8-2022

Mentors in Violence Prevention: Differential Impacts on Adolescent Bystander Intentions about Bullying, Dating Violence, and Sexual Harassment

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Mentors in Violence Prevention: Differential Impacts on Adolescent Bystander Intentions about Bullying, Dating Violence, and Sexual Harassment

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Psychology

by

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August 2022
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Abstract

Bystander approaches are promising interventions that can engage bystanders as prosocial allies to intervene in interpersonal violence situations among youth within school settings. The Mentors in Violence Prevention (MVP) bystander intervention program targets interpersonal violence using a peer-to-peer mentoring model to engage students in a discussion about violence prevention. Research on the MVP program is promising but limited. The current study examined the specificity of MVP intervention effects in two high school samples. The first was a pre/post-test design that included a smaller sample of high school students who participated in the MVP program in the 2013-2014 academic year. The second was a retrospective design that included a large, geographically diverse sample of high school students who participated in the MVP program in the 2018-2019 academic year. The current study examined proximal variables related to bystander intervention (bystander intentions, self-efficacy [SE] to intervene, responsibility to intervene [RI]). I examined the potential differential impact of the MVP program across three types of violence: sexual assault, adolescent dating violence, and bullying. Across both studies, there were few changes in study variables. When changes were observed for bystander intentions, it was a significant increase the proportion of students endorsing direct intervention strategies. Although there were few changes in SE scores, and small changes in RI scores, the increased scores demonstrated benefits of the MVP program. Consistent gender differences emerged, with girls reporting higher SE and RI compared to boys. Moreover, there were differences across schools, indicating school-level variables (e.g., school climate) are important to consider. Overall, the current study showed little variation in behavioral strategies, SE, and RI across types of violence, suggesting programs like MVP can be implemented to target multiple types of interpersonal violence among youth. Results have

implications for the MVP program and for future research. Findings from the current study suggest shifting intentions and self-efficacy may require additional methods of intervention. The use of direct, skills-based exercises may increase the impact of the MPV program. Further, finding high rates of intention to use direct interventions compared to indirect bystander interventions highlight the need for discussion of the advantages and disadvantages of each type of strategy. Finally, continued research is needed to help understand what practice can improve confidence and what improves responsibility to intervene among high schoolers, especially boys.

Acknowledgements

I first want to thank the Center for Violence Prevention and the University of Northern Iowa as well as the partnering schools across the state. Without their participation, the completion of this dissertation would not have been possible. I specifically want to acknowledge, Dr. Michael Fleming, the Direct of Research and Assessment at the Center for Violence Prevention. I am incredibly appreciative of his support and guidance in completing this study.

Second, I want to acknowledge the women on my dissertation committee, including Dr. Ana J. Bridges, Dr. Lindsay Ham, and Dr. Wiersma-Mosley. They are strongly committed to social justice and their expertise and guidance was invaluable in formulating the current research questions and methodology. I am particularly grateful for the support of my advisor, Dr. Bridges, as she has helped me develop my knowledge, skills, and confidence.

Finally, I want to acknowledge my family (mother, father, and brother) for encouraging me to follow a career path in psychology. Their support helped me go from running dog sled tours and horseback rides in a small Colorado mountain town to receiving a doctorate degree in clinical psychology in Arkansas. Both experiences helped me to become the professional and person that I am.

Dedication

I dedicate this dissertation to my partner, Zach Nehls. His unwavering love and support have helped me to accomplish my goals. I also dedicate this to my mother, father, and brother who have always believed in me.

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Introduction

Interpersonal violence and aggression among youth is a major public health concern due to the lasting impact on the physical, psychological, and social health of young people (CDC, 2020). Even though researchers and policy makers often focus on victimization in college populations, it is important to direct prevention and intervention efforts on younger populations because sexual violence is often first experienced in middle or high school (e.g., Black et al., 2011; Kann et al., 2014). For example, 22% of female and 15% of male intimate partner violence victims experienced some form of intimate partner violence for the first time between the ages of 11 and 17 years (Black et al., 2011). Similarly, bullying is most common in school-aged children, especially those 11 to 13 years of age (Eslea & Rees, 2001). Furthermore, youth victimized in high school are at significantly greater risk of revictimization and of multiple types of victimization in college and later (e.g., Gidycz et al., 2008; Humphrey & White, 2000; Smith et al., 2003; Ttofi et al., 2012).

Interpersonal aggression among youth can include bullying, adolescent dating violence (ADV), and sexual harassment. *Bullying* is often defined as unwanted, harmful, repeated behavior perpetrated by peers who are not dating partners and involves an observed or perceived imbalance of power (CDC, 2018). Bullying can include physical (e.g., hitting), verbal (e.g., name calling), or relational (e.g., spreading rumors) aggression. *ADV* is physical (e.g., hitting, slapping), sexual (e.g., forcing a partner to engage in sexual act), or psychological/emotional (e.g., calling a partner names or putting them down) violence perpetrated within adolescents' relationships (CDC, 2020). *Sexual harassment* in the school milieu is defined as conduct that is sexual in nature, is unwelcome, and interferes with a student's ability to participate in or benefit from a school's education program (U.S. Department of Education, 2020). Some examples of

sexual harassment include touching of a sexual nature, telling sexual or dirty jokes, and spreading sexual rumors.

Experiences of aggression among youth are common and oftentimes long-lasting. Studies find approximately 30% of adolescents report involvement in bullying in the last month, as a bully (13.0%), as a victim of bullying (10.6%), or both (6.3%, Bradshaw et al., 2007; Nansel et al., 2008), with 40–50% of victimized youth continuing to be victimized two to three years later (Scholte et al., 2007). Adolescents experience differing rates of physical (9.4%), verbal (36.1%), and relational bullying (33.0%; Barzilay et al., 2017). Callaghan et al. (2019) found 25.1% of students reported being bullied and 30.5% reported that they witnessed bullying in the last couple of months. Studies also suggest more boys than girls are involved in bullying (e.g., Carlyle & Steinman, 2007; Craig et al., 2009; Wang et al., 2009), but rates of bullying victimization have been found to vary across studies, with some showing higher rates of victimization among girls (e.g., Carlyle & Steinman, 2007). The types of aggression boys experience may be different than that of girls. More specifically, boys are more likely to be physically and verbally victimized, whereas girls are more prone to relational victimization (e.g., Barzilay et al., 2017; Delfabbro et al., 2006; Espelage et al., 2012).

Like bullying, rates of ADV vary across studies. A recent meta-analysis found 20% of adolescents reported experiencing physical ADV (ranged from 1% to 61%), and 9% reported experiencing sexual ADV (ranged from <1% to 54%; Wincentak et al., 2017). Rates of psychological victimization range from 31% to 66% (Hedge et al., 2017a; Hedge et al., 2017b; Taylor & Mumford, 2016). Prevalence rates of ADV victimization and perpetration are similar between boys and girls when contexts, motivations, and consequences are excluded from analyses; however, boys initiate and perpetrate more severe acts of physical and sexual dating

violence than girls (Chan, 2011; Foshee et al., 2009; Haynie et al., 2013; Wincentak et al., 2017). In Wincetak et al.'s (2017) meta-analysis, more girls reported perpetration of physical abuse (25%) than boys (13%) but, compared to boys, girls had lower rates of perpetration of sexual abuse (3% vs. 10%) and higher victimization rates of sexual abuse (14% vs. 8%).

Research on the prevalence rates of sexual harassment suggests it is very commonly experienced; prevalence rate estimates range from 23% to 87% (Clear et al., 2014). Studies find most students (59%) experience occasional sexual harassment during high school, and some experience sexual harassment more often (27%) (American Association of University Women, 2001). While youth may experience sexual harassment from teachers or staff, youth most often are victimized by their peers (e.g., AAUW, 2001; Timmerman, 2003). Victimization rates for sexual harassment are higher among girls: a population-based study of 18,090 students found 30% of students reported sexual harassment victimization (37% of girls, 21% of boys) and 8.5% reported sexual harassment perpetration (5% of girls, 12% of boys; Clear et al., 2014, Coker et al., 2014). Other studies also find higher rates of sexual harassment perpetration by boys and higher rates of victimization in girls (DeSouza & Ribeiro, 2005; Felix & McMahon, 2007; Fineran & Bolen, 2006). However, some studies find no significant differences in sexual harassment experiences between boys and girls (i.e., Gruber & Fineran, 2008; Pellegrini & Long, 2002).

All three types of aggression (bullying, ADV, and sexual harassment) are associated with a host of negative sequalae, including elevated symptoms of depression and anxiety (Barzilay et al., 2017; Dahlqvist et al. 2016; Espelage, 2012; Foshee et al., 2013; Howard et al., 2013), suicidality and self-harm (Barzilay et al., 2017; Holt et al., 2015; Howard et al., 2013), health and sexual risk behaviors (Bonomi et al., 2013; Silverman et al., 2004), use of alcohol and drugs

(Espelage et al., 2012; Exner-Cortens et al., 2013; Foshee et al., 2013), lower self-esteem and more negative body image (Ackard et al., 2007; Bendixen et al., 2018), greater peer rejection (Cook et al., 2010; Salmivalli, 1996), and academic problems (Banyard & Cross, 2008; Nansel et al., 2001). Youth who experience victimization are also at risk for violence victimization and perpetration in adulthood (Cui et al., 2013; Gomez, 2010; Halpern et al., 2009; Jouriles et al., 2017).

Predictors of Interpersonal Violence and Aggression

There are multiple factors predictive of aggression perpetration, including individual, community/contextual, and societal factors. Factors at the societal or macrosystem level can impact rates of aggression perpetration. For instance, forms of aggression can vary across cultures and contexts (McConville & Cornell, 2003). Additionally, legislation and policy can impact school and neighborhood safety, and play a role in setting norms within contexts (Espelage, 2014).

At the community or family level, research indicates that family characteristics such as inconsistent parental monitoring, low parental supervision and involvement, and family conflict predict higher aggression (Espelage, 2014). Other family risk variables have been found to be associated with perpetration of aggression, such as higher unemployment, parental alcohol use, family conflicts, and aggressive parenting (Bender & Lösel, 2011). Research points to factors predicting aggression perpetration at the community level such as an unsafe neighborhood environment due to inadequate adult supervision or negative peer influences (Espelage, 2014). Exposure to violence within the community has also been found to predict engagement in aggression and violence (Espelage, 2014).

Finally, there are multiple factors at the individual level that predict aggression. Studies find that worse psychological functioning (e.g., higher depression) predicts higher levels of aggression (e.g., Espelage, 2014; Ferguson et al., 2009). Higher externalizing behaviors, risky sexual behaviors, alcohol use, and delinquency have also been found to predict higher aggression (Grest et al., 2018; Spencer et al., 2019). Researchers have also found that low prosocial attitudes, poor emotion regulation, and high impulsivity are associated with increased aggression perpetration (e.g., Lösel & Farrington, 2012; Stefanile et al., 2017). Additional predictors of engagement in aggressive behaviors include witnessing parental violence (Ferguson et al., 2009) and experiencing childhood abuse (Krahé, & Berger, 2017). Studies also find self-esteem is associated with aggression perpetration; however, there are mixed findings on whether higher or lower self-esteem is associated with higher aggression (e.g., Donnellan et al., 2005; Lösel & Farrington, 2012), which points to the importance of other factors in predicting violence (e.g., egotism, personality traits; Baumeister et al., 1999; Brem et al., 2018).

Additional important factors predicting aggression are attitudes and norms, which operate at all levels, from individual to contextual to societal (e.g., Flood & Pease, 2009; Tharp, 2012). According to the Theory of Planned Behavior (TPB; Ajzen, 1988; Ajzen, 1991), attitudes and norms are some of the most important factors influencing aggression (e.g., Flood & Pease, 2009; Tharp, 2012). Attitudes refer to an evaluation of a situation, person, or thing (Ajzen & Fishbein, 1980). Individuals can evaluate something as positive or negative, liked or disliked, good or bad, and so forth. Norms are beliefs or perceptions about the usual, typical or standard way in which something is done, or group attitudes about something (Ajzen & Fishbein, 1980). For example, an attitude might be a positive or negative evaluation of consequences of engaging a behavior, whereas a norm might refer to the social pressures or expectations of performing or not

performing a behavior. The TPB was developed to predict human behavior in specific contexts (Ajzen, 1988; Ajzen, 1991). The TPB posits that attitudes and norms influence behavior through intentions; therefore, behavioral intentions are a key factor in understanding a person's behavior. Intentions are thought to represent an individual's motivation and readiness to perform a behavior. According to this theory, intentions are shaped by other constructs including attitudes, subjective norms, and perceived behavioral control. Theoretically, attitudes about violence precede behavioral intentions which then predict actual behaviors (Figure 1).

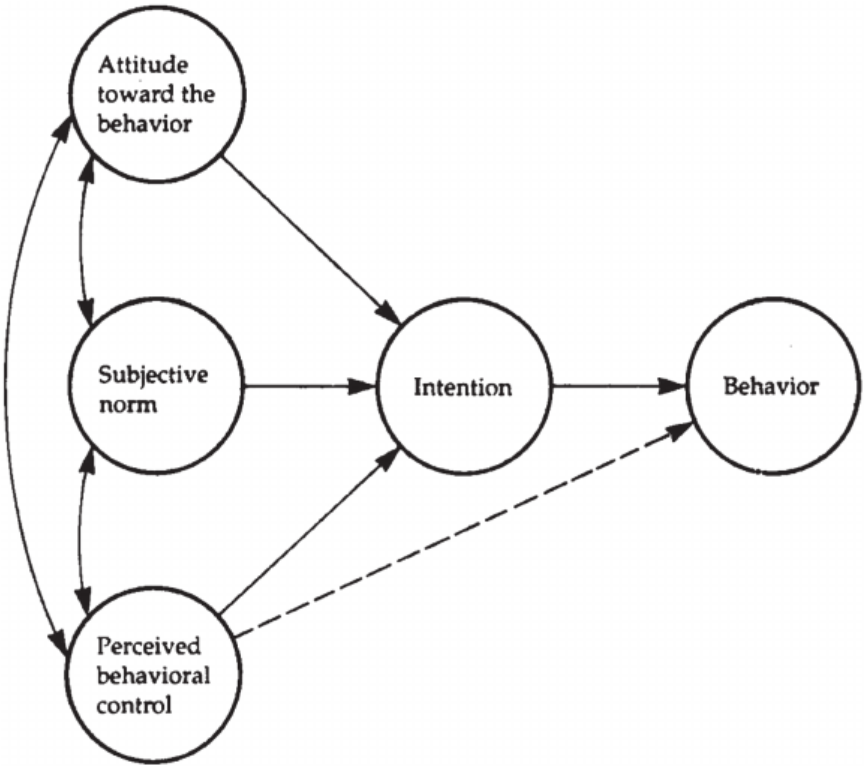


Figure 1
Theory of Planned Behavior

Numerous studies find that violence-supportive attitudes are associated with violent behavior (e.g., Eckhardt et al., 2012). For instance, Cauffman et al. (2000) examined attitudes of college students and found a positive association between acceptance of violence and reported

likelihood of engaging in violent behavior. Greater violence-supportive attitudes can also reduce the likelihood that students will intervene in situations where they are witnessing violence being committed by someone else (Storer et al., 2016). Attitudes are closely related to social norms, particularly in adolescence. Similar to attitudes, research demonstrates that norms supporting violence and aggression are predictive of higher rates of perpetration (e.g., Reeves & Orpinas 2012; Simon et al., 2010). Evidence suggests norms influence dating violence (Gray & Foshee, 1997), delinquency (Brendgen et al., 2002), and aggression among youth (Huesmann & Guerra, 1997). For example, one study found friends' norms accepting dating violence were associated with the perpetration of dating violence among adolescents (e.g., Foshee et al. 2004). Overall, normative beliefs and attitudes supporting violence can dictate what is considered appropriate behavior. These norms and attitudes then lead to aggressive behaviors across the life span (e.g., Anderson & Bushman, 2002).

The Nature of Aggression

The generality or specificity of aggressive behavior is important to consider when examining the benefits of educational or violence prevention programs, especially when those programs target specific forms of violence. Below I review research findings speaking to this question.

General Risk for Aggression

Researchers have posited a generality of violence or deviance, with the implication that aggressive people are more likely to engage in diverse types of aggression across multiple situations (e.g., Archer & Graham-Kevan, 2003; Eckhardt & Crane, 2015). When considering sexual harassment, dating violence, and bullying, scholars have suggested a developmental link between aggressive behaviors, such that bullying transforms into harassment and dating violence

(Wolfe et al., 2009). From this perspective, aggressive behaviors and coercive control become the norm for how relationships are defined and maintained. For example, Ybarra and Langhinrichsen-Rohling (2019) found that attitudes about violence and sex in dating relationships were related to psychological, physical, and sexual teen dating abuse perpetration and victimization among adolescents. Moreover, research points to the endorsement of sexualized gender stereotypes, such as the sexualization and objectification of girls (American Psychological Association, 2007) and the expectation to embody physical strength and dominance (Connell, 1987; Connell & Messerschmidt, 2005), which in turn impact high rates of acceptance and subsequent perpetration of sexual harassment (Muehlenhard et al., 2017).

Not only do bullying, physical dating violence, and sexual harassment share risk factors (Basile et al., 2009; Foshee et al., 2016), but perpetration and victimization across these types of violence are correlated (Espelage & Holt, 2007). For example, Avanti et al. (2019) found longitudinal associations between bullying and intimate partner violence among adolescents and young adults. Foshee et al. (2014) found physical bullying predicts the onset of later physical dating violence. Others find that bullying develops into sexual harassment, particularly among youth interested in romantic dating relationships (Pellegrini, 2001). Espelage et al. (2015) found that boys who perpetrated bullying in middle school reported higher likelihood of engaging in sexual harassment perpetration two years later. Other studies also show strong correlation between ADV, sexual harassment, and bullying perpetration (Bossarte et al., 2008; Foshee et al., 2009; Pepler et al., 2006; Rothman et al., 2010), for both boys and girls (Espelage et al., 2012; Pellegrini, 2001). Some posit that these types of violence are similar not only in their associated negative sequelae, but also because these phenomena involve establishing dominance (power) over others (Pellegrini & Long, 2002; Stein, 1995).

Studies also find overlap in rates of violence victimization types, with adolescents who experience bullying (physical, relational, and verbal) being more likely to experience physical and emotional dating violence (Debnam et al., 2016). Espelage and Holt (2007) found links between bullying, sexual harassment, and dating violence victimization, with bully–victims (i.e., both experiencing bullying victimization and engaging in bullying perpetration) experienced increased rates of sexual harassment and dating violence victimization compared to uninvolved youth. Chiodo and colleagues (2009) found students who experienced harassment were significantly more likely than non-harassed students to report victimization by peers and dating partners 2.5 years later. Taken together, these studies indicate that youth who experience or perpetrate one form of violence are likely to experience or perpetrate other forms, suggesting risk for aggression is general.

Unique Risks for Specific Forms of Aggression

In contrast to research presented above, some scholars find greater specificity in predictors of aggression perpetration and victimization. Empirical findings highlight the important of context for aggressive behaviors (e.g., Browning, 2002; Pinchevsky & Wright, 2012; Wright & Benson, 2010). Although some researchers posit that youth rely on general beliefs about acceptable behavior regardless of the situation, others speculate that youth modify beliefs about violence according to norms governing specific settings (e.g., Fagan & Wilkinson, 1998). General statistics on violence and crime indicate different types of violence generally do not occur in the same places or within similar scenarios, such as peer-to-peer, gang violence, or between dating partners (e.g., Allison & Harris, 2018) and attitudes towards violence vary as a function of context or circumstances (e.g., Brookman et al., 2011; Cohen, 1955; DeKeseredy, 2017). For instance, use of violence or aggression is seen as more acceptable when provoked or used for self-defense or in

defense of another (Cauffman et al., 2000) compared to violence motivated by peers (e.g., norms that friends treat their girlfriends in a similar manner), personal disposition (e.g., a person's way of showing they are in charge), or avoiding accountability (e.g., excuse that the person had a low mood that day). On a more macro-level, Allison and Harris (2018) found that specific types of violence (e.g., homicide) do not always take place in the same types of settings, and the ecological correlates of different types of violence can vary. The authors concluded that disaggregating violence and victim types is important for understanding crime. Other researchers have also found variation in types of violence depending on who is targeted (e.g., Gruenewald & Allison, 2017), motivations for violence (Messner et al., 2006) as well specific, distinct factors connecting violence-supportive attitudes and violent behavior (e.g., Flood & Pease, 2009). Research indicates that different situations can lead to different cognitive, affective, and arousal experiences, which in turn affect the likelihood of aggressive behavior (Dewall et al., 2011; Ward et al., 2008).

Attitudes or acceptability of violence have been found to vary across types of violence (e.g., Reeves & Orpinas, 2012; Salmivalli & Voeten, 2004), as well as different forms of a violence such as relational versus physical (e.g., Carlson & Worden, 2005; Garcia & Tomás, 2014; Taylor & Sorenson, 2005; Worden & Carlson, 2005). For example, Cauffman et al. (2000) found dating violence was viewed as less acceptable than peer violence. Variations in attitudes about different types of violence are related to different behaviors, such as willingness to intervene (Ingram et al., 2019). Torres et al. (2012) found adversarial sexual beliefs were consistently associated with relationship aggression, but the acceptance of interpersonal violence was not. Finally, a report from the World Health Organization (2009) summarized different cultural and social norms that support different forms of violence, such as sexual violence being viewed as more acceptable when it occurs within a marriage than outside of marriage, or

bullying seen as an acceptable way to resolve peer conflicts. Together, these studies call into question the notion of a general aggressive tendency that expresses itself across contexts.

While there is support for overlap in predictors of aggression, there is also evidence indicating distinct or unique correlates across different types of violence. Copp and colleagues (2016) found unique familial, sociodemographic, relationship, and adult status factors were associated with attitudes toward intimate partner violence. A research brief by Ellickson & McGuigan (2005) reported crime and aggression statistics among youth and found different traits and youth characteristics predict different forms of violence.

Numerous researchers have demonstrated typologies of aggressors (e.g., Delsol et al., 2003; Holtzworth-Munroe & Stuart, 1994), noting the important of interactions among psychosocial, biomedical, and social influence. One study found three perpetrator types: relationship-only, generally violent/antisocial, and histrionic/preoccupied (Monson & Langhinrichsen-Rohling, 2002). Another study found five clusters of ADV and peer violence behaviors based on the nature of the violent act (psychological abuse vs. physical violence), relationship context (dating vs. same-sex peer), target of the violence (self-directed vs. other), or type of involvement (perpetrator vs. victim; Bossarte et al., 2008). Bossarte and colleagues (2008) found involvement in aggressive or delinquent behaviors significantly differed across the clusters, showing support for distinctions among these individuals.

Finally, distinctions in prevalence rates and legal actions further differentiate types of violence from each other. The differences in prevalence rates of perpetration between boys and girls suggests there may be more unique risks for specific forms of aggression based on gender norms and socialization (APA, 2007). For instance, significantly higher rates of perpetration of sexual harassment by boys but similar rates of bullying perpetration for boys and girls indicate

there are other distinctive factors related to the perpetration of each type of violence (DeSouza & Ribeiro, 2005). Additionally, higher rates of bullying compared to ADV and sexual harassment suggest potential differences in violence-supportive attitudes across these situations. In terms of legal differences, there are clear legislations and regulations at the federal and state level for sexual harassment (i.e., Title IX); yet, bullying and ADV policies differ by state (https://www.ncsl.org/research/health/teen-dating-violence.aspx). Notably, there is no federal law about bullying or ADV, even though these aggressive behaviors might be covered under Title IX if they are gender-based or severe (for a more in-depth review of these differences, see

Prevention of Violence and Aggression Through Bystander Interventions

For all forms of interpersonal violence, one widely used approach prevention and intervention is the engagement of bystanders. Bystanders are individuals who play a role in an act of violence or aggression, but are not the victim or perpetrator in the situation (Katz, 2011). Bystanders can play several roles, including reinforcing the aggressor (e.g., laughing or encouraging), assisting the victim following the situation, defending or supporting the victim during the situation, and observing as outsiders (e.g., remaining on the sidelines or avoiding the situation; Salmivalli et al., 1996). Bystander behaviors can be categorized as proactive (prosocial responses such as helping the victim by supporting, defending, or getting help), inactive (no intervention), or negative (supporting the perpetrator or exacerbating the situations; Storer 2016).

Bystander intervention programs are focused on engaging bystanders as prosocial allies (Banyard et al., 2004; Berkowitz 2002; Moynihan & Banyard 2008). These programs focus on attitudes (e.g., reducing acceptance of violence), knowledge (e.g., educating participants about aggression), and skills (e.g., teaching bystanders how to intervene during situations of violence; Banyard et al., 2004). Bystander programs recognize that members of the community, such as

other students in a school, have a responsibility and a role in preventing violence. When peers or community members ignore or fail to act during situations of violence, that serves as tacit reinforcement of the behavior (Katz et al., 2011). Therefore, the main goals of bystander programs including increasing bystander intervention in situations of potential aggression and shifting/transforming social attitudes and norms that permit violence (e.g., Banyard, 2014; Banyard et al., 2007; Moynihan et al., 2015; Pozzoli & Gini, 2012; Storer et al., 2016).

As aforementioned, the TPB posits that intentions represent an individual's motivation and readiness to perform a behavior and that these intentions are shaped by other constructs including attitudes, subjective norms, and perceived behavioral control. Therefore, changing attitudes and norms, increasing self-efficacy to intervene, and introducing skills for intervention should subsequently impact actual behavior.

Bystander approaches are often based on the bystander model developed by Latané and Darley (1970). The model describes the process of potential bystander intervention. According to this model, there are five steps for a potential bystander to intervene during an incident (see Figure 2). The bystander must a) notice the event, then b) interpret or identify the event as an emergency, c) decide and recognize they hold some personal responsibility to intervene, d) know how to help, and e) take action and implement the chosen intervention strategy. The investigation of earlier stages is often a focus of sexual assault prevention research, as noticing the event and interpreting it as a situation that is dangerous can be ambiguous for many potential bystanders.

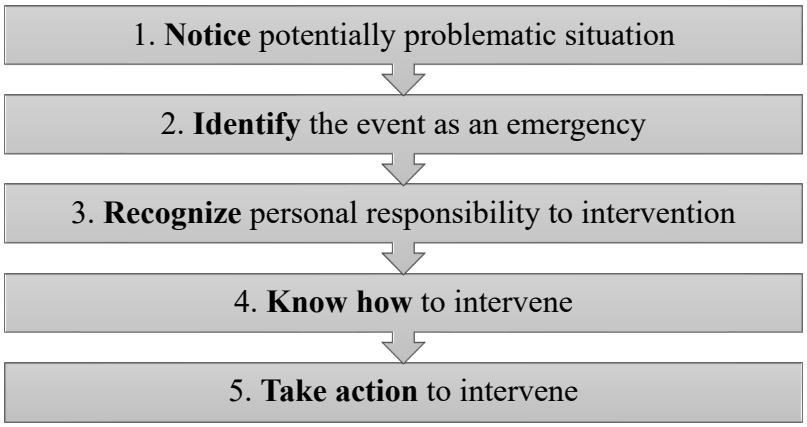


Figure 2
Five stages for bystander intervention identified by Latané and Darley (1970)

The five stages for bystander intervention map onto the TBP, where noticing the event as a problematic situation, identifying it as an emergency, and recognizing personal responsibility are all impacted by both social norms and attitudes towards the behavior. Recognizing one's personal responsibility to intervene and knowing how to intervene can also be influenced by perceived behavioral control. Recognizing this responsibility then impacts intentions. Finally, intentions impact behavior—that is, taking action to intervene, whether through direct intervention (e.g., confrontation) or indirectly (e.g., telling an adult).

Empirical findings suggest that bystander approaches to violence prevention and intervention are promising, with studies demonstrating increased rates of students' reported willingness to or likelihood of intervening (Banyard et al., 2007; Katz & Moore, 2013; Moynihan et al., 2010; Potter, 2016; Pozzoli & Gini, 2012; Storer et al., 2016), increased positive bystander behaviors (Coker et al., 2011), and reduced rates of violence for both college and high school students (Coker et al., 2017; Coker et al., 2016; Gidycz et al., 2011; Miller et al., 2013; Storer et al., 2016). For example, Coker et al. (2020) conducted a randomized controlled trial to examine the effectiveness of the bystander-based violence prevention intervention *Green Dot* for high school students. The authors found program participants showed reduced acceptance of

dating violence and sexual violence behaviors at the school and individual levels. While many studies of bystander intervention target sexual violence, studies have also demonstrated that bystander intervention programs targeting bullying also reduce bullying victimization and increase bystanders' willingness to intervene in bullying situations. For instance, Polanin et al (2012) conducted a meta-analysis of 12 school-based bullying intervention programs with a large emphasis on bystander intervention. They concluded that programs were successful, with a small overall effect (Hedge's g = .20).

Mentors in Violence Prevention (MVP): A Bystander Intervention Program

The MVP program was first developed in 1993 and was one of the first programs to focus on domestic violence and sexual assault. While this program's original focus was working with college athletes, the program has since developed a broader focus and has been used across many settings including diverse college student populations, the military, middle school, sports, and high schools (Katz, 2011). The program was initially implemented with only men, as it is focused on engaging men, the dominant group in patriarchy, in a dialogue about responsibility. However, it evolved to encourage both men and women to be prosocial bystanders in preventing and intervening when witnessing aggressive behavior (Storer et al., 2016).

Within the high school setting, MVP targets bullying, dating violence, and sexual harassment, as well as racist and homophobic behaviors. Building on the notion that bystander interventions change violence acceptance for individuals who then influence those in their social network, the MVP program trains student leaders to be active bystanders. The program uses a peer-to-peer mentoring model to engage students in discussion about violence prevention (MVP, 2012) with the notion that students might be more willing to listen to peers than to adults. This mentoring framework also builds on the bystander approach, targeting social norms about

gender-based violence and bullying. The idea is to create an environment in which forms of aggression and violence are seen as ‘uncool’ and unacceptable.

Students either apply for or are recruited to serve as mentors for the MVP program. Efforts are typically made to select student mentors from diverse social groups to reflect the entire student body. MVP advisors (volunteer teachers who undergo MVP training) provide individual advising and a one-day group trainings to student mentors. In fall semesters, all MVP mentors are also given the opportunity to attend a Leadership Summit Training at the University of Northern Iowa. This leadership training focuses on topics such as group facilitation skills, bullying, dating violence, sexual harassment awareness, awareness of targeting of minority groups, role-play activities, and a review of the MVP playbook. In the spring semesters, peer mentors are assigned individual classrooms to mentor. The mentors provided weekly or biweekly workshops during which they covered various topics and activities listed in the MVP Playbook.

The playbook consists of a) increasing awareness via facts and discussion of types of abuse, b) challenge thinking and build empathy by discussing how situations of harm take place and counteracting potential “victim-blaming,” c) create a safe space for open dialogue to discuss experiences and opinions, d) empower participants by discussing ways people can intervene in different situations, and e) inspire leadership by encouraging students to think about their role in creating a climate in which violence is not accepted or tolerated.

One tool used in the playbook is discussion of personal stories. These stories are guided and used to help start discussion, illustrate points, and create an environment to let students learn they are not alone in their experiences. Mentors lead discussions about the stories by asking questions about how the victim and bystanders felt in the story, opinions about how they acted, and ideas of ways bystanders could have reacted in the situation.

Another tool used is mentor-led discussion of potential violence scenarios. These scenarios describe various social situations portraying actual and potential incidents of harm and abuse. They range from sexist comments, verbal threat, to date or gang rape. Each scenario focuses on the bystander behaviors, and some focus on young men as potential perpetrators. These sessions are interactive, as classroom students are asked to share experiences that might have been similar. The discussions are led by mentors who also provide prompts such as, "give examples of how a friend or classmate might respond "directly" in this situation?"

Each scenario also includes a list of options that students can discuss and decide which option might be best for them. During this, mentors emphasize that doing nothing is not consistent with the value and goals of the program or school. Exercises are also used during the scenarios, such as the empathy exercise, in which students are asked about how they feel about a bystander who did nothing when someone they cared about was the victim.

MVP helps students to develop a range of options for intervention in specific situations and scenarios. It also focuses on developing the skills and confidence to become leaders to others on issues of bullying, sexual assault, and relationship abuse prevention. The goal is not only to help encourage bystander to intervene in the moment, but also to empower students to challenge and transform cultural norms that condone or support harmful and abusive behaviors. MVP is unique in its strong roots in social justice. The MVP program is focused on changing attitudes about gender-based violence and creating social change (Katz, 2011). The MVP program is similar to other bystander approaches in its emphasis on empowering bystanders, but it specifically recognizes that violence is often perpetrated by men. Although other bystander prevention programs discuss the gendered nature of violence, these programs are sometimes considered more gender-neutral (Katz, 2011), as the focus is not on *why* the violence is

occurring, but rather on what actions individuals can take to reduce violence and address rape culture. As Katz (2011) stated, the program is embedded in a "feminist-inspired antirape and anti-domestic violence activism" (p. 685). In other words, MVP takes a feminist analysis of the causes of gender violence. The program underscores the ways in which the larger community permeate attitudes that condone gender inequality and gender violence and targets norms that promote gendered violence.

Not only does MVP focus on increasing knowledge, skills, or awareness of the prevalence and impact of gender violence, but also it engages men in a dialogue about their responsibility in situations. A primary goal of MVP is to shift cultural norms and gender ideologies that contribute to men's engagement in violence against women, specifically addressing norms of masculinity, and encouraging both men and women to speak out. In order to engage men in prevention and encourage them to speak out against gendered violent behavior, MVP approaches and discusses men as bystanders rather than as potential perpetrators as in other rape-prevention programs (e.g., Schewe, 2004).

MVP engages individuals by educating them about types of violence and equipping students with concrete options for intervening before, during, and after instances of bullying, dating violence, and harassment. A key aspect of the MPV program is the emphasis on single-sex group discussion. Discussions engage youth in critical thinking and challenge conformity and silence.

As MVP was developed for college athletes, much of the initial research focused on its effectiveness in college samples. For example, Cissner (2009) conducted a quasi-experiment pre- post-test design with a comparison group of sorority and fraternity members who had not yet participated in the MVP program. Cissner found both college peer educators and

workshop participants reported significantly lower levels of sexist attitudes and an increased belief that they could prevent gender violence after participating in an MVP program. Eriksen (2015) provided an executive summary of a program evaluating the Mentors in Violence Prevention Leadership Training. Specifically, they offered a three-day training to three group of participants: student athlete captains, resident assistants and staff, and Greek chapter presidents. Participants completed pre-, post, and 4-month follow-up surveys. Scores indicated significant increases in self-efficacy, participants' willingness to engage in a wide range of bystander behaviors, and more positive assessments of engaging in bystander behaviors from pre- to post-program participation. Follow-up scores indicated increases were attenuated over the four months; however, scores remained elevated relative to baseline (i.e., pre-test scores). In an unpublished Department of Justice report, Slaby et al. (2011) described an evaluation of an MVP Campus Leadership Initiative using a pre- post-test design. Slaby and colleagues conducted t-tests for each item to examine scores pre- and post-intervention. The authors found significant increases on all items evaluating bystander efficacy beliefs, bystander behavioral intentions, and personal teaching efficacy. Slaby et al. found significant decreases on two items on the Beliefs Supporting Sexual Abuse (e.g., "A woman who stays in an abusive relationship is partially responsible for her abuse"); however, there was likely a floor effect for the remaining items, such that score supporting sexual abuse were all very low at pre-intervention.

Toy (2016) used a pre-post design to assess the effectiveness of MVP for resident assistants on a college campus. Toy found significant increases in confidence levels for preventing gender violence, speaking to others about sexual violence, using leadership in promoting gender and sexual equity, and perceiving sexual violence on campus as a bigger problem. Driscoll (2012) collected qualitative data from college-aged mentors after participating

in the MVP training. Although participants did not go on to facilitate MVP programs, they described feeling empowered as bystanders and provided examples of how they used the MVP training in everyday situations.

Studies have also been conducted with high school samples. Katz (2011) evaluated the MVP program for high school students compared to students at a control school. In analyses including and excluding the mentors in the MVP program, Katz found students at the MVP school were more likely to perceive aggressive behaviors as wrong compared to the control school. Katz also found students at the MVP school reported higher willingness to take action in milder aggressive situations compared to students at the control school; there was not a significant school difference in reported willingness to take action when witnessing more severe acts of violence. Caraballo (2017) found significant pre-post reductions in beliefs supporting sexual abuse and increased bystander efficacy, increased bystander behavior intent, and increased personal teaching efficacy for sexual abuse prevention following the implementation of MVP. Caraballo also found these changes remained significant at a seven-month follow-up. In a qualitative study, Williams and Neville (2017) examined a pilot of MVP in a Scottish high school. Participants reported positive experiences with MVP recruitment, training, and implementation. Participants also reported positive attitudinal and behavioral change regarding gender-based violence. The authors noted these attitudinal changes were particularly evident among the MVP mentors. Ward (2001) examined the implementation of MVP in 10 high schools. Ward found significant increases in pre-post scores for knowledge of sexual violence. The MVP curriculum was also associated with decreases in students' attitudes supporting gender violence and increases in self-efficacy to prevent or confront aggressive and sexist behavior.

Limitations of the Research on MVP

While promising, there are several limitations of the existing empirical work examining the MVP program. One important limitation is how the dependent variables across these studies were examined. Previous studies focused on global anti-aggression attitudes and global willingness to intervene for aggressive behavior. Given the research pointing to specificity in violence-supportive attitudes across types of violence, more nuanced examination of MVP's effects is warranted. Very few studies have considered bystander intentions for bullying, sexual harassment, and dating violence within the same study generally and no studies have compared these types of aggression within MVP.

This study also contributes to the generalizability of MVP by examining its effectiveness in a large sample of students across multiple high schools. As other MVP and bystander intervention studies conducted in high school settings have noted, high schools are critical environments for intervention. Schools are a context in which violence behaviors are often experienced (Benbenishty & Astor, 2005; Hong & Espelage, 2012) and youth are exposed to high rates of violence that occur in front of other bystanders (Espelage & Swearer, 2003). In fact, most teens report knowing someone who has experienced dating violence (Fry et al., 2014), and about half of dating and sexual violence happens in the presence of others (Molidor & Tolman, 1998). Moreover, studies indicate peers witness more than 80% of bullying episodes, but only intervene about 20% of the time (Atlas & Pepler, 1998; Hawkins, Pepler, & Craig, 2001; Lodge & Frydenberg, 2005; Timmerman, 2003). Clearly there are ample opportunities for youth to intervene if they are provided the skills and competencies from bystander programs.

Adolescence is also a critical developmental period to implement intervention and prevention programs. This is a time when peer networks become increasingly influential on

personal attitudes and behaviors (Anderson et al., 2007; Henrich et al., 2000). Studies show an increase in aggression in adolescents (e.g., Pellegrini & Bartini, 2000) as teens are often more accepting of aggression and violence than middle or elementary age youth (e.g., Bukowski, Sippola, & Newcombe, 2000). Even though bystander interventions are often implemented in college settings, research shows sexual violence is often first experienced in middle or high school (Black et al., 2011; Kann et al., 2013). Clearly, adolescence represents a critical window for shaping developing attitudes about aggression as well as changing social norms, teaching skills, and fostering protective environments

Current Study

Bystander approaches are promising interventions targeting interpersonal violence among youth. The MVP program is a unique in its use of influential peer mentors, addressing multiple forms of violence and aggression, implementation with college and high school populations, and its strong roots in a social justice perspective, which is represented through the mechanisms and specific scenarios used throughout the program. Current research on the MVP program is promising but limited. The current study examined the specificity of MVP intervention effects in two samples. The first was a pre/post-test design that included a smaller sample of high school students who participated in the MVP program in the 2013-2014 academic year. The second was a retrospective design that included a large, geographically diverse sample of high school students who participated in the MVP program in the 2018-2019 academic year. Across both studies, I hypothesized that the MVP program would have a stronger impact on students' reported bystander intentions in dating violence and sexual harassment situations compared to bullying situations given the strong gender-violence emphasis of the MVP program.

Study 1

Method Study 1

Participants

Participants were 569 students enrolled in one of three high schools. Of the entire sample, pre- and post-MVP matched data were available for 240 students: 84 (35%) at High School number 1, 153 (63.7%) at High School number 2, and 3 (1.3%) at High School number 3. Given that data were available for only three students at High School 3, only data from High Schools 1 and 2 were analyzed, yielding a final analytic sample of 237 students. The final sample was 51.9% (n = 122) female and the mean age was 14.26 years (SD = 0.49). All participants were in 9th grade. In terms of race/ethnicity, participants were: 48.9% White, 23.2% Latinx, 13.5% Other/multiracial, 7.2% African American/Black, 4.6% Asian, 2.1% Native American, and 0.5% did not report race/ethnicity.

Table 1 presents information on the two schools (e.g., graduation rates, enrollment, test scores) for the 2013-2014 school year (https://educationdata.org/public-education-spending-statistics; https://nces.ed.gov/ccd/schoolsearch). High School 1 had higher enrollment, test score rankings, and graduation rates, student-teacher ratio (more students per teacher), but a lower proportion of students with lunch assistance (free/reduced lunch) and less diversity compared to High School 2.

Table 1
Study 1 Information Across Each School

High School (HS)	Enrollment	Test score rankings for Iowa	Racial/ Ethnic %	Student-Teacher ratio	Graduation Rate	Lunch Assistance
HS 1	1,354 (48% female)	Top 50%; 85.9 proficient in reading 80.9 proficient in math	70% White, 20% Latinx, 3% Asian, 2% Black, 2% American Indian, 2% Multiracial	18:1	92.4%	44.39%
HS 2	1,174 (48% female)	Bottom 50%, 59.01 proficiency in Language Arts 45.48 proficiency in math	46% White, 34% Latinx, 6% Black, 6% Multiracial, 5% Asian, 3% American Indian	16:1	80.0%	63.46%

Procedures

Data were collected during the 2013-2014 school year. Participating schools initially became involved in the MVP program by contacting the MVP team at the University of Northern Iowa and expressing an interest in the program. The MVP implementation team then provided a presentation of the program during a school staff professional development day. Staff (e.g., teachers, counselors) volunteered or were recruited by the school to serve as MVP advisors. These MVP advisors then participated in a two- to three-day training. They were also provided ongoing education through a webinar series describing the goals and components of MVP. The MVP program was implemented as part of the school curriculum. De-identified data on the curricular outcomes of MVP were provided to me by the primary research team. The University

of Arkansas IRB did not require approval for studies that involve analyses of de-identified secondary data.

Data Collection. Surveys were administered at two points as part of the routine curriculum assessment process. The pre-MVP survey was given in September 2012, before the program was implemented. The post-MVP survey was administered in May 2013, after the MVP program was completed. Surveys were administered online using Survey Monkey. Homeroom teachers were provided scripts to follow to inform students of the survey purpose and to explain confidentiality and their right not to participate. Not all students were asked to complete the surveys because homeroom teachers were asked but not required to administer the surveys. All survey responses were de-identified. To match pre- and post-test surveys, students were asked to generate a unique code from elements of their name and birth date.

Measures

Demographic Characteristics. Students provided information on their gender, age, grade, and race/ethnicity on the pre-test. Age was coded as a continuous variable (in years). Gender was coded as male (1) or female (0), and race/ethnicity was coded as non-Hispanic White (1) or student of color (0). Schools was coded as High School 1 (1) or High School 2 (2) high school.

Bystander Behavioral Intervention (Strategy). The Bystander Action Survey (BAS) was used to assess bystander intentions to use different intervention strategies in situations of aggression. The BAS was adapted by the MVP implementation team from a scale developed by Miller and colleagues (2012). The BAS was given pre- and post-MVP intervention during a single school year. The scales include 16 items or scenarios describing situations involving aggression (7 items describing dating violence, 1 describing homophobia, 3 describing bullying,

and 3 describing sexual harassment/assault, and 2 describing general violence). Only items assessing dating violence, bullying, and sexual harassment were used in the current study, leading to a total of 13 items (Table 2). Item responses included eight potential bystander intervention strategies: *say or do something myself to intervene (1), get a friend to help me or do something to intervene (2), tell the person in public that acting like that was not okay (3), tell the person in private that acting like that was not okay (4), talk to my parents about the situation (5), talk to an adult in my school (6), laugh or go along with it (7), do nothing (8)*. Students could select more than one bystander intervention strategy. Students who selected all 8 responses (including no intervention) were coded as missing due to inconsistent responding. Frequencies were examined for each of the scenarios. Responses were coded into a single nominal variable with three categories: options 1-4 were recoded as "direct intervention" (2), responses 5 and 6 were recoded as "indirect intervention only" (1), and responses 7 and 8 were recoded as "no intervention" (0). Participants who responded to multiple options were coded according to the lowest numbered response they provided (e.g., if someone indicated response options 3 and 5, they were coded as "direct intervention" because 3 is a direct intervention and 5 is an indirect intervention).

Table 2
Study 1 Bystander Action Survey Items

The Bystander Action Survey (BAS)	
"If I saw a student at my school was…" "I would …."	
Response options:	
1. Say or do something myself to intervene	
2. Get a friend to help me or do something to intervene	
3. Tell the person in public that acting like that was not okay	
4. Tell the person in private that acting like that was not okay	
5. Talk to my parents about the situation	
6. Talk to an adult in my school	
7. Laugh or go along with it	
8. Do nothing	
1. Touching and grabbing a student in a sexual way	Sexual harassment
2. Pressuring his/her girlfriend/boyfriend to do something sexually she/he doesn't want to	ADV
3. Pressuring his/her girlfriend/boyfriend to send him/her nude pictures, I would	ADV
4. Keeping his/her girlfriend/boyfriend from spending time with friends, I would	ADV
5. Checking on the whereabouts of his/her girlfriend/boyfriend--trying to keep track of what she/he is doing,	ADV
6. Calling his/her girlfriend/boyfriend mean and derogatory names with the intent to hurt,	ADV
7. Doing something to his/her girlfriend/boyfriend that might hurt physically,	ADV
8. Doing something to his/her girlfriend/boyfriend that might hurt socially with friends	ADV
9. Hurting another student physically	Bullying
10. Picking on or bullying another student	Bullying
11. Gossiping and spreading rumors about others	Bullying
12. Calling another student a derogatory name	Bullying
13. Using the internet/cellphone to degrade or harass another student with words or pictures	Bullying

Self-Efficacy. The adapted 10-item MVP Efficacy Scale (Ward, 2001) was used to assess self-efficacy related to intervening in the context of violence/aggression (Table 3). The scale was originally developed for used in the evaluation of MVP (Katz, 1995). In the current study, the scale assessed self-efficacy related to bullying (2 items), ADV (2 items), and sexual harassment/assault (6 items). Items are rated on a five-point scale (1 = *Strongly Disagree*; 5 =

Strongly Agree). An overall score was calculated as well as three average scores for efficacy to intervene in each type of violence (e.g., average rated efficacy to manage bullying situations). Higher scores correspond with higher efficacy to intervene. In Ward's (2001) evaluation, the scale demonstrated adequate internal consistency (Cronbach's a = .75). In the current study the scale demonstrated adequate to good internal consistency (Cronbach's a_{pre} = .83, a_{post} = .71).

Table 3
Study 1 MVP Self-Efficacy Scale Items

Reponses were rated on a five-point scale (1 = *Strongly Disagree*; 5 = *Strongly Agree*)		
1.	I can help prevent violence against girls at my school	Sexual Harassment
2.	A group of guys would listen to me if I confronted them about their sexist behaviors	Sexual Harassment
3.	It would be hard for me to confront a stranger who was being abusive toward a girl or a woman (reverse coded)	Sexual Harassment
4.	I don't think I would say anything to a group of guys who are harassing a girl at a party (reverse coded)	Sexual Harassment
5.	I know how to educate a friend who is acting inappropriately toward a girl	Sexual Harassment
6.	If I wanted to stop a friend from making sexist jokes toward girls, I could	Sexual Harassment
7.	I would not be able to stop a guy I didn't know very well from hitting his girlfriend (reverse coded)	ADV
8.	I have the skills to help support a female friend who is in an abusive relationship	ADV
9.	I could persuade a friend not to send a mean text or negative message on their cell phone	Bullying
10.	I can help prevent bullying at my school	Bullying

Analytic Approach

Frequencies are presented for the BAS measure options describing the types of bystander interventions comparing types of behaviors endorsed for bullying, ADV, and sexual harassment. Graphs were used to present the proportion of students who endorsed each type of intervention (i.e., no intervention, indirect, and direct intervention) for each of the BAS scenarios.

A principal component analysis was conducted on the Self-Efficacy Scale to test whether the structure was consistent with my conceptual grouping by types of violence (i.e., bullying, dating violence, and sexual harassment items). McNemar tests were conducted to determine

whether frequencies for each type of intervention were significantly different pre- to post-intervention. T-tests and chi-square analyses were conducted to examine differences in self-efficacy to intervene based on gender. Finally, four analyses of variance (ANOVAs) were conducted to examine differences in pre- and post-test scores on the MVP self-efficacy averages (overall, bullying, dating violence, and sexual harassment scores).

Power Analysis

An *a priori* power analyses using G*Power 3.1.9.2 (Erdfelder et al., 1996) suggested that a sample size of 102 would be required for conducting four ANOVAs with repeated measures (2 times) within-between interaction (2 groups), at $\alpha = .013$ (.05/4 = .013, three analyses), and a correlation among repeated measures of $r = 0.3$. to obtain adequate power (0.80). To include gender as a covariate (2 gender groups x 2 school groups = 4 groups overall), a sample size of 140 would be required.

Results Study 1

All analyses were conducted in IBM SPSS27 (IBM Corp., 2021) and R 3.6.2 (R Core Team, 2021). Missing data frequency and patterns were examined. There was more than 5% missing data for the pre- and post-intervention self-efficacy items (missing data percentages ranged from 25.3% to 29.5% for pre and from 3.8% to 5.1% for post). Missing data patterns were examined by dummy coding missing data (0 = not missing, 1 = missing). Results from chi-square analyses indicated the data were missing at random (not related to other study variables including gender, or school, p values > .05); therefore, multiple imputation was conducted to impute missing values for the SE values. There was not more than 5% missing data for other study variables (i.e., gender was 0.8% missing, race was 0.4% missing). All assumptions were

met, including normality, linearity, and homogeneity of variance for the self-efficacy to intervene averages.

Did the Proportion of Students Who Would Intervene in Violent Scenarios Change Pre- to Post-Intervention?

Proportions of the percentage of youth who endorsed each intervention strategy on the BAS (no intervention, indirect intervention, direct intervention) for each scenario are presented in the graphs in Figures 2, 3, and 4. These graphs are grouped by scenario type (sexual harassment, ADV, bullying)[1]. McNemar test results comparing proportions are presented in Tables 4 through 6.

Taken together, across all 14 scenarios, 8 showed no significant shifts in type of intervention chosen. However, when changes did occur, it was only increased endorsement of the direct intervention strategies for the following items: a) the sexual harassment scenario ("touching a grabbing a student in sexual way"), b) 4 of the ADV scenarios, and c) 1 of the bullying scenarios ("hurting another student physically"). While these showed significant increases in direct intervention, only one of the scenarios showed a parallel significant decrease for no intervention (item: "checking on the whereabouts of his/her girlfriend/boyfriend--trying to keep track of what she/he is doing"). This item also had highest endorsement of 'no intervention' (40.1%) and lowest endorsement of direct intervention (48.6%) at pre-intervention. Overall, the direct intervention strategy ("say or do something myself to intervene") was chosen most often at both time points. On average, 58.4% of students chose direct intervention at pre-intervention (range of 48.6% to 70.1% across scenarios) and 67% of students chose direct intervention at post-intervention (range of 58.1% to 78.3%).

[1]Z-tests were conducted to test whether the endorsement of each strategy significantly changed pre- to post-intervention (significant changes are denoted by a * on graphs).

When looking specifically at the different types of violence, the highest endorsement of direct intervention at post-intervention was among the ADV scenarios (78.2% indicated they would directly intervene if they saw another student "calling his/her girlfriend/boyfriend mean and derogatory names with the intent to hurt" and 78.3% would directly intervene if they saw another student "doing something to his/her girlfriend/boyfriend that might hurt socially with friends"). The highest endorsement for indirect intervention was seen for the sexual item at both pre- and post-intervention (24% and 17.5%, respectively). At post-intervention, the ADV scenario ("checking on the whereabouts. . .") still showed the highest endorsement of no intervention (30.8%), even though this was a significant decrease from pre-intervention (40.1%).

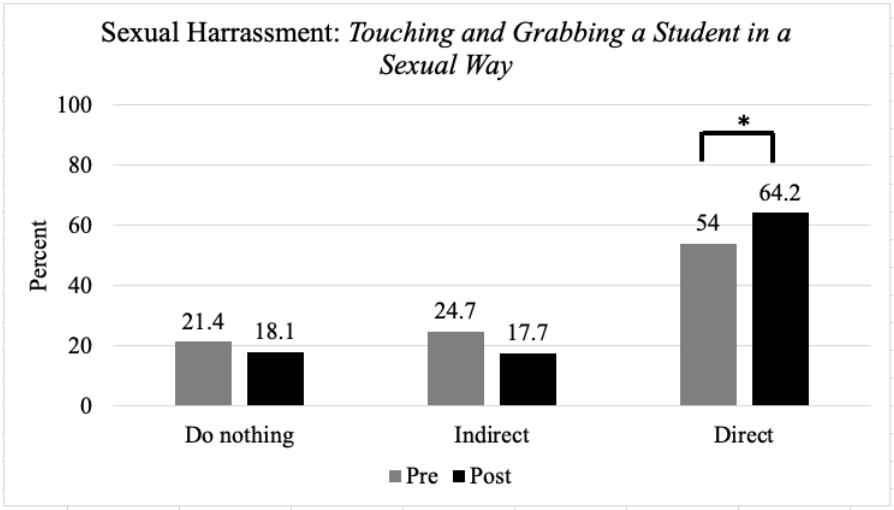


Figure 2
Study 1 Proportion of Students Who Endorses Each Intervention Strategy for the Sexual Scenario.

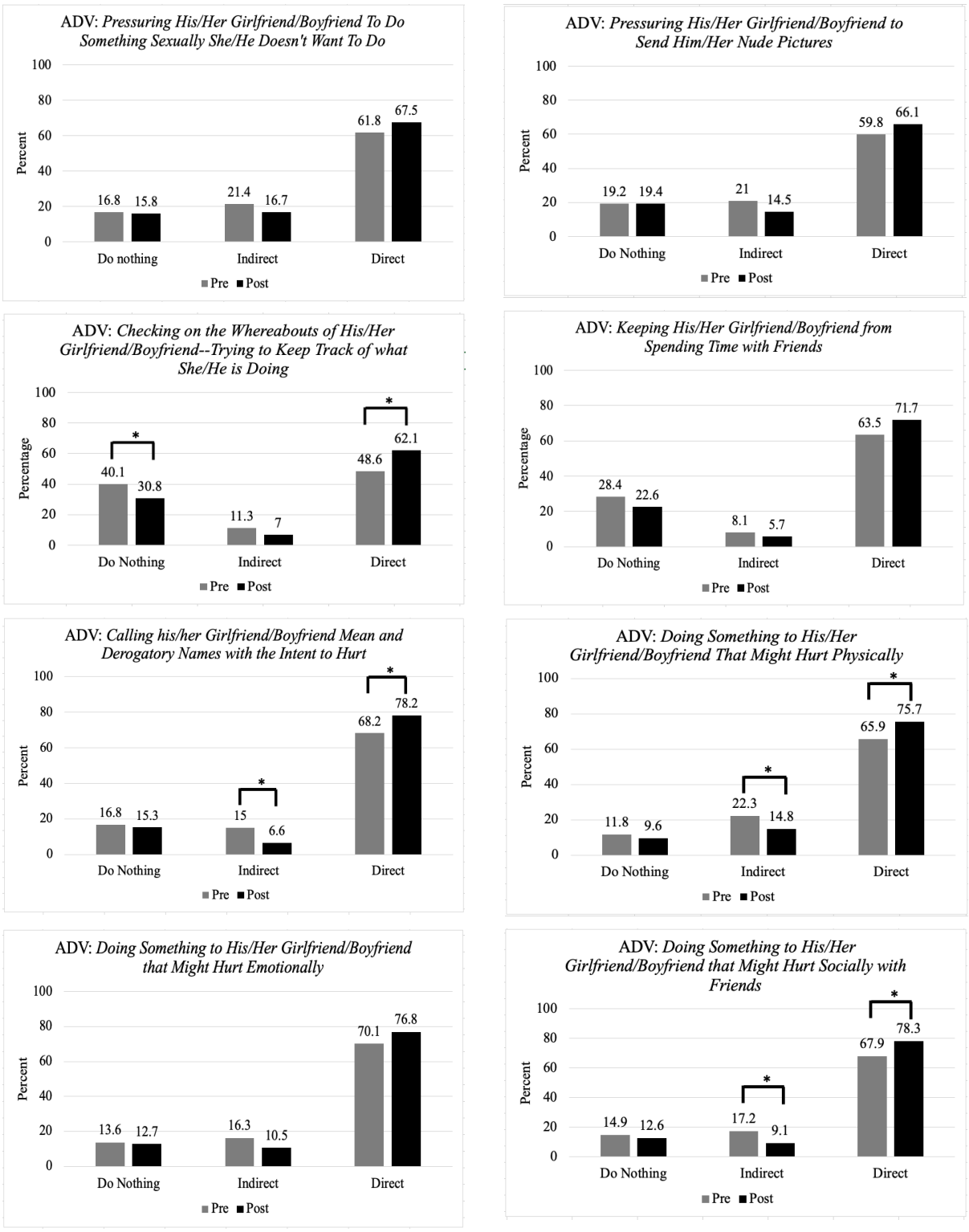
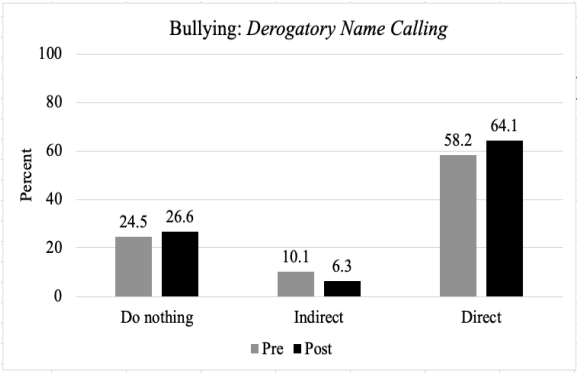
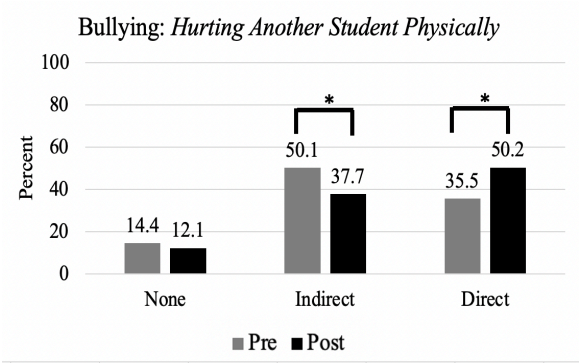
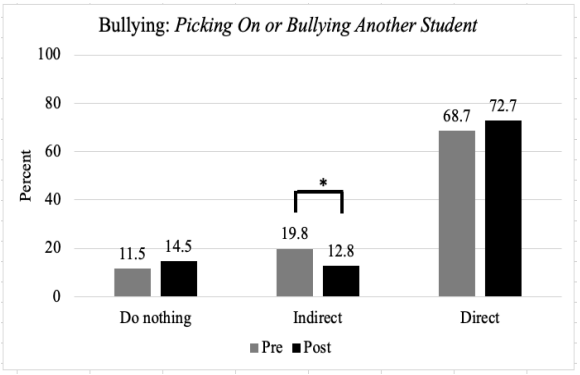


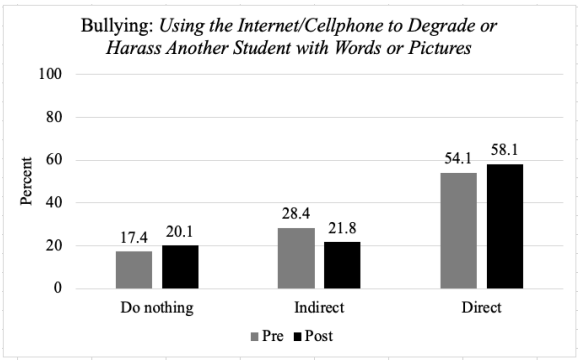
Figure 3

Study 1 Proportion of Students Who Endorses Each Intervention Strategy for the ADV Scenarios.









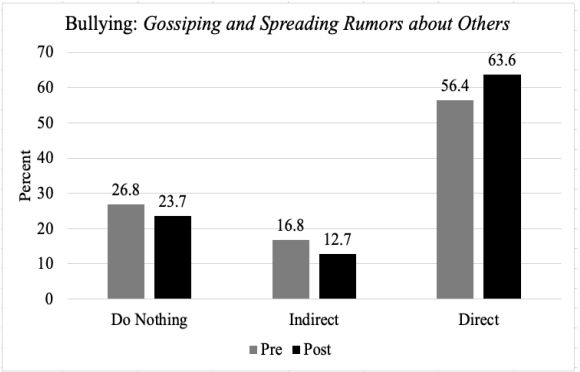


Figure 4

*Study 1 Proportion of Students Who Endorses Each Intervention Strategy for Bullying Scenarios**

Table 4
Study 1 McNemar Results for the Sexual BAS Item

Intervention	Pre	Post	McNemar Results
"Touching and grabbing a student in a sexual way"			
No	21.4%	18.1%	$\chi^2 = 2.52$, $p = .112$
Yes	78.6%	81.9%	

Note. McNemar results represent the proportion of students endorsing no intervention strategy compared to the combined proportion of students who endorsed indirect and direct intervention strategies.

Table 5
Study 1 McNemar Results for the ADV BAS Items

Intervention Intention	Pre	Post	McNemar Results
"Pressuring his/her girlfriend/boyfriend to do something sexually she/he doesn't want to"			
No	16.8%	15.8%	$\chi^2 = 2.14$, $p = .643$
Yes	83.2%	84.2%	
"Pressuring his/her girlfriend/boyfriend to send him/her nude pictures"			
No	19.2%	19.4%	$\chi^2 = 0.20$, $p = .658$
Yes	80.8%	80.6%	
"Keeping his/her girlfriend/boyfriend from spending time with friends"			
No	28.4%	22.6%	$\chi^2 = 2.62$, $p = .106$
Yes	71.6%	77.4%	
"Checking on the whereabouts of his/her girlfriend/boyfriend-trying to keep track of what she/he is doing"			
No	40.1%	30.8%	$\chi^2 = 4.44$, $p = .035$*
Yes	59.9%	69.2%	
"Calling his/her girlfriend/boyfriend mean and derogatory names with the intent to hurt"			
No	16.8%	15.3%	$\chi^2 = 0.37$, $p = .542$
Yes	83.2%	84.7%	
"Doing something to his/her girlfriend/boyfriend that might hurt physically"			
No	11.8%	9.6%	$\chi^2 = 0.83$, $p = .361$
Yes	88.2%	90.6%	
"Doing something to his/her girlfriend/boyfriend that might hurt emotionally"			
No	13.6%	12.7%	$\chi^2 = 0.11$, p = .742
Yes	86.4%	87.3%	
"Doing something to his/her girlfriend/boyfriend that might hurt socially with friends"			
No	14.9%	12.6%	$\chi^2 = 0.923$, p = .337
Yes	85.1%	87.4%	

Table 6
Study 1 McNemar Results for the Bullying BAS Items

Intervention Intention	Pre	Post	McNemar Results
"Calling someone a derogatory name"			
No	24.5%	26.6%	$\chi^2 = 0.00$, $p = 1.00$
Yes	75.5%	73.4%	
"Hurting another student physically"			
No	16.5%	13.9%	$\chi^2 = 2.88$, $p = .090$
Yes	83.5%	86.1%	
"Picking on or bullying another student"			
No	11.5%	14.5%	$\chi^2 = 0.49$, $p = .486$
Yes	88.5%	85.5%	
"Using the internet/cellphone to degrade or harass another student with words or pictures"			
No	17.4%	20.1%	$\chi^2 = 0.09$, $p = .766$
Yes	82.6%	79.9%	
"Gossiping and spreading rumors about others"			
No	26.8%	23.7%	$\chi^2 = 1.45$, $p = .229$
Yes	73.2%	76.3%	

What is the Optimal Number of Factors to Extract for the Self-Efficacy Scale?

Scree plot inspection and parallel analysis were used to determine the optimal number of factors to extract on the 10-item self-efficacy scale pre- and post-intervention. All assumptions were satisfactory and a principal components extraction with an oblique (direct oblimin) rotation was performed. While the analysis yielded two components at both time points (explaining a total of 56.2% and 50.5% of variance, respectively), only reverse coded items highly loaded on the second factor. The communalities of the variables are presented in Appendix A. Overall, results indicate the 10 items load onto a single self-efficacy factor. The scale demonstrated acceptable to questionable reliability in the current study (Cronbach's $a_{pre} = .73$ $a_{post} = .64$). In summary, it did not appear that self-efficacy to intervene as a bystander was different by types of violence being witnessed.

Were there Significant Changes in Self-Efficacy to Intervene Pre- to Post-Intervention?

Correlations among pre- and post-intervention totals and subscales for the self-efficacy (SE) items are presented in Table 7. All scores were significantly positively associated except the correlation between pre-SE Bullying and post-SE ADV (r = .101).

Table 7
Study 1 Correlations Among Self-Efficacy Intervene Averages Pre- and Post-Intervention

	1.	2.	3.	4.	**5.**	6.	7.	8.
1.Pre-SE Overall	1.00	--	--	--	--	--	--	--
2.Pre-SE Sexual	.711**	1.00	--	--	--	--	--	--
3.Pre-SE ADV	.677**	.301**	1.00	--	--	--	--	--
4.Pre-SE Bullying	.822**	.445**	.239**	1.00	--	--	--	--
5.Post-SE Overall	.479**	.397**	.309**	.373**	1.00	--	--	--
6.Post-SE Sexual	.342**	.387**	.262**	.176**	793**	1.00	--	--
7.Post-SE ADV	.219**	.177**	.234**	.101	.751**	.526**	1.00	--
8.Post-SE Bullying	.517**	.369**	.226**	.519**	.771**	.444**	.238**	1.00

Note. SE = Self-Efficacy to Intervene with higher scores indicating higher self-efficacy to intervene when witnessing violent situations.
**Correlation is significant at the 0.01 level (2-tailed)

Descriptive statistics and significance tests on SE totals are presented by gender in Table 8 and by school in Table 9. Results from t-tests indicated significant differences in SE scores between boys and girls, with girls reporting significantly higher SE scores for overall pre-SE, pre-SE Bullying subscale, as well as on the post-SE Bullying subscale compared to boys. To account for these differences, gender was included as a covariate in subsequent analyses.

Table 8
Self-Efficacy to Intervene Means Between Boys and Girls

Variable	*Total* *M (SD)*	Boys *M (SD)*	Girls *M (SD)*	t-test statistics
Pre-SE Overall	**3.38 (0.60)**	**3.27 (0.60)**	**3.50 (0.57)**	***t*(233) = 2.97, *p* = .003**
Pre-SE Sexual	3.17 (0.58)	3.13 (0.56)	3.22 (0.60)	$t(233) = 1.23$, $p = .220$
Pre-SE ADV	3.40 (0.80)	3.36 (0.79)	3.44 (0.80)	$t(233) = 0.77$, $p = .443$
Pre-SE Bullying	3.58 (1.03)	3.32 (1.09)	3.83 (0.89)	$t(233) = 3.94$, $p < .001$
Post-SE Overall	**3.42 (0.56)**	**3.35 (0.55)**	**3.47 (0.56)**	***t*(233) = 1.61, *p* = .108**
Post-SE Sexual	3.25 (0.54)	3.28 (0.53)	3.23 (0.55)	$t(233) = 0.69$, $p = .491$
Post-Se ADV	3.36 (0.77)	3.36 (0.80)	3.35 (0.75)	$t(233) = 0.06$, $p = .953$
Post-SE Bullying	3.64 (0.87)	3.43 (0.90)	3.84 (0.81)	$t(233) = 3.66$, $p < .001$

Note. SE = Self-efficacy, using imputed values.

Table 9
Study 1 Self-Efficacy to Intervene Means Across Schools

Variable	*Total* *M (SD)*	High School 1 *M (SD)*	High School 2 *M (SD)*
Pre-SE Overall	**3.38 (.60)**	**3.36 (.55)**	**3.40 (.62)**
Pre-SE Sexual	3.17 (.58)	3.13 (.57)	3.20 (.59)
Pre-SE ADV	3.40 (.80)	3.18 (.77)	3.52 (.78)
Pre-SE Bullying	3.58 (1.03)	3.76 (.95)	3.48 (1.06)
Post-SE Overall	**3.42 (.56)**	**3.35 (.58)**	**3.45 (.55)**
Post-SE Sexual	3.25 (.54)	3.19 (.53)	3.29 (.54)
Post-Se ADV	3.36 (.77)	3.24 (.75)	3.42 (.78)
Post-SE Bullying	3.64 (.87)	3.63 (.89)	3.65 (.86)

Note. SE = Self-efficacy, using imputed values

Four separate mixed-factor repeated-measure ANOVAs were conducted for total SE scores, sexual SE items, ADV SE items, and bullying SE items, with gender entered as covariate and school entered as a between-subjects factor in each analysis (see Table 10). For the overall SE score, holding gender and school constant, there was not a statistically significant main effect of time, $F(1, 232) = 0.37$, $p = .544$, with bystander self-efficacy scores being similar at pre ($M = 3.39$, $SD = .60$) and post ($M = 3.42$, $SD = .56$) treatment. Consistent with prior t-tests, there was a significant man effect of gender, $F(1, 232) = 7.72$, $p = .006$, $\eta_p^2 = 0.03$. There was not a significant main effect of school, $F(1, 232) = 1.55$, $p = .214$. There was not a significant

interaction between time and gender, $F(1, 232) = 1.86$, $p = .174$, nor between time and school, $F(1, 232) = .81$, $p = .370$.

Table 10
Study 1 Repeated Measure ANOVA for Overall Self-Efficacy to Intervene

Variable	**Sum of Squares**	***df***	***F***	***p***	**Eta-squared**
Within-Subjects Effects					
Time	0.06	1	0.37	.544	0.00
School	0.75	1	1.55	.214	0.01
Time*Gender	0.32	1	1.86	.174	0.00
Time*School	0.14	1	0.81	.370	0.00
Error	39.73	232			
Between-Subjects Effects					
Gender	3.73	1	7.72	.006	0.03
School	0.75	1	1.55	.214	0.01
Time*Gender	0.32	1	1.86	.174	0.00
Time*School	0.14	1	0.81	.370	0.00
Error	112.01	232			

A mixed-factor repeated-measure ANOVA was conducted only with the sexual item answers (Table 11). For sexual SE items, holding gender and school constant, there was not a statistically significant main effect of time for sexual SE scores, $F(1, 232) = 0.01$, $p = .912$. For the sexual harassment SE item, there was not a main effect of gender, $F(1, 232) = 0.22$, $p = .637$, or main effect of school, $F(1, 232) = 1.85$, $p = .175$. There was not a significant interaction between time and gender, $F(1, 232) = 3.0$, $p = .085$, or time and school, $F(1, 232) = 0.06$, $p = .802$.

Table 11
Study 1 Repeated Measure ANOVA for Self-Efficacy Intervene Sexual Item

Variable	Sum of Squares	*df*	*F*	*p*	Eta-squared
Within-Subjects Effects					
Time	0.00	1	0.01	.912	0.00
Time*Gender	0.57	1	3.0	.085	0.01
Time*School	0.01	1	0.06	.802	0.00
Error	44.39	232			
Between-Subjects Effects					
Gender	0.10	1	0.22	.637	0.00
School	0.81	1	1.85	.175	0.01
Error	101.19	232			

For ADV SE items, holding gender and school constant, there was not a statistically significant main effect of time, $F(1, 232) = 0.59$, $p = .442$ (Table 12). For ADV SE scores, there was not a significant main effect of gender, $F(1, 232) = 0.52$, $p = .472$; however, there was a significant main effect of school for ADV scores, $F(1, 232) = 10.25$, $p = .002$, $\eta_p^2 = 0.04$. Students at High School 2 reported higher SE scores ($M = 3.47$, $SE = .05$) compared to students at High School 1 ($M = 3.20$, $SE = .07$). There was not a significant interaction between time and gender, $F(1, 232) = .59$, $p = .443$, or time and school, $F(1, 232) = 1.30$, $p = .256$.

Table 12
Study 1 Repeated Measure ANOVA for Self-Efficacy to Intervene ADV Items

Variable	Sum of Squares	*df*	*F*	*p*	Eta-squared
Within-Subjects Effects					
Time	0.28	1	0.59	.442	0.00
Time*Gender	0.28	1	0.59	.443	0.00
Time*School	0.61	1	1.30	.256	0.01
Error	109.06	232			
Between-Subjects Effects					
Gender	0.38	1	0.52	.472	0.00
School	7.53	1	10.25	.002	0.04
Error	170.40	232			

For bullying SE items, holding gender and school constant, there was not a statistically significant main effect of time, $F(1, 232) = 0.18$, $p = .673$ (Table 13). For bullying SE scores, similar with t-test results, there was a significant main effect of gender, $F(1, 232) = 18.65$, $p < .001$, $\eta_p^2 = .07$. There was not a significant main effect of school for bullying SE scores, $F(1, 232) = .86$, $p = .354$. There was not a significant interaction between time and gender, $F(1, 232) = .40$, $p = .529$, but there was a significant interaction between time and school, $F(1, 232) = 7.56$, $p = .006$.

Table 13
Study 1 Repeated Measure ANOVA for Self-Efficacy to Intervene Bullying Items

Variable	**Sum of Squares**	***df***	***F***	***p***	**Eta-squared**
Within-Subjects Effects					
Time	0.08	1	0.18	.673	0.00
Time*Gender	0.17	1	0.40	.529	0.00
Time*School	3.19	1	7.56	.006	0.03
Error	98.04	232			
Between-Subjects Effects					
Gender	23.64	1	18.65	<.001	0.07
School	1.09	1	0.86	.354	0.00
Error	294.09	232			

To examine the interaction between time and school for the bullying items, the data file was split file by school (conducted an ANOVA with bullying score and gender as covariate). For High School 1, bullying SE scores decreased from pre ($M = 3.79$, $SD = 0.91$) to post ($M = 3.62$, $SD = 0.89$), but there was not a main effect of time, $F(1, 80) = 0.97$, $p = .329$. There was still a significant effect of gender, $F(1, 80) = 10.97$, $p = .001$, $\eta_p^2 = 0.12$, and the time by gender interaction was not significant, $F(1, 80) = .18$, $p = .676$. For High School 2, bullying SE scores increased from pre ($M = 3.48$, $SD = 0.08$) to post ($M = 3.65$, $SD = 0.07$), but there was not a main effect of time, $F(1, 151) = 0.82$, $p = .367$. Further, the main effect of gender was still significant,

$F(1, 151) = 9.10$, $p = .003$, $\eta_p^2 = 0.06$, and the time by gender interaction was not significant, $F(1, 151) = 1.27$, $p = .261$.

Discussion Study 1

The current study examined student-rated bystander intention intervention strategies and self-efficacy (SE) to intervene for various violent scenarios (sexual harassment, ADV, bullying) after implementation of MVP in the 2012-2013 school year for a sample of youth across two high schools in Iowa. Overall, there were few observed changes pre- to post-MVP for the current study metrics, with both students at both schools having similar results.

Results from the BAS analyses indicated that most students chose direct intervention strategies both pre- and post-MVP, across all types of scenarios. The few significant changes that were observed were increases in the proportion of students who endorsed direct intervention strategies, which is consistent with the goals of MVP. There were no significant changes in self-efficacy to intervene (SE) scores pre- and post-MVP. Most SE scores were not significantly different by gender; when differences emerged, girls tended to report higher SE than boys. Examination of BAS intervention strategies between boys and girls revealed that more boys chose not to intervene at both pre- and post-MVP (Appendix C). This appeared true across all types (sexual, ADV, bullying) and forms (physical, sexual, verbal) of violence.

The average reported SE to intervene was medium to high in general, with a mean of 3.38 for pre-intervention and 3.42 post-intervention on a five-point scale (1 = *Strongly Disagree*; 5 = *Strongly Agree*). The structure of SE items was explored to test for potential factors loadings that corresponded with the different types of violence (e.g., bullying vs. ADV). Results indicated SE items generally loaded onto a single factor and did not differentiate self-efficacy to intervene by types of aggression.

One possible explanation for the lack of changes in intervention intentions/strategies and self-efficacy from pre- to post-treatment is that the program was not effective. Few bystander programs have demonstrated effective changes in rates sexually violent behavior or reported behavioral intentions (DeGue et al., 2014). Much of the research evaluating MVP has linked participation to increased knowledge (Ward, 2001) and changes in attitudes about violence (Cissner, 2009; Katz, 2011), but has yet to document significant changes in behaviors or behavioral intentions among high schoolers, other than qualitatively (Williams & Neville, 2017). Researchers have also found improvements in willingness to intervene among adolescents participating in MVP, but only for more severe aggressive behavior (Katz, 2011).

Although the current study did not find significant changes in SE scores pre- to post-MVP, unpublished research on MVP with a sample of college students (Eriksen, 2015) demonstrated changes on scores of SE as well as for participants' willingness to engage in a wide range of bystander behaviors. Unfortunately, mean scores are not available in the Eriksen (2015) report; therefore, general rates of SE cannot be compared across their study and the current study. It may be that students in the current sample reported higher SE at pre-intervention compared to participants in the Eriksen study, so there was less room for scores to increase in the current sample. Another possibility is that MVP has a larger impact on SE for intervening in violent situations for older, college-age adults than in high school youth. This is consistent with findings of changes in SE after bystander interventions targeting college students (Amar et al., 2014; Banyard, 2008; Banyard & Moynihan, 2011; Peterson et al., 2018).

Another possibility is that unassessed factors played a mediating or moderating role in changes in SE from pre- to post-MVP. For instance, the highest individual SE score among the items was the bullying items (*M*s = ~3.60 on the 5-point scale) and in the item "I have the skills

to help support a female friend who is in an abusive relationship" (*M* = 3.83). Furthermore, the lowest means were seen for two of the sexual harassment items "A group of guys would listen to me if I confronted them about their sexist behaviors," and "It would be hard for me to confront a stranger who was being abusive toward a girl or a woman." Notably, these items indicate the perpetrator is a stranger to the bystander. Research indicates relationship with both the victim and the perpetrator can influence bystander attitudes, intent, and behaviors (Bennett & Banyard, 2016; Bennett et al., 2014; Nicksa, 2014). Thus, additional comparison of types of violence (e.g., sexual harassment, bullying) as well as relationship with the perpetrator or victim (i.e., friend, stranger) is warranted in future work. Moreover, given Katz's (2011) finding that youth were more likely to report willingness to intervene for more severe aggressive situations than more modest situations, factors of severity and aggressive behavior type (verbal, sexual, or physical) would allow for a better understanding of how the SE of bystanders is influenced by the MVP program.

An additional reason for the lack of significant increases in intervention and SE might be a limitation in the instruments used. The reverse-coded items in the SE scale loading onto a separate component, possibly suggesting method-level variance, inattention to item wording, or reading difficulties. This is consistent with previous research demonstrating that individuals often fail to attend to the negative-positive wording of items (Schmitt & Stults, 1985). Items that are phrased inconsistently with the rest of the items on the measure will produce a response that is also inconsistent with the other responses for that construct. Schmitt and Stults note that all instruments are subject to this problem and advise using caution when interpreting such items.

Finding higher SE among girls compared to boys is consistent with previous research on MVP (Eriksen, 2015) and in the bystander literature more generally (Amar et al., 2014; Bennett

et al., 2017; Hoxmier et al., 2020). Although the bullying literature indicates girls express lower defender self-efficacy than boys (Thornberg & Jungert, 2013), the MVP program's focus on gendered violence might be especially relevant for improving girls' SE for intervening in such situations.

Study 2

Method Study 2

Participants

The second study also used data collected from participants enrolled in high schools in Iowa. Participants were 1,725 high school students enrolled in one of 16 schools. Schools with fewer than 100 students who completed pre- and post-program measures were excluded from analysis. Furthermore, students who enrolled as mentors in the MVP program were excluded from analyses because the mentors receive more in-depth and specific training from the MVP program compared to the rest of the study body. The final sample included 1,248 participants in four schools (High School A [n = 231], High School B [n = 279], High School C [n = 559], and High School D [n = 179]). The sample was 53.4% female with 0.5% in 8th grade, 60.2% in 9th grade, 37.8% in 10th, 0.9% in 11th, 0.6% in 12th. The mean age is 15.41 years (SD = 0.93) and the racial/ethnic make-up of participants was as follows: 68.8% White, 14.7% Latinx, 8.2% as another race not listed, 3.4% African American/Black, 3.4% Asian, 1.3% Native American, and 0.2% did not report race/ethnicity.

Table 14 presents information on each school (e.g., graduation rates, enrollment, test scores) for the 2018-2019/2020 school years (https://educationdata.org/public-education-spending-statistics; https://nces.ed.gov/ccd/schoolsearch). High School A had the top graduation rates, test scores, and lowest students to teacher ratio compared to the other schools (less students

per teacher), closely followed by High School C. Both schools also had the lowest number of students enrolled for free/reduced and the lowest diversity of the student body. On the other hand, High School B and High School D were in the bottom 50% of test scores, had high student-teacher ratios, lower graduation rates, and had higher diversity and free/reduced lunch enrollment than the other two schools.

Table 14
Study 2 Information Across Each School

High School (HS)	Enrollment	Test score rankings for Iowa	Racial/ Ethnic %	Student-Teacher ratio	Graduation Rate	Free/ Reduced Lunch
HS A	1,117 (51% female)	Top 10%	84% White, 4% Black, 3% Latinx, 4% Asian 5%, Two or more races	13:1 (88 teachers)	97%	13%/3%
HS C	2,073 (50% female)	Top 50%	83% White, 4% Black, 6% Latinx, 3% Asian, 4% Two or more races	18:1, (113 teachers)	95%	24%/5%
HS D	908 (51% female)	Bottom 50%	48% White, 33% Black, 11% Latinx, 1% Hawaiian, 1% Asian 6%, Two or more races	15:1 (62 teachers)	>95%	54%/5%
HS B	1,486 (51% female)	Bottom 50%	40% White, 3% Black, 51% Latinx, , 4% Asian, 2% More than one race	17:1 (90 teachers)	88%	46%/8%

Note. Data are for the 2017/2018 school year, during which the study took place. Iowa state average for graduation rates across schools in this year was 89%, student-teachers ratio was 14:1, free lunch was 33%, and the average for free lunch was 7%.

Procedures

Data were collected in the spring during the 2018-2019 school year. Students completed an online survey at one time-point, after participating in the MVP program. The survey included

retrospective questions about their intentions and attitudes before and after the MVP program. All procedures were similar to that of study 1.

Mentors in Violence Prevention. As in Study 1, the MVP program was implemented by school staff serving as MVP advisors and student leaders serving as MVP mentors.

Measures

Demographic Characteristics. Students provided information about their gender, age, grade, and race/ethnicity. Age was coded as a continuous variable (in years). Grade was coded as freshman (1), sophomore (2), junior (3), or senior (4). Gender was coded as male (1) or female (0), and race/ethnicity was coded as non-Hispanic White (1) or student of color (0).

Mentor in Violence Prevention. Students were asked if they were an MVP mentor. Students who indicated yes were coded a 1 and others were coded as 0 in order to exclude mentors from data analysis.

Bystander Behavioral Intervention (Strategy). As in study 1, the BAS was used to assess bystander intentions to use different intervention strategies in situations of aggression. The BAS was given at one time point (post-intervention), but students were asked to answer the questions based on their current intentions/thoughts, but then were also asked to consider which options they would have chosen if the encountered these situations at the beginning of the school year (September). A similar measure with 13 items/scenarios used in study 1 were used in study 2 (Table 2). However, rather than 8 total item responses, students in study 2 were provided with 6 potential bystander intervention strategies: *say or do something myself to intervene (1), talk to my parents about the situation (2), talk to an adult in my school (3), talk to a Mentors in Violence Prevention Mentor (4), probably laugh or go along with it (5), do nothing (6)*. Students could select more than one bystander intervention strategy. As in study 1, frequencies were

examined for each of the scenarios. Responses were coded into three categories: option 1 was recoded as “direct intervention” (2), responses 2 through 4 were recoded as “indirect intervention only” (1), and responses 5 and 6 were recoded as “no intervention” (0). Participants who responded to multiple options were coded according to the lowest numbered response they provided (e.g., if someone indicate response options 3 and 5, they were coded as “direct intervention” because 3 is a direct intervention and 5 is an indirect intervention).

Responsibility to Intervene. To assess personal responsibility to intervene when encountering aggression situations, students were administered the *Responsibility to Intervene* (RI) scale, which was developed by the MVP implementation team (Table 15). Similar to the BAS, students were asked to indicate how they would respond “today” and “back in September” for each item. Six items were chosen from the scale, two assessing sexual harassment, two assessing bullying, and two assessing ADV. Students were asked “I have a responsibility to express my discomfort or do something when…” and then responded on a 5-point scale (1 = *Strongly Disagree*, 2 = *Disagree* 3 = *Uncertain*, 4 = *Agree*, 5 = *Strongly Agree*). Example items include: “If I hear[d] someone making a sexist comment”, “If I suspect[ed] someone is in a relationship that is abusive.” An overall average score was calculated as well as averages for bullying, dating violence, and sexual harassment items. Higher scores correspond with higher rated personal responsibility to intervene.

Table 15
Study 2 Measures and Items for Responsibility to Intervene

Item	Violence Type
1. Today/Back in September: If I hear someone making a sexist comment	Sexual harassment
2. Today/Back in September: If I see/saw someone taking advantage of another person in a sexual way	Sexual harassment
3. Today/Back in September: If I suspect[ed] someone is being abusive to his/her girlfriend or boyfriend	ADV
4. Today/Back in September: If I suspect[ed] someone is in a relationship that is abusive	ADV
5. Today/Back in September: If see/saw someone picking on another student	Bullying
6. Today/Back in September: If I see/saw or know/knew someone is trying to physical hurt another person	Bullying

Note. Measure description was "I have a responsibility to express my discomfort or do something when…" and items were rated on a 5-point scale (1 = Strongly Disagree, 2 = Disagree 3 = Uncertain, 4 = Agree, 5 = Strongly Agree)

Analytic Approach

Similar to Study 1, missing data frequency and patterns were examined. Frequencies presented for the BAS measure options are presented in graphs, describing the types of bystander behaviors endorsed in situations of violence (e.g., "calling a student a derogatory name"), comparing types of behaviors endorsed (e.g., indirect intervention). Graphs are grouped by bullying, ADV, and sexual harassment. As in study 1, a principal component analysis was conducted on the RI items to test whether the structure was consistent with my conceptual grouping by types of violence (i.e., bullying, dating violence, and sexual harassment items loading together). T-tests and chi-square analyses were used to examine differences in RI based on gender, ethnicity, and grade to include as potential covariates if significant. Repeated measures analyses of variance (ANOVAs) were conducted to examine pre- and post- RI scores over time (within-subjects variable), across school and gender (between-subjects variables). Four ANOVAs were conducted to examine the overall RI scores, as well as for the separate sub-

averages to evaluate the three dependent variables: bullying, dating violence, and sexual harassment.

Power Analysis

An *a priori* power analyses using G*Power 3.1.9.2 suggested that a sample size of 136 would be required to detect a medium effect size (e.g., $f = .27$, Katz, 2011) at $\alpha = .013$ (.05/4 = .013, three analyses) and power = .80, using a repeated measures ANOVA with a within-between interaction (4 schools, and 2 time points), and a correlation among repeated measures of $r = 0.3$. With gender also included as a variable (2 gender categories x 4 schools = 8 groups, 2 time points), the required sample size increases to 184 with a correlation of $r = 0.3$.

Results Study 2

Missing data did not exceed 3% for any study variables except for RI items (16.5% missing pre- and post-intervention). Chi-square test results indicated RI missing data patterns were not related to race or gender (p values > .05); however, results indicated missing data patterns were related to school and not missing at random (14.7% missing at High School A, 14.0% at High School B, 20.8% at High School C, and 9.5% missing data at High School D); therefore, data imputation techniques such as multiple imputation were not conducted. Missing data was excluded listwise from analyses. Prior to running analyses, all assumptions were checked and addressed.

Did the Proportion of Students Who Would Intervene in Violent Scenarios Change Pre- to Post-Intervention?

Proportions of the percentage of youth who endorsed each intervention strategy for each scenario (items on the BAS) are presented in the graphs in Figures 5, 6, and 7[1].

[1]Z-tests were conducted to test whether the endorsement of each strategy significantly changed pre- to post-intervention (significant changes are denoted by a * on graphs).

These graphs are grouped by scenario type (sexual harassment, ADV, bullying). Graphs present significant differences pre- to post-MVP for retrospectively rated bystander intention across 13 scenarios. There were significant differences for all 13 of the scenarios. These significant changes were largely seen in decreases in the proportion of youth who chose indirect intervention and increases in the proportion of youth choosing direct invention.

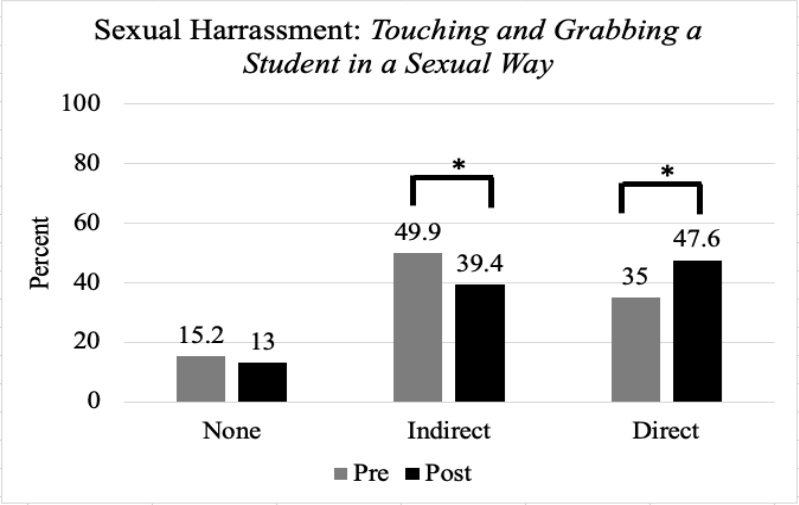
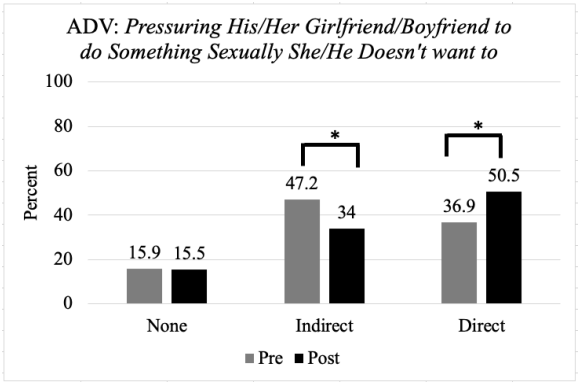
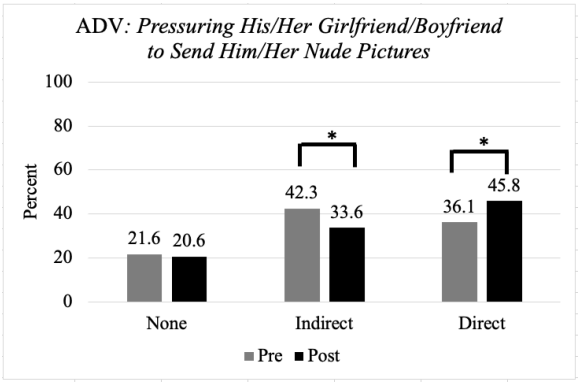
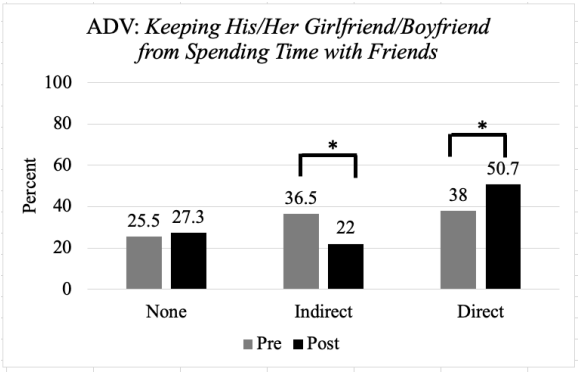
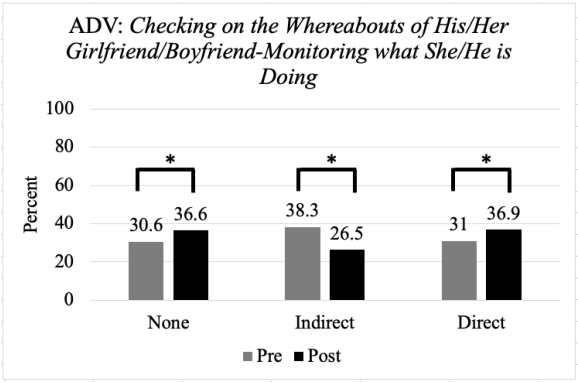


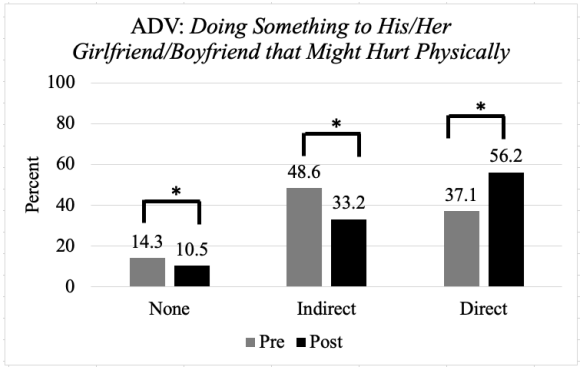
Figure 5
Study 2 Proportion of Students who Endorsed Each Intervention Strategy for the Sexual Scenario

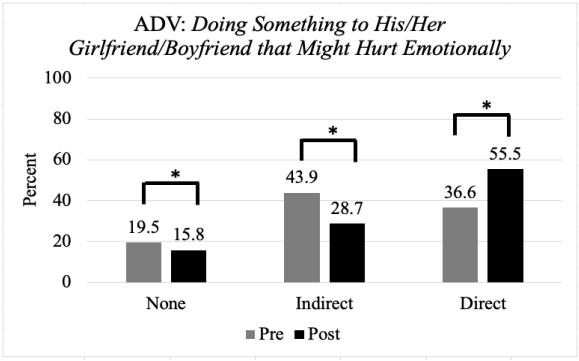












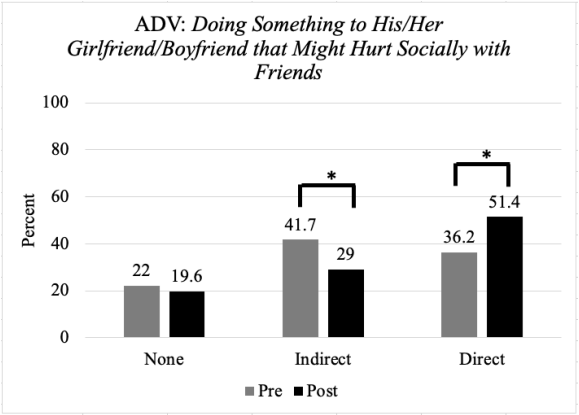


Figure 6

Study 2 Proportion of Students who Endorsed Each Intervention Strategy for the ADV Scenarios

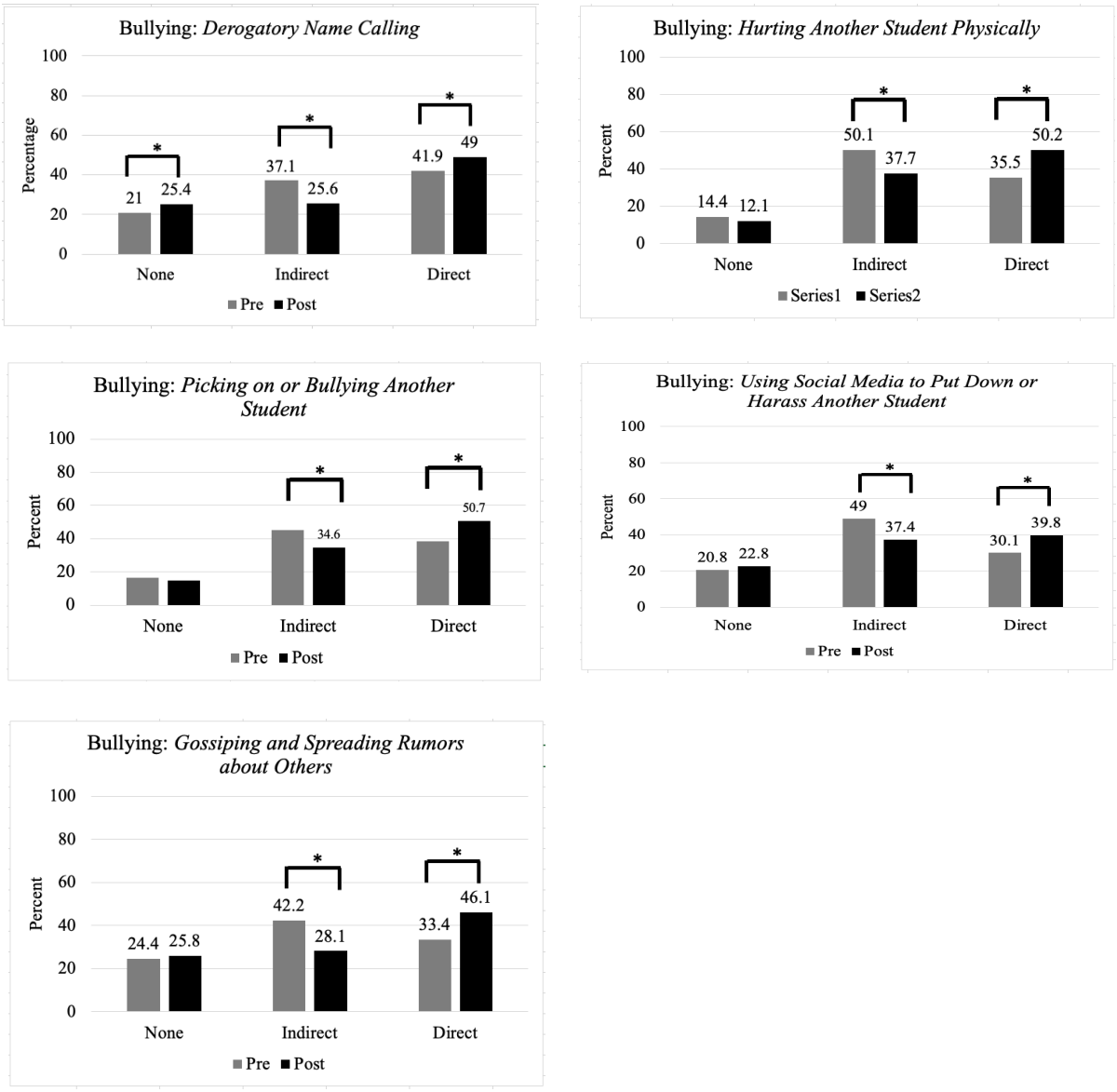


Figure 7

Study 2 Proportion of Students who Endorsed Each Intervention Strategy for the Bullying Scenarios

The most often endorsed intervention strategy was direct or indirect intervention at both pre- and post-MVP. The highest endorsement of direct intervention was seen post-MVP among the ADV items (56.2% "Doing something to hurt his/her girlfriend/boyfriend physically", 55.5% Doing something to hurt his/her girlfriend/boyfriend emotionally"). The lowest endorsement of direct intervention, and subsequently highest endorsement of no intervention, was for the

following ADV scenario: “Checking on the whereabouts of his/her girlfriend/boyfriend-Monitoring what he/she is doing” (36.6% indicated no intervention post-MVP).

McNemar test results comparing proportions are presented in Tables 16 through 18. Taken together, McNemar tests revealed few significant changes when comparing the proportion of students who would intervene in some way pre- to post-MVP. There were only significant differences observed in six scenarios. There was increased in intention to intervene for the sexual scenario (“Touching and grabbing a student in a sexual way”), three of the ADV scenarios (“Checking on the whereabouts of his/her girlfriend/boyfriend-monitoring what she/he is doing”; “Doing something to his/her girlfriend/boyfriend that might hurt physically”; “Doing something to his/her girlfriend/boyfriend that might hurt emotionally”), and one of the bullying scenarios (“Hurting another student physically”). Unexpectedly, one of the bullying scenarios showed a significant *decrease* in intention to intervene, with a significantly larger proportion of youth indicating they would not intervene (“Calling someone a derogatory name”) at post-MVP compared to retrospective pre-MVP reports. Results generally support a modest benefit of MVP.

Table 16
Study 2 McNemar Results of the Sexual BAS Item

Intervention Intention	**Pre**	**Post**	**McNemar Results**
“Touching and grabbing a student in a sexual way”			
No	15.2%	13.0%	$\chi^2 = 4.08$, $p = .043$
Yes	84.8%	87.0%	

Table 17
Study 2 McNemar Results of the ADV BAS Items

Intervention Intention	Pre	Post	McNemar Results
"Pressuring his/her girlfriend/boyfriend to do something sexually she/he doesn't want to do"			
No	15.9%	15.5%	$\chi^2 = 0.15$, $p = .699$
Yes	84.1%	84.5%	
"Pressuring his/her girlfriend/boyfriend to send him/her nude pictures"			
No	21.6%	20.6%	$\chi^2 = 0.99$, $p = .319$
Yes	78.4%	79.4%	
"Keeping his/her girlfriend/boyfriend from spending time with friends"			
No	25.5%	27.3%	$\chi^2 = 2.80$, $p = .094$
Yes	74.5%	72.7%	
"Checking on the whereabouts of his/her girlfriend/boyfriend-monitoring what she/he is doing"			
No	30.6%	36.6%	$\chi^2 = 11.19$, $p = .001$
Yes	69.4%	63.4%	
"Doing something to his/her girlfriend/boyfriend that might hurt physically"			
No	14.3%	10.5%	$\chi^2 = 12.76$, $p < .001$
Yes	85.7%	89.5%	
"Doing something to his/her girlfriend/boyfriend that might hurt emotionally"			
No	19.5%	15.8%	$\chi^2 = 11.60$, $p = .001$
Yes	80.5%	84.2%	
"Doing something to his/her girlfriend/boyfriend that might hurt socially with friends"			
No	22.0%	19.6%	$\chi^2 = .2.91$, $p = .088$
Yes	78.0%	80.4%	

Table 18
Study 2 McNemar Results of the Bullying BAS Items

Intervention Intention	Pre	Post	McNemar Results
"Calling someone a derogatory name"			
No	21.0%	25.4%	$\chi^2 = 9.38$, $p = .002$
Yes	79.0%	74.6%	
"Hurting another student physically"			
No	14.4%	12.1%	$\chi^2 = 6.25$ $p = .012$
Yes	85.6%	87.9%	
"Picking on or bullying another student"			
No	16.3%	14.7%	$\chi^2 = 1.12$, $p = .290$
Yes	83.7%	85.3%	
"Using the internet/cellphone to degrade or harass another student with words or pictures"			
No	20.8%	22.8%	$\chi^2 = 0.53$, $p = .467$
Yes	79.2%	77.2%	
"Gossiping and spreading rumors about others"			
No	24.4%	25.8%	$\chi^2 = .45$, $p = .500$
Yes	75.6%	74.2%	

What is the Optimal Number of Factors to Extract for the Responsibility to Intervene Measure?

Principal component extraction with an oblique (direct oblimin) rotation was performed on the six items assessing responsibility to intervene (RI). Results indicated that all six RI items loaded onto a single factor both pre- and post-intervention, explaining 85.0% and 87.4% of the of variance for the entire set of variables, respectively. The communalities of the variables at pre- and post-intervention are presented in the Appendix B. Cronbach alpha coefficients for the RI measure in the current study were excellent (a = .95 for both pre- and post-RI items).

Were there Significant Changes in Students Reported Responsibility to Intervene from Pre- to Post-Intervention (Reporting Retrospectively)?

Correlations among the RI averages (total, sexual, ADV, and bullying) are presented in Table 19. All averages were significantly, positively correlated. Descriptive statistics and significance tests for RI totals are presented by gender in Table 20. Results from t-tests indicated significant differences in RI scores between boys and girls across all averages, with girls reporting significantly higher RI scores than boys. In order to account for these differences, gender was included as a covariate in subsequent analyses.

Table 19
Study 2 Correlations Among Responsibility to Intervene Averages Pre- and Post-Intervention

	1.	2.	3.	4.	**5.**	6.	7.	8.
1.**Pre-RI Overall**	1.00	--	--	--	--	--	--	--
2.Pre-RI Sexual	.946**	1.00	--	--	--	--	--	--
3.Pre-RI ADV	.939**	.835**	1.00	--	--	--	--	--
4.Pre-RI Bullying	.934**	.831**	8.12**	1.00	--	--	--	--
5.**Post-RI Overall**	.832**	.804**	.771**	.772**	1.00	--	--	--
6.Post-RI Sexual	.803**	.797**	.725**	.739**	.959**	1.00	--	--
7.Post-RI ADV	.789**	.746**	.774**	.708**	.946**	.856**	1.00	--
8.Post-RI Bullying	.789**	.756**	.707**	.764**	.957**	.888**	.850**	1.00

Note. RI = Responsibility to Intervene with higher scores indicating higher responsibility to intervene when witnessing violent situations.
**Correlation is significant at the 0.01 level (2-tailed)

Table 20
Study 2 Responsibility to Intervene Means Between Boys and Girls

Variable	*Total* *M (SD)*	Boys *M (SD)*	Girls *M (SD)*	t-test statistics	Effect size *d*
Pre-RI Overall	**3.34 (0.97)**	**3.16 (0.98)**	**3.52 (0.92)**	***t*(1,014) = 5.97, *p* < .001**	0.38
Pre-RI Sexual	3.36 (1.02)	3.16 (1.05)	3.55 (0.95)	*t*(1,014) = 6.20, *p* < .001	0.39
Pre-RI ADV	3.30 (1.06)	3.12 (1.05)	3.47 (1.04)	*t*(1,015) = 5.38, *p* < .001	0.33
Pre-RI Bullying	3.36 (1.01)	3.20 (1.03)	3.52 (0.96)	*t*(1,015) = 5.18, *p* < .001	0.32
Post-RI Overall	**3.59 (0.96)**	**3.35 (0.98)**	**3.81 (0.89)**	***t*(1,015) = 7.86, *p* < .001**	0.49
Post-RI Sexual	3.36 (1.00)	3.34 (1.02)	3.82 (0.92)	*t*(1,014) = 7.84, *p* < .001	0.49
Post-RI ADV	3.58 (1.02)	3.34 (1.03)	3.80 (0.94)	*t*(1,016) = 7.48, *p* < .001	0.47
Post-RI Bullying	3.59 (1.01)	3.37 (1.05)	3.81 (0.91)	*t*(1,015) = 7.11, *p* < .001	0.45

Note. RI = Responsibility to Intervene was rated on a 5-point scale with higher scores indicating higher responsibility.

Separate ANOVAs were conducted to examine total, sexual, ADV, and bullying RI scores across school and gender (Tables 21 to 23). For the overall RI model, there was a significant effect of time, $F(1, 1008) = 181.11$, $p < .001$, $\eta_p^2 = .15$, such that RI scores significantly increased from retrospective pre- ($M = 3.38$, $SE = .03$) to post-intervention ($M = 3.63$, $SE = .03$). The main effect for gender was significant, $F(1, 1008) = 53.17$, $p < .001$, $\eta_p^2 = .05$, with girls reporting higher RI ($M = 3.72$, $SE = .05$) compared to boys ($M = 3.29$, $SE = .04$). The main effect for school was also significant, $F(3, 1008) = 10.08$, $p < .001$, $\eta_p^2 = .03$. The interaction between time and gender was significant, $F(1, 1008) = 8.98$, $p = .003$, with girls reporting larger increases in RI over time compared to boys (Figure 8); however, this was a small effect ($\eta_p^2 = .01$). The interaction between time and school was not significant, $F(3, 1008) = 1.04$, $p = .373$, nor was the interaction between gender and school, $F(3, 1008) = 2.46$, $p = .061$. Finally, the interaction between time, school, and gender was not significant, $F(3, 1008) = 0.60$, $p = .613$. Figure 10 presents overall RI scores pre- to post-intervention for boys and girls at each school.

Table 21
Study 2 Repeated Measure ANOVA for Overall Responsibility to Intervene

Variable	**Sum of Squares**	***df***	***F***	***p***	**Eta-squared**
Within-Subjects Effects					
Time	28.54	1	181.11	<.001	0.15
Time*Gender	1.42	1	8.98	.003	0.01
Time*School	1.16	3	2.46	.061	0.01
Time*Gender*School	0.29	3	0.60	.613	0.00
Error	158.86	1008			
Between-Subjects Effects					
Gender	83.58	1	53.17	<.001	0.05
School	47.55	3	10.08	<.001	0.03
Gender*School	4.91	3	1.04	.373	0.00
Error	1584.73	1008			

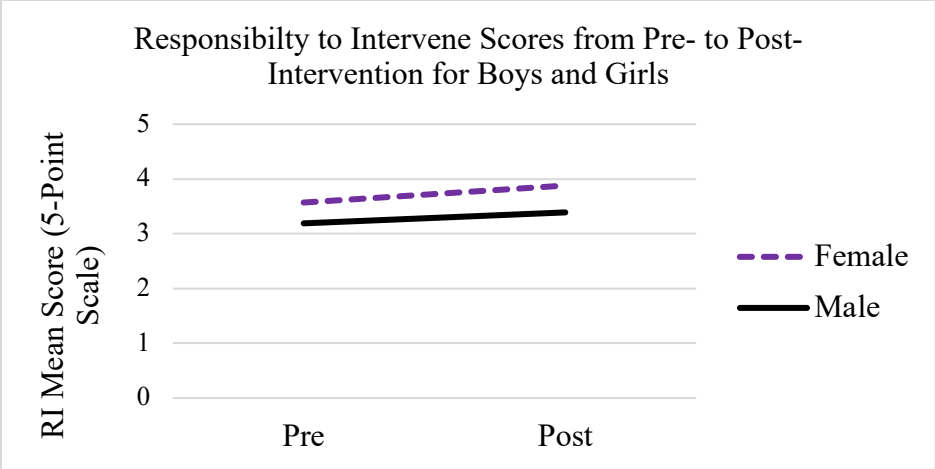


Figure 8
Changes in Responsibility to Intervene Pre- and Post-MVP Intervention by Gender

Mixed-factor ANOVAs were conducted for sexual, ADV, and bullying RI items (Tables 19 to 21). As with the overall model, there was a significant effect of time for sexual, ADV, and bullying RI scores. Furthermore, the main effects of gender, school, as well as the interaction between time and gender were significant for all models. The time by school interaction was significant for sexual RI; however, the effect size was very small (η_p^2= .01) and when using a Bonferroni adjusted significance value of p = .0125 (.05/4 analyses), the effect was no longer significant.

Table 22
Study 2 Repeated Measure ANOVA for Responsibility to Intervene Sexual Item

Variable	**Sum of Squares**	***df***	***F***	***p***	**Eta-squared**
Within-Subjects Effects					
Time	25.12	1	120.63	<.001	0.11
Time*Gender	0.83	1	3.97	.047	0.00
Time*School	1.73	3	2.76	.041	0.01
Time*Gender*School	0.54	3	0.87	.458	0.00
Error	209.91	1008			
Between-Subjects Effects					
Gender	99.77	1	58.83	<.001	0.06
School	47.35	3	9.31	<.001	0.03
Gender*School	5.61	3	1.10	.347	0.00
Error	1709.34	1008			

Table 23
Study 2 Repeated Measure ANOVA for Responsibility to Intervene ADV Items

Variable	**Sum of Squares**	***df***	***F***	***p***	**Eta-squared**
Within-Subjects Effects					
Time	37.61	1	37.61	<.001	0.13
Time*Gender	1.53	1	6.23	.013	0.01
Time*School	1.86	3	2.52	.057	0.01
Time*Gender*School	0.26	3	0.35	.790	0.00
Error	247.88	1009			
Between-Subjects Effects					
Gender	79.87	1	44.80	<.001	0.04
School	43.25	3	8.09	<.001	0.02
Gender*School	3.84	3	0.72	.542	0.00
Error	1798.92	1009			

Table 24
Study 2 Repeated Measure ANOVA for Responsibility to Intervene Bullying Items

Variable	**Sum of Squares**	***df***	***F***	***p***	**Eta-squared**
Within-Subjects Effects					
Time	23.72	1	97.90	<.001	0.09
Time*Gender	2.03	1	8.39	.004	0.01
Time*School	0.68	3	0.94	.42	0.00
Time*Gender*School	0.40	3	0.55	.649	0.00
Error	2444.19	1008			
Between-Subjects Effects					
Gender	72.64	1	43.74	<.001	0.04
School	55.68	3	11.18	<.001	0.03
Gender*School	7.11	3	1.43	.233	0.04
Error	1673.95	1008			

On average, students at High School A reported the highest RI, followed by High School D and High School B. High School C students had the lowest average RI scores (Figure 9). Post hoc LSD tests indicated students at High School A reported significantly higher RI scores compared to students at High School B ($p < .001$), High School C ($p < .001$), and High School D

(p = .049). The only other significant difference between schools was that students at High School D reported higher RI scores compared to High School C (p = .016).

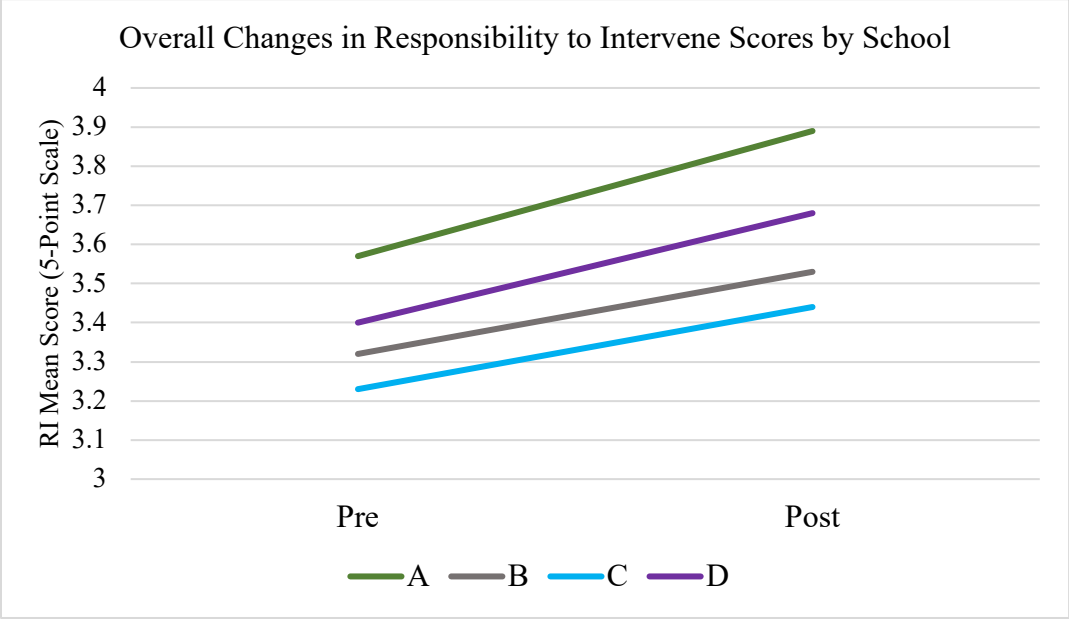


Figure 9
Changes in Responsibility to Intervene Pre- and Post-MVP Intervention by School

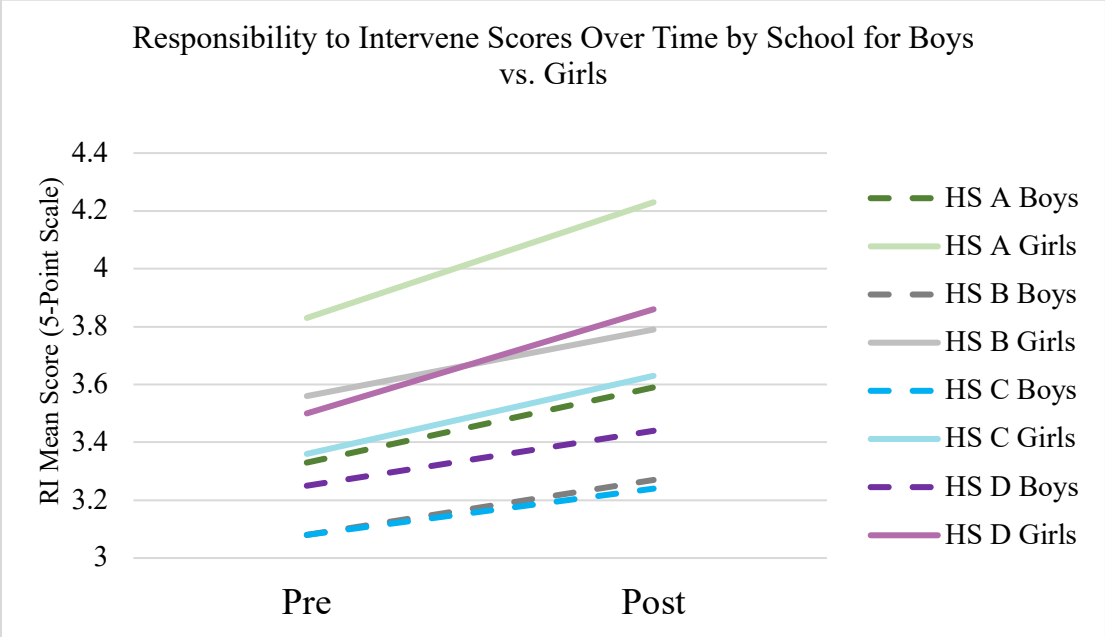


Figure 10
Changes in Responsibility to Intervene Pre- and Post-MVP Intervention by School For Boys vs. Girls

Discussion Study 2

Retrospectively rated bystander intentions and responsibility to intervene for various violent scenarios were examined after implementation of MVP for a large sample of youth across four high schools in Iowa. Similar to findings from study one, there were few differences in bystander intention (BAS items), although when differences were observed they were in a positive direction (i.e., increases in self-reported direct intervention intentions). As in the first study, direct intervention was chosen most often at post-intervention; however, different from study one, at pre-intervention indirect strategies were chosen at a similar or higher rate than direct intervention strategies. Examination of BAS intervention strategies between boys and girls revealed that more boys chose not to intervene at both pre- and post-MVP (Appendix D). This appeared true across all types (sexual, ADV) and forms (physical, sexual) of violence.

Although there were significant increases in responsibility to intervene (RI) scores over time, examination of the means suggests this was a small effect that may not be clinically meaningful. As in study 1, girls reported higher RI compared to boys for all types of violence Despite the importance of assuming responsibly to intervene in Latané and Darley's (1970) bystander model, few studies have directly assessed RI among high school violence prevention program participants. Studies with college students indicate responsibility to intervene is a salient factor in predicting bystander behaviors. For instance, Burn (2009) found failure to take responsibility was a unique predictor of lower reported likelihood of intervening in risky situations for college youth. Bennett et al. (2014) found failure to take responsibility (and skills deficits) were significantly related to lower bystander intervention behaviors in college students. In hypothetical vignettes, Katz et al. (2015a, 2015b) found lower responsibility was related to lower intentions to intervene in a sexual assault situation. The authors also found men endorsed

perceived responsibility as a barrier to intervening more often than women. Taken together, bystander programs change beliefs and knowledge (Banyard et al., 2009; Banyard, Plante, & Moynihan, 2005; Moynihan & Banyard, 2008), but continued empirical research is needed to show these programs increase responsibility to intervene and impact bystander interventions behaviors.

General Discussion

To reduce rates of violence, investigators are focusing on the role of bystanders, particularly in the school milieu. Adolescence is an important developmental period and prevention and intervention within the school can promote the greatest population-level impact (e.g., DeGue, 2014). Research has demonstrated positive impacts of bystander interventions across multiple outcomes (e.g., e.g., DeGue, 2014) and the current study continues this line of research by examining the Mentors in Violence Prevention (MVP) bystander intervention program among high school students. The study expands on previous research by examining additional dependent variables (e.g., the responsibility to intervene or RI) and investigating potential differences in program effectiveness for three types of aggression: sexual harassment, adolescent dating violence (ADV), and bullying.

Overall, results suggest there seems to be little change in self-efficacy to intervene (SE) and responsibility to intervene (RI) across violent scenarios from pre- to post-MVP, both measured by a pre- post-test design as well as retrospectively. Since few studies support the effectiveness of bystander programs for increasing actual prosocial behavior among college students (Banyard et al., 2009; Banyard et al., 2007; Coker et al. 2011; Katz & Moore, 2013; Miller et al., 2013; Moynihan & Banyard, 2008), continued research is needed to understand the factors that lead to behavior change. Both SE and RI are linked to increased bystander

intervention. Though recognition of the problem and reducing violence-supportive attitudes are critical for changing the culture around violent behaviors, individual bystander responsibility, confidence, and intent are thought to be key in predicting future behavior (Labhardt et al., 2017). For instance, Yule & Gyrch (2017) found higher bystander SE was linked to more RI and higher prosocial bystander behavioral intentions. An individual's confidence (beliefs regarding the effectiveness of their actions) can also significantly impact behavior (Labhardt et al., 2017). It is particularly important to consider SE, RI, and intentions given that attitudes are not always accurate predictors of behavior (e.g., LaPiere, 1934). Ideally, an individual would have low violence-supportive attitudes, high RI, high SE, as well as high bystander intent to intervene in a prosocial manner. Therefore, bystander programs should continue to focus on fostering a greater sense of responsibility among students, with additional focus and practice of skills for intervening to improve efficacy. It may be that MVP has more of an effect on adolescent's earlier bystander actions (e.g., recognition of the problem, attitudes) but potentially less of an impact on later steps (responsibility for the situation and the efficacy to act). Shifting intentions and self-efficacy may require additional types of intervention.

Direct vs. Indirect Intervention Strategies

The distinction between direct and indirect intervention strategies is key in understanding both intentions to act as well as the most effective strategies for intervention. A higher proportion of students in the current studies chose direct intervention strategies (e.g., confronting the person directly about their behavior), compared to indirect strategies (e.g., telling an adult). There were few significant changes pre- to post-MVP, especially among the study one scenarios, yet when changes were observed it was a significant increase the proportion of students endorsing direct intervention strategies. These findings are encouraging, but it may not always be safe or effective

to directly confront a perpetrator. Bystander intervention is not free of potential risk, such as being public embarrassed or harassed for attempting to help, experiencing physical and verbal threats or harm, getting into trouble, or requiring extra time to process or to talk with authority (Banyard et al., 2019). While the MVP program clearly focuses on increasing *some* intervention among students, there may be less discussion of the difference between direct and indirect strategies and the pros or cons of each. These topics may be important when considering which strategies are most effective at preventing or stopping violence, while also reducing risk for injury or harm.

Generality vs Specificity Across Sexual Harassment, ADV, and Bullying

Speaking to the question of whether there is a general risk for aggression or more specificity in reducing types of violent behavior and violence-supportive attitudes, the current study showed little variation in behavioral strategies, SE, and RI across types of violence. Furthermore, both SE and RI items were heavily loaded onto a single component in PCA analyses. It may be that a lack of effectiveness of the program in general barred accurate examination of the different trajectories for different types of interpersonal violence. Furthermore, there was only one BAS item to represent a sexual harassment scenario. Results are also consistent with the idea of prosocial bystander behavior being a general skill that can apply to multiple types of aggressive behaviors one can witness, rather than being specific to certain aggressive behavior subtypes.

While general means on scales of RI and SE were similar across all types of scenarios, there was some indication among the BAS items of differences between sexual harassment, ADV, and bullying. More specifically, there were larger increases in choosing direct intervention for ADV items relative to other types of violence from pre- to post-MVP, but it should be noted

that there were more items for ADV than the other types of violence. Additionally, there was an increase in study two of students endorsing no intervention for a bullying item (derogatory name calling). While very limited, findings suggest further investigation of trends in different types of violence.

Although results suggest little variation in students' intentions, SE, or RI across types of violence, previous research on attitudes and norms about violence suggest this is an area warranting additional investigation. More could be learned from research using mixed method approaches and various measures with stronger psychometric properties. In the current study, measures of intentions, RI, and SE to intervene in violent scenarios were primarily adapted from measures developed for college-age students. This brings up concerns about construct validity: specifically, whether violence/aggression shows up differently or is described differently among college students compared to high school students. Through qualitative and mixed method designs, researchers can learn how sexual harassment, dating violence, and bullying truly appear or are discussed for this age group. Various assessment approaches could also help examine differential effects for various types of violence. For example, rather than asking students to rate their intentions to intervene, students might be asked to identify barriers they might face which would impede them from intervening or asked to rate what barriers might impede *other students* from intervening.

School Differences

Clear between-school variability was present for SE and RI scores, yet there was a not a clear pattern in what drove these between-school differences. For RI scores in study 2, High School A (highest graduation rate and test scores of all four schools), had the highest RI scores, but High School C (second highest graduation rate and test scores of all four schools), had the

lowest average RI scores. There may be specific dissimilarities in the cultures and climate of each school that accounts for some of the variability in responsibility across schools.

Gender Differences

Gender differences were consistent and pronounced. Girls reported higher SE to intervene in study 1. Moreover, girls at all four schools in Study 2 had higher average RI scores both pre- and post-MVP compared to boys at any school. Further supporting the role of gender in outcomes differences is the distributions of students choosing BAS intervention strategies: more boys choose no intervention compared to girls across diverse scenarios, while girls appear more likely to choose some intervention (both direct and indirect) than to do nothing. Appendices C and D include graphs presenting the bystander intentions for each intervention strategy, for each scenario, by gender.

These gender differences are consistent with previous research demonstrating that women and girls are more likely to intervene, have lower rape acceptance attitudes, higher bystander confidence, and higher willingness to intervene in cases of aggression, especially if friends are involved (Ahrens et al., 2011; Amar et al., 2014; Eriksen, 2015). Women are also more likely to offer assistance and more likely to verbally intervene (check in with a victim and confront a perpetrator) in a sexual assault situation that involved alcohol (Bennett et al., 2017; Bridges et al., 2021). Women also tend to be more likely to generate specific responses and a greater number of strategies to hypothetical violence scenarios compared to men (Bridges et al., 2021; Hoxmier et al., 2020). A key aspect of the MVP program is the role of gender in interpersonal aggression. Continued research on the role of gender in perceptions of self-efficacy, responsibility, and bystander intentions is warranted.

Implications

MVP includes many of the components designated by researchers as important for effective bystander intervention programs, including a) comprehensive content across settings, b) early prevention (e.g., high school), c) varied teaching methods (e.g., multiple tools, use of mentors) d) sufficient dosage (long enough) e) administered by trained, stable, competent, and committed staff (e.g., trainers and mentors), f) positive relationships (peer to peer) g) socio-culturally relevant (strength of MVP program in addressing norms and gendered-cultural beliefs), and h) driven by theory (Katz, 2011).

One area that might be elaborated on is the varied teaching methods, specifically including additional opportunities for active, skills-based learning, which has been shown to be effective (Nation et al., 2003). Findings from the current study suggest shifting intentions and self-efficacy may require additional methods of intervention. Feeling capable and competent to handle the situation are key in determining bystander actions (Latané & Darley, 1970). Even if bystanders have the knowledge to handle a situation, having low self-efficacy makes them less likely to act against a perpetrator of sexual and dating violence (McMahon et al., 2015) as well as bullying (Sjögren et al., 2018). Current tools used in the MVP playbook include discussion of personal stories and potential violence scenarios. Another component that might impact self-efficacy is behavioral practice of strategies across different types of violence scenarios. Even though the MVP intervention often incorporates spontaneous or organic conversations or role plays for specific behavioral interventions, this is not part of the core curricula. However, structured incorporation of direct behavioral practice (such as standardized role plays) could improve student's self-efficacy for using such skills in real-time. For example, asking students,

"What might you say to your teacher about what happened?" and role-playing responding could help enhance the program.

MVP includes telling personal stories and delivering the program to gender-specific groups. These components potentially allow for more frank discussions on beliefs about interpersonal violence. MVP specifically focuses on shifting cultural norms and gender ideologies by engaging men in a discussion about their responsibility in violent situations. However, based on findings in the current study, among others (e.g., Ahrens et al., 2011; Amar et al., 2014; Eriksen, 2015), adolescent boys may require additional tools for increasing their shared responsibility of reducing interpersonal violence. Continued research is needed to help understand what practice can improve confidence and what improves responsibility to intervene among high schoolers, especially boys. Examining how these factors are changed is essential for the development and evaluation of bystander programs.

Strengths and Limitations

The study findings should be considered in light of several strengths and limitations. The inclusion of the two designs (retrospective and pre/post) with varied sample sizes across many schools allowed for some balance between internal and external validity. To help contrast the strengths and limitations of the current study, I rated the current study key design domains represented on the *A Study Pragmatic-Explanatory Characterization Tool-Rating* (ASPECT-R, 2014 Janssen Pharmaceuticals, Inc.; Alps & Bossie, 2016). The ASPECT-R includes six main domains of a clinical research design. Rating a study on these domains can help to outline whether the study is more explanatory (controlled) or pragmatic (real-world application). Domains are rated on a seven-point scale ((0 = *extremely explanatory*; 6 = *extremely pragmatic*). The ratings for the current study are presented in Figure 11. Overall, domains for the current

study primarily fell on the pragmatic end of the continuum. The implementation team for MVP wanted to maximize flexibility, participation, and inclusion and minimize burden on schools. While this level of pragmatism has limitations in terms of control and internal validity, it also reflects real world circumstances rather than tightly controlled and stringently-defined conditions.

The first domain of the ASPECT-R is participant eligibility, assessing whether the study includes the population of interest. This domain was rated high on pragmatism given that students in the current study were fully representative of the population of interest with no exclusion criteria. As such, there is a strong likelihood these results would generalize to other students who are demographically similar to these students.

The second domain, intervention flexibility, was also rated highly on practicality as there were no constraints on treatment dosing or timing. Consequently, an important concern when interpreting results from the current study is the level implementation fidelity at each of the participating schools. The MVP implementation team allowed for flexibility in the implementation of the program to improve rates of implementation and reduce burden on teachers and staff. Yet, this level of flexibility leads to additional concerns for fidelity and there was limited to no information on fidelity at each school for the current study, specifically the timing that is recommended. It is unclear how often students met with their MVP mentor to engage in MVP modules. In addition to concerns of fidelity, the study did not include comparison schools or conditions. Adding a comparison school as a control would allow for more causal examination of the program, as in Katz (2011). Inclusion of a comparison school might also help to understand the lack of change in the current study outcomes (for instance,

perhaps aggressive-supportive attitudes increase and RI and SE decrease across this adolescent time period, but the MVP program allowed these to remain stable as a function of intervention).

The third domain, practitioner expertise, was also rated highly on pragmatism as the individuals delivering intervention materials typically had little to no specified expertise or training. While the first implementation of MVP included the structured training of school staff from the MVP implementation team, subsequent training of MVP staff and student leaders is delivered by any school staff. Consequently, school counselors, coaches, or teachers may all be delivering intervention modules or trainings.

Follow-up intensity and duration is the fourth domain of the ASPECT-R. In the studies here, this domain was rated at the maximum level of pragmatism as there were not constraints on meeting frequency, structure, duration, intensity, or follow-up period to reduce burden on the schools. In future research, including additional points of data collection such as mid-year, immediately after certain components of the training were delivered, or six-month follow-up would improve examination of trends in outcome variables.

The fifth area, primary trial outcomes, refers to whether the outcomes were objectively measured, clinically meaningful, and assessed under usual conditions. In the current study, measures represent an established outcome, but one that requires extrapolation regarding clinical importance. Specifically, measures of intentions, RI, and SE to intervene in violent scenarios are valid and commonly used proximal variables; yet there are questions regarding the construct validity of the current study measures. Since the current measures provide less information regarding clinical importance, the study was rated at a three on the scale for this domain. An additional limitation related to primary outcomes is the that the current findings are based on scales reflecting students' intentions rather than actual behavior. While perceptions and

intentions are linked to behavior (Ajzen, 1988; Ajzen, 1991), it is not clear if findings would translate to real-world situations which can be more complex (Bennett et al., 2014). Studies including movies, in-person interactions, or virtual reality can improve understanding of how MVP impacts actual behaviors. Such tools might be included in the interventions themselves, to aid in improving self-efficacy to intervene, as virtual reality could provide a platform to practice behaviors. The current study did not examine other factors such as social desirability, relationship to the victim/perpetrator, or alcohol intoxication, which have all been implicated as important factors in bystander intentions (Bridges et al., 2021; Labhardt et al., 2017). The use of mixed methodology would add to the literature by providing a voice for participants that informs quantitative work and ensuring the findings are grounded in participant experiences, attitudes, and true intentions.

The sixth and final domain of ASPECT-R, participant compliance, assesses whether there was measurement of compliance. The current study was rated highly on pragmatism given that documentation of compliance was not required. Similar to the flexibility domain, this leads to concerns regarding fidelity, as it is unclear which aspects of the MVP program were adhered (e.g., gender-based groups, specific modules/activities). It is highly recommended that fidelity be monitored to understand if, how, and why an intervention does or does not improve outcomes. Limited information on fidelity can potentially lead to false conclusions about an intervention's effectiveness. For example, if there is high fidelity and a student's scores SE or RI scores do not change, this means the program did not work for that student. On the other hand, if fidelity is low and a student's score did not change, this may be because the student did not receive the intervention that was intended, and the program may still be an effective strategy. In the future,

the use of fidelity monitoring for MVP evaluations can be an important factor in understanding the true impact of this program while maintaining flexibility in implementation.

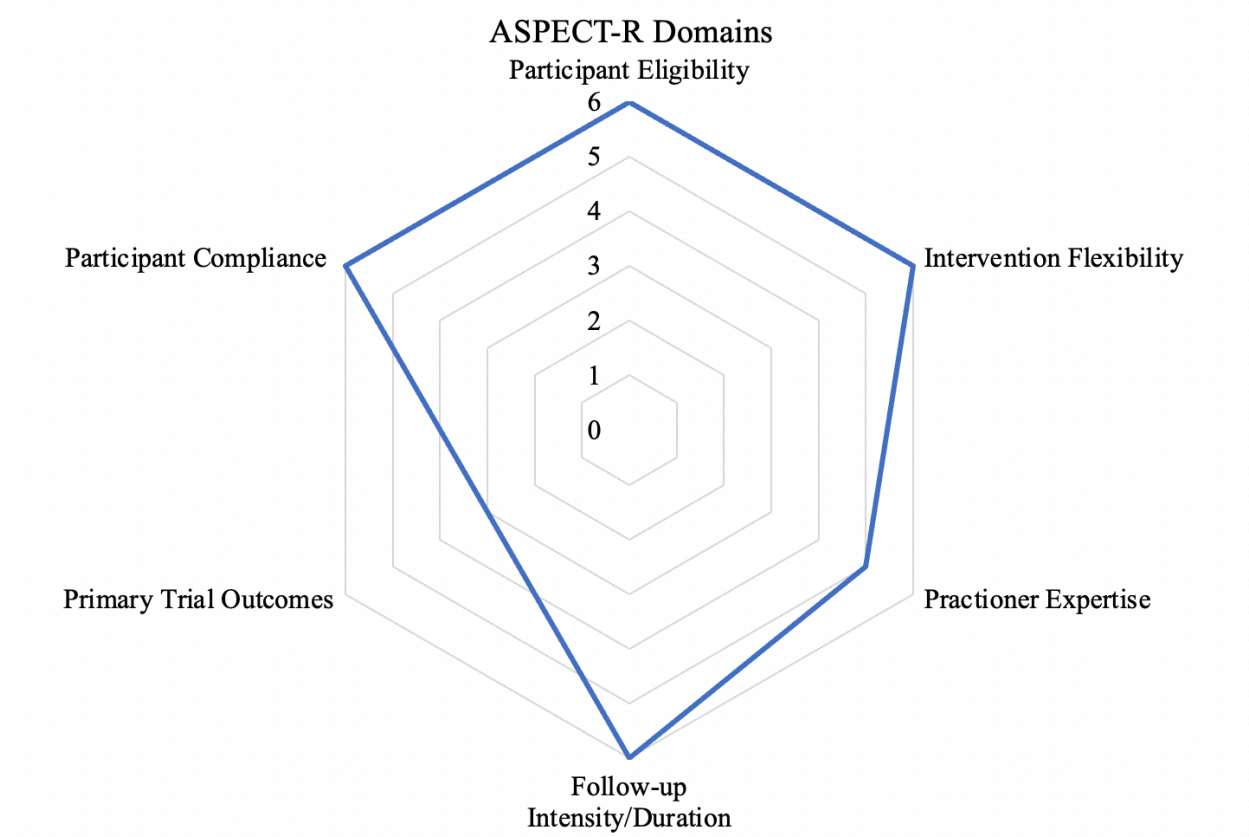


Figure 11
Current Study Design ASPECT-R Ratings

In addition to the ASPECT-R domains, another limitation of the study is the lack of demographic information on students' socioeconomic status, sexual orientation, social desirability, as well as the way in which gender was examined. While the current study primarily focuses on the binary categorization of gender (male/female), the acknowledgement that ethnic and racial minorities and sexual and gender minorities experience disproportionate rates of aggression is critical for understanding the experiences of youth and who experience highest risk of violence. Studies find sexual, gender, and ethnic/racial minorities are more likely to

experience bullying (e.g., Espelage et al., 2014), sexual harassment (Eom et al., 2015), and dating violence (Madkour et al., 2016) than their majority peer counterparts. Researchers have also found these groups experience more severe negative outcomes as a result of violence (Kosciw et al., 2010; Hill & Kearl, 2011). Discussing disproportionate rates of victimization across these groups is embedded within the framework of MVP and is key in understanding and preventing violence.

Conclusion

In sum, the MVP program has been successfully implemented in multiple high schools across several years, demonstrating the feasibility of implementing and sustaining the program. The MVP program is unique in its specific focus on changing attitudes about gender-based violence and creating social change. The current study adds to the literature on MVP by focusing on proximal variables related to bystander intervention (bystander intentions, self-efficacy to intervene, responsibility to intervene). The study included two separate samples with two district designs (i.e., pre- post-test design, retrospective design) to assess the potential impacts of the MVP program. Both studies were highly powered, with large sample sizes across multiple schools. Overall, results indicated similar benefits across types of violence (sexual harassment, dating violence, bullying). In particular, students rated their intentions, SE, and RI similarly across types of violent scenarios. However, continued examination of differential impacts across types of violence is warranted using measures with higher psychometric properties (e.g., construct validity) and with mixed method approaches (e.g., qualitatively).

Across the studies, students reported increased intentions to use direct intervention strategies when witnessing hypothetical interpersonal violence scenarios. When changes in SE and RI were observed, the increased scores were in favor of the MVP program. The benefits of

the program were not specific to certain types of violence, but more diffuse. Meaning, intervention for one type of violence (such as ADV) might have positive (improved attitudes and willingness to intervene) ripple effects for other types of aggression (e.g., bullying). Further, there were consistent gender differences, with girls across both studies reporting higher SE and RI than boys. As for program implications, the use of standardized, skills-based exercises may increase the impact of the MPV program. Additionally, discussions about the advantages and disadvantages of using direct compared to indirect intervention strategies can continue to increase the focus and goals of the MVP program. Future research including measures with strong psychometric properties, assessment of additional gender identities, and school-level variables can improve understanding of the benefits of the MVP program. Continued research is needed to help understand what practice can improve confidence and what improves responsibility to intervene among high schoolers, especially boys.

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Appendix A

Supplemental Tables for Study 1

Table A1

Study 1 Pre-Intervention Self-Efficacy to Intervene Loadings for Principal Components and Common Factors

Item	Factors		Degree of Communality
	1	2	
1. I can help prevent violence against girls at my school	**.71**	.12	.48
2. A group of guys would listen to me if I confronted them about their sexist behaviors	**.58**	-.05	.35
3. It would be hard for me to confront a stranger who was being abusive toward a girl or a woman (R)	-.19	**.69**	.57
4. I don't think I would say anything to a group of guys who are harassing a girl at a party (R)	.12	**.81**	.63
5. I know how to educate a friend who is acting inappropriately toward a girl	**.80**	.05	.63
6. If I wanted to stop a friend from making sexist jokes toward girls I could	**.81**	-.04	.64
7. I would not be able to stop a guy I didn't know very well from hitting his girlfriend (R)	-.01	**.73**	.54
8. I have the skills to help support a female friend who is in an abusive relationship	**.77**	-.04	.61
9. I could persuade a friend not to send a mean text or negative message on their cell phone	**.76**	-.10	.61
10. I can help prevent bullying at my school	**.73**	-.07	.56

Note. The extraction was based on a Principal Component Analysis using an oblique rotation. The rotation converged in 4 iterations. R = reverse coded items.

Table A2
Study 1 Post-Intervention Self-Efficacy to Intervene Loadings for Principal Components and Common Factors

Item	**Factors**		**Degree of Communality**
	1	**2**	
1. I can help prevent violence against girls at my school	**.64**	.06	.41
2. A group of guys would listen to me if I confronted them about their sexist behaviors	**.43**	**-.33**	.31
3. It would be hard for me to confront a stranger who was being abusive toward a girl or a woman (R)	.02	**.78**	.61
4. I don't think I would say anything to a group of guys who are harassing a girl at a party (R)	-.02	**.69**	.48
5. I know how to educate a friend who is acting inappropriately toward a girl	**.74**	.03	.54
6. If I wanted to stop a friend from making sexist jokes toward girls I could	**.75**	.03	.58
7. I would not be able to stop a guy I didn't know very well from hitting his girlfriend (R)	.10	**.82**	.68
8. I have the skills to help support a female friend who is in an abusive relationship	**.73**	.12	.54
9. I could persuade a friend not to send a mean text or negative message on their cell phone	**.66**	-.17	.48
10. I can help prevent bullying at my school	**.67**	.07	.45

Note. The extraction was based on a Principal Component Analysis using an oblique rotation. The rotation converged in 4 iterations. R = reverse coded items.

Table A3
Study 1 Self-Efficacy Scale Individual Item Mean Pre- and Post-MVP

	Pre		Post		
Variable	***M(SD)***	**Range**	***M(SD)***	**Range**	**Change**
SE_1 I can help prevent violence against girls at my school	3.46 (1.07)	4	3.51 (1.06)	4	+0.05
SE_2 A group of guys would listen to me if I confronted them about their sexist behaviors	**2.77** (1.10)	4	**2.70** (1.15)	4	-0.07
SE_3 It would be hard for me to confront a stranger who was being abusive toward a girl or a woman	**2.67** (1.11)	4	**2.82** (1.12)	4	+0.15
SE_4 I don't think I would say anything to a group of guys who are harassing a girl at a party	3.30 (1.18)	4	3.36 (1.08)	4	+0.06
SE_5 I know how to educate a friend who is acting inappropriately toward a girl	3.45 (1.03)	4	3.48 (0.96)	4	+0.03
SE_6 If I wanted to stop a friend from making sexist jokes toward girls I could	3.48 (1.07)	4	3.60 (0.96)	4	+0.12
SE_7 I would not be able to stop a guy I didn't know very well from hitting his girlfriend	3.10 (1.25)	4	2.85 (1.13)	4	-0.25
SE_8 I have the skills to help support a female friend who is in an abusive relationship	**3.73** (0.96)	4	**3.83** (.95)	4	+0.10
SE_9 I could persuade a friend not to send a mean text or negative message on their cell phone	**3.62** (1.06)	4	**3.60** (1.00)	4	-0.02
SE_10 I can help prevent bullying at my school	**3.63** (1.04)	4	**3.64** (1.07)	4	+0.01

Note. 2, 5, and 6 were reverse coded; 1-5 scale.

Appendix B

Supplemental Tables for Study 2

Table B1

Study 2 Pre-Intervention Responsibility to Intervene Loadings for Principal Components and Common Factors

Item	**Factors**		**Degree of**
I have a responsibility to intervene if….	**1**	**2**	**Communality**
1. I heard someone making a sexist comment.	.09	**.84**	.84
2. I saw someone taking advantage of another person in a sexual way.	.**87**	.04	.81
3. I suspected someone was being abusive to his/her girlfriend or boyfriend.	**.98**	-.06	.88
4. I suspected someone was in a relationship that is abusive.	**.97**	-.04	.88
5. I saw someone picking on another student.	-.04	**.97**	.89
6. I saw or knew someone was trying to physically hurt another person.	**.72**	.21	.81

Note. The extraction was based on a Principal Component Analysis using an oblique rotation. The rotation converged in 4 iterations.

Table B2

Study 2 Post-Intervention Responsibility to Intervene Loadings for Principal Components and Common Factors

Item	**Factors**		**Degree of**
I have a responsibility to intervene if….	**1**	**2**	**Communality**
1. I heard someone making a sexist comment.	-.02	**.98**	0.93
2. I saw someone taking advantage of another person in a sexual way.	.**79**	.16	0.85
3. I suspected someone was being abusive to his/her girlfriend or boyfriend.	**1.05**	-.14	0.89
4. I suspected someone was in a relationship that is abusive.	.84	.11	0.87
5. I saw someone picking on another student.	.28	**.70**	0.88
6. I saw or knew someone was trying to physically hurt another person.	**.66**	**.30**	0.83

Note. The extraction was based on a Principal Component Analysis using an oblique rotation. The rotation converged in 4 iterations.

Table B3
Study 2 Responsibility to Intervene Means Across School

Variable	*Total* *M (SD)*	High School 1 *M (SD)*	High School 2 *M (SD)*	High School 3 *M (SD)*	High School 4 *M (SD)*
Pre-RI Overall	**2.66 (.97)**	**2.43 (.93)**	**2.68 (.96)**	**2.77 (.95)**	**2.60 (1.05)**
Pre-RI Sexual	2.64 (1.02)	2.41 (.99)	2.68 (.99)	2.73 (1.00)	2.60 (1.12)
Pre-RI ADV	2.70 (1.06)	2.49 (1.04)	2.68 (1.01)	2.81 (1.04)	2.69 (1.17)
Pre-RI Bullying	2.64 (1.01)	2.38 (1.00)	2.68 (.98)	2.77 (.97)	2.53 (1.11)
Post-RI Overall	**2.41 (.96)**	**2.11 (.90)**	**2.47 (.92)**	**2.56 (.95)**	**2.32 (1.06)**
Post-RI Sexual	2.41 (1.00)	2.09 (.93)	2.47 (.95)	2.55 (1.00)	2.35 (1.11)
Post-RI ADV	2.42 (1.02)	2.14 (.97)	2.46 (.95)	2.57 (.99)	2.33 (1.13)
Post-RI Bullying	2.41 (1.01)	2.09 (.96)	2.47 (.95)	2.55 (.98)	2.29 (1.13)

Note. RI = Responsibility to Intervene

B4

Study 2 Responsibility to Intervene Scale Individual Item Mean Pre- and Post-MVP

	Pre		Post		
Variable *I have a responsibility to intervene if….*	***M(SD)***	**Range**	***M(SD)***	**Range**	**Change**
RI_1 I heard someone making a sexist comment.	3.35 (1.09)	4	3.54 (1.07)	4	+0.19
RI_2 I saw someone taking advantage of another person in a sexual way.	3.37 (1.14)	4	3.63 (1.08)	4	+0.26
RI_3 I suspected someone is being abusive to his/her girlfriend or boyfriend	3.31 (1.10)	4	3.57 (1.07)	4	+0.26
RI_4 I suspected someone is in a relationship that is abusive.	3.58 (1.06)	4	3.29 (1.10)	4	-0.29
RI_5 I saw someone picking on another student.	3.34 (1.07)	4	3.57 (1.06)	4	+0.23
RI_6 I saw or knew someone was trying to physically hurt another person.	3.39 (1.10)	4	3.62 (1.06)	4	+0.23

Note. RI = Responsibility to Intervene. On a 1-5 scale. Post-items represent retrospectively rated scores.

Appendix C

Supplemental Figures for Study 1

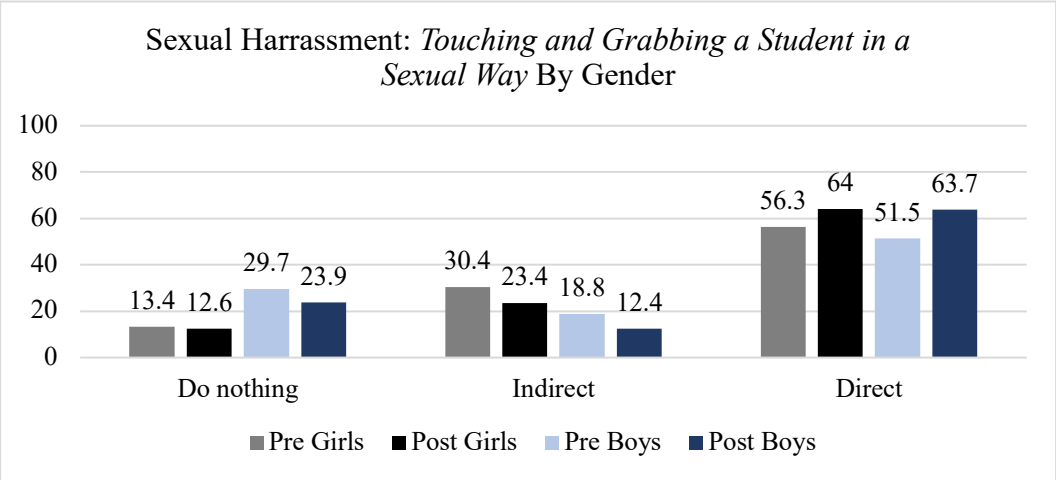
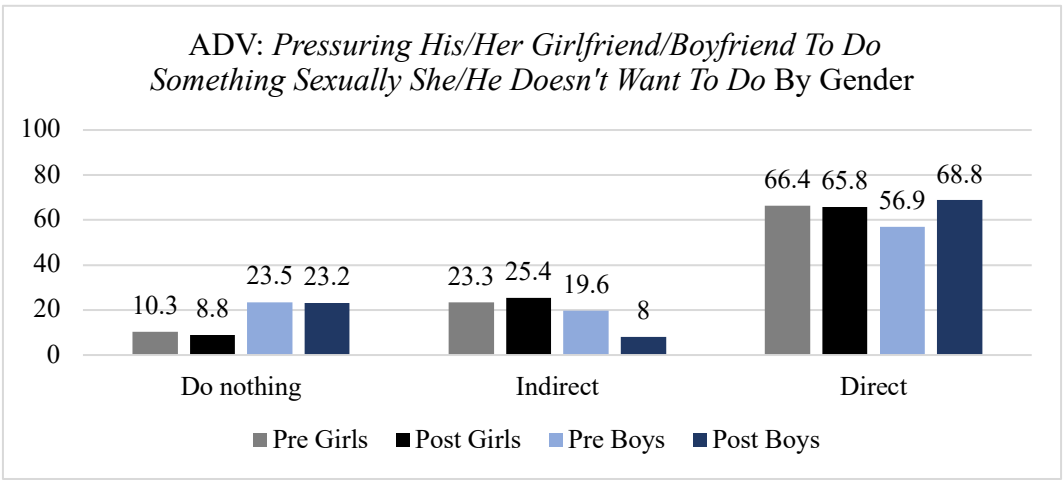
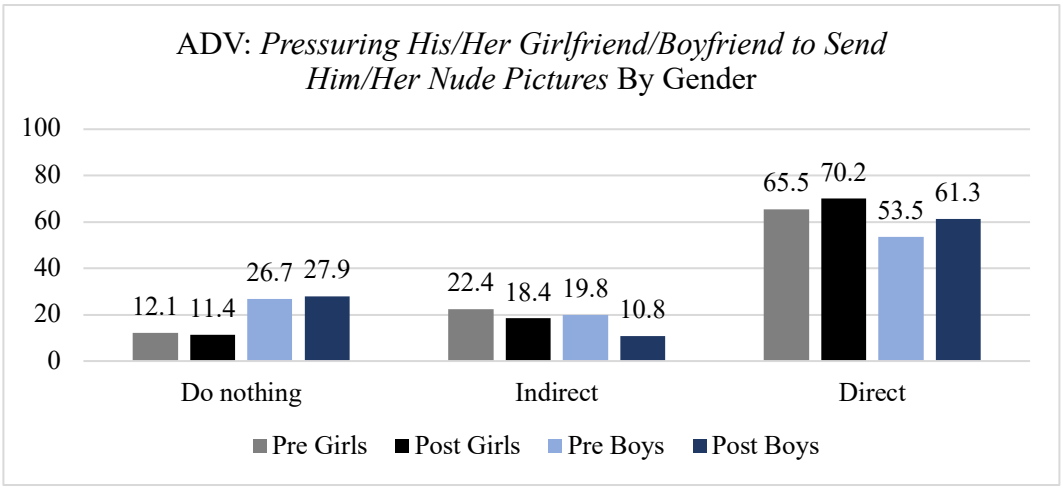


Figure C1
Study 1 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the Sexual Scenario





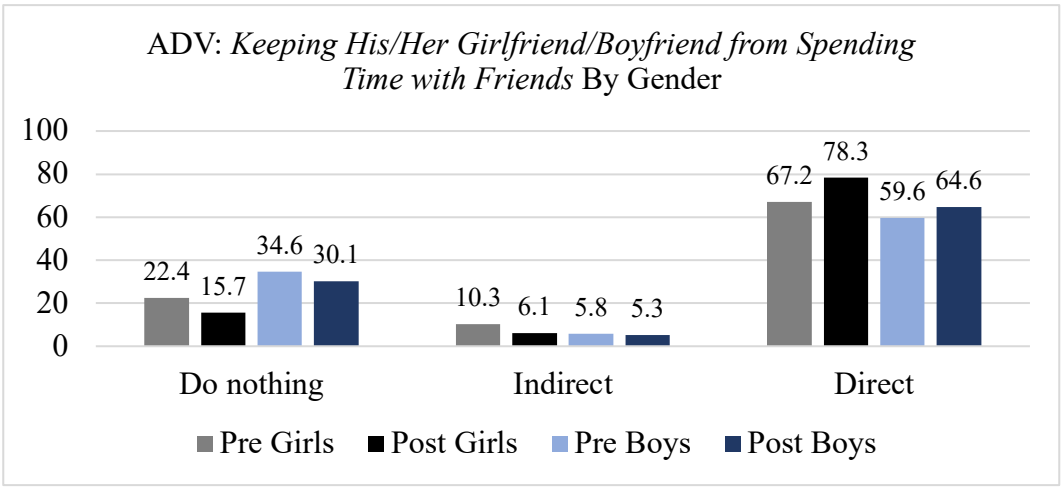
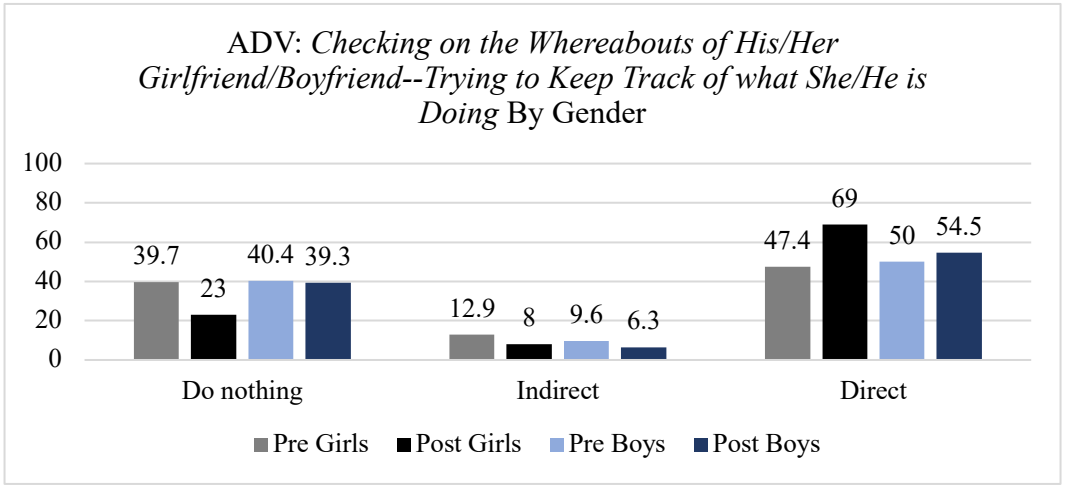
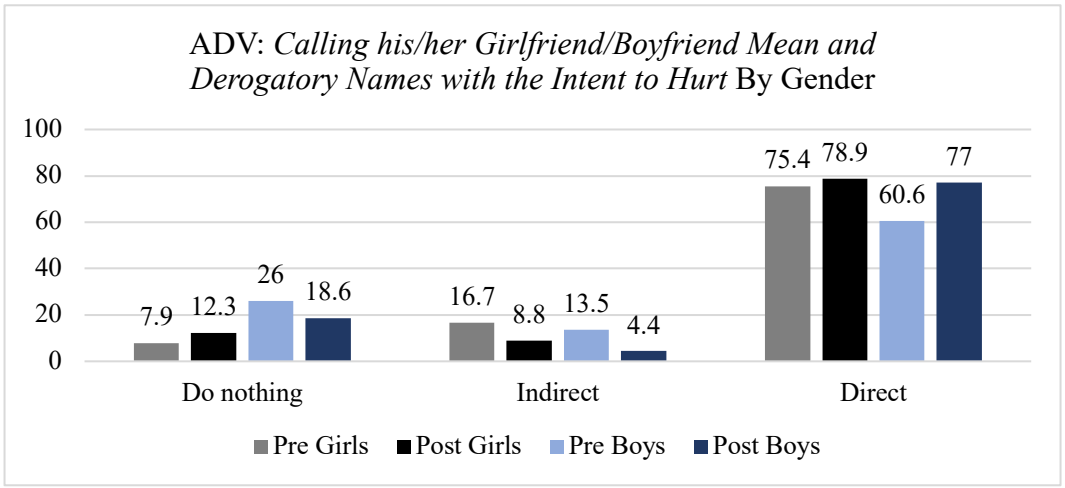


Figure C2 Continued

Study 1 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the ADV Scenarios





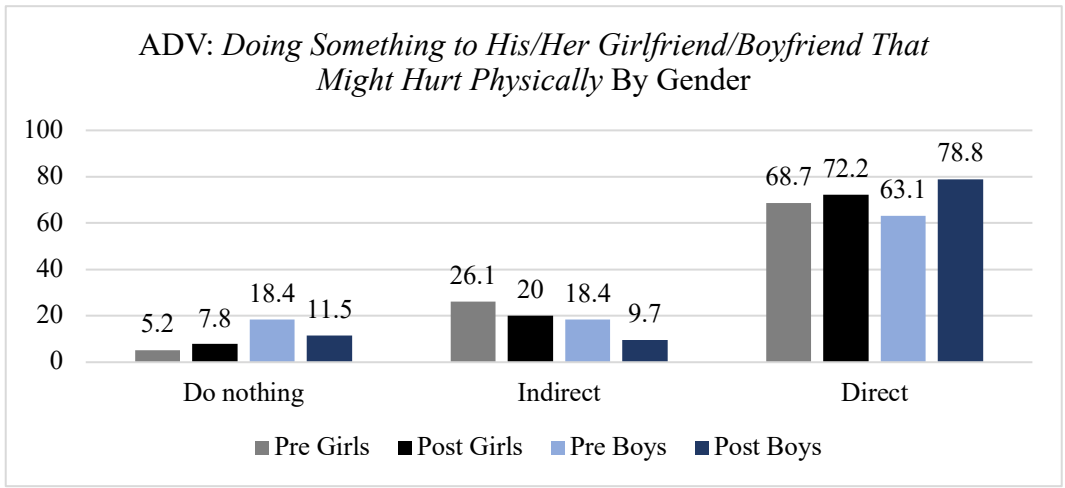


Figure C2 Continued

Study 1 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the ADV Scenarios

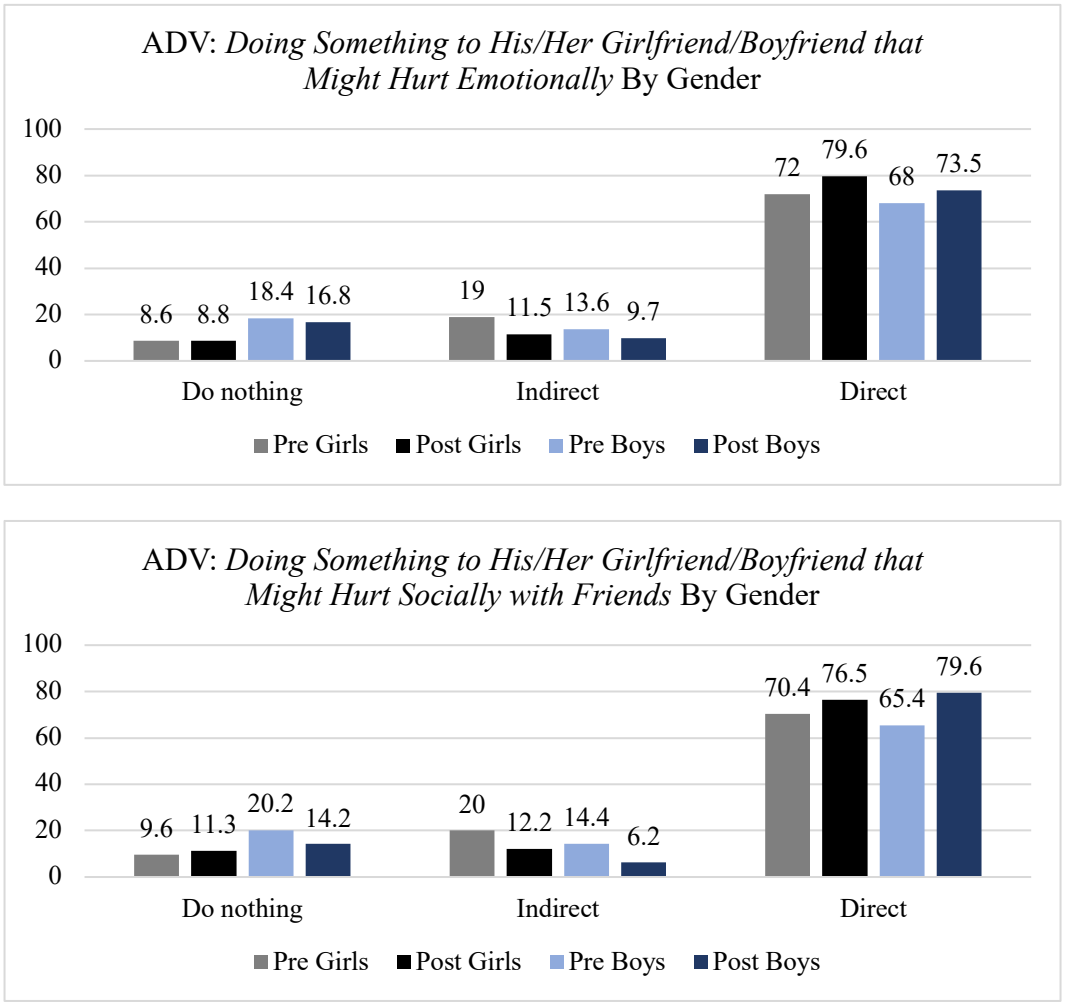


Figure C2 Continued

Study 1 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the ADV Scenarios

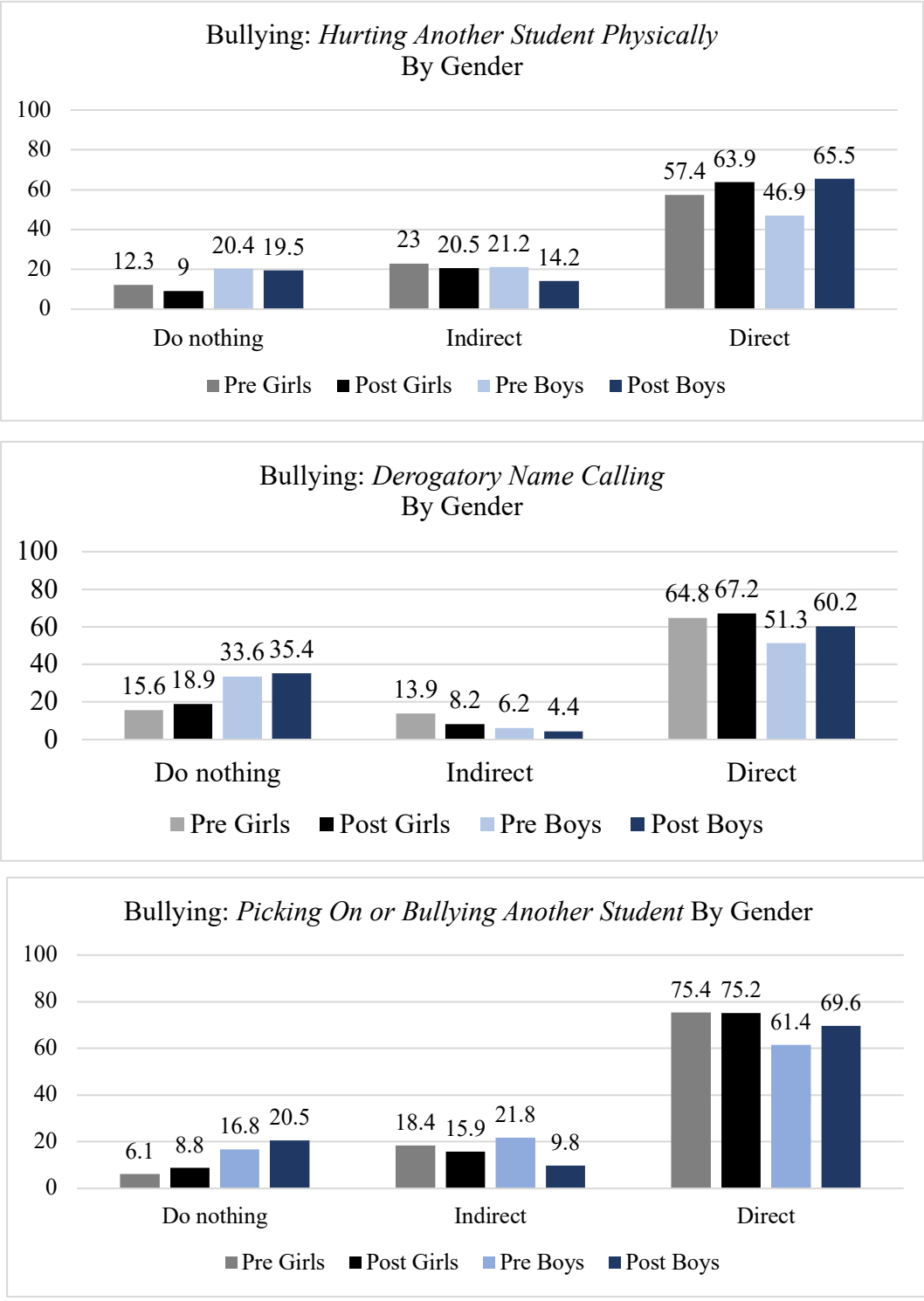
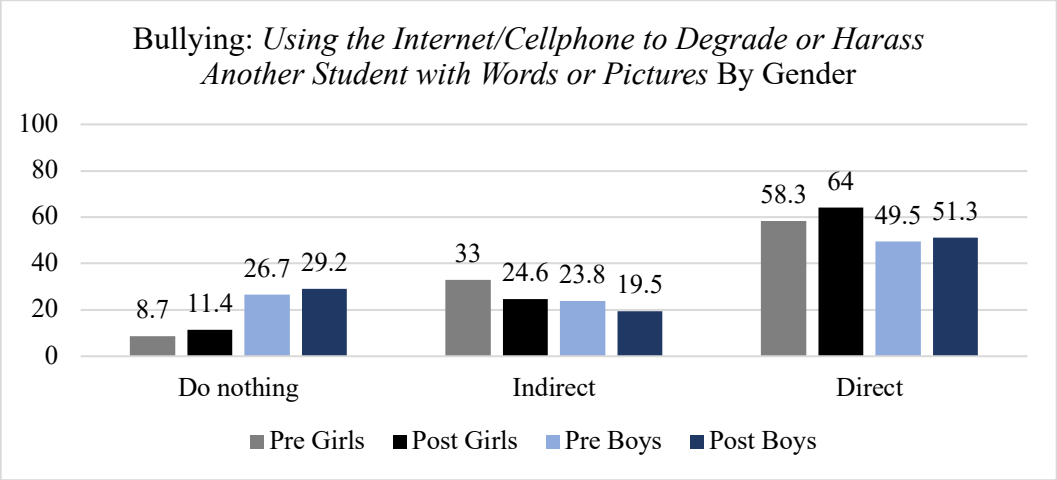
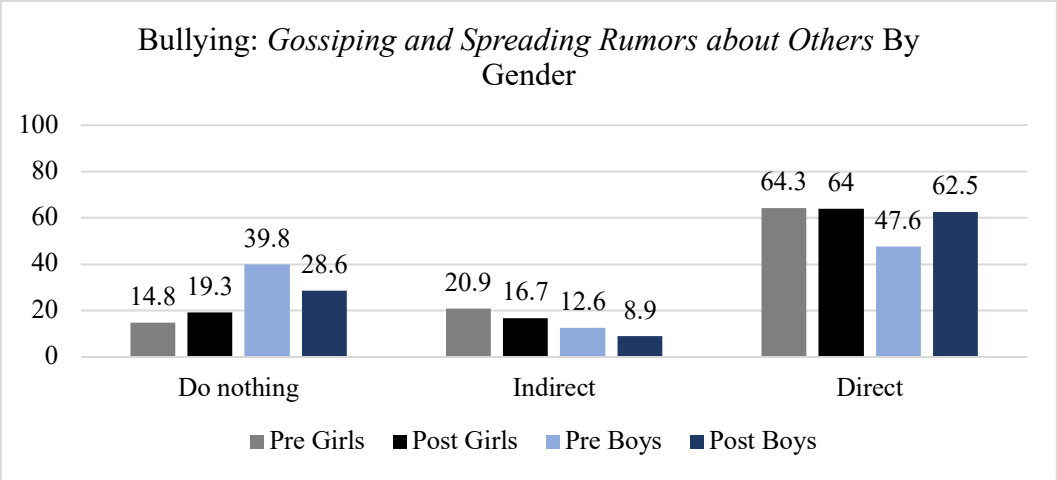


Figure C3

Study 1 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the Bullying Scenarios





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Study 1 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the Bullying Scenarios

Appendix D

Supplemental Figures for Study 2

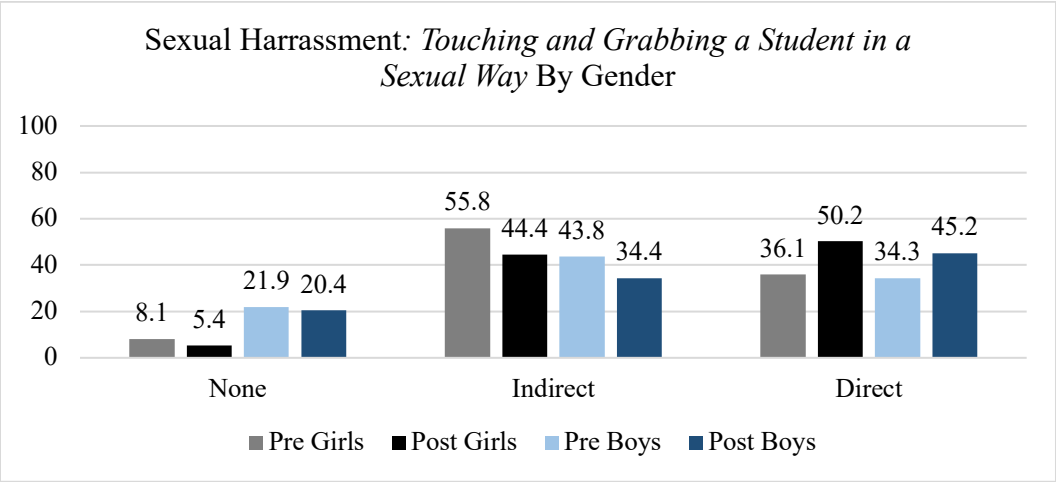
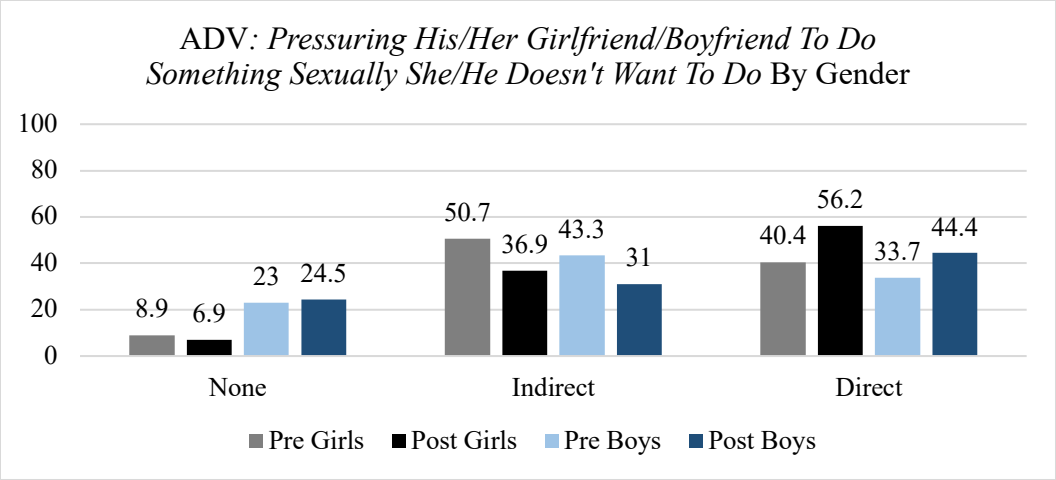
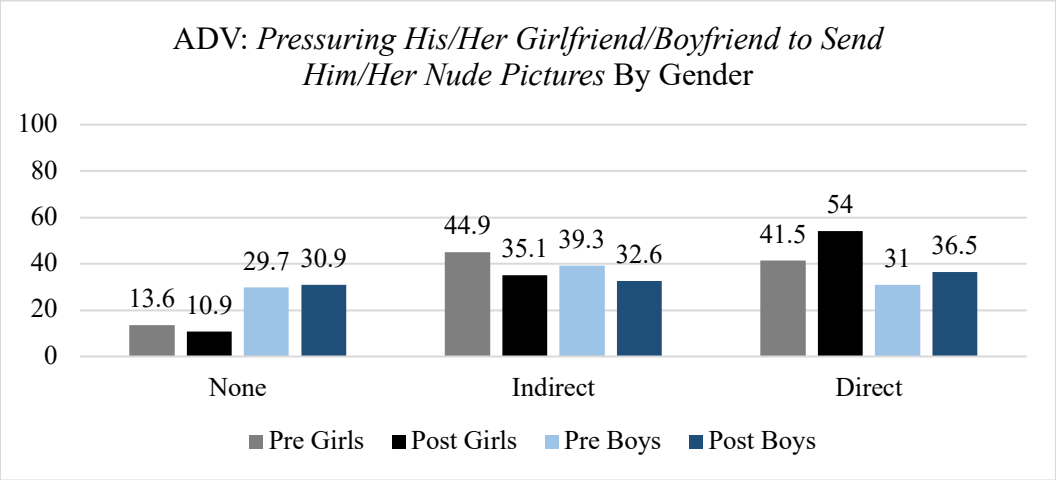


Figure D1
Study 2 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the Sexual Scenario





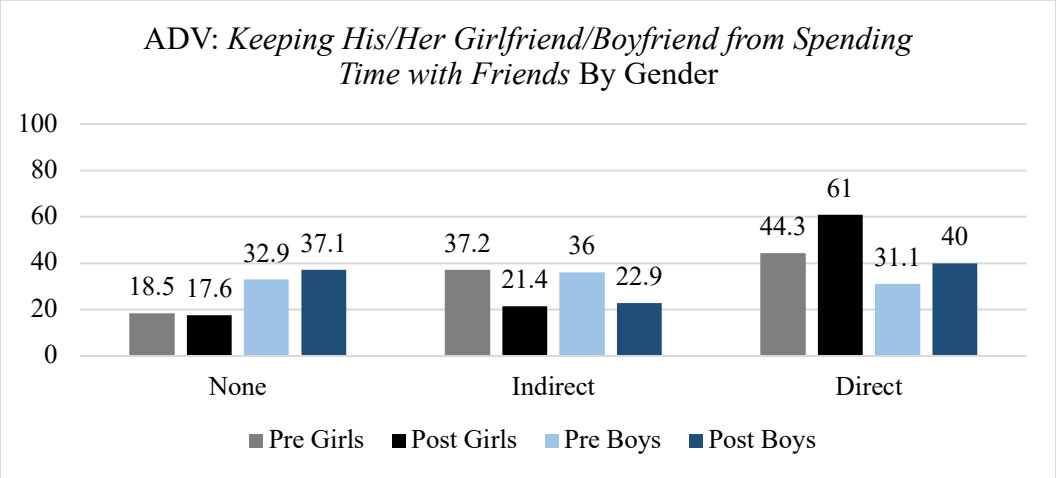
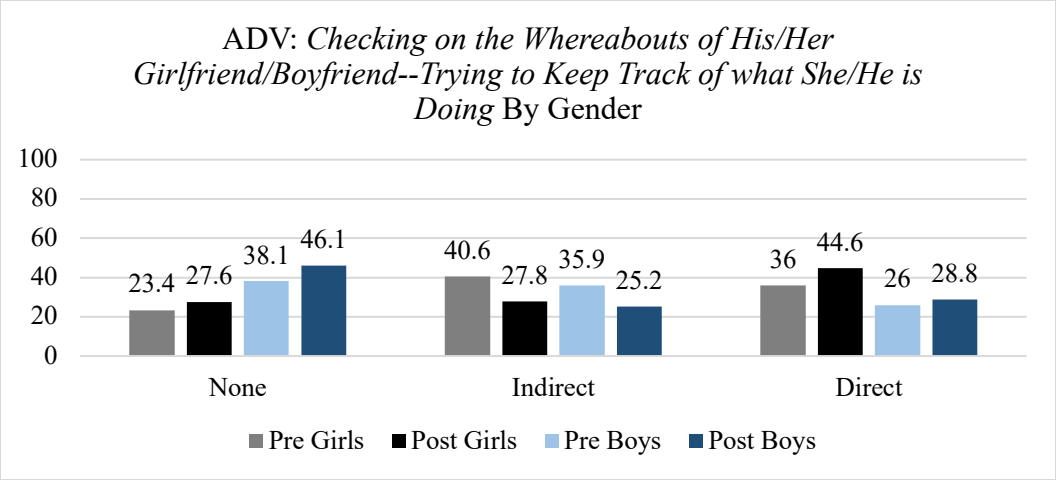
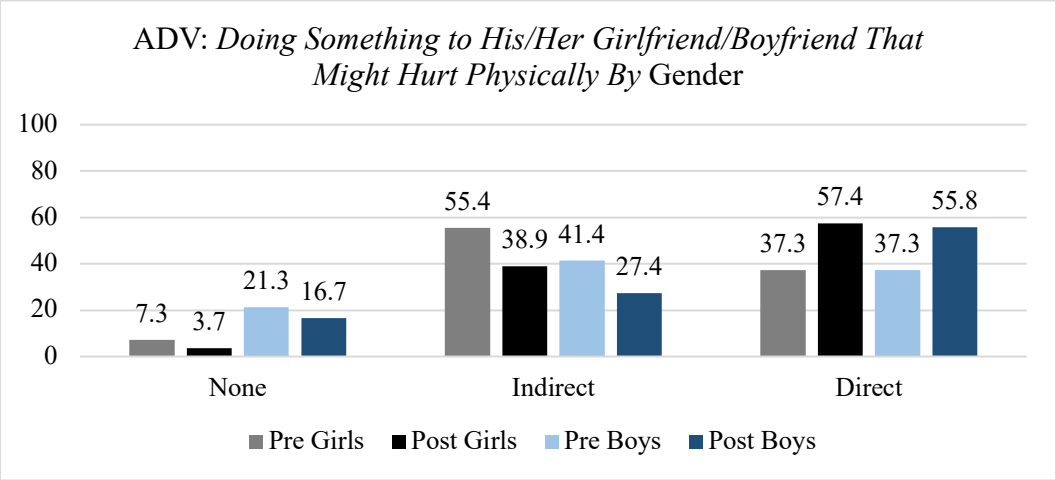


Figure D2

Study 2 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the ADV Scenarios





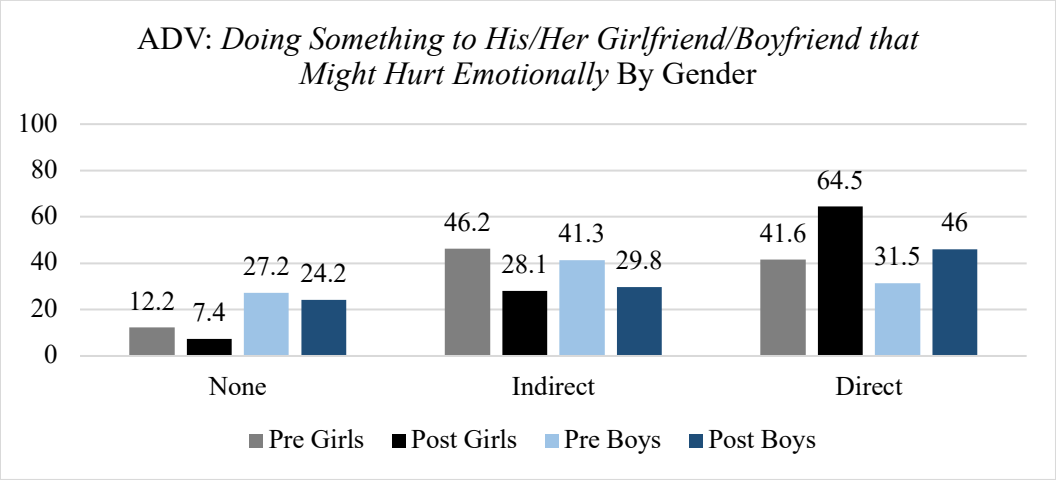
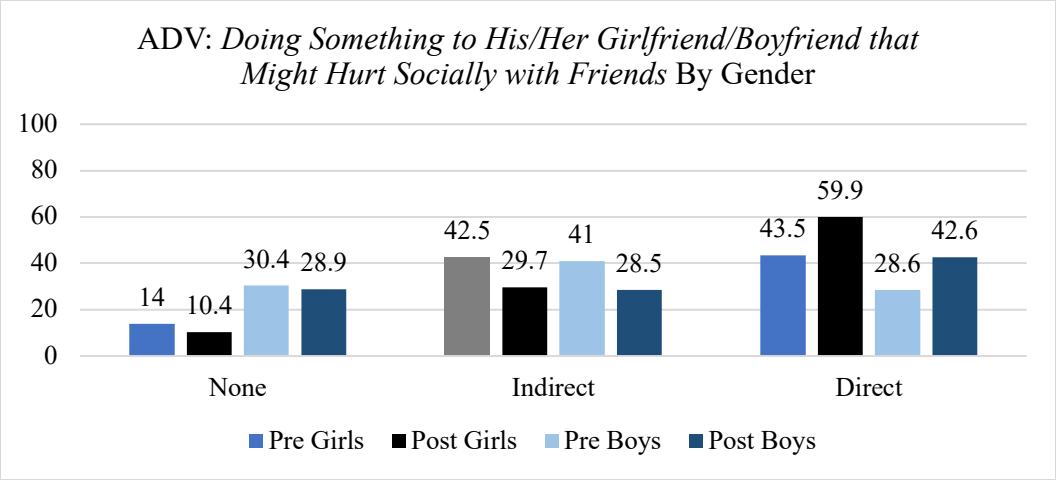


Figure D2 Continued

Study 2 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the ADV Scenarios



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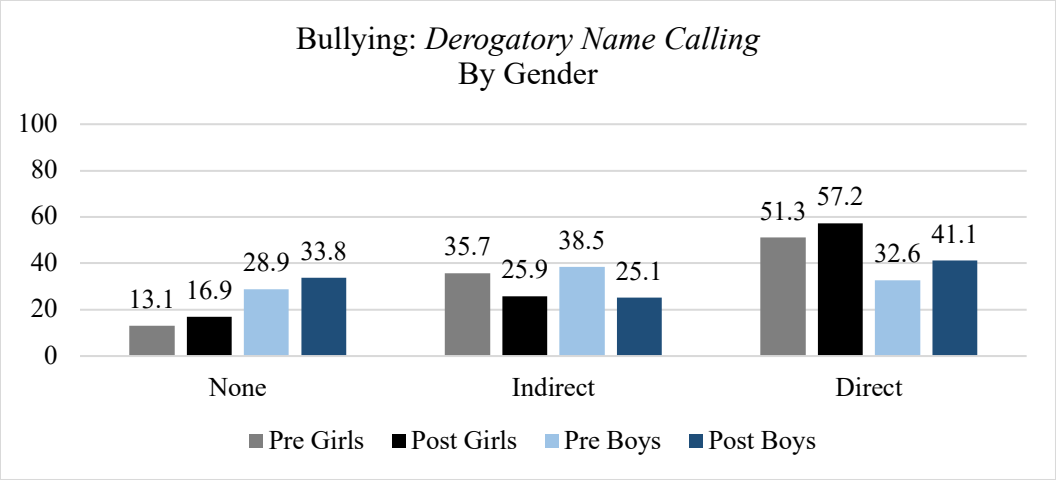
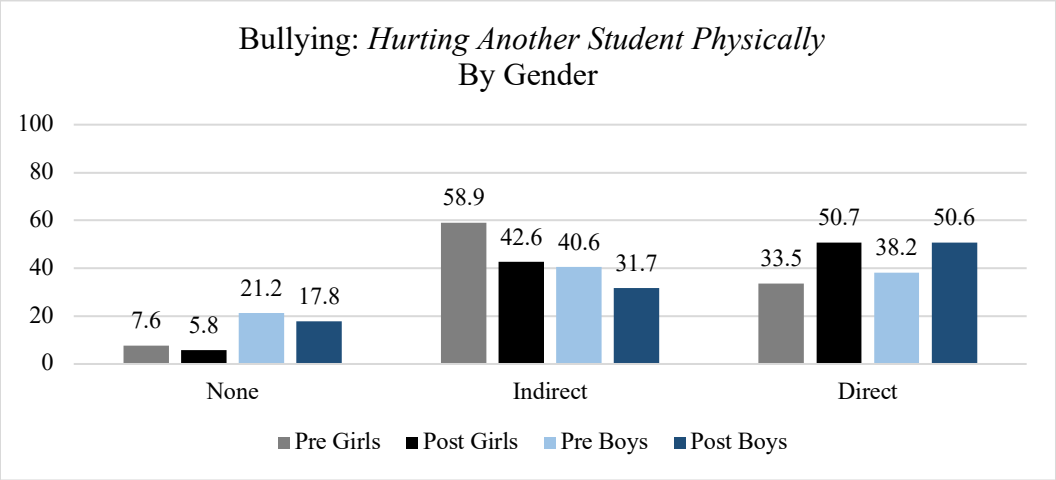




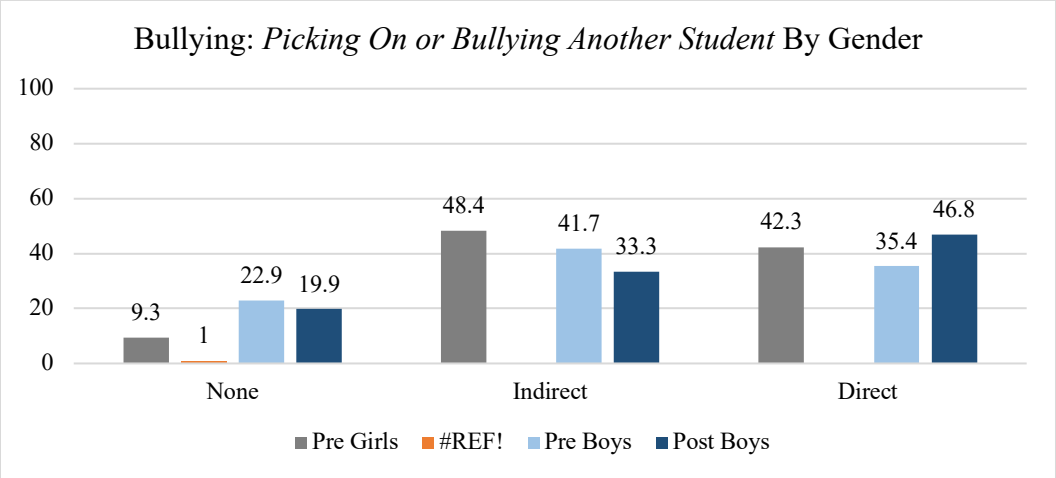
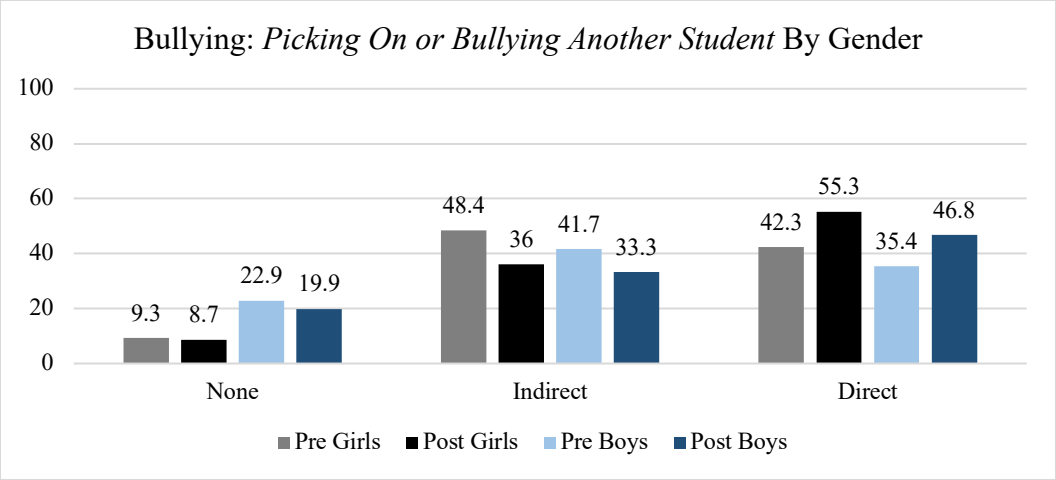


Figure D3

Study 2 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the Bullying Scenarios



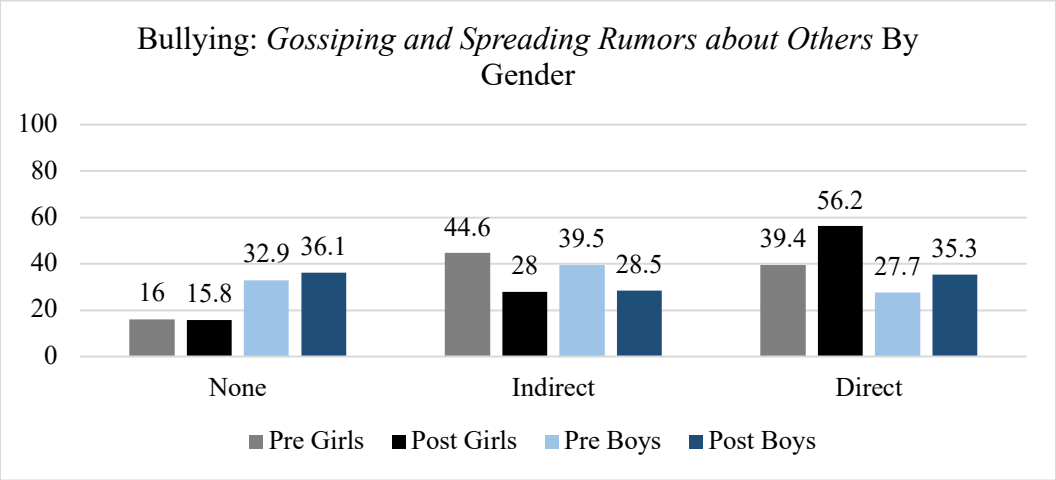


Figure D3 Continued

Study 2 Proportion of Students who Endorsed Each Intervention Strategy by Gender for the Bullying Scenarios