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Who Will be a Bystander? An Exploratory Study of First-Person Perception Effects on Campus Bystander Behavioral Intentions

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Abstract

Purpose: The purpose was to explore the underlying mechanisms that drive relationships between knowledge, attitudes and intervening bystander behavior to improve bystander violence prevention program effectiveness. Perceptual effects theory was used to understand third-person and first-person perceptions (TPP and FPP) as related to bystander intervention programs and to what extent perceptual gaps influence one's intention to intervene.

Methods: A web-based survey was conducted with 379 undergraduate students recruited from a large, Northeastern University. The survey covered demographics, previous bystander training, self-efficacy to engage in bystander behavior, social desirability of bystander intervention training programs, and perceived effects on self and others. Participants indicated how they would act in six hypothetical dating violence/bullying and sexual violence scenarios, and how they thought an average student on campus would act. Perceived ambiguity and risk for each of the scenarios were also measured.

Results: Descriptive statistics, paired-sample t-tests, and multilevel model analyses were conducted. Results showed that a robust first-person perception effect existed (i.e., the student perceived themselves being more influenced by bystander interventions/messages than their peers). The magnitude of FPP was increased by sex (significantly larger gap among female students) and previous training.

Conclusions: Results show promise to further tailor and refine bystander interventions and provide directions to improve program effectiveness. Despite study limitations, the results indicate the first-person effect warrants further consideration for programming and messaging. Tailoring bystander training or repeated exposure may increase bystander behaviors. More research is needed to fully uncover TPP/FPP effects, predictors, and impacts on bystander intervention programs.

Keywords

Bystander intervention; third-person effect; first-person effect; intention to intervene

Interpersonal violence, including sexual violence (defined previously by Basile, Smith, Breiding, Black, & Mahendra, 2014), intimate partner violence (IPV; defined previously by Brieding, Basile, Smith, Black, & Mahendra, 2015), and bullying (defined previously by Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2013), is a serious public health issue that affects millions of people. In the U.S., approximately one in three women and nearly one in six men experience some form of contact sexual violence in their lifetime (Smith et al., 2017). One in four women and one in nine men were victims of contact sexual violence, physical violence and/or stalking by an intimate partner that involved one or more impacts (Smith et al., 2017). An intimate partner is a person with whom one has a close personal relationship including boyfriends or girlfriends or dating partners. IPV between dating partners is often referred to as dating violence. One in five students report being bullied at school or getting in a physical fight in the past year (CDC, 2016). Exposure to violence can result in significant mental and physical health consequences (Basile & Smith, 2011; Menard, 2002). The magnitude and burden of interpersonal violence underscores the need for prevention.

Efforts that prevent violence across the life course are important, including during college where interpersonal violence is prevalent. Rospenda, Richman, Wolff, and Burke (2013) estimate around 43% of college students have experienced bullying in the past four months. Additionally, nearly 20% of undergraduate women experienced attempted or completed sexual assault (Krebs, Lindquist, Warner, Fisher, & Martin, 2009) and more than 6% of men experienced attempted or completed sexual assault in college (Krebs et al., 2007). Dating violence research estimates 30% of women and 30% of men report physical aggression from a dating partner during college (Fass, Benson, & Leggett, 2008; Miller, 2010; Milletich, Kelley, Doane, & Pearson, 2010). To address sexual violence on college campuses, The Campus Sexual Violence Elimination Act (SaVE Act) of 2013, an amendment of the Clery ACT, requires all publicly-funded colleges and universities to implement, among other requirements, bystander intervention programs (BIPs) for staff and students.

The purpose of this study is to use perceptual effects theory to explore the underlying mechanisms that influence relationships between knowledge, attitudes and intervening behavior. This information can be used to tailor bystander interventions and potentially increase program effectiveness. Next, BIP evaluation and effectiveness are reviewed followed by an introduction and application of perceptual effects theory to bystander behavior.

BIP Evaluation and Effectiveness

BIPs have focused strongly around preventing bullying, dating violence, and sexual violence among youth and college students (e.g., Banyard, Moynihan, & Plante, 2007; Coker et al., 2011; Polanin, Espelage, & Pigott, 2012). BIPs train individuals on a variety of skills to identify and safely intervene on attitudes and norms that lead to violence and on actual or

potentially violent situations. Recent evaluations have demonstrated the effectiveness of these programs through improved knowledge, attitudes, increased bystander behavior, and decreased sexual violence perpetration behaviors (see Coker et al., 2017; Coker et al., 2016; Salazar, Vivolo-Kantor, Hardin, & Berkowitz, 2014).Despite this promising evidence, there remain challenges in research on the effectiveness of BIPs such as the need for further evidence through additional rigorous evaluations as noted by DeGue and colleagues (2014). Others have discussed challenges to evaluating BIPs (Banyard, Moynihan, Cares, & Warner, 2014; McMahon et al., 2014), which includes how to measure actual bystander behavior as opposed to self-reported bystanding behavior or intentions to intervene (for exception see Leone, Parrott, & Swartout, 2017). Furthermore, meta-analyses suggest such programs may have stronger impacts on attitudes and behavioral intentions than on bystander behavior (Katz & Moore, 2013), which may mean that program effects on atittudes and intentions do not necessarily materialize into actions. This is consistent with literature in campaign effects and persuasion in general including perceptual effects theory as discussed below (Dillard & Shen, 2013).

Bystander intervention program effectiveness and evaluation may be improved by using perceptual effects theory as an approach to identify and test predictors and moderators of the knowledge, attitudes and intervening behavior relationship. Broadly, perceptual effects refers to when individuals perceive a message or media content as affecting either (1) others more than themselves such as perceiving that a friend is more influenced by a message than oneself or (2) themselves more than others such as perceiving that oneself is more influenced by a message than a friend. Based on this perception (others or themselves more affected by the message), the individual may or may not take action.

Perceptual Effects Theory and Application to Bystander Behavior

Bystander intervention effects depend on bystander behaviors, which range from directly intervening (e.g., stopping an intoxicated person from being taken to a private area during a party), delegating or seeking help from others (e.g., campus authorities), distracting without direct confrontation (e.g., telling a joke), to changing norms around gender (Coker et al., 2011). Bystander behaviors, to a large degree, are public behaviors, because of the location (i.e., in the public) and the situation's context (i.e., the presence of the perpetrator and victim, and other bystanders). Social comparison and social judgment inevitably occur under such circumstances and have the potential to influence when and if bystander behavior occurs because it is a *bystander's perception* of (1) the social desirability of the bystander behavior, (2) what others will or will not do, and (3) what the bystander would do that predicts behavioral intention to intervene.

Classic studies of bystander behavior in the context of social comparison and social judgment have considered diffusion of responsibility as an explanation for the apathy from bystanders (e.g., Darley & Latane, 1968; Garcia, Weaver, Moskowitz & Darley, 2002). More contemporary studies have investigated the role of social norms as predictors of bystander actions (e.g., Marby & Turner, 2016). It is important, therefore, to understand the nature and influence of social comparison and social judgment involved in bystander behavior.

The influence of social comparison and social judgment on bystander behavior can also be understood using perceptual effects research, which focuses heavily on the third-person effect (TPE) and first-person effect (FPE). TPE is when individuals tend to perceive the media (as a whole or a specific message) has a greater effect on others than on self which results in third-person perception (TPP). FPE occurs when individuals perceive greater effect on oneself than on others resulting in a first-person perception (FPP). Research in media effects and communication suggests that perception effects such as these (Davison, 1983) are a potential mechanism that underlies behavior as well as the limited behavioral effects from intervention programs. Davison (1983) proposed that there are cognitive fallacies involved in individuals perception of media effects i.e., that others are or are not more influenced by messaging; and consequently, individuals tend to take actions based on their perception, There is empirical evidence that TPP is a robust phenomenon (Sun, Pan, & Shen, 2008), and that this perceptual gap influences behavior (Eisend, 2017; Xu & Gonzenbach, 2008). To date, the literature has not explored whether TPP or FPP influences bystander behavior, which could be a factor that moderates bystander behavior and also a gap in the perceptual effects literature.

Perceptual effects are influenced by several social constructs. For example, TPE, and subsequently TPP, increases when media messages and their presumed influence are socially undesirable (e.g., television violence, pornography; Perloff, 2009) and decreases when they are socially desirable (e.g., anti-smoking advertisements; Henriksen & Flora, 1999). The difference between perceptions of media's influence on oneself compared to others is known as the perceptual gap. A perceptual gap may be in TPP or it might be in the opposite direction (i.e., greater effects on self than on others), which is labeled as the FPP (Innes & Zeitz, 1988). The impact of social desirability on the direction and magnitude of the perceptual gap has been supported in a meta-analysis (Sun et al., 2008). Other significant predictors of the perceptual gap include if others are vulnerable to (media message) influence, the degree to which others are similar to oneself, and if others are the target audience of the media content (Sun et al., 2008).

More contemporary TPE and influence of presumed influence research (e.g., Gunther & Storey, 2003) suggest that there are four possible actions individuals might take based on the perceptual gap (e.g., Sun, 2013): coordination, rectification, compliance, and defiance.[1] Within the context of BIPs, compliance and defiance may be most relevant given their normative influence with regard to individual behaviors. *Compliance* behaviors occur when individuals bring their behaviors close to the perceived expectations and/or behaviors of the referent group (i.e., others). For example, adolescents decide not to start smoking when they perceive anti-tobacco advertisements have more effects on their peers (who are, therefore, not likely to start smoking).

[1]Coordination and rectification are behavioral responses aimed at the media environment at large. *Coordination* reactions refer to adaptive behaviors based on perceptions of how others' possible actions might affect one's own chance of achieving certain goals. For example, voters are more motivated to come out and vote when they perceive the opponent candidate has a better chance to win due to events that occurred during a campaign. *Rectification* actions might be taken when individuals perceive others' reactions would result in less-than-optimal states or inflict harm; therefore, individuals are motivated to take actions to fix/pre-empt the problems or deficiencies. For example, individuals might volunteer to promote media literacy or support censorship in light of false or incomplete information. While not the focus of this research, coordination and rectification may be relevant to bystander intervention programs in that these reactions could be used to advocate and promote training programs and enhance awareness of violence on campus.

In the context of BIPs, compliance behaviors would occur when individuals, who perceive more training effects on others, feel more compelled to intervene, in the form of TPP-*and*-TPE; and when they perceive less training effects on others, become less motivated to intervene, in the form of FPP *and* FPE. Thus, individuals are only more likely to intervene when they perceive TPP and TPE.

Defiance behaviors result from individuals acting against the perceived norm. For example, if there was a ban on super-sized soft drink servings (perceived norm), then individuals would purchase super-sized soft drinks as form of protest representing a defiance behavior. Defiance behaviors would mean the opposite: Individuals are less likely to intervene when they perceive more training effects on others, in the form of TPP-*but-not*-TPE; and are more likely to intervene when they perceive less training effects on others, in the form of FPP-*but-not*-FPE. It should be noted that, in this context, defiance behavior simply means those responses inconsistent with the perceived norm. Given that the goal of bystander programs is to prevent violence through bystander behaviors, perceptual effects literature and theory suggests FPP would lead to an individual being more likely to intervene, which could result in increased bystander behavior.

Current Study

Given the lack of literature examining perceptual effects on bystander behavior, this study uses perceptual effects theory to explore the relationship between perceptual effects and bystander behavioral intentions. The current exploratory study asked three questions examining the impact of a bystander intervention message delivered via a media (video) channel: (1) Given the perceived desirability of bystander intervention messages, is there a TPP or FPP in bystander behavior regarding (a) perceived effects of bystander intervention messages, and (b) behavioral intentions to act in a bystander situation? (2) What are the predictors of the perceptual gaps in the impact of bystander training? (3) If, and in what manner, does the perceptual gap predict one's intention to intervene in a bystander situation?

Method

Participants

Participants were 379 undergraduate students (51.6% female) from the research subject pool at a large, Northeastern University. Almost half of the participants were sophomores (44.9%), followed by juniors (24.3%), seniors (21.6%), and freshman (6.6%); 2.6% were in their fifth year. About 35% (n =131) of them were currently in a romantic relationship. The racial and ethnic background roughly reflects the undergraduate population on campus: 69.1% white, 15.3% Asian, 7.7% Hispanic, 5.5% African American, and 2.4% other. No students opted out of the study.

Procedure

Data collection was a repeated measures, message exposure, web-based survey study that took place in the spring semester of 2017. The University's Institutional Review Board approved study procedures. The participants had to be 18 years and older to be eligible for the study. Participation in the study fulfilled a course requirement; students were offered

alternative options to study participation to fulfill the requirement (i.e., participate in an alternative study, attend a departmental colloquium). The participants received the link to the study via the university ID/password protected web-based system for research participants. After giving consent, the participants first reported their demographic information, then indicated their previous experiences with sexual violence, dating violence and bullying, as a perpetrator and as a victim. The participants then reported if they received any training in a bystander intervention program. Next, they reported how confident they were (0% =not confident at all, 100% = very confident) to perform bystander intervention behaviors.

For bystander intervention message exposure, the participants then watched a video clip that introduces the Green Dot program and its localized bystander intervention on campus (see Coker et al., 2011). The videos provided participants a concrete reminder about the training programs and media messages that were asked about in the measures of third-person perception. Next, the participants responded to questions on perceived social desirability of training programs like Green Dot, and the perceived effects from such programs on themselves versus on an average student on campus. Finally, participants reported how they would feel and act in six hypothetical bystander scenarios (three sexual violence and three dating violence/bullying scenarios; the perpetrator was either known or a stranger); and how they thought an average student on campus would act. Scenarios were drawn from bystander literature (e.g., No More, 2017) and adapted. Two scenarios represented dating violence, one bullying and three sexual violence; all scenarios depicted female victimization. Scenarios and effects (on self versus on an average student) were randomly presented. Students received all six scenarios. Appendix A presents the six scenarios.

Measures

Training.—Participants were asked to “check all that apply” from a list of 25 BIPs (e.g., Alcohol EDU, Better Bystanders, BeVocal, Green Dot, It’s on Us; Coker & Bush, 2016). A composite score of previous training was created by taking the sum of the list. Participants checked 0–5 programs, with the majority (65%; n=248) identifying no prior program participation (M=0.48, SE=0.02). Because this index of training is a formative measure, alpha reliability was not applicable (Diamantopoulos & Winklhofer, 2001).

Self-efficacy.—Participants reported how confident they were to perform the following bystander intervention behaviors on an 11-point scale (0=not confident at all; 10=very confident): “Get help and resources for a friend who tells me they have been raped.” “Do something to help a very drunk person who is being brought upstairs to a bedroom by a group of people at a party.” “Do something if I see a woman surrounded by a group of men at a party who looks very uncomfortable.” “Speak up to someone who is making excuses for forcing someone to have sex with them.” “Do something if I see someone being bullied on campus.” “Speak up to someone who is harassing minority individuals on campus.” “Get help and resources for a friend who is being bullied or harassed.” Items were adapted from the Bystander Efficacy Scale (Banyard, 2008) and confirmatory factory analysis (CFA) showed that these items were uni-dimensional. A composite score was created by taking the average of the 7 items (α=.89, M=4.80, SD=1.40).

Social desirability.—Social desirability of presumed influence from bystander training programs such as Green Dot was measured by five 7-point semantic differential scales which use polar adjectives or opposite meaning terms (adapted from Shen, Palmer, Mercer Kollar, & Comer, 2015). The word pairs were: socially undesirable, beneficial to universities, harmful to campus values, favorable to societal/university norms, and helpful to improve campus safety, versus their counterparts. CFA confirmed that these items were unidimensional. These items were averaged into a single index (α=.81, M=5.73, SD=1.10).

Perceived effects.—Four questions assessed the perceived effects of bystander training programs for self and for the average student on campus using a 7-point response scale (1 = *not at all*; 7 = *a great deal*). Questions asked: "How much do you think watching this video and receiving Green Dot and similar training would influence you (versus an average student on campus) regarding (1) perception of the safety on campus?, (2) attitude toward violence on campus?, (3) motivation to play a role in helping create a safer campus for all?, and (4) intention to intervene as a bystander when you witness sexual/relational violence? CFA confirmed the uni-dimensionality of the scale. A composite score was created by averaging the items for self (α = .93, M=4.76, SD=1.40), as well as for an average student on campus (α = .91, M=4.14, SD=1.24). An index for perceptual gap was constructed by subtracting the perceived effects on self from the perceived effects on an average student on campus. Positive scores indicate presence of TPP, and negative scores suggest FPP, like other perception research (e.g., Shen et al., 2015).

Perceived ambiguity.—Each scenario's perceived ambiguity was measured using five 5-point Likert scale items (1=strongly disagree, 5=strongly agree): "I am not sure what is going on here." "It is clear that something bad is going to happen to her (reverse coded)." "I have no doubt that she is in trouble (reverse coded)." "I am uncertain if she would like that." And "It is pretty obvious what's going on." CFA confirmed the uni-dimensionality of the scale. A composite score was created by taking the average of the items (M=2.63, SD=.80). Since perceived ambiguity was repeatedly measured across the six scenarios, the multilevel approach was adopted to estimate the scale reliability following the procedure in Nezlek (2016) and Bonito, Ruppel, and Keyton (2012). The multilevel reliability for perceived ambiguity was α = .86 across the six scenarios.

Perceived risk.—Each scenario's perceived risk was measured using five self-developed 5-point Likert scale items (1=strongly disagree, 5=strongly agree): "I might get into trouble myself if I get involved." "I would be embarrassed if I do something." "I feel unsafe if I try to intervene." "I will be at risk if I try to help." "It will be dangerous for me to do anything." CFA confirmed that the scale was uni-dimensional across the scenarios. A composite score was created by taking the average of the items (M=2.40, SD=.93). The multilevel reliability for the scale across the six scenarios was α = .83.

Intention to intervene.—Intention to intervene was measured by five self-developed 5-point items (1=not likely at all, 5=extremely likely) repeatedly across the six scenarios and for both self and an average student on campus. The items were: "Will approach the girl and let her know I am here to help." "Will let the girl know I am available for help and support."

"Will ask the girl if she needs help." "Will stop and check if the girl is OK." And "Will express my concern and offer my help to the girl." CFA confirmed that the scale was unidimensional across the six scenarios and the two referents. A composite score was created by taking the average of the items (M=3.42, SD=1.01). The multilevel reliability for the scale was $\alpha = .91$. For each scenario, a perceptual gap score was constructed by subtracting self intention to intervene from estimated other's intention (M=2.80, SD=.98). Just as in perceived effects estimates, a positive score indicates presence of TPP, and negative scores suggest FPP.

Past perpetration.—Due to the strong predictive relationship between different types of violence (Espelage, Basile, & Hamburger, 2012), past perpetration behavior was used to measure perpetration behavior. Past perpetration behavior was measured using the following two items from the Mini McBee survey (Coker & Bush, 2016) and summed: "Since Fall 2016 while you were a student did you physically force or make threats of physical force against another student to have sex?" And "Since Fall 2016 while you were a student have you threatened to or actually physically harmed a dating or intimate partner, someone they loved or yourself?" Responses were "Yes"; "Yes, but not since Fall 2016"; and "No". Any responses of "Yes" were summed (M=0.01, SD=.11), with the vast majority reporting no previous perpetration (99%; n=374).

Victimization.—Victimization was conceptualized as past violence victimization and measured using three items from the Mini McBee survey (Coker & Bush, 2016): "Since Fall 2016 while you were a student has someone used physical force or threats of physical force to make you have sex?" "Since Fall 2016 while you were a student has a dating or intimate partner threated to or actually physically harmed you, someone you love or themselves?" And "Since Fall 2016 while you were a student at <Northeastern University> did you have sex while you were unable to consent or stop what was happening because you were passed out, asleep or incapacitated due to drugs or alcohol?" Responses were "Yes"; "Yes, but not since Fall 2016"; and "No". For the last item, an additional response of "I think this happened to me but I'm unsure" was also included. Any responses of "Yes" or "I think this happened…" were summed (M=0.06, SD=.27), with the vast majority reporting no previous victimization (94%; n=358).

Demographics.—Demographics collected included age, sex, race, year in school and relationship status ("Are you currently in a romantic relationship"; "Yes" or "No").

Analytic Strategy

Data analyses included descriptive statistics, t-tests and multilevel modeling. Effect size of the perceptual gap was estimated following the procedure in Dunlap, Cortina, Vaslow, and Burke (1996) for repeated measures design studies (see also Morris & DeShon, 2002). The first research question asked that, given the perceived desirability of bystander intervention media messages, is there a third-person or first-person perception in bystander behavior regarding a) perceived effects of intervention programs/messages, and b) behavioral intentions to act in a bystander situation. Analyses involved descriptive statistics and multilevel modeling. Note that intention to intervene was measured repeatedly across the six

scenarios and comparatively (self vs. an average student on campus). Because scenarios were nested within individuals, the multilevel approach was adopted to examine the effects of the perceptual gap on intention to intervene (see Raudenbush & Bryk, 2002; Hox, 2002). The basic model that predicts perceptual gap in intention to intervene across the six scenarios was:

$$y_{ij} = \alpha + \beta_p x_{pij} + \xi_{ij} \quad (1)$$

where y_{ij} is the gap in intention to intervene perceived by participant i (i = 1, 2, 3,….367) in scenario j (j = 1, 2,3, 4, 5, 6), α denotes the intercept, β_p is the regression coefficient of the predictor x_{pij}, where p = 1, 2, 3…p (i.e., potential factors that predict the gap in perceived intention), and ξ_{ij} denotes the error variance. In a repeated-measures design as in the current study, $\rho_{\xi_{ij},\xi_{ij'}} \neq 0$. ξ_{ij} can be decomposed into two components as in $\xi_{ij} = \mu_i + \varepsilon_{ij}$, where μ_i is individual-specific deviation from the overall mean for participant i, and ε_{ij} is the transitory error component that varies across measurement occasions (i.e., scenarios) and participants. In a random-intercept model, Equation (1) becomes:

$$y_{ij} = \alpha + \beta_p x_{pij} + \mu_i + \varepsilon_{ij} \quad (2)$$

where μ_i is assumed to have a mean of zero and variance of σ_μ^2 (between-individual variance in y_{ij}), and ε_{ij} is assumed to have a mean of zero and variance of σ_ε^2 (residual error variance).

An intercept-only multilevel model was estimated to predict the perceptual gap in intention to intervene across the six scenarios, where both individual and scenario were specified as random-effects factors and no other variables were entered as predictors, as specified in the following:

$$y_{ij} = \alpha + \mu_i + \mu_{ij} + \varepsilon_{ij} \quad (3)$$

This intercept-only model estimated the grand mean of the perceptual gap (overall TPP estimate; i.e., α), the deviation of the responses from participant i from the grand mean (i.e., μ_i), and the deviation of the response in each scenario j from the grand mean (i.e., μ_{ij}). Both μ_i and μ_{ij} are assumed to have a mean of zero; and their variances constitute random effects associated with participant (i) and scenario (j).

Statistical power for multilevel analyses in the current study was estimated using the Optimal Design Plus Software (Version 3.0; Spybrook, Bloom, Gongdon, Hill, Martinez, & Raudenbush, 2011). Assuming α=.05, variability at Level 1 (message level) σ = 1.0, variability of Level 1(message level) coefficient τ = 0.10, five measurement occasions (i.e., one measurement occasion per stimuli message), a sample size of 379 yielded statistical power in excess of .70 to detect an effect size of Cohen's d = .30, which was considered as a small effect size, and typical in media effects and persuasion literature. Missing responses in the data were deleted listwise in all analyses.

The second research question examined the predictors of perceptual gaps. A general linear model (GLM) was estimated to predict the perceptual gap in bystander media message effects using previous perpetration behavior, previous victimization, previous training, and social desirability, and with age, sex, and perpetrator status (known or unknown to victim from the scenario) as covariates.

Predictors were also added to the intercept-only multilevel model (from the first research question) to investigate predictors of FPP regarding intention to intervene: scenario (dating violence/bullying =1 vs. sexual violence =2), perpetrator status (known to victim=1 vs. unknown=2), sex (male=1, female=2), age, previous perpetration behavior, previous victimization, training, social desirability, ambiguity, and risk involved in the scenario.

The third research question asked about the predictors of one's intention to intervene in a bystander situation. A multilevel model was estimated to predict one's intention to intervene, where both the individual and scenario were specified as random effects factors, topic, victim, sex, age, previous perpetration behavior, previous victimization, training, self-efficacy, social desirability, ambiguity, and risk involved in the scenario, and the gap in perceived effects were specified as fixed effects factors.

Results

The first research question asked whether there was a third-person or first-person perception in bystander behavior. Scale factor analyses and reliabilities are previously reported (see Measures). Paired-samples t-test showed that the participants perceived themselves (M=4.76, SD=1.40) to be significantly more influenced by media messages about training programs of bystander intervention than an average student on campus (M=4.47, SD=1.24): $t(375) = 5.43$, $p < .001$, a FPP. The two measures of perceived effects were correlated: $r = .69$, $p < .001$. Effect size was .28. Further, descriptive statistics showed that the participants perceived media messages about bystander training programs such as Green Dot as socially desirable: M=5.73, SD=1.10. The mean was significantly above the mid-point of the scale ($p < .001$). Results also showed that the average perceptual gap (an average student on campus - self) in intention to intervene in a bystander scenario was −0.62 (SE= 0.04), t= −16.98, p < .001. This negative perceptual gap was significantly different from zero, which demonstrated a pattern of FPP as well.

The second research question examined the predictors of perceptual gaps. Significant predictors in the random-intercept Model 1 (Table 1) were: topic, perceived ambiguity, perceived risk, sex, age, and past victimization. GLM Results showed there was a significant sex effect: $F(1, 378) = 20.68$, $p < .001$, $\eta^2 = .059$. Males did not significantly indicate FPP (M=−.04, SE=.08, *ns*), while FPP was robust among the females (M=−.53, s.e =.07, $p < .001$). Previous bystander training, perpetrator status (known to victim), and past perpetration did not significantly predict the perceptual gap on one's intention to intervene (Model 1).

Results from the intercept only Model 2 (Table 1) were consistent with significant predictors of sex, age and past victimization. Sex was a significant predictor, such that the FPP was

more robust and salient among females than males. Previous victimization was also a significant predictor suggesting that being a victim of violence would reduce the magnitude of FPP. Perceived ambiguity and perceived risk were not significant predictors in Model 2 differing from Model 1.

The third research question asked about the predictors of one's intention to intervene in a bystander situation. Model 3 (Table 1) revealed scenario topic was a significant predictor of intention suggesting individuals are more likely to intervene in a dating violence or bullying scenario than in a sexual violence scenario. Across scenarios, sex emerged as a significant predictor with females more likely to intervene than males. There was positive and significant effect of age, past training and self-efficacy on intention to intervene. There was a significant negative effect of perceived ambiguity and risk on intention to intervene. The average perceptual gap (an average student on campus - self) had a significant effect. This suggested that the more one perceived others (relative to oneself) are influenced by media messages/training programs on bystander intervention, the less likely they are to intervene across the scenarios.

Post hoc analyses revealed that that dating violence and bullying scenarios (M=2.57, SE =.03) were perceived to be more risky than sexual violence scenarios (M= 2.19, SE= .03): t (2253) = 9.82, p <.001. Dating violence and bullying scenarios were perceived as more ambiguous (M= 2.76, SE= .02) than sexual violence scenarios (M= 2.52, SE = .03): t (2253) = 7.30, p < .001.

Discussion

BIPs are evidence-based approaches to preventing sexual violence and dating violence (e.g., Coker et al., 2017; Basile et al., 2016, Niolon et al., 2017) and increasing bullying bystander intervention (Polanin, Espelage, & Pigott, 2012). The current study provides preliminary support for perceptual effects influencing bystander behavioral intentions, which may warrant additional consideration for bystander intervention program content and inclusion as moderators of program effects. Findings revealed that research participants perceived that they would be more influenced by bystander training, and subsequently more likely to intervene compared to their average peer.

Answering the first research question, an FPP pattern emerged and participants perceived (a) others to be less influenced by the training programs and (b) others were less likely to intervene than oneself. Predictors of the perceptual gaps (second research question) included sex. Female participants had larger perceptual gaps in favor of oneself compared to males, which might be attributed to the fact that most of the hypothetical scenarios had a female as the violence victim, thus, female participants possibly identified more strongly with the female victim and were motivated to act. Exposure to previous bystander training was associated with increases in FPP (see Model 2; Table 1). These results showed the significant positive effects of the training program on bystander intentions to intervene (see Model 3; Table 1; see also Coker et al., 2017; Coker et al., 2016; Salazar, Vivolo-Kantor, Hardin, & Berkowitz, 2014), especially in dating violence and bullying scenarios. Training may also reduce the perceived ambiguity in potential violence scenarios, especially dating

violence and bullying scenarios, which were viewed as more ambiguous in this study which could indirectly enhance likelihood of bystander intervening behaviors. Previous training was a predictor of the perceptual gap, but only in Model 2, thus more research is needed to fully understand the relationship between training and its influence on the perceptual gap.

The perceptual gap was found to predict one's intention to intervene answering the third research question. Although overall participants perceived themselves to be more influenced by training programs, and more likely to intervene in a bystander scenario, an important additional finding was that when others were perceived to be influenced more than oneself by bystander intervention media messages, participants were less likely to intervene. This suggests that to a certain degree, diffusion of responsibility might still be at play. Further investigations are needed to test this theory, or if it is due to the fact that the perceptual gap is a linear combination of perceived effects on others *minus* perceived effects on oneself (i.e., the term is a positive function of effects on others, but a negative function of effects on self). Additionally, future research may consider other demographic and scenario characteristics (e.g., membership in a fraternity/sorority, scenario with a "brother" or "sister" as perpetrator/victim).

The pattern from the results in the current study did not fit into the normative influence scenario as described previously as the possible compliance or defiance actions individuals may take (e.g., Sun 2013). Regardless of the perceived norm, there was the tendency for empathy and self-responsibility instead of apathy—individuals had a stronger intention to intervene across the scenarios despite the perception that others were less likely to act. Given the perceived social desirability of bystander intervention training programs (as demonstrated in the current study), simply highlighting the positivity and desirability of such training programs and bystander intervening behaviors may be an effective means of enhancing FPP and increasing bystander behaviors.

A strength of the current study is the novel application of perceptual effects theory to understanding when and who is more likely to intend to engage in bystander behavior. An additional strength is that individuals and scenarios were treated as random effects factors (i.e., they were considered as samples from the populations of individuals and scenarios respectively) in the multilevel modeling analyses accounting for variability. The sample was recruited from across the university. This suggests that the findings from the current study might be generalizable to other individuals at that university. Other strengths include the study's power and data richness as these provide ability to discern significant predictors of the perceptual gap and behavioral intention to intervene.

Limitations

While college students are an appropriate population given the increase in bystander interventions across college campuses (to comply with the SaVE Act) and the high prevalence of interpersonal violence, this study is limited because participants were recruited from a single university campus. Additionally, at the time of data collection, there was a high-profile lawsuit regarding a student death allegedly due to hazing at a fraternity, which may have created bias. Future research may consider expanding this work to include multiple universities, colleges and high schools across a diverse spectrum to detect

differences and similarities to understand third person effects and the nature of the perceptual gap among diverse groups. Given the amount of high-profile sexual violence cases and media attention (e.g., #MeToo movement), future research should consider media effects on how current events influence bystander interventions and related measurements which may aid in developing external adjustment analyses. Additionally, due to the exploratory nature of this study the full range of predictors, moderators and mediators was not examined; many more variables could be considered to expand this research. For example, scenario or survey item wording assumed a female victim, a limitation in this study. Future research should consider varying demographic factors for perpetrators and victims. Future studies should also consider different scenario topics (e.g., dating violence, bullying), demographic factors in scenario and providing neutral survey items. This study was limited to intentions to intervene, and as such, it remains unknown whether the found effects would carry over into real scenarios that require bystander behavior. The correlational nature of the data also meant that causal inferences would not be possible.

Research Implications—As previously noted, additional evaluative frameworks, such as perceptual effects theory, may help identify key target audiences and adapt bystander messaging for improved outcomes (e.g., increased intervening behavior, improved knowledge and attitudes; see Banyard, et al., 2014; McMahon et al., 2014), which may increase the impact of bystander strategies on violence prevention. More research is needed to fully understand the efficacy of using a social comparison and social judgment framework (e.g., perceptual effects) to understand how these bystander interventions and intervening behaviors are activated or, in other terms, how perceptual effects act as a moderator. While there was some evidence found for TPP (diffusion of responsibility could be an explanation for apathetic bystander behavior; e.g., Darley & Latane, 1968; Garcia, Weaver, Moskowitz & Darley, 2002), stronger evidence was found for first person perception (FPP) where participants, especially female participants, consider themselves more influenced by bystander messaging than their peers. This perceptual gap is increased by training. More research is needed to understand why the FPP effect is stronger and significant among females and what is leading to a potential TPP in others, including uncovering if there are differences in social desirability bias between males and females.

There are positive effects from previous bystander training and perceived self-efficacy on one’s intention to intervene above and beyond all other factors, and across the six scenarios. This supports bystander training programs as an evidence-based program to increase bystander behaviors. Future research and evaluation should further understand what is driving perceptual influence (i.e., first person or third person perceptions and effects) as the pattern uncovered here does not fit the typical normative influence scenario (see Sun et al., 2008). Further, based on the finding that bullying and dating violence scenarios were perceived as more risky than sexual violence scenarios, more research around risk perceptions related to these topic scenarios would be beneficial.

Practice Implications and Conclusions—This study was a first step to understand perceptual effects and the impact on bystander behavioral intention. In general, FPP was found. This FPP pattern suggests that promoting prosocial norms for bystander behavior

may *not, on its own,* result in larger perceptual gaps that emphasize personal responsibility for intervening to prevent violence. This is particularly noteworthy given that the impact of norms might only emerge when one has a positive attitude toward the advocated behavior (e.g., Yzer, 2013). Bystander programs that focus efforts on changing social norms around violence *and* encouraging shared responsibility for intervening to prevent violence may be more effective at increasing social desirability, and subsequently may result in more bystander intervention behavior. Bystander programs might also include more intensive and focused media campaigns and other educational efforts to encourage prosocial norms around bystander behavior. Programming and messages may be tailored for specific violence types, settings, and personal attributes based on more research gathered about bystander intervention perceptual effects.

Previous bystander training increased the FPP gap. Both past and ongoing bystander training remains an integral component in one's intent to intervene. Bystander programs that provide booster courses throughout college as opposed to a one-time training may be more effective at increasing bystander behavior and reducing violence due to repeated exposure. Differences by sex might warrant tailored trainings for men and women; however, because training was associated with greater perceptual gaps favoring oneself among women, men may benefit from more training. Future research may want to consider exploring other personal attributes so that trainings and potential booster sessions may be tailored. As many bystander intervention courses are online and required, the impact of perceptual effects on bystander intentions and behavior may be included as part of course review or a survey.

Given the findings of this study, strategies are needed that address social comparison and judgment within the context of bystander training, such as including discussions that normalize and highlight the social desirability of bystander behaviors. Because participants who perceived scenarios as ambiguous or risky were less likely to intervene, bystander trainings may benefit from including role-playing exercises that illustrate examples of ambiguous or risky hypothetical scenarios accompanying discussion of attitudes, beliefs, and challenges to addressing these particular scenarios. Additional research to understand how scenarios are framed and that impact on scenario ambiguity and risk is also needed. This may be especially important for sexual violence bystander programs given that dating violence and bullying situations were more likely to result in bystander intervention. Post hoc analyses suggest that there are other factors above and beyond perceived risk and ambiguity in dating violence/bullying vs. sexual violence scenarios.

Given the prevalence of sexual violence, dating violence and bullying and the impacts on health and wellbeing, efforts to prevent exposure are critical. BIPs for bullying (Polanin, Espelage, & Pigott, 2012), sexual violence and dating violence are effective approaches for prevention (Basile et al., 2016; Niolon et al., 2017), and may benefit from additional considerations of factors that impede bystander behavior, including social comparison and judgment, personal responsibility, sex, ambiguity, perceived risk and social desirability. This study offers strategies and next steps for researchers and practitioners to consider and address in bystander intervention approaches to maximize impact and prevent violence from first occurring.

Appendix A

Scenario 1: Dating Violence

You and your date are at the movies. As you are moving up the line at the concession area, you see a couple arguing loudly. One of them is grabbing the other firmly by the arm and starts yelling at them.

Scenario 2: Bullying

You hear a group of guys harassing a girl who is walking to class. The girl looks uncomfortable and upset.

Scenario 3: Dating Violence

At lunch, you overhear an upper-class student talking about how her boyfriend is always telling her what to do. She says, “I’m really sick of it, but I’m too scared to make him mad, so I just do what he says.”

Scenario 4: Sexual Violence

After a study group in the library, an older guy you don’t know well invites your friend back to his room to study more. He has a bad reputation, but your friend has a crush on him.

Scenario 5: Sexual Violence

You are on the campus bus line heading home from a night out and you see a student from one of your classes who looks really drunk. Two guys are trying to get her to get off of the bus and go with them.

Scenario 6: Sexual Violence

You are at a party. During the past hour you notice one of your male friends has been talking to a young woman. They seem to be having a good time but it is clear that the woman has had too much to drink. At one point your friend walks by you and you hear him say he is just going to get her “one more” and “that should be enough.”

A few minutes later you see him put his arm around the young woman and start to lead her upstairs.

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Table 1

Multilevel Models

	Perceptual Gap					
	Model 1*		Model 2*		Model 3	
	Gap in Intention to Intervene (Random-intercept Model)		Grand Mean (Intercept only Model)		Intention to Intervene	
Variable (referent group if applicable)	**ß (*SE*)**	***p***	**ß (*SE*)**	***p***	**ß (*SE*)**	***p***
Intercept	−1.09 (.30)	<.001	−1.38 (.31)	<.001	3.94 (.28)	<.001
Scenario						
Topic (sexual violence)	.10 (.05)	<.05	−.01 (.05)	ns	−.22 (.04)	<.001
Perpetrator status (known to victim)	.05 (.05)	ns	.01 (.05)	ns	.05 (.04)	ns
Perceived ambiguity	.14 (.03)	<.001	.02 (.03)	ns	−.40 (.02)	<.001
Perceived risk	.23 (.02)	<.001	.01 (.02)	ns	−.20 (.02)	<.001
Individual						
Sex (female)	.25 (.05)	<.001	.50 (.05)	<.001	−.21 (.04)	<.001
Age	−.03 (.01)	<.05	.04 (.01)	<.01	.02 (.01)	<.05
Past Perpetration	.21 (.18)	ns	−.28 (.19)	ns	.11 (.16)	ns
Past victimization	.21 (.08)	<.01	.22 (.09)	<.05	.02 (.07)	ns
Past Training	−.04 (.02)	ns	−.10 (.02)	<.001	.04 (.02)	<.05
Social desirability	−.01 (.02)	ns	.01 (.02)	ns	.01 (.02)	ns
Self-Efficacy	-	-	-	-	.15 (.02)	<.001
Gap in Perceived Effects	-	-	-	-	−.04 (.02)	<.05

Note. Scenario $n = 6$; individual $n = 379$.

*Positive betas infer reductions in the perceptual gap whereas negative betas infer increases in the perceptual gap.