

Taken together, the predictors in the model accounted for 3.5% of the variance in adolescents' psychological dating violence victimization.

#### **Research Question 4: Testing the Potential Mediating Effect of Adolescents' Gender Role Beliefs on the Relationship between Parents' Self-reported IPV Acceptance and Adolescents' Dating violence Perpetration and Victimization**

**Overall dating violence perpetration.** Goodness of fit indices for the mediation model including adolescents' gender role beliefs, parents' self-reported IPV acceptance, and adolescents' overall dating violence perpetration revealed that the model did not fit the data well ( $\chi^2 (62) = 213.61$ ,  $p < .001$ ; CFI =  $.77$ ; RMSEA =  $.07$ ,  $p < .001$ ). Results indicate that there was not a significant indirect effect of parents' IPV acceptance through adolescents' gender role beliefs on adolescents' overall dating violence perpetration ( $\beta = .02$ ,  $SE = .01$ ; lower CI =  $.00$ ; upper CI =  $.04$ ;  $p = ns$ ).

**Overall dating violence victimization.** Goodness of fit indices for the full mediation model including adolescents' gender role beliefs, parents' self-reported IPV acceptance, and adolescents' overall dating violence victimization revealed that the model did not fit the data well ( $\chi^2 (62) = 208.42$ ,  $p < .001$ ; CFI =  $.77$ ; RMSEA =  $.07$ ,  $p < .01$ ). Results indicate that there was not a significant indirect effect of parents' IPV acceptance through adolescents' gender role beliefs on adolescents' overall dating violence perpetration ( $\beta = .03$ ,  $SE = .01$ ; lower CI =  $.00$ ; upper CI =  $.06$ ;  $p = ns$ ).

**Psychological dating violence perpetration.** Goodness of fit indices for the mediation model including adolescents' gender role beliefs, parents' IPV acceptance, and adolescents' psychological dating violence perpetration revealed adequate model fit ( $\chi^2 (186) = 364.77$ ,  $p <$

.001; CFI = .89; RMSEA = .04,  $p = .95$ ). Adolescents' gender role beliefs partially mediated the relationship between parents' self-reported IPV acceptance and adolescents' psychological dating violence perpetration. More specifically, controlling for all else in the model, the direct positive association between parents' IPV acceptance and adolescents' physical dating violence perpetration, although still significant, had weakened ( $\beta = .18, p < .05$ ; see Figure 7). Additionally, results indicate that the indirect effect of parents' IPV acceptance on adolescents' psychological dating violence perpetration was significant ( $\beta = .04, SE = .02$ ; lower CI = .00; upper CI = .07;  $p < .05$ ). Taken together, the predictors in the model accounted for 8.6% of the variance in adolescents' psychological dating violence perpetration.

**Psychological dating violence victimization.** Goodness of fit indices for the mediation model including adolescents' gender role beliefs, parents' self-reported IPV acceptance, and adolescents' psychological dating violence victimization revealed that the model fit the data ( $\chi^2(186) = 395.60, p < .001$ ; CFI = .90; RMSEA = .05,  $p = .78$ ). Adolescents' gender role beliefs mediated the relationship between parents' self-reported IPV acceptance and adolescents' psychological dating violence victimization. More specifically, controlling for all else in the model, the direct positive association between parents' IPV acceptance and adolescents' psychological dating violence victimization was no longer significant ( $\beta = .11, p = ns$ ; see Figure 8). The indirect effect of parents' IPV acceptance on adolescents' psychological dating violence victimization was trending towards significance ( $\beta = .04, SE = .02$ ; lower CI = .00; upper CI = .07;  $p = .06$ ). Taken together, the predictors in the model accounted for 4.5% of the variance in adolescents' psychological dating violence victimization.

## Discussion

Adolescent dating violence has the potential for both immediate and lasting negative effects including depressive symptoms, substance abuse, sexual risk-taking behaviors, and violence experiences in later romantic relationships (Bonomi et al., 2013; Cui et al., 2013; Foshee & Reyes, 2011). As such, researchers have sought to identify potential predictors of dating violence, with a sizable amount of research focusing on the impact of exposure to IPV, or the transmission of violence. Although the transmission of violence has been studied for many years, the evidence supporting this phenomenon is mixed (e.g., Brendgen et al., 2002; Haselschwerdt et al., 2017; Lichter & McCloskey, 2004; Smith-Marek et al., 2015; Temple et al., 2013). To better understand the transmission of violence, using an extensive measure of both physical and psychological dating violence perpetration and victimization, this study tested the direct and indirect effects of IPV exposure on adolescents' overall, physical, and psychological dating violence perpetration and victimization through adolescents' dating violence acceptance and gender role beliefs. This is also the first study to consider the direct and indirect effects of parents' acceptance of IPV on adolescents' dating violence experiences through adolescents' dating violence acceptance and traditional gender role beliefs.

Adolescents' IPV exposure and parents' IPV acceptance both increased adolescents' likelihood for dating violence experiences. Upon further examination, however, the effect of IPV exposure on adolescents' psychological dating violence perpetration was partially mediated by adolescents' dating violence acceptance. Adolescents' dating violence acceptance also partially mediated the effects of parents' IPV acceptance on adolescents' overall and psychological dating violence perpetration and victimization. Similarly, adolescents' traditional gender role beliefs partially mediated the effects of parents' IPV acceptance on adolescents' psychological dating

violence perpetration and victimization. Taken together, these findings revealed two primary themes relating to the study of the intergenerational transmission of violence: (1) parents' violence experiences and attitudes matter and (2) measurement choices for capturing adolescents' dating violence experiences and exposure matter.

### **Parents' Violence Experiences and Attitudes Matter**

Parents and parental figures play an instrumental role in children's development. According to social learning theory (Bandura, 1973), children's behaviors and attitudes are shaped by significant role models in their lives, such as parents or parental figures. This theory then suggests that parents' displays of unhealthy attitudes and behaviors may negatively shape their children's attitudes and behaviors. Thus, the goal of this study was to develop a clearer understanding of whether and how parents' behaviors (i.e., IPV) and attitudes (i.e., IPV acceptance) directly and indirectly affect adolescents' attitudes (i.e., dating violence acceptance and gender role beliefs) and dating violence experiences.

**The transmission of violence – effects of IPV exposure.** Consistent with previous research (e.g., Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004; Smith-Marek et al., 2015; Temple et al., 2013), the results of this study support the transmission of violence, emphasizing the deleterious effects that exposure to violence has on children. Though IPV itself is not a “normal” behavior exhibited in most homes, unfortunately, IPV exposure normalizes the use of violence and aggression and teaches children that using violence is an acceptable way to resolve conflict. This notion about the normality and acceptability of violence in romantic relationships sets the groundwork for children's behaviors and expectations in their romantic relationships. In this study, IPV-exposed adolescents experienced both physical and psychological dating violence experiences more frequently than non-exposed adolescents and were more accepting of

the use of violence in romantic relationships, a commonly noted risk-factor for involvement in abusive relationships (Foshee et al., 2016; Nabors & Jasinski, 2009). Contrary to my expectations, neither adolescents' dating violence acceptance nor their gender role beliefs fully mediated the direct effects of exposure to violence on adolescents' dating violence experiences. This suggests that there are additional factors that likely explain the association between IPV exposure and adolescents' dating violence experiences, such as parenting stress (Owen, Thompson, & Kaslow, 2006), parental warmth (Miller-Gaff, Cater, Howell, & Graham-Bermann, 2015), or harsh parenting (Howell, 2011; Zarling et al., 2013).

**The transmission of violence – effects of parents' IPV acceptance.** Other bodies of literature have demonstrated support for the transmission of attitudes (e.g., marriage attitudes, racial prejudice, gender role attitudes), suggesting that adolescents' behaviors and attitudes can be shaped by the cues, both verbal and non-verbal, modeled by parents (Castelli et al., 2008; Cunningham, 2001; Cunningham & Thornton, 2006; Willoughby et al., 2012). This is the first study to test the transmission of violence-related attitudes. Unlike other attitudes (e.g., marriage and divorce attitudes), the transmission of IPV-related attitudes conveys dangerous messages to children regarding the acceptability of using violence in romantic relationships, likely enhancing the children's vulnerability for future dating violence experiences. More specifically, adolescents whose parents were more accepting of IPV reported more frequent overall, physical, and psychological dating violence experiences. Importantly, the direct effects of parents' IPV acceptance on adolescents' overall perpetration was fully mediated and overall victimization was partially mediated by adolescents' dating violence acceptance. The direct effects of parents' IPV acceptance on adolescents' psychological perpetration were partially mediated and psychological victimization was fully mediated by both adolescents' dating violence acceptance and gender

role beliefs. These findings suggest that acceptance of violence and gendered power-differentials are learned and, though parents may not realize it, the transmission of these beliefs, either directly or indirectly, places children at significantly greater risk for unhealthy relationship experiences. Understandably, prevention efforts have focused on adolescents' dating violence attitudes and this appears warranted. This study's novel findings suggest that targeting both adolescents' gender role beliefs and parents' IPV acceptance may also help to prevent adolescents' involvement in abusive relationships.

### **Measurement of Dating Violence Experiences and IPV Exposure Matters**

The findings from this study further highlight the importance and value in utilizing more complex measurements when attempting to understand the transmission of violence. The argument for clearer and more succinct conceptualizations and measurements of IPV exposure and dating violence has been made in recent literature (e.g., Edleson, Ellerton, Seagren, Kirchberg, Schmidt, & Ambrose, 2007; Haselschwerdt et al., 2017). This study addressed several limitations of the current literature related to measurement and analysis of dating violence, specifically: (1) focusing primarily on physical dating violence, (2) creating a total violence score, and (3) analyzing the data using a dichotomous measure of dating violence. Advancing the available literature, this study utilized continuous measures of physical and psychological dating violence experiences in addition to an overall violence measure. Moving beyond dichotomous indicators of violence experiences allows us to more confidently state that adolescents' IPV exposure, dating violence acceptance, traditional gender role beliefs, and parents' IPV acceptance are associated not only with the presence or absence of dating violence, but the frequency of adolescents' physical and psychological abuse experiences. Testing the unique effects of parents' IPV acceptance on physical and psychological dating violence separately,

adolescents' dating violence acceptance and gender role beliefs partially explained the link between parents' IPV acceptance on adolescents' psychological dating violence perpetration and victimization, but not on physical violence perpetration and victimization. Differentiating these effects offers a better understanding of how parental factors (i.e., exposure to violence and parents' IPV acceptance) and adolescent beliefs (i.e., dating violence acceptance and traditional gender role beliefs) are uniquely associated with physical and psychological dating violence in adolescence. In doing so, the results of this study highlighted the direct and indirect effects of parental factors and adolescents' beliefs on psychological dating violence perpetration and victimization, an increasingly common form of adolescent dating violence that is studied less frequently than physical dating violence. Yet the evidence from this study suggests that, like physical dating violence, psychological dating violence can stem from early childhood experiences even when using measures that tap only into exposure and acceptance of parents' physical violence. Taken together, these findings suggest that we may benefit from further research that considers the direct and indirect effects of risk and protective factors on physical and psychological dating violence separately.

Although this study addressed several limitations of the dating violence literature, the findings from this study further highlight the need to utilize measures that better capture the complexity of IPV exposure. Contrary to previous research (i.e., Graham-Bermann & Brescoll, 2000; Karlsson et al., 2016), IPV exposure did not predict adolescents' traditional gender role beliefs nor did adolescents' dating violence acceptance mediate the relationship between IPV exposure and adolescents' physical dating violence victimization. Measures tapping into the context of violence (i.e., severity or frequency of physical violence, degree of coercive control, and differentiating the perpetrator and victim) may offer a more comprehensive understanding of



the transmission of violence and likely explain why these findings diverged from previous research (i.e., Graham-Bermann & Brescoll, 2000; Karlsson et al., 2016). Though this study yielded differential findings utilizing a dichotomous measure of IPV exposure, teasing apart adolescents' violence experiences presents us with novel information on the transmission of violence. Few studies have examined the direct and indirect effects of IPV exposure on adolescents' psychological dating violence perpetration and victimization; in doing so, this study further informs our understanding of the risk factors associated with both physical and psychological dating violence experiences. Additionally, this was the first study to test the direct and indirect effects of parents' self-reported IPV acceptance on both adolescents' physical and psychological dating violence perpetration and victimization. These findings reiterate the importance of using more complex measurement and analytical approaches when attempting to understand the predictors and processes leading to adolescent dating violence experiences.

### **Limitations**

The current study contributed to the transmission of violence literature by examining the complex array of factors associated with the transmission of violence, but it is not without limitations. By using a large, nationally representative dataset, I was able to examine the transmission of violence and beliefs (both parents' and adolescents') on adolescents' dating violence experiences in the general population. Yet this study's strength also posed a limitation as the number of adolescents exposed to violence and those who had experienced dating violence was smaller than studies utilizing agency or clinical samples. While it is beneficial to explore how these are related in the general population, testing these same models oversampling for youth exposed to IPV (e.g., domestic violence shelters, child welfare services) may yield differing results. Additionally, though some of the measures of dating violence perpetration and

victimization captured more heterogeneity than much of the work on adolescent dating violence, the IPV exposure measure in this secondary data analysis study was less informative. In the current dataset only two dichotomous items were used to measure exposure to physical IPV, leaving us to dichotomize adolescents as exposed or non-exposed. As Haselschwerdt and colleagues (2017) noted, though most studies examining the transmission of violence utilize dichotomous measures, it limits our ability to fully understand the strength of the relationship between IPV exposure and dating violence experiences. Nevertheless, there was still evidence in support of the transmission of violence. Lastly, because this study focused on dating violence experiences during the second wave, only individuals who, at wave two, were currently or had recently been in a relationship were included. Thus, it is possible that some individuals who had experiences of dating violence in the first wave, but were no longer in an unhealthy and abusive relationship at the second wave were missed. Despite the limitations of this study, the findings present a step forward in the study of the transmission of violence with implications for future research.

### **Future Directions**

The present study both added to and expanded upon the literature seeking to determine predictors of adolescent dating violence and the process through which transmission of violence occurs. However, there are ways in which future research can improve our understanding of these adverse experiences even further. Future studies hoping to gain a better understanding of the transmission of violence may consider using a multi-item indicator of exposure to violence, including context (i.e., degree of coercive control) and type of exposure (e.g., witnessing) as well as tapping into dual exposure experiences (i.e., exposure to IPV and child maltreatment). Exposure to coercive control in addition to physical IPV and dual exposure are believed to be

stronger predictors of later dating violence experiences than exposure to IPV alone (Hamby et al., 2010a; Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008; Jouriles & McDonald, 2015; Vu, Jouriles, McDonald, & Rosenfield, 2016). An additional component to consider is the time frame in which the adolescents were exposed to violence, as the effects may differ based on both the developmental timing and the chronicity of IPV exposure (Edleson et al., 2007; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). By tapping into these additional characteristics of IPV exposure, we may be able to explain more of the variance in adolescents' dating violence experiences and, in turn, the full complexity of the transmission of violence.

Factors that may exacerbate or alleviate the effects of exposure to violence and parents' IPV attitudes on adolescents' dating violence experiences include adolescents' peers as well as the intersection of their sociodemographic identities. Research suggests that adolescents who believe their peers are in violent relationships report more frequent abuse in their own relationships (Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004). Like peers, rates of dating violence perpetration and victimization as well as the extent to which individuals' are accepting of violence or endorse traditional gender role beliefs vary by interaction of individuals' sociodemographic identities (Beyers, Leonard, Mays, & Rosen, 2000; Nabors & Jasinski, 2009; Foshee, McNaughton Reyes, & Ennett, 2010; Savasuk-Luxton, Adler-Baeder, & Haselschwerdt, 2018). Considering the impact of both peers and adolescents' sociodemographic identities on adolescents' dating violence experiences, future studies may consider these potential compounding or mitigating factors on the transmission of violence.

Lastly, although this study utilized data for the adolescents over two time-points, the data on exposure to IPV was collected concurrently at the first data collection point and therefore is considered a retrospective account. Due to the sensitive nature of the exposure to violence

literature, it is especially challenging to conduct this type of research prospectively, particularly in a broader, community sample. Thus, our ability to fully speak to the transmission of violence and the order of effects is limited. It is possible that the associations evidenced in this study and in other previous research may be explained by third variables causing both, such as being embedded in poverty. As such, future studies may consider the larger ecological context, tapping into factors that had previously gone untested in the transmission of violence literature.

### **Practical Implications and Conclusion**

Considering the prevalence of violence in both adult and adolescent romantic relationships and the long-term adverse effects often associated with these experiences, researchers have made a concerted effort to target factors associated with dating violence. The results from this study offer practical implications that can help to further these current efforts. Given the links between adolescents' dating violence acceptance and gender role beliefs with their dating violence experiences, as well as these two attitudes' mediating effect on the relationship between parents' IPV acceptance on adolescents' psychological dating violence experiences, programs seeking to prevent adolescent dating violence may consider including these attitudes and beliefs as key targeted outcomes. To date, many programs explicitly target adolescents' dating violence attitudes and several studies of youth-focused interventions have demonstrated significant reductions in dating violence acceptance following program participation (Antle et al., 2011; Sparks et al., 2012; Whittaker et al., 2014). Gender role beliefs are a relatively newer area of research, particularly in the field of adolescent dating violence, and because of this are not specifically addressed in youth relationship education. Although not an outcome typically addressed in youth relationship education, two studies of youth relationship education found that adolescents' gender role beliefs are malleable. Youth reported more

egalitarian gender role beliefs following program participation (Whittaker et al., 2014; Savasuk-Luxton et al., 2018). Future educators and program developers may address additional needs and improve the outcomes for adolescents who are at risk because of their upbringing by including both dating violence attitudes and gender role beliefs into their programs.

As evidenced in this study and many others, parents' behaviors and attitudes, both healthy and unhealthy, significantly affect their children. There is some evidence to suggest that IPV-focused intervention services, particularly community-based post-shelter advocacy services, reduce the rates of women's IPV re-victimization and are associated with enhancements in women's emotional and mental well-being (see Eckhardt, Murphy, Whitaker, Sprunger, Dykstra, & Woodard, 2013 for a review of IPV intervention programs). By participating in post-shelter intervention services, parents are teaching their children that romantic relationship violence is unhealthy and unacceptable and, in doing so, may decrease their children's likelihood for future dating violence experiences. Another potential source for intervention is adult couple relationship education programs. Although couple relationship education programs do not target couples experiencing IPV, there are indications that more distressed couples choose to participate in couple relationship education (Bradford, Hawkins, & Acker, 2015; Bradford, Skogrand, & Higginbotham, 2011; DeMaria, 2005). Similar to youth programs, adult couple relationship education programs promote awareness of healthy and unhealthy relationship behaviors and provide couples with the skills to resolve conflict in a healthy manner (Gardner, Giese, & Parrott, 2004; Kerpelman et al., 2009). Adult couples in couple relationship education classes report significant improvements in their conflict management and communication skills and a significant decrease in their use of violence following programming (Antle, Karam, Christensen, Barbee, & Sar, 2011; Cleary Bradley, Friend, & Gottman, 2001; Cleary Bradley &

Gottman, 2012; Halford, Sanders, & Behrens, 2001). It is likely that parents' involvement in programs such as couple relationship education can, and will, have a spill-over effect (e.g., Adler-Baeder et al., 2016; Administration for Children and Families, 2007; Kirkland et al., 2011). By addressing the needs and misconceptions of the parents in addition to those of their children may prevent adolescents' involvement in dating violence or at least lessen the likelihood that the cycle of violence will continue.

Examining the direct and indirect effects of IPV exposure and parents' IPV acceptance on the type and frequency of adolescents' dating violence experiences allows us a better perspective on how violence and violence-related attitudes are transmitted within the home. This study was one of the first to document how IPV exposure and parents' IPV acceptance can directly and indirectly affect adolescents' experiences with psychological dating violence. This was also the first study to find that parents' attitudes towards a specific behavior (i.e., dating violence) impact their children's attitudes as well as their children's behaviors in their romantic relationships. By demonstrating these effects this study unearthed a potential risk factor for later involvement in abusive relationships that had previously gone unnoticed and untested. These findings provide a clearer picture of the risk factors associated with adolescent dating violence and offer additional target areas for interventions and preventions focused on reducing adolescent dating violence perpetration and victimization, particularly for more at-risk adolescents.

Table 1.

*Correlations, means, and standard deviations of key study variables*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	<i>M (SD)</i>
1. IPV Exposure	--										.21 (.41)
2. Parents' IPV Acceptance	.10*	--									1.31 (.58)
3. Adolescents' DV Acceptance	.16***	.17***	--								1.43 (.53)
4. Adolescents' Gender Role Beliefs	.07	.06	.31***	--							2.47 (.32)
5. Adolescents' Overall Perp	.20***	.25***	.23***	.14**	--						.16 (.27)
6. Adolescents' Overall Vic	.21***	.19***	.18***	.16**	.85***	--					.20 (.34)
7. Adolescents' Physical Perp	.14**	.24***	.18***	.10*	.78***	.68***	--				.05 (.21)
8. Adolescents' Physical Vic	.16***	.22***	.17***	.15***	.71***	.80***	.86***	--			.07 (.28)
9. Adolescents' Psychological Perp	.20***	.14**	.16**	.13**	.78***	.94***	.44***	.53***	--		.27 (.39)
10. Adolescents' Psychological Vic	.19***	.21***	.21***	.14**	.94***	.79***	.52***	.50***	.82***	--	.33 (.49)

$p < .05^*$ ;  $p < .01^{**}$ ;  $p < .001^{***}$ ; *Note.* IPV: Interparental Violence; DV: Dating violence; Perp: Perpetration; Vic: Victimization

Table 2.

*Results of the univariate direct effects tests.*

	$\beta$ (SE)	R <sup>2</sup>
DV acceptance >		
Overall perpetration	.31 (.09)***	.094 <sup>+</sup>
Overall victimization	.16 (.05)*	.022
Physical perpetration	.18 (.07)*	.033
Physical victimization	.15 (.06)	.022
Psychological perpetration	.23 (.08)**	.051*
Psychological victimization	.15 (.09)*	.022
Gender role beliefs >		
Overall perpetration	.28 (.09)*	.078*
Overall victimization	.32 (.09)***	.120*
Physical perpetration	.15 (.05) <sup>+</sup>	.023
Physical victimization	.16 (.05)	.030
Psychological perpetration	.24 (.07)***	.056 <sup>+</sup>
Psychological victimization	.18 (.06)**	.033
IPV Exposure >		
DV acceptance	.15 (.06)**	.023
Gender role beliefs	.11 (.06) <sup>+</sup>	.012
Overall perpetration	.22 (.07)**	.049
Overall victimization	.07 (.04) <sup>+</sup>	.047
Physical perpetration	.13 (.06)*	.018
Physical victimization	.14 (.04)*	.021
Psychological perpetration	.19 (.06)***	.037 <sup>+</sup>
Psychological victimization	.20 (.05)***	.039 <sup>+</sup>
Parents' IPV acceptance >		
DV acceptance	.18 (.08)*	.032
Gender role beliefs	.15 (.07)**	.023
Overall perpetration	.27 (.08)**	.073 <sup>+</sup>
Overall victimization	.16 (.06)*	.024
Physical perpetration	.27 (.11)*	.072
Physical victimization	.25 (.11)*	.063
Psychological perpetration	.21 (.07)**	.043
Psychological victimization	.14 (.07)*	.018

*Notes.* Showing standardized results.  $p < .10^+$ ;  $p < .05^*$ ;  $p < .01^{**}$ ;  $p < .001^{***}$ ; *Note.* DV: Dating violence; IPV: Interparental violence



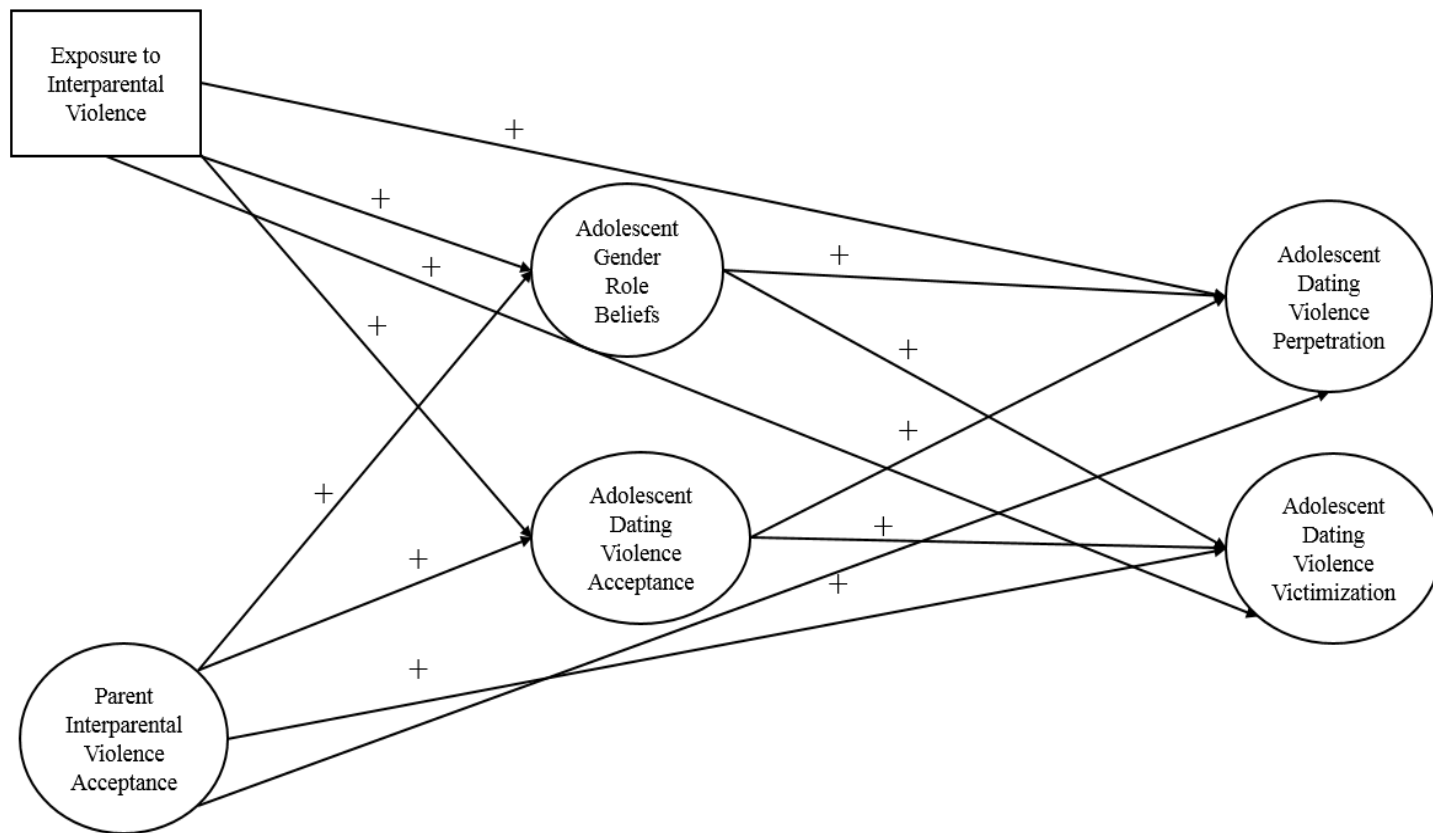


Figure 1. Conceptual model examining the potential pathways between exposure to violence and parents' interparental violence acceptance and adolescents' dating violence perpetration and victimization.

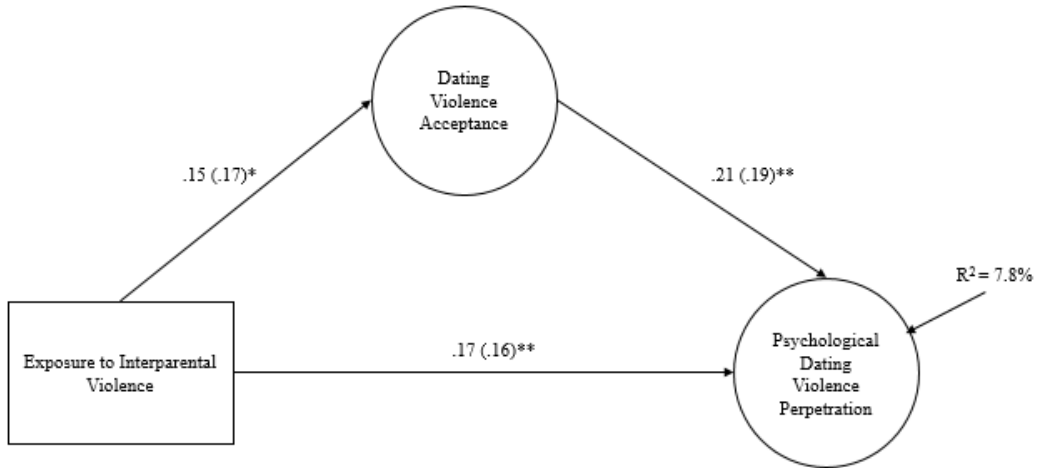


Figure 2. Standardized results (unstandardized in parentheses) depicting the direct and indirect effects of exposure to interparental violence and dating violence acceptance on psychological dating violence perpetration.  
 $\chi^2(185) = 376.08, p < .001$ ; CFI = .94; RMSEA = .05,  $p = .90$   
 $p < .05^*$ ;  $p < .01^{**}$

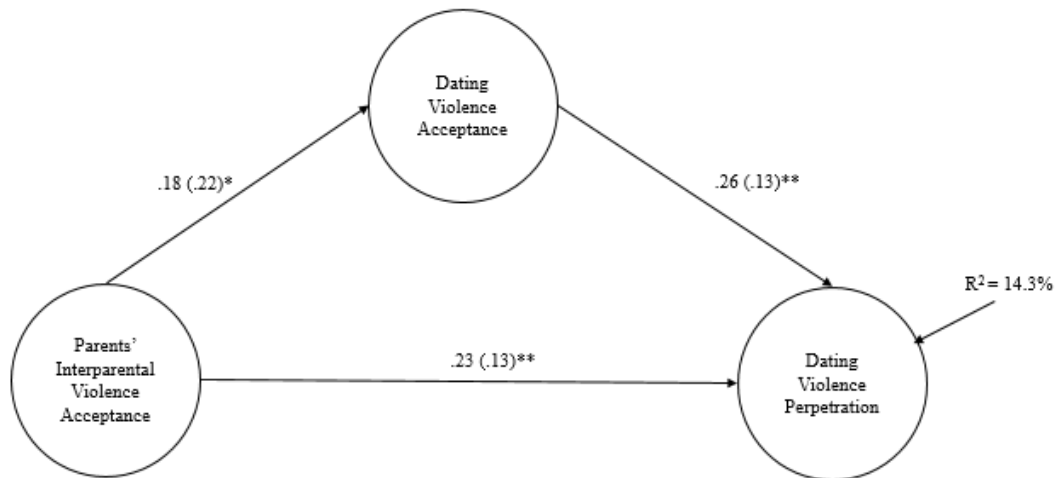


Figure 3. Standardized results (unstandardized in parentheses) depicting the direct and indirect effects of parents' interparental violence acceptance and adolescents' dating violence acceptance on adolescents' overall dating violence perpetration.  
 $\chi^2(99) = 256.99, p < .001$ ; CFI = .93; RMSEA = .06,  $p = .12$   
 $p < .05^*$ ;  $p < .01^{**}$

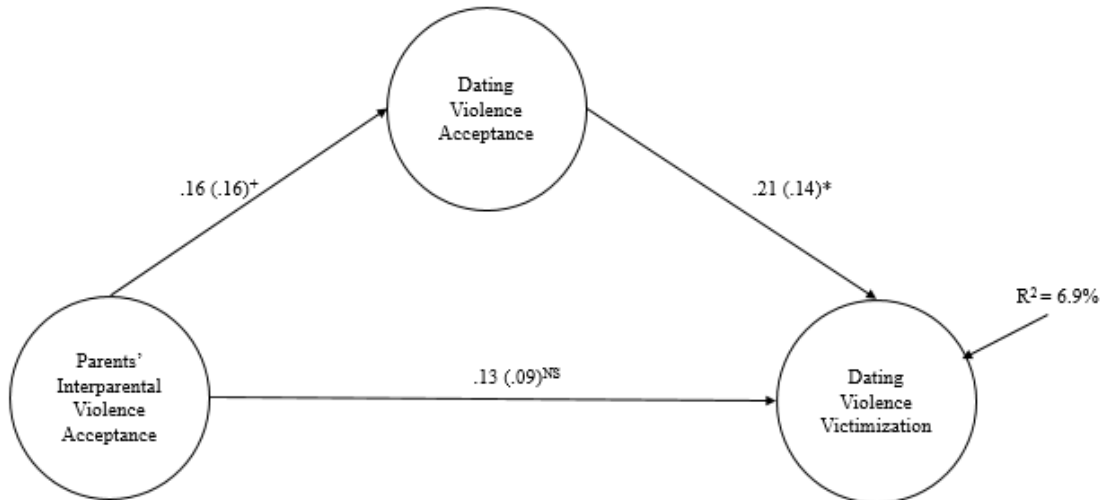


Figure 4. Standardized results (unstandardized in parentheses) depicting the direct and indirect effects of parents' interparental violence acceptance and adolescents' dating violence acceptance on adolescents' overall dating violence victimization.  $\chi^2(99) = 251.90, p < .001$ ; CFI = .93; RMSEA = .06,  $p = .16$   $p > .10$ NS;  $p < .10$ +;  $p < .05$ \*

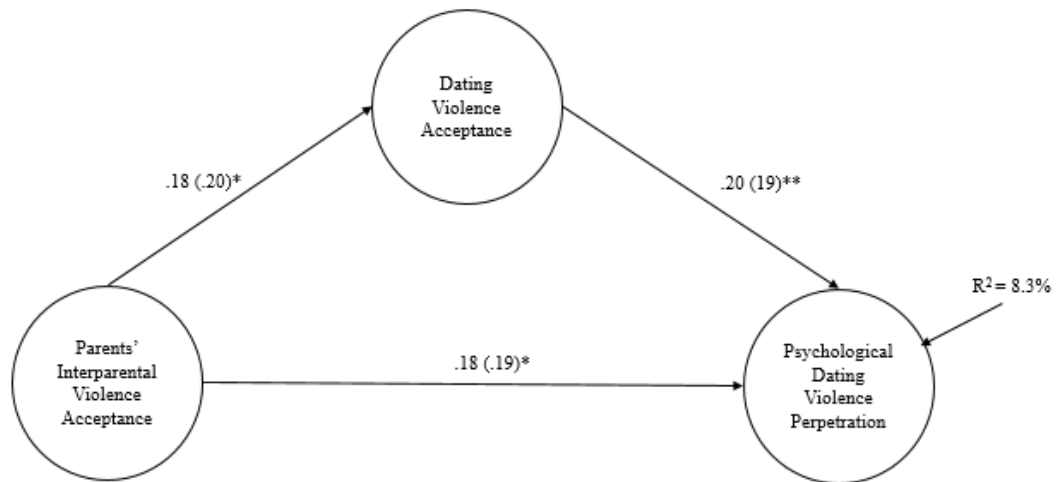


Figure 5. Standardized results (unstandardized in parentheses) depicting the direct and indirect effects of parents' interparental violence acceptance and adolescents' dating violence acceptance on adolescents' psychological dating violence perpetration.  $\chi^2(247) = 471.19, p < .001$ ; CFI = .94; RMSEA = .04,  $p = .99$   $p < .05$ \*

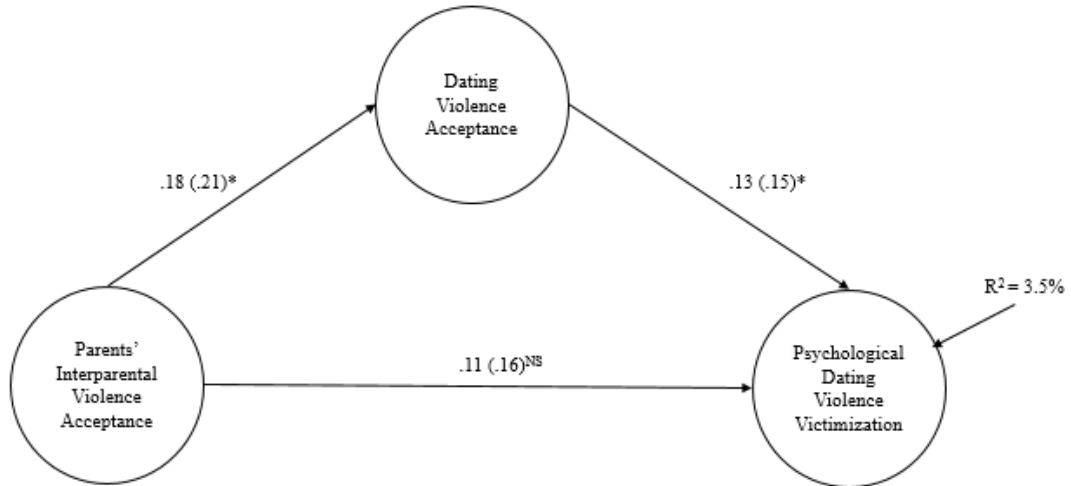


Figure 6. Standardized results (unstandardized in parentheses) depicting the direct and indirect effects of parents' interparental violence acceptance and adolescents' dating violence acceptance on adolescents' psychological dating violence victimization.  $\chi^2(247) = 466.48, p < .001$ ; CFI = .94; RMSEA = .04,  $p = .99$   $p > .10$ NS;  $p < .05$ \*

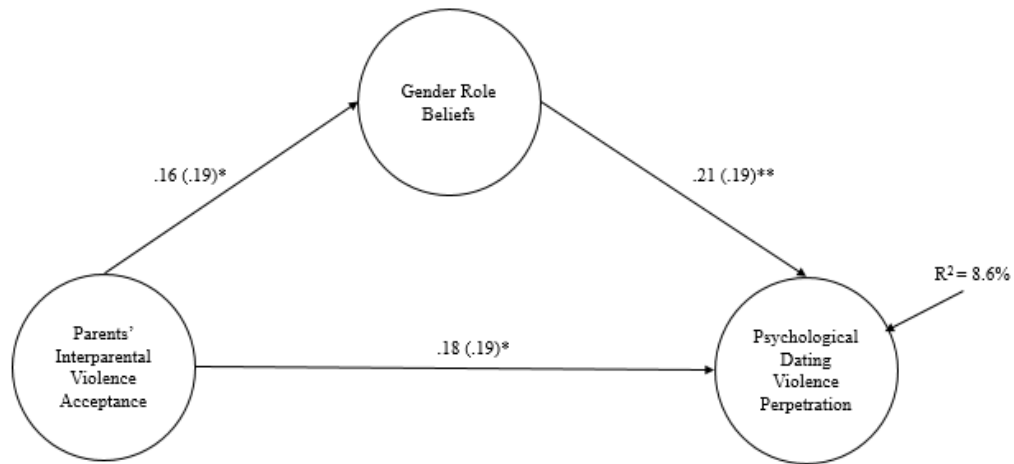
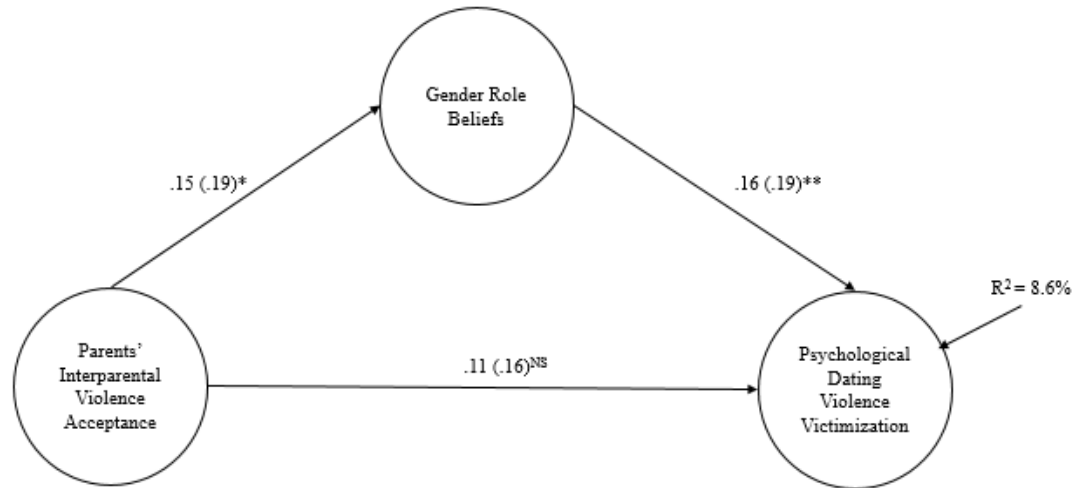


Figure 7. Standardized results (unstandardized in parentheses) results depicting the direct and indirect effects of parents' interparental violence acceptance and adolescents' gender role beliefs on adolescents' psychological dating violence perpetration.  $\chi^2(186) = 364.77, p < .001$ ; CFI = .89; RMSEA = .04,  $p = .95$   $p < .05$ \*;  $p < .01$ \*\*



*Figure 8.* Standardized results (unstandardized in parentheses) results depicting the direct and indirect effects of parents' interparental violence acceptance and adolescents' gender role beliefs on adolescents' psychological dating violence victimization.  
 $\chi^2 (186) = 395.60, p < .001$ ; CFI = .90; RMSEA = .05,  $p = .78$   
 $p > .10^{NS}$ ;  $p < .01^{**}$

III. Study 2 – Exploring the Process of Change between Dating Violence Acceptance,  
Traditional Gender Role Beliefs, and Adolescent Dating Violence Following Youth Relationship  
Education

**Introduction and Overview**

Over time, adolescent dating violence has increasingly garnered the attention of researchers and practitioners. In a recent national study on adolescent dating violence approximately 69% of adolescents who were currently or recently in a dating relationship reported being victimized by their partner and 63% reported perpetrating some form of violence or abuse (e.g., physical, sexual, and/or psychological) against their partner (Taylor & Mumford, 2016). Research suggests that experiencing adolescent dating violence as a victim or perpetrator is associated with a range of short- and long-term consequences, such as depressive symptoms, substance abuse, and engaging in unhealthy eating and sexual risk-taking behaviors (Bonomi, Anderson, Nemeth, Rivara, & Buettner, 2013; Cui, Ueno, Gordon, & Fincham, 2013; Foshee & Reyes, 2011). Included in these consequences is a greater risk of experiencing IPV in adulthood (Bonomi et al., 2013; Cui et al., 2013; Foshee & Reyes, 2011). Considering the substantial adverse outcomes that are often associated with dating violence experiences in adolescence, many efforts have centered on determining predictors of adolescent dating violence and implementing preventative initiatives.

Attitudes regarding the use of violence in relationships and traditional gender role beliefs have been consistently identified as important cognitive components of adolescent dating violence (Center for Disease Control, 2014; Flood & Pease, 2009; O’Keefe, 2005). Both theory

(i.e., theory of propositional control; Ajzen & Fishbein, 1973) and empirical studies suggest that these beliefs are positively associated with each other (Flood & Pease, 2009; Reyes, Foshee, Niolon, Reidy, & Hall, 2016; Ulloa, Jaycox, Marshall, & Collins, 2004) such that those who are more accepting of the use of violence in romantic relationships are more likely to hold traditional gender role beliefs (Flood & Pease, 2009; Reyes et al., 2016; Ulloa et al., 2004). Only one study (Reyes et al., 2016) has further explored the nature of this relationship and found that adolescents who are more accepting of dating violence and hold more traditional gender role beliefs are at greater risk of physical dating violence perpetration than those who held traditional beliefs, but were less accepting of dating violence. However, this study focused solely on dating violence perpetration and involved a sample of predominately European American, adolescent boys.

Studies of youth relationship education programs that seek to promote healthy relationships and prevent adolescent dating violence find desirable changes in both dating violence acceptance and traditional gender role beliefs (Antle, Sullivan, Dryden, Karam, & Barbee, 2011; Kerpelman et al., 2010; Whittaker, Adler-Baeder, & Garneau, 2014). Yet, no studies have examined the directional pathways between dating violence acceptance and traditional gender role beliefs and their influence on change in both adolescent boys' and girls' physical dating violence perpetration and victimization within the context of youth relationship education participation. Thus, the purpose of the current study was to add to the current literature by examining the process of change in dating violence acceptance and gender role beliefs in a diverse sample of adolescents up to six months after youth relationship education participation, as well as the impact of dating violence acceptance and gender role beliefs on the participants' reports of both physical dating violence perpetration and victimization six months post-program completion.

## **The Association between Dating Violence Acceptance and Gender Role Beliefs and Adolescent Dating Violence**

Ajzen and Fishbein's (1973) modified version of the theory of propositional control argues that two main factors, attitudinal and normative, should be considered when trying to understand and determine individuals' behavior. The theory proposes that attitudes about specific behaviors, as well as the social norms that may influence those attitudes, serve to inform behaviors. The attitudinal factor is defined as an individual's attitude regarding the use of a specific behavior under certain circumstances (e.g., dating violence acceptance). The normative factor is the individual's belief about society's expectations regarding appropriate roles and behaviors (e.g., gender role beliefs). Furthering our understanding of how attitudes and normative beliefs, such as dating violence acceptance and traditional gender role beliefs, influence each other and adolescent dating violence perpetration and victimization can help provide the foundation for intervention efforts targeting adolescent dating violence.

Among adolescents, dating violence acceptance is a well-documented correlate of physical perpetration and victimization for both boys and girls (e.g., Ali, Swahn, & Hamburger, 2011; Jouriles, Rosenfield, McDonald, Kleinsasser, & Dodson, 2013; Nabors & Jasinski, 2009; Reyes et al., 2016). More specifically, adolescent boys and girls are at greater risk of both adolescent dating violence perpetration and victimization when they believe the use of violence or aggression in romantic relationships is normal, perceive penalties for use of violence as inconsequential, or if they justify the use of violent or aggressive behaviors under certain relational circumstances (e.g., because they made them jealous or mad; Foshee, Linder, MacDougall, & Bangdiwala, 2001; Foshee & Reyes, 2011; Jouriles et al., 2013; Lichter & McCloskey, 2004; Reyes et al., 2016). Though there is evidence for gender symmetry in



adolescent dating violence (e.g., Ali et al., 2011; Jouriles et al., 2013; Reyes et al., 2016), the moderating effect of gender was noted in two studies of adolescents. Foshee and colleagues (2004) found a stronger link between dating violence acceptance and both the onset and chronicity of physical dating violence victimization for boys compared to girls. Foshee and colleagues (2001) also found evidence of a stronger link between dating violence acceptance in eighth grade and physical dating violence perpetration one year later for boys compared to girls.

Like dating violence acceptance, holding traditional gender role beliefs is associated with dating violence perpetration and victimization for both boys and girls (Center for Disease Control, 2014; Berkel, Vandiver, & Bahner, 2004; Flood & Pease, 2009; Foshee et al., 2004; Lichter & McCloskey, 2004; Reyes et al., 2016). Boys, however, tend to be more traditional in their beliefs than girls (Berkel et al., 2004; Nabors & Jasinski, 2009; Reyes et al., 2016). Gender role beliefs are rooted in individuals' ideas about what behaviors, roles, and characteristics are appropriate for men and women in both personal and professional domains (Hill, 2002).

According to feminist scholars, traditional gender roles bestow greater power and leniency to boys and men, especially in the use of aggression and violence in their romantic relationships. Girls and women, in contrast, are societally expected to be submissive, sensitive, and nurturing (Hill, 2002; Wingood & DiClemente, 2002). More broadly, the division of power often favors men and undermines women across varying levels (e.g., interpersonal, institutional, societal; Wingood & DiClemente, 2002). While there are many dimensions to gender role beliefs, including the distribution of household tasks and broader, more general beliefs about the distribution of power, one commonly studied aspect of gender role beliefs centers around heterosexual couple relationships, highlighting power and authority differentials between men and women regarding roles within the home. In this domain, traditional gender role beliefs

emphasize the ideology of upholding complementary roles, such that the husband is the leader or authority figure of the household, and the wife is subservient to the husband while fulfilling household and child rearing duties (Hill, 2002).

This gender socialization process often begins in utero (e.g., gender reveal parties), but is well cemented during early childhood, as both the family system and larger society model and often reward “appropriate” behaviors and characteristics for boys and girls (Bem, 1983; 1993; Galambos, 2004; Hill & Lynch, 1983). According to the gender intensification hypothesis, gender roles become particularly salient during adolescence, as youth encounter heightened pressure to conform to more stereotypical gender norms (Galambos, 2004; Hill & Lynch, 1983). The prominence of traditional gender role beliefs in adolescence is particularly important because, as noted, adherence to stereotypical gender role beliefs is associated with both physical and sexual adolescent dating violence perpetration and victimization (Foshee et al., 2004; Lichter & McCloskey, 2004; Reyes et al., 2016).

Though the association between dating violence acceptance and dating violence experiences as well as the association between traditional gender role beliefs and dating violence experiences have been well studied, how dating violence acceptance and traditional gender role beliefs impact each other and, in turn, inform behavior has not been tested. Initial evidence suggests that dating violence acceptance (e.g., individual attitudes) and traditional gender role beliefs (e.g., norms) are positively associated with each other (e.g., Berkel, Vandiver, & Bahner, 2004; Fitzpatrick, Salgado, Suvak, King, & King, 2004; Flood & Pease, 2009; Reyes et al., 2015; Ulloa et al., 2004). To date, only one study has moved beyond examining associative models to examine the additive effect of dating violence acceptance and traditional gender role beliefs on physical dating violence perpetration in a sample of adolescents (Reyes et al., 2016). Reyes and

colleagues, found that adolescents who held more traditional beliefs and were more accepting of dating violence were at greater risk of physical dating violence perpetration than adolescents who were more traditional, but less accepting of dating violence. However, they did not examine the predictive nature of the relationship between dating violence acceptance and traditional gender role beliefs. In other words, does adolescents' dating violence acceptance inform their gender role beliefs or vice versa? The theory of gender and power suggests that boys and girls are socialized differently such that the use of violence and aggression is only normalized for boys (Bem, 1983; 1993; Wingood & DiClemente, 2002). Research suggests that the association between dating violence acceptance and traditional gender role beliefs is stronger for boys than girls (Fitzpatrick et al., 2004; Flood & Pease, 2009). As such, this study examined the directional nature of the relationship between dating violence acceptance and traditional gender role beliefs, as well as their relationship to change in adolescent dating violence perpetration and victimization over time. Also included were tests of whether the pathways varied by gender.

### **Effects of Relationship Education on Gender Role Beliefs and Dating Violence Acceptance**

Interactional patterns in early dating relationships often predict later relationship patterns (Collins, Welsh, & Furman, 2009), making adolescence an optimal developmental period to implement programs focused on promoting healthy relationships, such as youth relationship education. The purpose of youth relationship education programs is to provide adolescents with information and tools for identifying, developing, and maintaining healthy relationships (Gardner, Giese, & Parrott, 2004; Kerpelman et al., 2009). To date, studies of youth relationship education have documented significant improvement in participants' knowledge of and skills for engaging in healthy relationships (e.g., Adler-Baeder, Kerpelman, Schramm, Higginbotham, & Paulk, 2007; Gardner et al., 2004; Kerpelman, et al., 2010). More specifically, studies of youth

relationship education find improvements in unhealthy relationship recognition, communication and conflict resolution skills, and general interpersonal competence following program participation (e.g., Adler-Baeder et al., 2007; Chan, Adler-Baeder, Duke, Ketring, & Smith, 2016; Gardner et al., 2004; Kerpleman et al., 2009; Kerpelman et al., 2010).

Although less frequently studied, youth relationship education also addresses attitudes that are integral to healthy romantic relationship formation. Considering the prevalence of adolescent dating violence, researchers have begun examining the impact of youth relationship education on key correlates of adolescent dating violence perpetration and victimization, specifically dating violence acceptance and traditional gender role beliefs (e.g., Antle et al., 2011; Sparks, Lee, & Spjeldnes, 2012; Whittaker, Adler-Baeder, & Garneau, 2014). Two studies of youth relationship education documented reductions in adolescents' dating violence acceptance (e.g., Antle et al., 2011; Sparks et al., 2012) and, in one study, a shift towards more egalitarian gender role beliefs (Whittaker et al., 2014) following program participation. Although both boys and girls demonstrated significant change in dating violence acceptance and traditional gender role beliefs, evidence suggests that, compared to girls, boys display a steeper decline in traditional gender role beliefs over time (Whittaker et al., 2014). Additionally, Whittaker and colleagues (2014) examined whether residual change in traditional gender role beliefs predicted residual change in dating violence acceptance and found support for this pathway. These findings suggest that, for both boys and girls, becoming more egalitarian is associated with becoming less accepting of the use of violence in romantic relationships.

Although these studies (i.e., Antle et al., 2011; Sparks et al., 2012; Whittaker et al., 2014) further our understanding of the impact of youth relationship education on dating violence acceptance and traditional gender role beliefs, they are limited to short-term, pre-post designs

that offer information only on immediate post-program effects and concurrent change in dating violence acceptance and traditional gender role beliefs. The use of a longitudinal design helps to identify potential lagged effects in addition to possible underlying patterns that may help to explain change in outcomes (i.e., dating violence acceptance, traditional gender role beliefs, and adolescent dating violence perpetration and victimization) over time and contribute to prevention strategies (Coie et al., 1993). To address these limitations, the current study examined the process of change between adolescents' dating violence acceptance and traditional gender role beliefs immediately following program participation and 6 months post-program completion.

A key principle in the prevention science approach, which can be used to frame programs such as youth relationship education, emphasizes the importance of identifying the risk factors of unhealthy or undesirable outcomes, such as adolescent dating violence (Coie et al., 1993). Prevention science approaches also recommend examining the ways in which risk factors may influence each other. More specifically, a prevention science framework suggests that researchers move beyond more simplistic models (e.g., one predictor to one outcome or examination of concurrent change in multiple outcomes) to, instead, consider the directional influence of change in key factors, such as dating violence acceptance and traditional gender role beliefs, that can decrease one's risk for unhealthy or undesirable outcomes (e.g., adolescent dating violence; Coie et al., 1993). As such, understanding whether and how change in dating violence acceptance and traditional gender role beliefs influence each other and, in turn, influence change in adolescent dating violence experiences, may offer valuable insight for practitioners hoping to target and prevent adolescent dating violence.

## **The Current Study**

Initial studies have provided evidence for the impact of youth relationship education on adolescents' dating violence acceptance (Antle et al., 2011; Sparks et al., 2012) and traditional gender role beliefs (Whittaker et al., 2014), both of which are associated with adolescent dating violence experiences (Ali et al., 2011; Foshee et al., 2016; Jouriles et al., 2013; Reyes et al., 2015). The modified theory of propositional control (Ajzen & Fishbein, 1973) and the prevention science framework (Coie et al., 1993) suggest that the pathways between dating violence acceptance and traditional gender role beliefs to adolescent dating violence experiences may be more complex and that this complexity should be addressed in youth relationship education research. The current study addressed several gaps in the studies on dating violence acceptance, gender role beliefs, adolescent dating violence perpetration and victimization, as well as youth relationship education, by testing a more comprehensive, longitudinal model of change. Using a cross-lagged model across three time-points—baseline/pre-program (T1), immediate post-program (T2), and at 6-month follow-up (T3) — this study examined rank-order change in youth relationship education participants' dating violence acceptance and traditional gender role beliefs. Included in the model were tests of whether T1 dating violence acceptance predicts residual change in traditional gender role beliefs at T2 or vice versa as well as whether residual change in dating violence acceptance at T2 predicts residual change in traditional gender role beliefs at T3 or vice versa. Also examined was whether T1 dating violence acceptance and gender role beliefs predicts residual change in dating violence perpetration and victimization at T2 and whether residual change in dating violence acceptance and traditional gender role beliefs at T2 predicts residual change in adolescent dating violence perpetration and victimization at T3 (see Figures 1 and 2).

Because the modified theory of propositional control suggests that social norms influence attitudes (Ajzen & Fishbein, 1973), I expected that (H1) T1 gender role beliefs would positively predict residual change in dating violence acceptance at T2 and that (H2) residual change in gender role beliefs at T2 will positively predict residual change in dating violence acceptance at T3. Additionally, I hypothesized that (H3) T1 gender role beliefs and dating violence acceptance would positively predict residual change in adolescents' dating violence perpetration and victimization at T2. Lastly, I hypothesized that (H4) adolescent dating violence perpetration and victimization at T3 would decrease as adolescents become more egalitarian and less accepting of dating violence at T2. The comparative predictability of residual change in dating violence acceptance and traditional gender role beliefs on residual change in adolescent dating violence perpetration and victimization was also examined. Lastly, I tested whether the relationships between residual change in dating violence acceptance, residual change in gender role beliefs, and residual change in adolescent dating violence perpetration and victimization vary by gender.

## **Methods**

### **Participants**

The sample for this study was obtained from a larger sample of adolescents who participated in youth relationship education as part of a federally-funded, statewide 5-year intervention project focused on promoting healthy relationships. This project was designed and funded as a demonstration project to test the feasibility of relationship education program delivery to a diverse sample of youth rather than an efficacy study. As such, this study did not include a control group, nor were the participants randomly assigned to receive programming. The curriculum, however, was offered through required health classes, therefore, participants did not self-select into the program. The adolescents who participated in the program received the

*Relationship Smarts Plus (RS+; Pearson, 2007)* curriculum consisting of six core lessons. These six lessons provided information on healthy relationship formation, safe and healthy ways to end a relationship, warning signs for unhealthy and abusive relationships, effective ways of communication, and informed decision making. Each lesson lasted between 50-90 minutes. All lessons were delivered by community educators at local high schools during normal school hours over the course of several weeks. Adolescents participated in the study only if they received parental approval via university IRB approved consent forms.

Data for this study were collected at three separate time-points: prior to the start of the program (pre-program or baseline/T1), immediately after program participation (immediate post-program/T2), and six months following program participation (follow-up/T3). The first two surveys were completed in the participants' respective classrooms during school hours whereas the T3 survey was mailed out to an address provided by the participant. Included in the survey was a \$2 bill as an incentive for their continued involvement in the study. The sample consists of 1,902 adolescents ( $M_{age} = 15.62$  years;  $SD = 1.14$ ). The sample is fairly balanced on gender (57% girls, 43% boys) and is racially diverse (52% White, 39% Black, 9% other). Mother's education level was used as a proxy for adolescents' socioeconomic status (SES; Hoff, Laursen, & Bridges, 2012; Hoffman, 2003) and was diverse (52% completed high school or less; 27% completed some college or 2-year degree; and 21% completed a 4-year degree or higher). Almost half of adolescents (48%) reported living in a nuclear family, 35% reported living in a single-parent family, and 17% reported living in a blended or stepfamily.

Of the 1,902 adolescents who completed T1 surveys, 1,867 (98%) completed T2 surveys, and 185 (9.7%) completed T3 surveys. Attrition analyses were conducted to determine whether those who completed T3 surveys were systematically different from those who did not. Chi-



square tests of independence were conducted to test for significant differences between those who completed follow-up and those who did not on: gender, race, mother's education, family structure. Those who completed the T3 survey did significantly differ by gender ( $\chi^2 (1) = 13.91, p < .001$ ), such that girls were more likely to participate in the follow-up. There were no significant differences between the groups by race ( $\chi^2 (2) = 5.46, p = .07$ ), maternal education ( $\chi^2 (2) = .15, p = .93$ ), or family structure ( $\chi^2 (2) = 0.15, p = .93$ ). *T*-tests were conducted to test for significant differences by age. Results revealed that younger adolescents were more likely to complete the follow-up survey than older adolescents ( $t (1824) = 2.57, p < .01$ ). However, it does not appear that attrition heavily impacted the sample, despite the decrease in sample size across the three time-points.

## Measures

**Dating violence acceptance.** Dating violence acceptance (Jones & Gardner, 2002) was assessed at T1, T2, and T3 using two items, including "In today's society, slapping a spouse or dating partner is understandable under some circumstances," and "In today's society, pushing a spouse or dating partner is understandable under some circumstances." Individuals responded to these items using a Likert scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree*.

Higher scores indicate a greater acceptance of the use of dating violence in romantic relationships. For the current sample, reliability coefficients indicate adequate reliability at each time point ( $\alpha = .93, .92, .89$ ). Factor loadings were greater or equal to .88 across time ( $M = .91$ ).

**Gender role beliefs.** Traditional gender role beliefs were assessed at T1, T2, and T3 using three items (Larsen & Long, 1988). These items were used to assess adolescents' beliefs concerning the roles of males and females with respect to decision-making and authority in the family or marital relationship (e.g., "Ultimately a woman should always submit to a husband's

decision” and “As head of the household, the father should have final authority over children”) as well as a more general item regarding male power (e.g., “Men make better leaders than women”). Individuals responded to these items on a Likert scale ranging from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. Higher scores represented more traditional gender role beliefs. Factor loadings were greater or equal to .67 across time ( $M = .80$ ).

**Dating violence.** Physical dating violence, both perpetration and victimization, was measured at T1, T2, and T3 using one item each (Stanley, Markman, & Whitton, 2002). These items include: “When we have an argument, I hit or strike my partner” and “When we have an argument, my partner hits or strikes me.” Individuals responded to each item using a Likert scale ranging from 0 = *Never* to 4 = *All of the time*. Each individually observed item was used – one item for perpetration and one item for victimization. Higher scores represent more frequent use of violence perpetration and victimization.

### **Data Analysis**

As noted earlier, the primary goal of this paper was to determine the process of rank-order change between dating violence acceptance and gender role beliefs over time. A cross-lagged panel model was used to test hypotheses one and two, as this type of model allowed for the testing of directionality (Berrington, Smith, & Sturgis, 2006; Kenny, 1975; Kenny & Harackiewicz, 1979). To determine the direction of effects, I examined the significance of the coefficients between the variables over time. More specifically, I examined whether or not T1 scores in one variable predicts immediate, residual change at T2 in the other variable. Additionally I examined whether immediate, residual change at T2 in one variable predicts residual change in the other variable at T3. If the paths are only significant in one direction (e.g., gender role beliefs to dating violence acceptance), then we can conclude that this is directional

pathway, or establish the order of effects (Berrington, Smith, & Sturgis, 2006; Kenny, 1975; Kenny & Harackiewicz, 1979). Also included were tests of whether T1 dating violence acceptance and gender role beliefs predicted residual change in adolescents' dating violence perpetration at T2. Lastly, tests included whether residual change in dating violence acceptance and residual change in traditional gender role beliefs at T2 predicts residual change in adolescents' reports of dating violence perpetration and victimization at T3. Two separate models were fit, one for dating violence perpetration and one for dating violence victimization. Gender differences were explored by evaluating the models for boys and girls simultaneously. The models were constrained to be equal and chi-square tests were used to determine whether the pathways for girls and boys were significantly different. A significant chi-square test suggests that the pathways are not equal, indicating that the hypothesized pathways differ by gender.

Analyses were conducted in AMOS version 22 (Arbuckle, 2013). Latent variables were created using the individual observed items for dating violence acceptance and gender role beliefs at T1, T2, and T3. An individual observed item was used for physical dating violence perpetration and victimization at T1, T2, and T3. Full information maximum likelihood (FIML) was used to account for missing data. Additionally, for the current study, the chi-square test of model fit, comparative fit index (CFI), and the root mean square error approximation (RMSEA) were used as goodness-of-fit indices.

## **Results**

Descriptive statistics and correlations for each variable at all three waves of data collection can be found in Table 1. It is important to note that adolescents' dating violence acceptance, gender role beliefs, and dating violence perpetration and victimization were, on

average, low across all three time-points. More specifically, adolescents in this sample were, on average, not very accepting of the use of violence ( $M_{T1} = 1.66, M_{T2} = 1.63, M_{T3} = 2.94$ ; Range: 1 – 5), more egalitarian ( $M_{T1} = 3.01, M_{T2} = 3.06, M_{T3} = 2.94$ ; Range: 1 – 7), and did not experience frequent physical dating violence perpetration ( $M_{T1} = .23, M_{T2} = .28, M_{T3} = .32$ ; Range: 0 - 4) or victimization ( $M_{T1} = .19, M_{T2} = .26, M_{T3} = .28$ ; Range: 0 - 4).

### **Prospective Links between Dating Violence Acceptance, Gender Role Beliefs, and Adolescent Dating Violence Perpetration and Victimization over Time for Overall Model**

**Cross-lagged model with perpetration.** Cross-lagged results including perpetration for the overall sample are displayed in Figure 3. Taken together, the cross-lagged model predicting perpetration provided adequate model fit ( $\chi^2(115) = 685.71, p < .001$ ; CFI = .95; RMSEA = .05,  $p = .31$ ). Results suggest that, accounting for all else in the model, T1 gender role beliefs significantly and positively predicted residual change in dating violence acceptance at Time 2 ( $\beta = .18, p < .001$ ; H1). More specifically, adolescents who held more traditional gender role beliefs at T1 were more accepting of dating violence at T2 compared to adolescents who held more egalitarian gender role beliefs at T1. Post-hoc analyses revealed no significant differences in dating violence acceptance between T1 and T2 for the whole sample ( $t(1803) = 1.22, p = .22$ ). Accounting for the other predictors in the model, residual change in gender role beliefs at T2 did not predict residual change in dating violence acceptance at T3 ( $\beta = .07, p = ns$ ; H2). Additionally, accounting for all else in the model, adolescents' dating violence acceptance did not predict residual change in gender role beliefs at T2 ( $\beta = -.01, p = ns$ ) nor did residual change in dating violence acceptance at T2 predict gender role beliefs at T3 ( $\beta = .01, p = ns$ ). These findings are consistent with the modified theory of propositional control (Ajzen & Fishbein, 1973), which suggests that social norms (i.e., gender role beliefs) influence individuals' attitudes

(i.e., dating violence acceptance).

Regarding perpetration, adolescents' dating violence acceptance at T1 positively predicted adolescents' residual change in dating violence perpetration at T2 ( $\beta = .12, p < .001$ ; H3) accounting for all else in the model. Post-hoc analyses revealed a significant increase in dating violence perpetration between T1 and T2 ( $t(1815) = -2.52, p < .05$ ). On average, adolescents who were more accepting of violence at T1 reported even greater increases in dating violence perpetration between T1 and T2 than adolescents who were less accepting of violence at T1 ( $F(8, 1769) = 3.77, p < .001, \eta^2 = .02$ ). Results revealed that adolescents' residual change in dating violence acceptance at T2 did not predict residual change in dating violence perpetration at T3 ( $\beta = .02, p = ns$ ; H4), accounting for all else in the model. Similarly, adolescents' gender role beliefs at T1 did not predict residual change in dating violence perpetration at T2 ( $\beta = .03, p = ns$ ; H3), nor was residual change in gender role beliefs at T2 predictive of residual change in dating violence perpetration at T3 ( $\beta = -.06, p = ns$ ; H4), accounting for all else in the model.

**Cross-lagged model with victimization.** Cross-lagged results for the model including victimization for the overall sample are displayed in Figure 4. Taken together, the cross-lagged model predicting victimization provided adequate model fit ( $\chi^2(115) = 715.37, p < .001$ ; CFI = .95; RMSEA = .05,  $p = .14$ ). Results suggest that adolescents' gender role beliefs at Time 1 positively predicted residual change in dating violence acceptance at Time 2 ( $\beta = .18, p < .001$ ; H1) accounting for all else in the model. More specifically, adolescents who held more traditional gender role beliefs at T1 were more accepting of dating violence at T2 compared to adolescents who held more egalitarian gender role beliefs at T1. Post-hoc analyses revealed no significant differences in dating violence acceptance between T1 and T2 ( $t(1803) = 1.22, p = .22$ ). Residual change in gender role beliefs at T2 did not predict residual change in dating

violence acceptance at T3 ( $\beta = .07, p = ns; H2$ ) accounting for all else in the model. Additionally, adolescents' dating violence acceptance did not predict adolescents' residual change in gender role beliefs at T2 ( $\beta = -.01, p = ns; H1$ ) nor did residual change in dating violence acceptance at T2 predict residual change in gender role beliefs at T3 ( $\beta = .01, p = ns; H2$ ) accounting for all else in the model. These findings are consistent with the modified theory of propositional control (Ajzen & Fishbein, 1973), which suggests that social norms (i.e., gender role beliefs) are predictive of individuals' attitudes (i.e., dating violence acceptance).

Adolescents' dating violence acceptance at T1 positively predicted adolescents' residual change in dating violence victimization at T2 ( $\beta = .12, p < .001; H3$ ) accounting for all else in the model. More specifically, adolescents who were more accepting of dating violence at T1 reported higher rates of physical victimization at T2 than adolescents who were less accepting of dating violence. Post-hoc analyses revealed a significant increase in dating violence victimization between T1 and T2 ( $t(1827) = -3.56, p < .001$ ). On average, adolescents who were more accepting of violence at T1 reported even greater increases in dating violence victimization at T2 ( $F(8, 1782) = 3.96, p < .001, \eta^2 = .02$ ) than adolescents who were less accepting of violence at T1. Adolescents' residual change in dating violence acceptance at T2 was not significantly associated with residual change in dating violence victimization at T3 ( $\beta = .08, p = ns; H4$ ) accounting for all else in the model. Similarly, adolescents' gender role beliefs at T1 did not predict residual change in dating violence victimization at T2 ( $\beta = .05, p = ns; H3$ ), nor was residual change in gender role beliefs at T2 predictive of residual change in dating violence victimization at T3 ( $\beta = .08, p = ns; H4$ ) accounting for all else in the model.

### **Gender Differences in the Prospective Links between Dating Violence Acceptance, Gender Role Beliefs, and Adolescent Dating Violence Perpetration and Victimization over Time**

Gender differences in the potential links between dating violence acceptance, gender role beliefs, and adolescent dating violence perpetration and victimization were explored by evaluating the models for boys and girls simultaneously. Results indicated significant differences in both the cross-lagged panel model including adolescent dating violence perpetration (see Figure 5;  $\Delta\chi^2 = 35.64$ ,  $df = 14$ ) as well as the one including victimization (see Figure 6;  $\Delta\chi^2 = 43.47$ ,  $df = 14$ ). Individual pathways were then constrained to be equal to determine which paths were significantly different between boys and girls. There were no significant differences in the cross-lagged pathways (i.e., between gender role beliefs and dating violence acceptance) for boys and girls. However, there were significant differences when examining predictors of residual change in dating violence perpetration and victimization.

**Perpetration.** Results revealed significant differences in the path between dating violence acceptance at T1 and residual change in dating violence perpetration at T2 for boys and girls ( $\Delta\chi^2 = 7.54$ ,  $df = 1$ ). More specifically, accounting for all else in the model, adolescents' dating violence acceptance at T1 positively predicted residual change in dating violence perpetration at T2 for boys ( $b = .15$ ,  $SE = .03$ ,  $p < .001$ ), but not for girls ( $b = .04$ ,  $SE = .03$ ,  $p = .11$ ). Post-hoc analyses revealed a significant increase in boys' physical dating violence perpetration across both time-points ( $t(755) = -3.76$ ,  $p < .001$ ). On average, adolescent boys who were more accepting of dating violence at T1 reported even greater increases in physical dating violence perpetration at T2 than boys who were less accepting of dating violence at T1 ( $F(8, 1724) = 5.20$ ,  $p < .001$ ,  $\eta^2 = .02$ ).

**Victimization.** Results revealed significant differences in the path between dating violence acceptance at T1 and residual change in dating violence victimization at T2 for boys and girls ( $\Delta\chi^2 = 12.16$ ,  $df = 1$ ). More specifically, accounting for all else in the model,

adolescents' dating violence attitudes at T1 were more strongly predictive of residual change in dating violence victimization for boys ( $b = .18, SE = .03, p < .001$ ) than girls ( $b = .05, SE = .02, p < .05$ ). Post-hoc analyses revealed a significant increase in boy's physical dating violence perpetration across both time-points ( $t(758) = -3.14, p < .01$ ) but not girls ( $t(1001) = -1.42, p = .16$ ). On average, boys who were more accepting of dating violence at T1 reported even greater increases in physical dating violence perpetration at T2 than boys who were less accepting of dating violence at T1 and girls ( $F(8, 1712) = 4.38, p < .001, \eta^2 = .02$ ).

### Discussion

A recent national study on adolescent dating violence revealed that over half of adolescents who are currently or were recently in a dating relationship also reported dating violence perpetration or victimization (Taylor & Mumford, 2016). These estimates are indicative of a widespread issue that practitioners have sought to address through prevention and intervention programs such as youth relationship education. To date, several studies of youth relationship education have demonstrated the malleability of two common correlates of adolescent dating violence, dating violence acceptance and traditional gender role beliefs (Antle et al., 2011; Kerpelman et al., 2010; Savasuk-Luxton et al., 2018; Whittaker et al., 2014). Both dating violence acceptance and traditional gender role beliefs are associated with each other (Berkel, Vandiver, & Bahner, 2004; Fitzpatrick et al., 2004; Flood & Pease, 2009; Reyes et al., 2016), with the modified theory of propositional control suggesting that adolescents' gender role beliefs (i.e., social norms) likely influence their dating violence acceptance (i.e., attitudes). However, neither the directional nature of this relationship nor their subsequent effect on adolescents' dating violence experiences, had been determined, particularly in the context of youth relationship education. The current study utilized a diverse sample of youth relationship



education participants to explore the predictive nature of the relationship between dating violence acceptance and gender role beliefs, as well as their subsequent impact on physical dating violence experiences up to six months post-program completion and the moderating effect of gender on these links.

Results suggest that adolescents' traditional gender role beliefs (i.e., social norms) prior to the start of the program (i.e., T1) predicted their dating violence acceptance (i.e., attitudes) immediately following the program (i.e., T2), but not vice versa, supporting my first hypothesis. Adolescents who held more traditional gender role beliefs prior to the start of the program were more accepting of dating violence at immediate post-program. Contrary to what I hypothesized (i.e., second hypothesis), residual change in gender role beliefs at post-program assessment did not predict related residual change in dating violence acceptance at the 6-month follow-up (i.e., T3). Additionally, adolescents' pre-program dating violence acceptance, but not gender role beliefs, predicted immediate post-program dating violence perpetration and victimization, partially supporting my third hypothesis. Adolescents who were more accepting of violence at the start of the program reported both higher rates of perpetration and victimization immediately following the program and a greater increase in both perpetration and victimization between pre- and post-test. Despite my expectations (i.e., fourth hypothesis), neither immediate post-program change in adolescents' dating violence acceptance nor their gender role beliefs predicted change in adolescents' dating violence perpetration and victimization at the 6-month follow-up. Consistent with Foshee and colleagues (2001, 2004), there was variation by gender, such that higher pre-program dating violence acceptance predicted greater increases in and higher rates of post-program dating violence perpetration for boys, but not girls. Higher pre-program dating violence acceptance was also more closely linked to greater increases in and higher rates of post-

program dating violence victimization for boys than girls. These findings shed light on the relationship between common correlates of adolescent dating violence perpetration and victimization and how they impact change in key relationship education outcomes. Lastly, the findings from this study highlight the value of considering the moderating effect of gender on participants' experiences.

### **The Directional Influence of Traditional Gender Role Beliefs on Dating Violence**

#### **Acceptance**

Consistent with the modified theory of propositional control (Ajzen & Fishbein, 1973), adolescents' traditional gender role beliefs (i.e., social norms) predicted residual change in their dating violence acceptance (i.e., attitudes) at immediate post-program assessment. Although participants reported relatively low levels of both dating violence acceptance and traditional gender role beliefs, adolescents who reported more traditional gender role beliefs prior to the start of the program were more accepting of dating violence immediately after program participation. These findings, however, did not hold up over time. The prevention science framework proposes the notion that to better decrease individuals' risk factors for undesirable outcomes (e.g., dating violence), researchers need to understand the directional influence of key factors associated with those outcomes (Coie et al., 1993). Though there was no evidence of significant decreases in adolescents' dating violence acceptance nor their traditional gender role beliefs, by identifying the directional nature of the relationship between these two risk factors we gain a better understanding of what may potentially elicit or hinder (i.e., gender role beliefs) improvements in other prominent risk factors for dating violence experiences (i.e., dating violence acceptance) following programming. This information can be useful in guiding program

development, particularly for programs such as youth relationship education, whose goals include preventing adolescent dating violence.

### **Dating Violence Acceptance and Gender Role Beliefs as Predictors of Dating Violence Following Relationship Education**

In this study I expected that adolescents' dating violence acceptance and gender role beliefs at pre- and immediate post-program would predict their rates of dating violence perpetration and victimization at immediate post program (i.e., hypothesis 3) and 6-month follow up (i.e., hypothesis 4). Consistent with previous research (Foshee et al., 2001; Foshee & Reyes, 2011; Jouriles et al., 2013; Reyes et al., 2016), adolescents who were more accepting of violence prior to the start of the program reported higher rates of and greater increases in dating violence perpetration and victimization at immediate post-program assessment than adolescents who were less accepting of the use of violence prior to program participation. This trend is somewhat disconcerting, yet it is important to note that the entire sample overall reported relatively low average rates of perpetration and victimization across the three time-points. Considering adolescents' leniency towards the use of violence in romantic relationships, these findings suggest that those who are more accepting of the use of violence prior to programming may be considered to be more "at risk" for dating violence experiences following relationship education than their less accepting peers. Another possibility is that adolescents were less comfortable reporting on their violence experiences prior to programming, but after spending several weeks developing a relationship with program facilitators while learning about healthy and unhealthy relationship behaviors, they felt more comfortable disclosing their experiences of physical dating violence perpetration and victimization.

Studies have documented how gender role beliefs are also associated with dating violence such that adolescents who hold more traditional gender role beliefs often report higher rates of dating violence perpetration and victimization (e.g., Center for Disease Control, 2014; Flood & Pease, 2009; Reyes et al., 2016). Though I expected a similar result, the findings suggested otherwise. In this sample, gender role beliefs did not predict the amount of change in adolescents' dating violence perpetration or victimization at any point following program participation. Measurement variations may help explain these divergent findings. Most previous studies have utilized a measure of gender role beliefs that discusses gender roles in the context of dating relationships and gender norms more broadly. For example, the Dating Scripts Scale (Crawford, 2000) taps into power differentials in dating relationships (e.g., girls allowing their male partners to win arguments) and the Attitude Towards Women Scale for Adolescents (Galambos et al., 1985) measures adolescents' perceptions regarding equal treatment of boys and girls (e.g., similar freedom and expectations). In this study, however, the measure of gender role beliefs focused largely on child-rearing and power dynamics in a marital relationship, which may have been too abstract or removed from adolescence, potentially explaining why adolescents tended to be more egalitarian in their gender role beliefs and why there was no evidence for this association more commonly reported.

Guided by Ajzen and Fishbein's modified theory of propositional control (1973), I expected that adolescents' social norms (i.e., gender role beliefs) would predict change in their attitudes (i.e., dating violence acceptance) which, in turn, would predict change in their behaviors (i.e., dating violence perpetration and victimization). Although there was partial support for this theory, such that more traditional gender role beliefs prior to the program predicted higher dating violence acceptance immediately following relationship education, there was no evidence in

support of the latter piece of the theory. More specifically, adolescents' dating violence acceptance at immediate post-program did not predict residual change in dating violence perpetration nor victimization at the six-month follow-up nor did it predict change in their rates of their perpetration or victimization from immediate post to the six-month follow-up. It is possible that this association does not hold up over time because the direct effect of adolescents' gender role beliefs on dating violence acceptance is now being accounted for, whereas it was not previously. Therefore, in this case once the main effect of social norms (i.e., gender role beliefs) on attitudes (i.e., dating violence acceptance) is accounted for, the direct effect of attitudes (i.e., dating violence acceptance) on behaviors (i.e., physical dating violence perpetration and victimization) dissipates.

### **The Moderating Effect of Gender**

Contrary to expectations, gender was not a significant moderator of the cross-lagged paths, but there were significant gender differences in the relationship between adolescents' pre-program dating violence acceptance and their immediate post-program perpetration and victimization. More specifically, the directional nature of the relationship between dating violence acceptance and gender role beliefs was the same for boys and girls across all three time-points. These findings suggest that adolescents who are more traditional prior to relationship education participation are more accepting of violence at immediate post-program assessment, regardless of their gender. Gender has been demonstrated as an important moderator of the relationships between dating violence acceptance, gender role beliefs, and dating violence experiences (Foshee et al., 2001; Flood & Pease, 2009; Galambos, 2004; Morris, Mrug, & Windle, 2015; Savasuk-Luxton et al., 2018; Whittaker et al., 2014). Yet, the potential moderating effect of gender on the directional relationship between dating violence acceptance and

traditional gender role beliefs had previously gone untested. Previous studies demonstrating the moderating effect of gender had only examined the extent to which adolescents' dating violence acceptance and traditional gender role beliefs differed by gender (Berkel et al., 2004; Cauffman, Feldman, Jensen, & Arnett, 2000) or how the relationships between dating violence acceptance and gender role beliefs to adolescents' dating violence experiences differed by gender (Foshee et al., 2001, 2004). However, based on the findings from this study, the predictive nature of the relationship between dating violence acceptance and traditional gender role beliefs does not vary by gender.

However, upon examining the impact of dating violence acceptance on adolescents' perpetration and victimization, there was evidence to support the moderating effect of gender. More specifically, on average, higher dating violence acceptance prior to the program predicted both higher rates of dating violence perpetration at immediate post-program assessment and greater increases in dating violence perpetration across the two time-points for boys, but not girls. These findings align with the theory of gender and power (Wingood & DiClemente, 2002), which suggests that the use of physically aggressive behaviors is both expected and often rewarded for boys, whereas passive and even submissive behaviors are often expected and rewarded for girls. Additionally, on average, boys who were more accepting of the use of violence in romantic relationships prior to the start of the program reported higher rates of physical dating violence victimization at immediate post-program and greater increases in victimization across the two time-points than girls who were more accepting of violence at the start of the program. The goal of youth relationship education is to reduce rates of dating violence, so this increase in self-reported physical dating violence victimization is concerning. However, in a recent qualitative study focusing on perceptions of adolescent dating abuse,

adolescent boys reported that they believed female-perpetrated physical abuse was often not viewed by others as abuse and was typically taken less seriously than male-perpetrated abuse (Sears, Byers, Whelan, & Saint-Pierre, 2006). Youth relationship education programs avoid gendered language when discussing healthy and unhealthy relationship behaviors and even emphasize the fact that dating abuse, regardless of the perpetrator, is abuse. As such, it is possible that boys' initial perceptions of dating abuse shift after program participation, leading to the realization that they, too, can be victims of dating violence. This shift in perception may increase their comfort with disclosing their experiences of physical dating violence victimization, resulting in the increases over time that were evidenced in this study.

### **Limitations**

Though this study makes substantive theoretical and empirical contributions to the existing dating violence and relationship education literature, there are several limitations that should be addressed. First, even though this study moved beyond immediate pre- and post-assessment, the larger study from which this sample was obtained was not initially designed to be a longitudinal study, the attrition rate between immediate post and six-month follow-up was rather high. Using a study that was intended and designed to be longitudinal from its inception may serve to improve retention rates across multiple time-points, potentially allowing us to more effectively detect associations between residual change in key variables over time. Additionally, this study was one of few to consider the impact of dating violence acceptance and gender role beliefs on adolescents' residual change in dating violence perpetration and victimization. However, the use of a single-item measure for perpetration and victimization limits the range of violent behaviors that can be detected and, in turn, the variability we are able to capture. This hinders our ability to understand the true impact of dating violence acceptance and gender role

beliefs on change in dating violence perpetration and victimization following relationship education. Despite these limitations, this study provides a new perspective on the directional relationship between adolescents' dating violence acceptance and gender role beliefs and their subsequent effect on adolescents' dating violence perpetration and victimization following relationship education, thus allowing us to develop practical implications for future youth-focused program developers.

### **Practical Implications**

Gender role beliefs are not traditionally a targeted outcome of programs such as youth relationship education. Because adolescents' who were more traditional prior to the start of the program were more accepting of violence at immediate post-program, one implication is that programs like relationship education may benefit from incorporating lessons explicitly addressing gender role beliefs. More specifically, researchers may see improvements in adolescents' dating violence acceptance for those youth who are more traditional at the start of programming if these gendered social norms are discussed and challenged in the context of programming. Though previous studies of youth relationship education have made similar suggestions (e.g., Savasuk-Luxton et al., 2018), further evidence of the direct effects of adolescents' gender role beliefs on their dating violence acceptance reiterates the value of including gender role beliefs in relationship education. Seeing as a primary goal of youth relationship education is to cultivate healthy relationships by providing youth with vital interpersonal skills and knowledge and awareness of healthy and unhealthy relationship behaviors, researchers may see enhanced improvements in already targeted outcomes by shifting the focus to also include adolescents' gender role beliefs.



Although dating violence attitudes and unhealthy relationship behaviors such as dating violence are explicitly addressed in youth relationship education programs, there were not significant reductions in these targeted outcomes. Rather, adolescents who were more accepting of violence at the start of the program reported higher rates of and had greater increases in physical dating violence perpetration and victimization immediately after programming, particularly for boys. These findings seem to suggest that, despite the valiant efforts of relationship education programs and educators, relationship education may need to be enhanced (i.e., integration of multiple lessons or discussions on dating violence) to best address the needs of youth who hold more lenient attitudes towards dating violence, and thus, are at greater risk for experiencing dating violence. It is also possible that youth who are at greater risk for violence experiences may benefit from a program more tailored to their needs, such as programs focused directly and solely on dating violence prevention. As such, educators may consider evaluating the needs of a class prior to program implementation. For example, for a class that is, on average, relatively high on a dating violence measure, a general youth relationship education program may not address misconceptions and attitudes about dating abuse to the extent necessary to elicit a desirable shift in dating violence acceptance and dating violence experiences. Instead, programmers and educators may consider using a program designed to specifically address youth dating violence (e.g., *Safe Dates*; Foshee et al., 1996). In doing so, we may be able to see a sharper decline in dating violence perpetration and victimization as well as violence-related correlates (e.g., dating violence acceptance and traditional gender role beliefs) following program participation.

### **Future Directions and Conclusion**

This study found partial support for the modified theory of propositional control (Ajzen & Fishbein, 1973). To date the majority of the literature on adolescents' dating violence acceptance, gender role beliefs, and dating violence perpetration and victimization have taken a more simplistic approach at examining the association between these common dating violence correlates and their individual relationships to adolescent dating violence experiences. As such, more research examining the relationship between gender role beliefs and dating violence acceptance as well as their subsequent effect on adolescents' dating violence experiences, both within and outside of the context of youth relationship education, is warranted. Additionally, I expect that the directional relationship between gender role beliefs and dating violence will remain the same (i.e., gender role beliefs will predict dating violence acceptance); however, we may see variation in the strength of these associations when we move beyond simple moderation using only one demographic variable. The theory of intersectionality (Crenshaw, 1989; Davis, 2008) suggests that we should also consider how experiences are shaped by the combined influence of individuals' sociodemographic identities. A previous study of youth relationship education utilizing this framework found that change in gender role beliefs differed by the intersection of adolescents' gender, race, and socioeconomic status following program participation (Savasuk-Luxton et al., 2018). Therefore, future studies considering the intersection of individuals' identities may reveal variation in the patterns established in this study. Additionally, because this study relied on a single-item measure of physical violence perpetration and victimization, future studies using a more complex, comprehensive measure of dating violence perpetration and victimization that takes into the account additional types (e.g., psychological abuse) and whether the violence occurs in the context of coercion, may yield different findings.

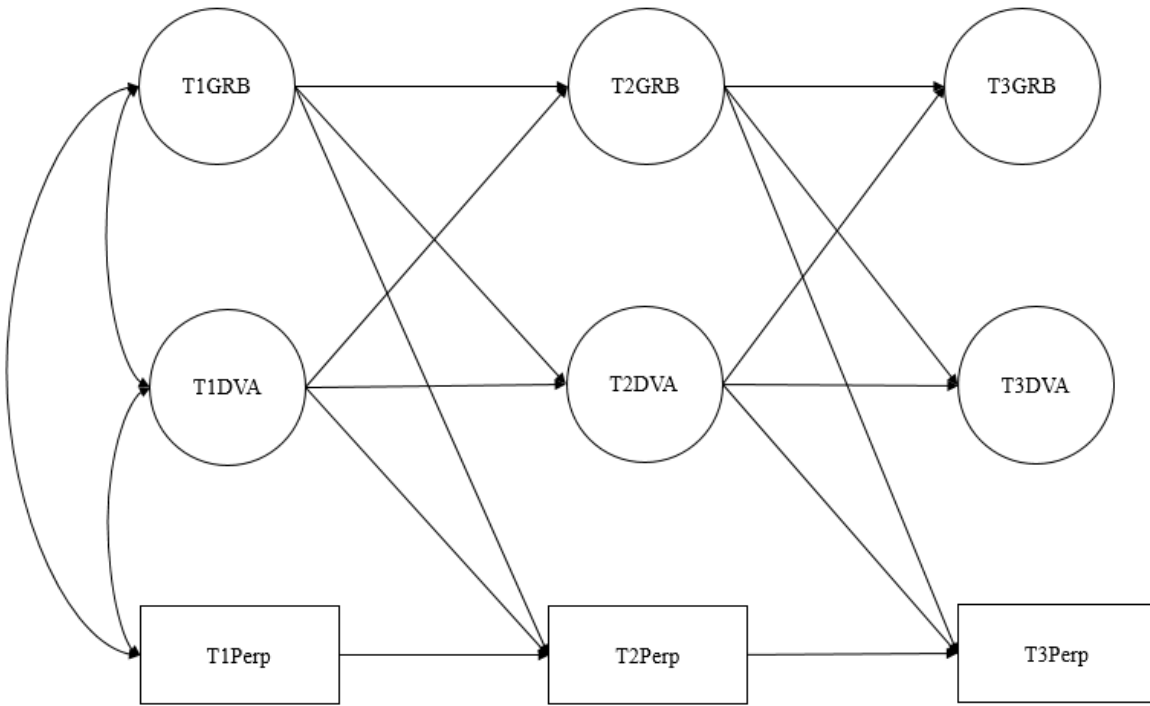
Largely, this work builds on the dating violence and youth relationship education literature and provides a potentially new and exciting component to be included in future relationship education programs. By establishing the predictive nature of the relationship between dating violence acceptance and gender role beliefs, as well as the effects of dating violence acceptance on change in dating violence perpetration and victimization following youth relationship education, we see that targeting adolescents' gender role beliefs may have a wide-reaching impact on other key target areas, specifically dating violence acceptance and dating violence experiences. Although the topic of gender role beliefs itself is not novel in the dating violence literature, its incorporation into broader, more general youth-focused programs such as youth relationship education would be a unique and unconventional approach with the potential for enhanced benefits following program participation. Additionally, though there is vast evidence regarding the benefits of youth relationship education programs, boys in this study who were more accepting of dating violence prior to programming reported even greater increases in both physical dating violence perpetration and victimization between pre- and post-test than their less accepting peers. This self-reported increase in dating violence experiences suggests that boys who are more accepting of violence are at even greater risk of physical dating violence experiences and may benefit more strongly from direct, targeted intervention programs (i.e., dating violence focused prevention programs). Taken together, these findings offer beneficial information regarding the process of change and directional relationship between common correlates of adolescent dating violence allowing researchers and practitioners to best address the needs of adolescents and, in turn, decrease their likelihood of engaging in physically abusive relationships.

Table 1.

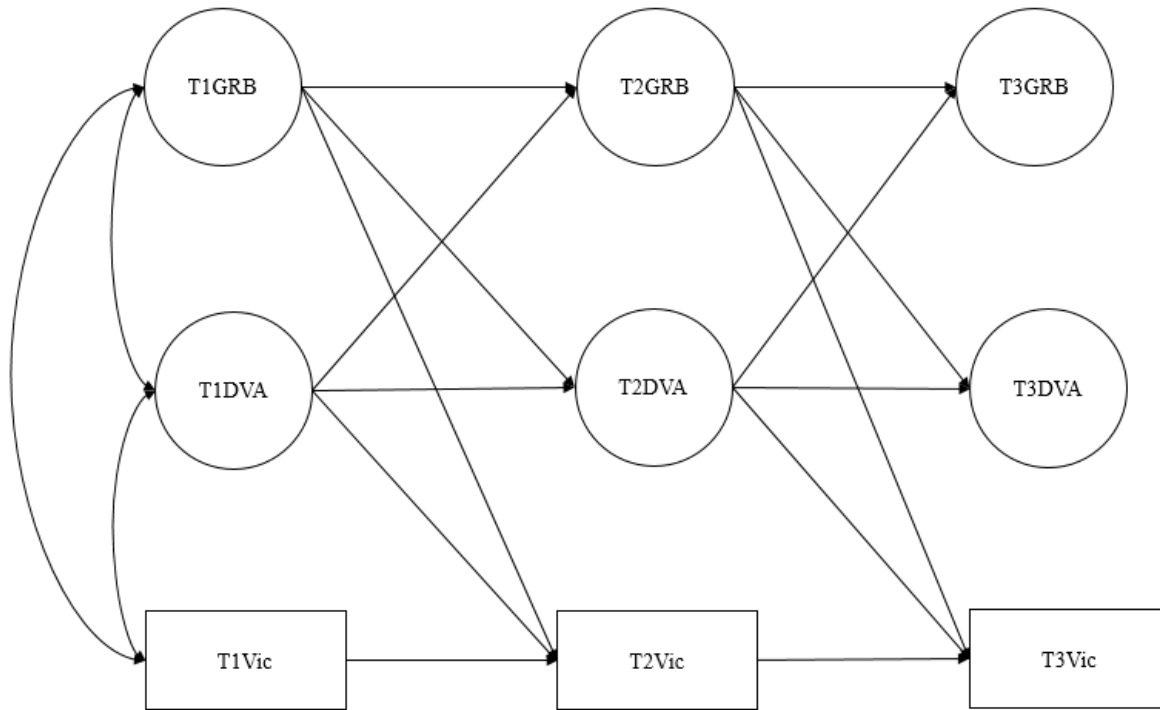
*Correlations, Means, and Standard Deviations of all Study Variables*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	M (SD)
1. T1 DV Perpetration	--											.23 (.70)
2. T2 DV Perpetration	.43***	--										.28 (.77)
3. T3 DV Perpetration	.21***	.16*	--									.32 (.79)
4. T1 DV Victimization	.48***	.26***	.14+	--								.19 (.61)
5. T2 DV Victimization	.24***	.63***	-.02	.31***	--							.26 (.73)
6. T3 DV Victimization	.08	.17*	.75***	.10	.06	--						.28 (.76)
7. T1 DV Acceptance	.31***	.23***	.07	.19***	.17***	.02	--					1.66 (1.01)
8. T2 DV Acceptance	.18***	.35***	.07	.14***	.29***	.09	.41***	--				1.63 (.97)
9. T3 DV Acceptance	.21**	.11	.44***	.27***	.02	.34***	.26***	.28***	--			1.59 (.95)
10. T1 Gender Role Beliefs	-.02	.00	-.06	.10***	.07***	.02	.14***	.19***	.10	--		3.01 (1.52)
11. T2 Gender Role Beliefs	.01	.11***	-.06	.08***	.13***	.06	.09***	.27***	.09	.63***	--	3.06 (1.51)
12. T3 Gender Role Beliefs	-.04	-.06	.21***	.01	-.02	.20**	.01	.06	.20**	.51***	.46***	2.94 (1.57)

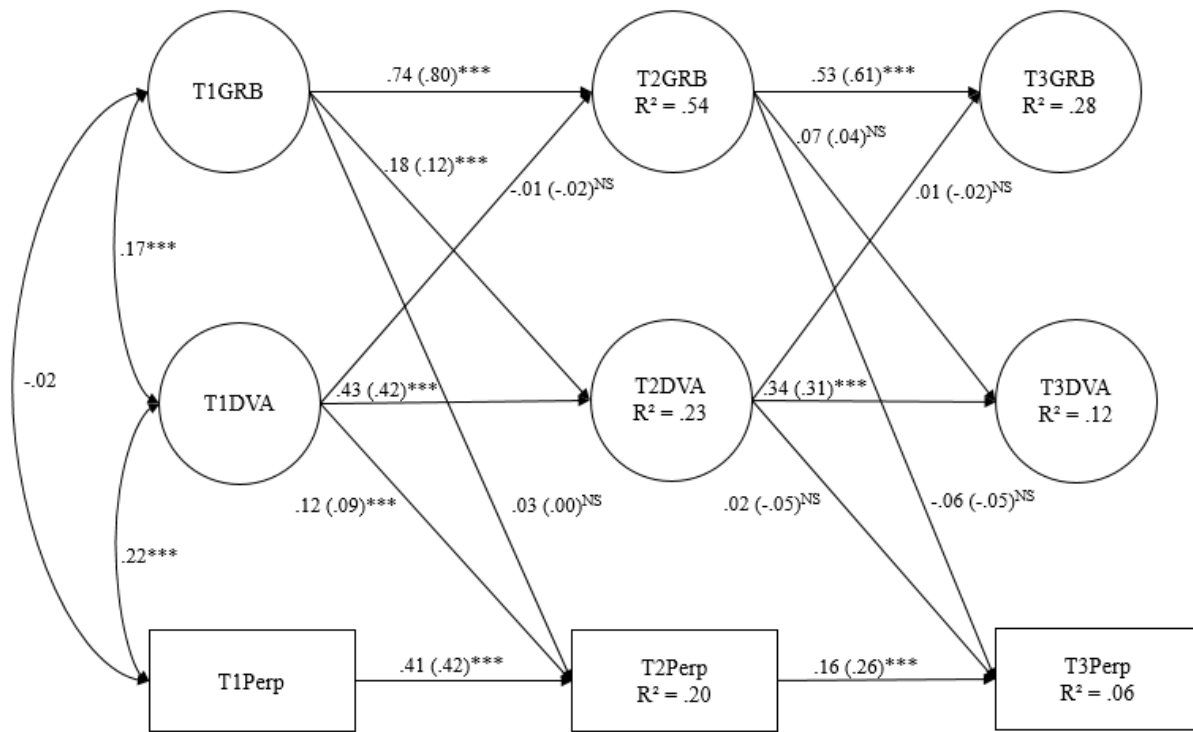
\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; DV: Dating violence



**Figure 1.** Cross-lagged panel analysis evaluating prospective causal pathways between gender role beliefs, dating violence acceptance, and dating violence perpetration.  
*Note.* T1 = Pre-test, T2 = Post-test, T3 = 6-month follow-up; GRB: Gender Role Beliefs; DVA: Dating Violence Acceptance; Perp: Dating Violence Perpetration.



**Figure 2.** Cross-lagged panel analysis evaluating prospective causal pathways between gender role beliefs, dating violence acceptance, and dating violence victimization.  
*Note.* T1 = Pre-test, T2 = Post-test, T3 = 6-month follow-up; GRB: Gender Role Beliefs; DVA: Dating Violence Acceptance; Vic: Dating Violence Victimization.

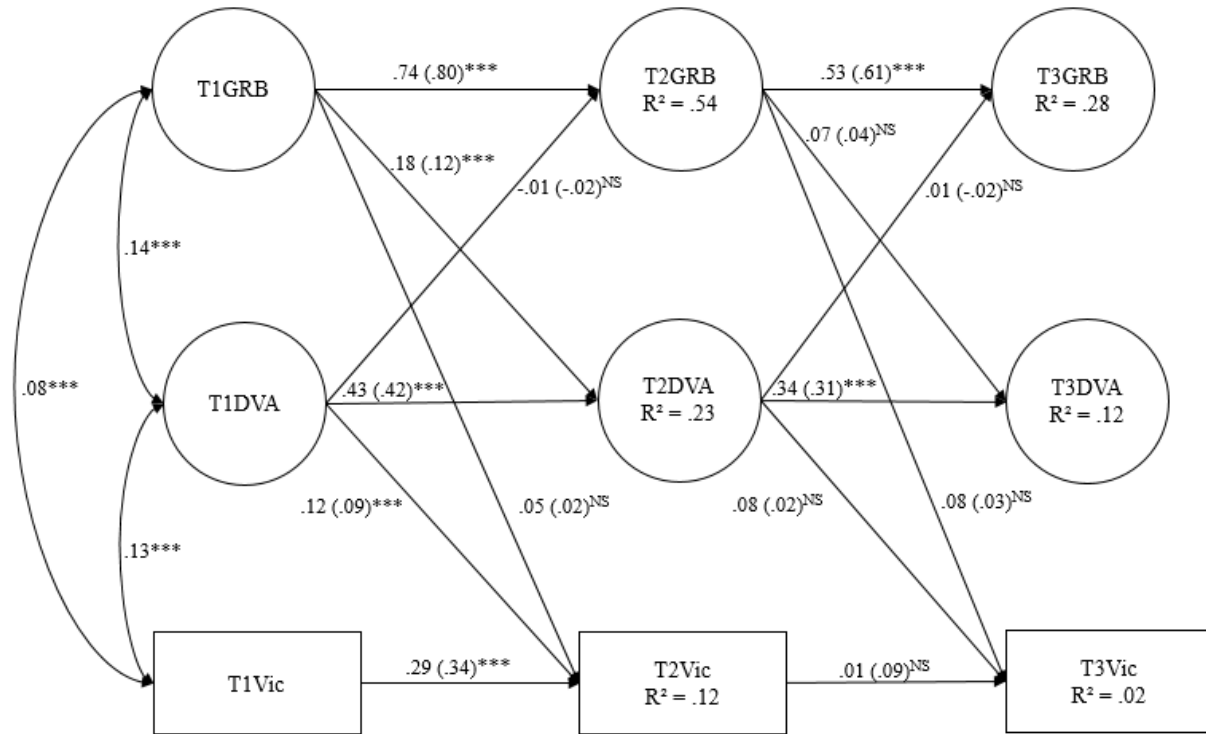


**Figure 3.** Standardized results (unstandardized in parentheses) of the cross-lagged panel analysis evaluating prospective causal pathways between gender role beliefs, dating violence acceptance, and dating violence perpetration.

*Note.* T1 = Pre-test, T2 = Post-test, T3 = 6-month follow-up; GRB: Gender Role Beliefs; DVA: Dating Violence Acceptance; DVP: Dating Violence Perpetration.

$\chi^2 = 685.71$ ,  $df = 115$ ,  $p = .00$ ; CFI = .95; RMSEA: .05,  $p = .31$

*Note.* \*\*\* $p < .001$



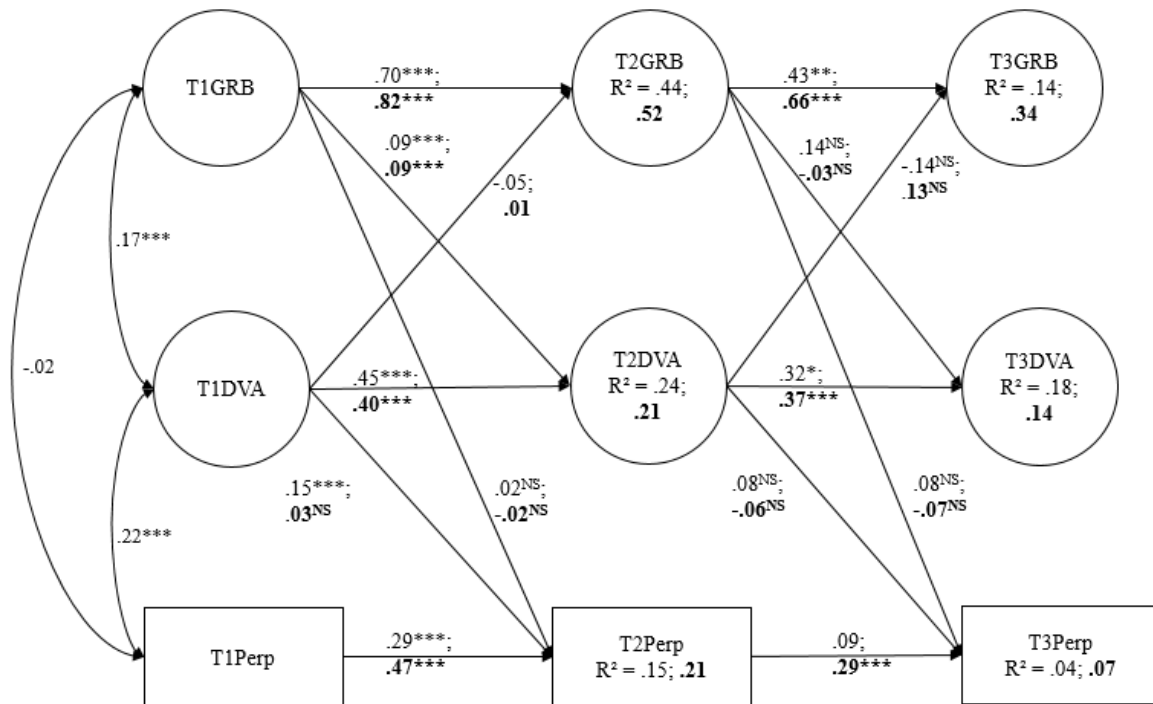
**Figure 4.** Standardized results (unstandardized in parentheses) of the cross-lagged panel analysis evaluating prospective causal pathways between gender role beliefs, dating violence acceptance, and dating violence victimization.

*Note.* T1 = Pre-test, T2 = Post-test, T3 = 6-month follow-up; GRB: Gender Role Beliefs; DVA: Dating Violence Acceptance; Vic: Dating Violence Victimization.

$\chi^2 = 715.37$ ,  $df = 115$ ,  $p = .00$ ; CFI = .95; RMSEA: .05,  $p = .14$

*Note.* \*\*\* $p < .001$



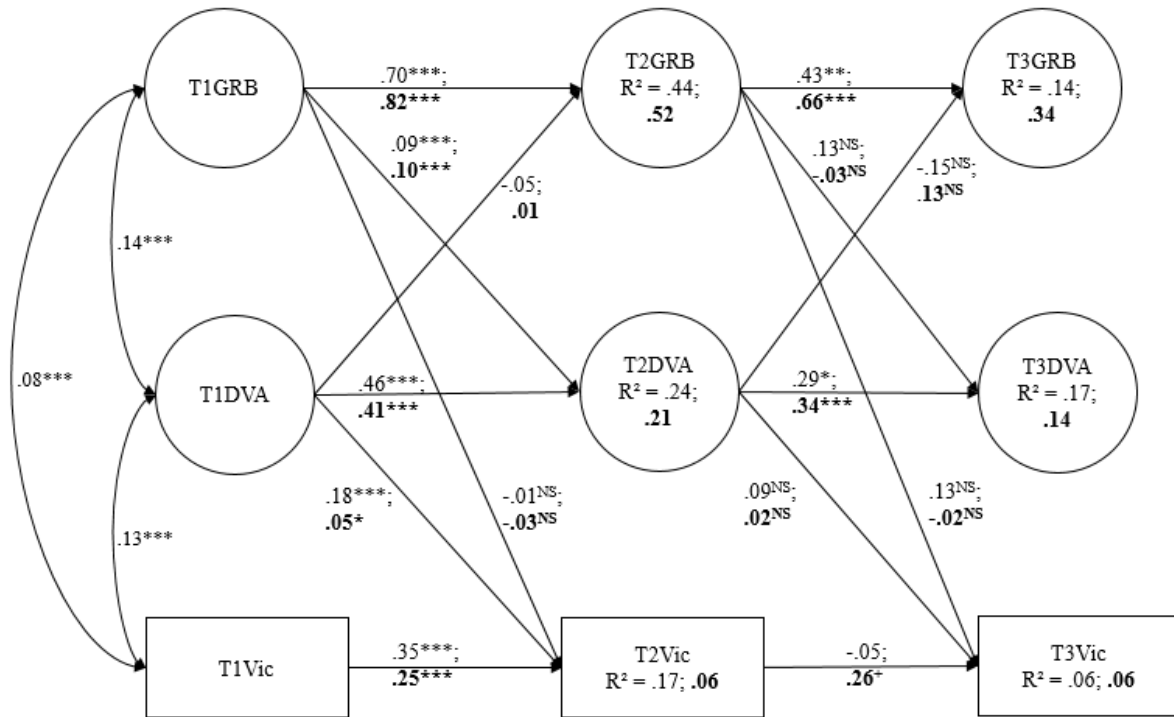


**Figure 5.** Results (unstandardized) of the cross-lagged panel analysis evaluating prospective causal pathways between gender role beliefs, dating violence acceptance, and dating violence perpetration.

*Note.* T1 = Pre-test, T2 = Post-test, T3 = 6-month follow-up; GRB: Gender Role Beliefs; DVA: Dating Violence Acceptance; DVP: Dating Violence Perpetration.

$\chi^2 = 1178.48$ ,  $df = 266$ ,  $p = .00$ ; CFI = .92; RMSEA: .04,  $p = 1.00$

*Note.*  $***p < .001$ ; **Girls in bold**



**Figure 6.** Results (unstandardized) of the cross-lagged panel analysis evaluating prospective causal pathways between gender role beliefs, dating violence acceptance, and dating violence victimization.

*Note.* T1 = Pre-test, T2 = Post-test, T3 = 6-month follow-up; GRB: Gender Role Beliefs; DVA: Dating Violence Acceptance; Vic: Dating Violence Victimization.

$\chi^2 = 1096.49$ ,  $df = 266$ ,  $p = .00$ ; CFI = .93; RMSEA: .04,  $p = 1.00$

*Note.* \*\*\* $p < .001$ ; **Girls in bold**

#### IV. General Discussion

Although the majority of adolescents experience healthy relationships, a staggering number of youth report involvement in abusive relationships. These romantic relationships experiences, both good and bad, shape our behaviors and expectations for future romantic relationships (Bonomi et al., 2013; Collins & Steinberg, 2006; Foshee & Reyes, 2011; Furman & Shaffer, 2003). Unfortunately, our understanding of the pathways leading to abusive adolescent relationships as well as the effects of promising prevention and intervention programs on common correlates of adolescent dating violence is limited. Thus, the purpose of the current two-study dissertation was to understand the predictors of adolescent dating violence experiences as well as the relationship between two common correlates of adolescent dating violence and experiences of adolescent dating violence following youth relationship education.

There are many different factors associated with adolescents' dating violence experiences, including parental factors (e.g., exposure to IPV and parents' IPV acceptance; Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004; Miller et al., 2009; Reitzel-Jaffe & Wolfe, 2001; Temple et al., 2013) and adolescent beliefs (e.g., dating violence acceptance and traditional gender role beliefs; Center for Disease Control, 2014; Foshee et al., 2004; Foshee et al., 2016; Nabors & Jasinski, 2009). However, our understanding of how parents' behaviors and attitudes are related to adolescents' violence-related attitudes and dating violence experiences is limited. Social learning theory (Bandura, 1973) suggests that children learn whether behaviors are acceptable through the attentive observation of significant models in their lives, such as parents or parental figures. Like behaviors, children's attitudes are believed to be shaped by significant figures in their lives (Bandura, 1973). However, the way through which these

behaviors and attitudes are learned may be more complex than originally believed and previously studied. For example, studies have argued that IPV exposure is associated with adolescents' dating violence experiences (e.g., Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004; Temple et al., 2013), yet not all studies demonstrate similar results (e.g., Brendgen et al., 2002; Lichter & McCloskey, 2004). Additionally, research finds that IPV exposure is associated with greater dating violence acceptance (Graham-Bermann & Brescoll, 2000; Kinsfogel & Grych, 2004; Temple et al., 2013) and more traditional gender role beliefs in adolescence (Graham-Bermann & Brescoll, 2000). Considering these associations and the mixed evidence supporting the transmission of violence, it is likely that parents' behaviors and attitudes may actually have an indirect rather than a direct effect on adolescents' dating violence experiences.

The first study in this dissertation furthers our understanding of the factors directly related to adolescent dating violence as well as the process through which transmission of violence occurs. Addressing limitations of previous studies, using data from a national dataset, I examined the direct effects of adolescents' dating violence acceptance and gender role beliefs as well as the direct and indirect effects of IPV exposure and parents' IPV acceptance on dating violence experiences (i.e., physical and psychological perpetration and victimization). Upon examining the results of this study, two key themes emerged: (1) parents' violence experiences and attitudes towards violence matter; and (2) measurement of IPV exposure and dating violence experiences matters. Consistent with previous research (e.g., Arriaga & Foshee, 2004; Kinsfogel & Grych, 2004; Smith-Marek et al., 2015; Temple et al., 2013), the results of this study provide support for the transmission of violence, reiterating the dangers of IPV exposure for youth, while also highlighting the harmful effects of parents' IPV acceptance, an area of research that had previously gone untested. Despite my expectations, neither adolescents' dating violence

acceptance nor their gender role beliefs fully mediated the effects of exposure to physical violence on adolescents' physical and psychological dating violence experiences. Parents' IPV acceptance, however, appears to shape adolescents' attitudes towards romantic relationship violence and stereotypical gendered norms in a way that enhances their vulnerability for involvement in abusive romantic relationships. These findings imply that early experiences in the home, particularly those involving or relating to parents, can set children up for healthy, thriving romantic relationships or dangerous, unhealthy relationship experiences that have the potential for longer-term maladaptive outcomes. Parents' attitudes about violence appear to be even more important than witnessing violence.

The second key theme that emerged in this study reiterates what researchers have been arguing in recent studies – measurement of dating violence experiences and IPV exposure matters (e.g., Edleson et al., 2007; Haselschwerdt et al., 2017). Though this study used a more progressive approach for measurement and analysis of adolescents' dating violence experience, the current measures of IPV exposure in this study prevented us from tapping into the context of IPV (e.g., degree of coercive control, severity or frequency, differentiating perpetrator from victim), likely explaining why this study's findings differed from some previous studies (Graham-Bermann & Brescoll, 2000; Karlsson et al., 2016). Yet, this study addressed several limitations of the current literature by utilizing continuous measures of physical and psychological dating violence experiences in addition to an overall violence measure. By separating physical and psychological dating violence perpetration and victimization I was able to uncover differential effects for mediation. More specifically, adolescents' dating violence acceptance mediated the association between IPV exposure and adolescents' psychological, but not physical dating violence perpetration. Additionally, adolescents' dating violence acceptance

and traditional gender role beliefs partially mediated the effects of parents' IPV acceptance on adolescents psychological, but not physical, dating violence perpetration and victimization. Had this study only used a total violence score or a dichotomous measure and not considered physical and psychological dating violence separately, these pathways would have likely gone undetected.

Findings from the first study contributed to and expanded upon our understanding of how violence and violence-related attitudes are transmitted within the home. In addition to testing potential mediators of the transmission of violence, I focused on another important factor contributing to adolescents' dating violence experiences that had previously gone untested – parents' IPV acceptance. Though this study considered adolescents' dating violence acceptance and gender role beliefs as mediators, they may possibly become moderators of the links between IPV exposure and parents' IPV acceptance on adolescents dating violence experience. These findings suggest that we can potentially minimize the adverse effects of IPV exposure and parents' IPV attitudes by targeting adolescents' dating violence acceptance and traditional gender role beliefs in youth-focused intervention programs. Parents may also benefit from participation in either IPV-focused intervention services or broader, more general interventions such as relationship education, which aims to promote knowledge and awareness of healthy and unhealthy relationship behaviors while also promoting healthy conflict resolution skills (Gardner et al., 2004; Kerpelman et al., 2009). Participation in post-shelter intervention services is, at times, associated with reduced rates of IPV re-victimization for women (Eckhardt et al., 2013). Couple relationship education programs are not specifically designed for nor do they explicitly target couples experiencing IPV, yet studies of couple relationship education programs find that couples report significant decreases in their use of IPV and aggression following program participation (Antle et al., 2011; Cleary Bradley et al., 2001; Cleary Bradley & Gottman, 2012;

Halford et al., 2001). Thus, by participating in IPV-focused intervention services or couple relationship education programs, some parents may see benefits in their romantic relationships (e.g., better conflict management skills and less or no physical IPV), which may subsequently decrease their adolescents' involvement in abusive relationships and associated risk factors.

Youth relationship education also seeks to address common correlates of and prevent adolescent dating violence. There is a growing body of literature detailing the results of youth relationship education programs on adolescents' dating violence acceptance and dating violence experiences (Antle et al., 2011; Sparks et al., 2012; Whittaker et al., 2014). Although less common, studies of youth relationship education have also demonstrated the impact of youth relationship education on adolescents' traditional gender role beliefs (Savasuk-Luxton et al., 2018; Whittaker et al., 2014). General studies of adolescents find evidence to suggest that dating violence acceptance and gender role beliefs are correlated (Berkel et al., 2004; Fitzpatrick et al., 2004; Flood & Pease, 2009; Reyes et al., 2016). The modified theory of propositional control (Ajzen & Fishbein, 1973) theorizes a directional effect between dating violence acceptance and gender role beliefs. Specifically, gender role beliefs are believed to influence dating violence acceptance which, in turn, influences dating violence experiences. However, the directional nature of the relationship between gender role beliefs and dating violence acceptance had not been tested, particularly in the context of youth relationship education. Thus, the second study tested the direction of effects between dating violence acceptance and gender role beliefs as well as their subsequent effects on adolescents' physical dating violence perpetration and victimization following youth relationship education participation. Additionally, evidence suggests that the associations between dating violence acceptance, gender role beliefs, and dating violence experiences are moderated by gender (Foshee et al., 2001; Foshee et al., 2004). As such,

this study tested potential differences in the directional relationship between changes in dating violence acceptance, gender role beliefs, and dating violence experiences for boys and girls.

Consistent with the modified theory of propositional control (Ajzen & Fishbein, 1973), adolescents' gender role beliefs (i.e., social norms) prior to the start of the program predicted their dating violence acceptance (i.e., attitudes) at immediate post-program, such that adolescents who were more traditional at the start of the program were more accepting of violence immediately following the program. Dating violence acceptance, but not gender role beliefs, predicted greater change in immediate post-program dating violence perpetration for boys only, and was a stronger predictor of greater change in immediate post-program dating violence victimization for boys than girls. More specifically, adolescent boys who were more accepting of dating violence prior to the program reported higher rates and significant increases in physical dating violence perpetration at immediate post-program. Also, higher pre-program dating violence acceptance was more strongly associated with higher victimization at post-assessment and greater increases in victimization for boys than girls. The use of aggressive behaviors is normalized for boys (Wingood & DiClemente, 2002), likely explaining why dating violence acceptance predicted post-program perpetration for boys only. In a recent study, adolescent boys felt that female-perpetrated physical abuse was viewed by others as trivial and inconsequential (Sears et al., 2006), yet relationship education avoids gendered language and teaches adolescents that physical abuse, regardless of the perpetrator, is unacceptable. A gender-neutral discussion around physical abuse may explain why adolescent boys report an increase in victimization above and beyond girls. Although the theory of propositional control (Ajzen & Fishbein, 1973) suggests that social norms influence attitudes which, in turn, influence behaviors, such paths were not evident in this study. Contrary to my expectations, accounting for the main effect of



adolescents' pre-program gender role beliefs on immediate post-program dating violence acceptance, post-program dating violence acceptance did not predict adolescents' dating violence perpetration nor victimization at the six-month follow-up. Despite the unexpected findings, this study offers support for a relatively newer target area for youth relationship education – gender role beliefs.

Although some studies of youth relationship education have demonstrated the malleability of gender role beliefs (Savasuk-Luxton et al., 2018; Whittaker et al., 2014), this is not an explicit target of youth relationship education programs. Yet, by establishing the effect that gender role beliefs have on adolescents' dating violence acceptance, a stated target of youth relationship education programs, this dissertation highlights a new area ripe for exploration by practitioners and program developers. Taken together, the two studies included in this dissertation emphasize the benefits of including both dating violence acceptance and traditional gender role beliefs as key outcomes for youth-focused programs seeking both to prevent dating violence and promote healthy relationships. In doing so, we can hope to at least mitigate the effects of common correlates of adolescent dating violence and, with continued research utilizing complex predictive models of dating violence, one day see the end of romantic relationship violence.

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