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EMPIRICAL REVIEW

Call for Research on Bystander Intervention to Prevent Sexual Violence: The Role of Campus Environments

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Abstract An important next step for the field is to determine what setting-level factors beyond the individual are critical to fostering campus environments that support pro-social, helpful bystander intervention action to prevent sexual violence. Therefore, the purpose of this paper is to provide a research agenda to investigate key areas of the campus environment and their potential influence on bystander intervention. To create the research agenda, a number of steps were followed including: (1) systematically reviewing the larger bystander literature to identify key environmental areas, (2) assessing what research is available specific to college campuses and sexual assault in each of these areas, and (3) outlining future research to address each of these areas on college campuses and determine their applicability to sexual violence situations. Five main groups of factors were found to influence bystander intervention beyond the individual, group and situational levels, including: social norms, sense of community, pro-social modeling, policies, and the physical environment. Certain areas of research on environmental influences on bystander intervention are more developed such as social norms, with little research on areas such as policies and the physical environment. However, further research is needed in each of the identified five areas to help identify how college campuses can support bystander intervention.

Keywords Bystander intervention · Campus sexual assault · Pro-social environments

Introduction

In 2007, the American College Health Association (ACHA 2007) issued a White Paper on campus violence, declaring it a major public health concern for colleges and universities. The ACHA White Paper included a call for colleges and universities to implement a number of recommendations to address and prevent campus violence, with an emphasis on using primary prevention strategies to foster campus environments rooted in respect and safety (Carr 2007). More recently, the White House Task Force to Protect Students from Sexual Assault released a report that called on colleges to address the problem through comprehensive measures, including an assessment of the campus climate and environment (White House 2014).

The bystander intervention approach is one sexual violence prevention strategy being implemented on college campuses, and frames sexual violence as a community issue in which all members can intervene before, during, or after a sexual assault occurs (Banyard et al. 2004). Although sexual violence often occurs in private settings, the literature suggests that there are a number of opportunities for students to intervene. For example, McMahon and Banyard (2012) identify high risk situations (such as seeing an intoxicated individual being taken to a secluded area), situations during an assault (if the individual sees, hears, or suspects it is occurring), or situations after the assault (by providing assistance to the victim, or confronting the perpetrator). The bystander approach is increasingly popular on college campuses, and is supported by emerging research that demonstrates a number of

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encouraging outcomes including increased positive attitudes and behaviors related to sexual violence and greater willingness to intervene in pro-social ways (see reviews by Katz and Moore 2013; Potter and Banyard 2011; NSVRC 2013).The White House Task Force Report highlighted bystander intervention as a "promising practice" and encouraged universities to utilize it as a prevention strategy. The bystander intervention approach serves as a form of health promotion, and instead of focusing on the problem of sexual assault, emphasizes how individuals can create healthy communities that are built on respectful relationships and do not tolerate violence (Casey and Lindhorst 2009).

Although the bystander approach is often framed as a community level intervention, most of the programming and research has actually focused largely on the individual level of change, with an emphasis on addressing personal attitudes, beliefs and behaviors (Banyard 2011; Katz and Moore 2013; NSVRC 2013). On college campuses, this focus on the individual level is evident through the proliferation of bystander intervention education programs, which typically aim to increase student's awareness of bystander opportunities, and develop skills and self-efficacy to intervene safely and effectively (see NSVRC 2013). Although efforts to address the individual level of change are important, these provide an incomplete picture by leaving out discussion of the larger environment in which students interact.

As colleges and universities move forward with implementing bystander intervention strategies, an important next step for the field is to determine what setting-level factors beyond the individual are critical to fostering campus environments that support pro-social bystander intervention action to prevent sexual violence. As such, the purpose of this paper is to provide a research agenda for college campuses to explore environmental level influences on bystander intervention.

Bystander Intervention and Ecological Frameworks

While understanding what personal characteristics (i.e. attitudes, beliefs, knowledge) are important for propelling pro-social bystander action, it is important to recognize that individual actions are impacted by multiple levels of interaction with others—a key facet of ecological systems theory (Bronfenbrenner 1979). Understanding the settings in which behavior occurs has been well recognized in the health promotion literature, as the context in which individuals live, work, and socialize are identified as essential elements in influencing behavior (Poland et al. 2009). Within the field of community psychology, environmental change strategies (ECS) are viewed as critical mechanisms for improving community health (Pettibone et al. 2013). ECS are defined as "population-based interventions that change the environment or context in which individuals make decisions" (Pettibone et al. 2013, 217).

Conceptually, bystander intervention has been framed as a strategy that fits with an ecological, ECS framework and can extend the focus of sexual violence prevention beyond just the individual to the role of peer, community, and institutional contexts (Banyard 2011; Casey and Lindhorst 2009). However, little is written about ecological models of bystander intervention. One exception is Banyard's (2011) foundational work, which draws upon the larger bystander intervention literature to develop an ecological model specifically for sexual assault prevention. Her review provides an understanding of the multiple ways that context (including peer and family, community and society level influences) impact bystander intervention. The current study builds upon her broad foundation to create a research agenda that more specifically focuses on environmental level factors for college campuses.

Additionally, other authors address the importance of ecological approaches to sexual violence prevention more generally. For example, Casey and Lindhorst (2009) highlight the need for sexual violence prevention efforts to occur on multiple levels, with special attention to the peer and community contexts. Similarly, DeGue et al. (2012) emphasize the particular need for research on community-level strategies to prevent sexual violence. Cohen and Swift's (1999) Spectrum of Prevention was developed to identify multiple levels of prevention beyond educating individuals such as promoting community education, educating providers, fostering coalitions and networks, changing organizational practices, and influencing policy and legislation.

While the literature specific to the ecological influences on bystander intervention may be limited on college campuses, the broader bystander literature offers a foundation upon which translation to university settings may be useful. For example, a number of key community level influences on bystander intervention to prevent crime in neighborhood settings, such as collective efficacy, have been well established, and may offer points for application to college campus community settings (Banyard 2011; Sampson et al. 1997). Thus, the purpose of this paper is to build upon existing ecological models to develop a research agenda to determine how campus settings can promote environments that foster pro-social bystander intervention. The specific goals of the paper are to: (1) systematically review the larger bystander literature to identify key environmental areas, (2) assess the research available specific to college campuses and sexual assault in each of the areas identified as key environmental themes, and (3) outline future research to address each of these areas on college campuses and determine their applicability to sexual violence situations.

Methods

Overview

To create the research agenda, a number of consecutive steps were taken, as outlined in Fig. 1. Because research on environmental-level approaches to sexual violence prevention is relatively new, consulting with established literature from other disciplines has been noted as an important way to provide a foundation for guiding sexual violence prevention efforts (i.e. Casey and Lindhorst 2009). Therefore, the first step of creating the agenda was to review the larger bystander literature to identify key community level categories to help provide a framework. Each category was then reviewed to determine how many articles were specific to college campuses and sexual assault, and where major gaps were apparent. Based on this process, a research agenda was outlined to determine how these findings may translate to college settings to address sexual violence.

Phase I: Consultation with the Bystander Literature

The first phase involved consultation with the larger bystander intervention literature through a systematic review to cull factors that facilitate or prohibit bystander intervention. A multiple-step process was employed to identify relevant literature. First, a list of key search words was developed, and included: *bystander ecological approach, bystander intervention, social ecology, socio-ecological, social ecological, pro-social, prosocial, primary prevention, multilevel prevention, multilevel intervention, multi-level prevention, multi-level intervention, campus sexual violence, sexual violence prevention, rape prevention, sexual assault prevention, witness,* and *factors*. A total of eight databases were searched for articles published through January, 2015, including PsycINFO, PubMed, Sociological Abstracts, Academic Search Premier, Social Work Abstracts, Criminal Justice Abstracts, National Criminal Justice Reference Service Abstracts, and Westlaw Campus Research.

Each abstract was then reviewed to determine if it contained factors related to inhibiting or facilitating bystander intervention. A team of three researchers reviewed and ranked the abstracts according to relevance scores of 0–5 (0 being least relevant and 5 being the most relevant to the stated purpose of the study) in each of the following categories: population, intervention, outcomes and study method. Each abstract was reviewed independently and to increase reliability, a total of 10 % of the abstracts were

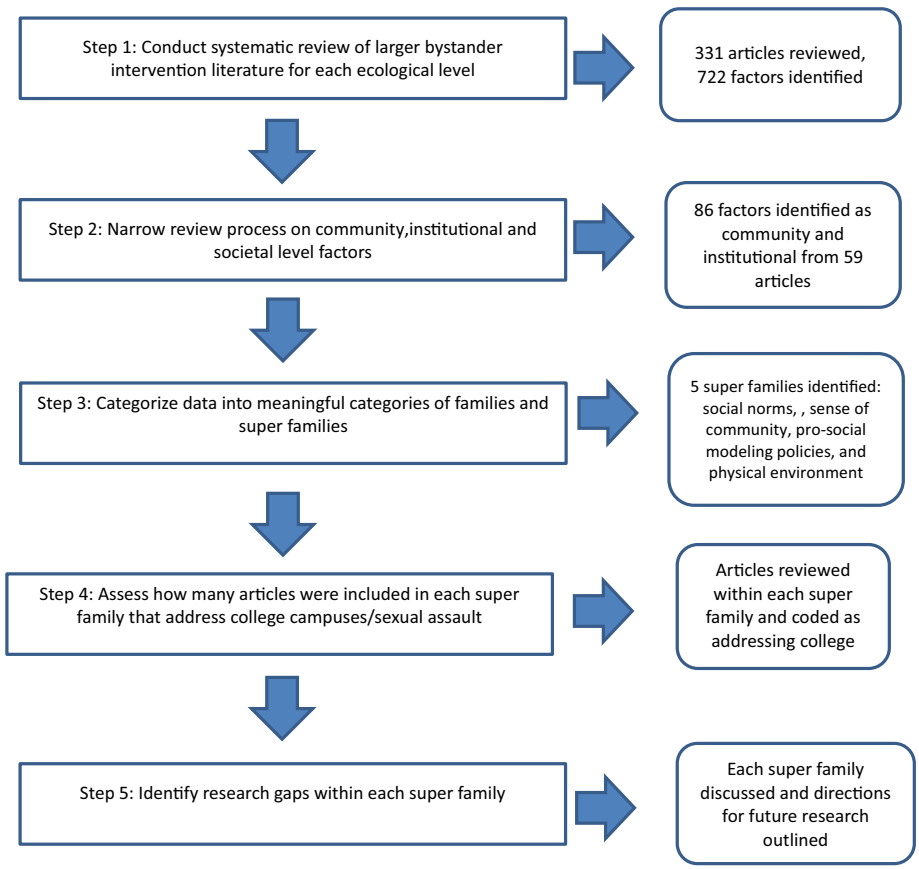

Fig. 1 Methods for creating research agenda

reviewed by a second researcher. Results were compared and were almost entirely the same. Abstracts with relevance scores of 3 or higher for at least two categories were reviewed in full. Subsequently, researchers mined the bibliographies of relevant studies for additional resources, identifying, in total, 331 articles for full review.

The researchers reviewed each of the 331 articles in full and completed a summary matrix to document each article's summary of the findings, methods, and any factors identified as facilitating or discouraging bystander intervention. A total of 722 factors were identified. Next, each researcher individually assigned each factor to an ecological level based on definitions provided by the Center for Disease Control and Prevention's (2007) model (individual, group, organizational/institutional, or societal). Additionally, based on Banyard's (2011) work, a "situational" category was provided that indicated factors relevant to the immediate bystander situation (these were often coded as both situational and another level). Regular peer debriefing sessions were conducted for the three researchers to compare individual assignments and to determine the final ecological categorization for each factor, thereby increasing validity (Mertens 1998). A total of 434 factors were coded as individual, 168 as group, 48 as community, 26 as institutional, 12 as societal, and 89 as situational, with some factors coded in two or more ecological categories

The factors were imported into Atlas.Ti (7.1.3) for analysis. Because many of the factor labels consisted of long definitions at this point of the process, each researcher was assigned an ecological level and labeled the factors into brief descriptive names, or "Descriptive Codes" (Mertens 1998). Each factor was assigned its own brief, unique code, such as "ambiguity of situation, or "peer norms" (Mertens 1998). In order to check for inter-rater reliability, each rater re-coded 10 % of the factors within each of the other rater's assigned ecological levels. There was agreement on 95 % of the codes; those that were not agreed upon were discussed with two additional researchers until consensus was reached.

Phase II: Developing an Organizing Framework

The second phase of the process was to group the findings from the systematic review into meaningful categories. To create these categories, inductive approaches were utilized along with multiple reliability checks. Researchers first created groups, or "families" of similar codes at each level of the ecology. Next, similar families of codes were clustered into "super families" or larger, umbrella codes/themes in each ecological level. To establish credibility, the researchers met regularly to engage in peer debriefing. Additionally, an expert in bystander intervention participated in these meetings to provide regular input and feedback. For the current paper, only those families and super families that addressed environmental levels (community, institutional and societal) were included. For the current analysis, the super families were merged into larger, broad, "themes" across levels.

Phase III: Assessing the Extent of Research on Colleges and Sexual Assault

The third phase of the study involved coding factors from environmental levels as directly addressing college populations and sexual violence or not. All results were compiled in tabular format (See Table 1). Based on gaps identified, relevant research questions were developed.

Results

Analysis of the bystander literature yielded a total of five major groups of factors that influence bystander intervention at environmental levels, based on a total of 59 articles from community, institutional, and societal levels (see Table 1). These five major themes include: social norms, sense of community, pro-social modeling, policies and accountability cues, and the physical environment While these represent five distinct categories that emerged from the analysis, they are also viewed as potentially overlapping and interactive. Each of these five areas is described below; within each area, findings are first presented from the broader bystander literature, and then findings specific to college campuses are highlighted. Each section concludes with an identification of key gaps and recommendations for future research particular to college campuses.

Social Norms

The first set of factors beyond the individual level found to influence bystander intervention is related to norms. The larger bystander literature established that social norms are strong predictors of behavior in bystander situations. Social norms functioned in a number of ways. First, if the "crime" violates an established norm, bystanders are more likely to intervene. For example, in a series of experiments, Brauer and Charaurand (2010) found that the more "uncivil" the behavior and the more severe that it violates social norms, the more likely bystanders are to intervene. Social norms about bystander intervention were also identified as important. Hart and Miethe (2008) found norms about helping behavior within the immediate situational context to be the strongest factor in whether an individual intervenes in violent crimes (including robbery, physical assault, and rape).

Table 1 Description of sample and relevant context of articles reviewed for each major theme

Theme	Reference	Sample	Relevant context
Social norms	Banyard (2008)	Undergraduate students (N = 389)	Exploratory study that examined correlates of bystander behavior in the context of sexual and relationship violence with college students
	Banyard and Moynihan (2011)	Undergraduate students (N = 406)	Examined correlates of actual helping behavior related to the prevention of sexual and intimate partner violence among college students
	Brauer and Chaurand (2010)	Respondents from eight different countries (N = 1048)	Presented respondents with vignettes to examine the determinants of people's reactions to others' uncivil behaviors in public
	Brown et al. (2014)	Undergraduate students enrolled in introductory psychology class (N = 232)	Examined demographic correlates and the association of peer norms and self-reported helping to explain bystander intentions and behaviors
	Brownet al. (2010)	Male undergraduate students (N = 395)	Surveyed male college students regarding their personal attitudes supporting sexual aggression and their estimates of their peers' attitudes supporting sexual aggression
	Burn (2009)	Undergraduate students (N = 488)	Measured and examined the effects of the five barriers of Latane and Darley's (1970) situational model of bystander intervention on men and women's bystander behavior in situations of sexual assault
	Carlson (2008)	Male undergraduate students (N = 20)	Presented college males with vignettes to examine the relationship between masculinity and bystander intervention in situations of physical and sexual assault
	Casey and Lindhorst (2009)	Literature from ecological prevention models	Examined successful ecological prevention models and identified components that can be applied to existing sexual violence prevention strategies
	Casey and Ohler (2012)	Male antiviolence allies (N = 27)	Examined how antiviolence men experience and decode bystander opportunities in situations involving other men's use of inappropriate violence relevant behavior or speech
	Eagly and Crowley (1986)	Meta-analysis of articles on sex differences and helping behavior	Examined gender role norms as they relate to pro-social helping behavior
	Hart and Miethe (2008)	National Crime Victimization Surveys conducted from 1995 through 2004 (N = 12,404)	Examined the situational contexts in which bystanders were present in violent crimes, including situations of weaponless nonstranger rape and sexual assault, and their relative prevalence of helping and hurting responses within them
	Hust et al. (2013)	Undergraduate students (N = 508)	Examined students' media use and its impact on students' reported bystander intervention in a sexual assault situation
	Fabiano et al. (2003)	Undergraduate students (N = 2500)	Explored men's perceptions of other's men's endorsement of rape supportive attitudes and behaviors and willingness to step in
	Gidycz et al. (2011)	Male students living in 1st-year dormitories (N = 635)	Examined the impact that bystander intervention education had on men's self-reported sexual aggression and on men's perceptions of their peers bystander intentions and behaviors
	Katz et al. 2013	First-year undergraduate students (N = 95)	Evaluated the effects of exposure to the Know Your Power bystander-themed poster campaign on students' willingness to help others in high-risk situations as well as assessed students' social self-identification with bystander-themed poster and its impact on students' willingness to help
	Koelsch et al. (2012)	Undergraduate students (N = 51)	Examined factors that promote or dissuade bystander intervention to prevent sexual assault in college party situations
	McMahon (2009)	Student athlete peer educators (N = 14)	Explored the impact that participation in a student-athlete peer education group had on peer educators' ability to serve as social change agents in athlete community
	McMahon (2010)	Incoming undergraduate students (2,338)	Explored the relationship between students' acceptance of rape myths and self-reported bystander attitudes

Table 1 continued

Theme	Reference	Sample	Relevant context
	McCauley et al. (2013)	Male high school athletes (N = 1699)	Examined the relationships between gender-equitable attitudes, bystander behavior, and abuse toward dating partners among male high school athletes
	Potter (2012)	Undergraduate students (N = 353)	Evaluated the impact of the *Know Your Power* bystander-oriented social marketing campaign on students' awareness and willingness to become involved in reducing sexual and relationship violence on campus
	Potter et al. (2011)	Undergraduate students (N = 372)	Surveyed students on a college campus about their willingness to intervene as a bystander in situations where sexual violence had the potential to occur following a four-week long poster display emphasizing bystander intervention
	Potter et al. (2009)	Undergraduate students (N = 372)	Evaluated the impact of exposure to posters depicting models of prosocial bystander action on college students' willingness to intervene in sexual and relationship violence
	Moynihan et al. (2014)	Undergraduate students (N = 948)	Evaluated the impact of participation in a bystander education program, exposure to the *Know Your Power* social marketing campaign, or a combination of both
Sense of community	Banyard (2008)	Undergraduate students (N = 389)	Explored key issues in the development of measures of bystander attitudes and behaviors in the context of interpersonal violence
	Bennett et al. (2013)	Undergraduate students (N = 242)	Examined the barriers and facilitators of helping behavior in the context of sexual violence among college students
	Browning (2002)	Chicago datasets (1990 Decennial Census, 1994–1995), (1995–1997)	Tested the impact of neighborhood level collective efficacy and norms that support intervention on levels of partner abuse
	Cantillon (2006)	High School males (N = 103)	Examined the influence of social disorganization on the prosocial behavior of high school males, measured by the total number of activities the youth participated in school, the community, and related to religion
	Edwards et al. (2014)	Adults from rural counties in the US (N = 178)	Examined the extent to which the community-level poverty rates and collective efficacy influence individual reports of intimate partner violence
	Frye (2012)	NYC residents from two low SES neighborhoods (N = 37)	Examined neighborhood member's beliefs about what actions could be taken by community to intervene with intimate partner violence
	McMahon and Farmer (2009)	Undergraduate student athletes (N = 227)	Surveyed college athletes about what factors impacted their willingness to step into prevent sexual violence and relationship abuse
	Merry (1981)	Housing project in East Coast city	Examined architectural design and its influence on where burglaries, robberies and assaults occur
	Reynald (2010)	Residents from neighborhoods in Dutch providence of South-Holland (N = 225)	Interviewed residential guardians to determine how they make guardianship decisions in neighborhood events that stand out as being out of place
	Sampson et al. (1997)	Chicago residents (N = 8782)	Examined the effects of concentrated disadvantage and residential stability on collective efficacy and its association with rates of interpersonal violence
	Schnieder (1987)	Victimization survey data	Studied the effects of a Portland, Oregon, neighborhood-based crime prevention program, an outreach effort which encouraged citizens to increase the security of their property and person to reduce victimization, on private security, bystander helpfulness and protective neighboring
	Sulkowski (2011)	Undergraduate students (N = 967)	Measured influence of community connectedness on students' willingness to report threats of violence
Pro-social modeling	Ahrens et al. (2011)	Undergraduate students (N = 509)	Evaluated the interACT Sexual Assault Prevention Program

Table 1 continued

Theme	Reference	Sample	Relevant context
	Banyard et al. (2007)	Undergraduate students (N = 389)	Evaluated a sexual violence prevention program that teaches men and women how to intervene safely and effectively in cases of sexual violence
	Bryan and Test (1967)	Adults driving/walking by the actors involved in the experiments (N = 5703)	Studied the effect of a helping model on participants' helping behavior when witnessing another in a distressing, nonviolent situation
	Cares et al. (2015)	First-year undergraduate students (N = 1,236)	Evaluated the effect of the bystander intervention program *Bringing in the Bystander* on college students' bystander attitudes
	Casey and Lindhorst (2009)	Literature from ecological prevention models in fields of HIV, bullying and alcohol prevention	Examined successful ecological prevention models from other prevention fields and identified components of multilevel prevention that can be applied to existing sexual violence prevention strategies
	Coker et al. (2011)	Undergraduate students (N = 2872)	Examined the relationship between receiving a Green Dot active bystander behavior training and the frequency of actual and observed active bystander behaviors and violence acceptance norms
	Coker et al. (2014)	Undergraduate students (N = 7026)	Compared violence by type among college students attending a campus with the Green Dot bystander intervention with students at two colleges without bystander programs to determine the impact that bystander intervention has on violence prevention
	Fonagy et al. (2009)	Elementary school students (N = 1345)	Compared the effect of a systems and focused whole school intervention to a school psychiatric consultation in reducing aggression and victimization among students
	Foubert et al. (2010)	Undergraduate women (N = 279)	Evaluated the efficacy of a sexual assault risk-reduction program on participants' reported bystander efficacy and willingness to help
	Gidycz et al. (2011)	Male students living in 1st-year dormitories (N = 635)	Examined the impact that bystander intervention education had on men's self-reported sexual aggression and on men's perceptions of their peers bystander intentions and behaviors.
	Hektner and Swenson (2012)	Elementary School Students (N = 340); Rural Teachers (N = 66)	Examined mediators in the relationship between teacher beliefs about bullying and inclinations of students to intervene when they witness an incidence of bullying
	Hust et al. (2013)	Undergraduate students (N = 508)	Examined students' media use and its impact on students' reported bystander intervention in a sexual assault situation
	Jaime et al. (2014)	High School Coaches (N = 176)	Examined the impact that the *Coaching Boys Into Men* prevention program had on Coaches' confidence to intervene when witnessing abusive behaviors among their athletes and the frequency in which coaches have violence-related discussions with athletes
	Langhinrichsen-Rohling et al. (2011)	Male undergraduate students (N = 213)	Tested whether a rape prevention program could reduce men's rape myth acceptance and increase their perceived effectiveness of bystander behavior
	McLaughlin et al. (2005)	Elementary school students (N = 416)	Examined factors that influence student bystanders in bullying situations
	Rushton and Campbell (1977)	Female trainee occupational therapists (N = 43)	Studied the immediate and long-term effects of modeling on adult altruism
	Sulkowski (2011)	Undergraduate students (N = 967)	Measured the influence of community connectedness on undergraduate students' willingness to report threats of campus violence
	Thornberg et al. (2012)	Elementary and middle school students (N = 30)	Investigated the reasons for children's decisions to help or not help a victim when witnessing a bullying situation to generate a conceptual framework of bystander motivation in bullying incidences

Table 1 continued

Theme	Reference	Sample	Relevant context
Policies and accountability cues	Abbate et al. (2013)	College students (N = 126)	Explored the effect of prosocial priming on helping behavior in a bystander condition
	Benzmiller (2013)	Current Cyberbullying legislation	Analyzed the current legal status of cyberbullying and proposed that bystanders be held liable under "Bad Samaritan" laws when they fall to report serious cyberbullying
	Curphy et al. (1998)	Cadets from the U.S. Air Force Academy (N = 478)	Explored whether certain situational variables affected cadets' intentions to report another cadet's ethics code violation in the U.S. Air Force Academy
	Huston et al. (1976)	Samaritan Crime Victims (N = 21)	Interviewed Samaritan crime victims about motivation behind their bystander actions
	Palasinski (2012)	Male undergraduate students (N = 310)	Examined men's time reactions to an online sex offense against minors and willingness to intervene
	Potter et al. (2011)	Undergraduate students (N = 372)	Surveyed students about their willingness to intervene as a bystander in situations where sexual violence had the potential to occur following a four-week long poster display emphasizing bystander intervention
	van Bommel et al. (2012)	Undergraduate students (N = 197)	Studied the effect of public self-awareness on students' online helping behavior in reaction to distress messages about suicide and dealing with the sickness of a loved one
	van Rompay et al. (2009)	Undergraduate students (N = 80)	Studied the effects of security camera on students' helping behavior to examine the effect of approval-seeking behavior on bystander behaviors
Physical environment	Bickman (1975)	Undergraduate students (N = 307)	Used two field studies to investigate the impact of visual posters about shoplifting on bystander intervention
	Katz and Moore (2013)	Undergraduate Students (N = 95)	Tested whether exposure to sexual assault posters promoted willingness to help others at risk
	Katz et al. 2013	First-year undergraduate students (N = 95)	Evaluated the effects of exposure to the Know Your Power bystander-themed poster campaign on students' willingness to help others in high-risk situations as well as assessed students' social self-identification with bystander-themed poster and its impact on students' willingness to help
	Merry (1981)	Housing project in East Coast city	Examined architectural design and its influence on where burglaries, robberies and assaults occur
	Newman 1973	Two housing projects in NYC	Examined architectural design and its impact on number of robberies
	Moynihan et al. (2014)	Undergraduate students (n = 948)	Evaluated the impact of participation in a bystander education program, exposure to the *Know Your Power* social marketing campaign, or a combination of both
	Potter et al. (2011)	Undergraduate students (N = 372)	Surveyed students about their willingness to intervene as a bystander in situations where sexual violence had the potential to occur following a four-week long poster display emphasizing bystander intervention

Norms around gender are also an important factor related to bystander intervention. Eagly and Crowley's (1986) meta-analysis of gender and helping behavior established that gender role beliefs are related to different prosocial behaviors for men and women. Women are typically believed to help in more emotionally supportive ways, and men in more assertive ways. These beliefs may translate into "norms" about how each sex should react in bystander situations related to sexual violence. This relates to larger norms about gender roles and equality as well. In McCauley et al.'s (2013) study with adolescent male athletes, they suggest that attitudes about gender equality and willingness to intervene in dating violence situations may be working in a related ways. Similarly, norms around gender and sexual violence may be related to bystander intervention, as a number of studies have indicated that students with higher beliefs in rape myths (false or prejudiced beliefs about rape or victims) are negatively related to willingness to intervene in sexual violence situations (McMahon 2010; Banyard 2008; Hust et al. 2013).

More than any other category, social norms was well researched within the setting of college campuses and sexual violence. In particular, the literature suggests that perceived peer norms are a salient factor for college men's bystander intentions, and are related to perceptions of peer norms around masculinity, violence against women, and

intervention. For example, Brown and Messman-Moore (2010) found that even after controlling for personal attitudes about rape and sexism, college men's perceptions of their close friends' willingness to prevent sexual assault predicted their own willingness to intervene. Fabiano et al. (2003) demonstrated that the primary factor impacting men's willingness to intervene to prevent sexual assault was their perception of other men's willingness to intervene. Carlson's (2008) qualitative study with 20 college men revealed that a major barrier to intervening in abusive situations was men's concern that other males would perceive them as weak or gay. Casey and Ohler (2012) interviewed 27 men and also found masculine gender norms to be a barrier to ally behavior, with participants expressing concerns that they would be perceived as a "cock block" if they intervened with other men. Hust et al. (2013) found in their study of 508 undergraduates that those students who perceived that their peers would intervene in a potential sexual assault situation were more likely to intervene themselves. Most recently, Brown et al. (2014) found that in a sample of undergraduate students, perceptions of peer norms that supported intervention were positively associated with intentions to help in sexual assault situations. However, the relationship between norms and actual bystander behaviors was less clear. Similarly, Banyard and Moynihan (2011) found that lower peer norms supporting coercion were related to a greater intention to intervene as a bystander, yet when they looked at actual bystander behaviors, they actually found that higher peer norms supporting coercion were associated with greater numbers of self-reported bystander behaviors. Clearly, additional research is needed to better understand the relationship among perceived peer norms, intentions to intervene, and actual bystander behavior.

Norms around alcohol were also identified as impacting bystander behaviors on college campuses. Koelsch et al. (2012) found that when a victim or bystander consumed excessive amounts of alcohol, there was less likeliness to intervene in sexual assault situations because it may be unclear if the victim was consenting to the activity or not, and bystanders may be too inhibited to determine this themselves. Koelsch et al. (2012) present this as a settings-level issue for college campuses, where excessive alcohol consumption occurs frequently and it is common for it to be socially acceptable to have "regrettable sexual activity" which makes it even more difficult to determine whether sexual encounters in this environment are consensual or not. The literature review also highlighted some promising practices to shape norms. Gidcyz et al. (2012) described a sexual assault prevention program designed to address both bystander intervention and social norms, and evaluation indicated that men who participated reported decreased associations with peers who supported sexually aggressive behavior, as well as greater beliefs that their peers would intervene.Another social norms strategy described in the literature is social norms marketing. Potter and colleagues evaluated the "Know Your Power" bystander campaign, which includes poster images and other forms of media that show bystander intervention scenarios across campus, and they found that exposure to the campaign resulted in increased awareness of bystander intervention, increased knowledge about how to safely intervene and increased active bystander behavior (Moynihan et al. 2014; Potter et al. 2009, 2011; Potter 2012). In particular, these studies showed that it is critical for individuals to be able to identify with the people and images displayed on the posters (Potter et al. 2011). The campaign was also found to have positive effects on another campus (Katz et al. 2013).

Social Norms: Research Directions for College Campuses

"Social norms" are often referred to as an important factor in sexual violence prevention work, including bystander intervention approaches (Berkowitz 2009; Banyard et al. 2007). However, more work is needed to understand how norms are conceptualized, measured, and influenced on college campuses.

First, research is needed to better define social norms around bystander intervention and understand how they function and influence actual behavior. While certain studies indicate that perceptions of peer norms around bystander intervention are a salient factor, the construct of bystander intervention is often treated as monolithic. Bystander intervention is increasingly recognized as multidimensional (i.e. McMahon and Banyard 2012) with situations to intervene before, during, or after an assault. There may be peer norms that encourage intervention in certain situations such as after an assault or in a clear emergency situation (i.e. a victim crying for help), yet norms may not support intervention in other situations that may be less clearly perceived as related to sexual assault (such as intervening at a party when a potential perpetrator may be giving a potential victim excessive alcohol). There are also bystander opportunities that are considered proactive (such as taking a class on sexual assault or participating in a campus rally) and there may be separate campus norms on this type of activity.

Second, there are a number of sub-groups on campus that may have their own particular norms on bystander intervention (Casey and Lindhorst 2009). It is important for researchers to explore whether there are significant differences among various groups such as athletes, fraternity/sorority members, LGBTQ groups, military groups and other sub-communities that may be defined by membership in a certain dorm or organization or geographic location

(i.e. urban versus rural campuses). Exploring the delivery of peer-based norms education for these various subgroups on campus provides another area for further work. Tailored, peer based programs can be tested for efficacy in various communities on campus. For example, utilizing peer educators from within the athlete community has been found to be effective for delivering messages to their athlete peers (McMahon 2009). Another approach is to work with members of the specific community to design a program that is culturally relevant to that particular group (Yoshihama and Tolman 2015). Adapted social norms marketing efforts to particular subgroups on campus is another area to consider testing, based on the work of Potter and colleagues.

Third, there are a variety of types of norms that may contribute to bystander intervention, such as norms about the crime of sexual violence, norms around gender, norms around alcohol, consent, and norms about intervening. It may be important for bystander intervention efforts to address the role of these norms explicitly. For example, bystander intervention education programs may benefit from providing opportunities for students to discuss their perceptions of how their peers view intervening in various high-risk situations. Opening dialogue about what types of intervention are viewed as acceptable in what types of situations may provide a critical opportunity for students to correct misperceptions that underestimate peer support for prosocial intervention, which is a key facet of social norms-based education (Berkowitz 2005; Gidycz et al. 2011). It may be beneficial to include possible bystander scenarios that include victims, perpetrators, and bystanders of different genders to foster discussion about perceived gender roles, as well as including situations with or without alcohol. Future research can explore whether explicit efforts to address these norms result in better bystander outcomes, as well as how these norms relate to one another and ultimately, to bystander behavior.

Finally, campus climate projects that incorporate a variety of perspectives (students, faculty, staff) could offer more insight as to the particular campus norms, as well as understanding how these norms are communicated.

Sense of Community

The importance of a sense of community represents another major theme that emerged in the broader bystander literature on environmental factors. The criminal justice literature finds that neighborhood cohesion may predict whether individuals are willing to intervene with incidents of crime or violence. A number of studies explored what factors would increase residents' willingness to intervene in potential criminal situations and found a positive relationship with higher levels of trust, social cohesion, and collective efficacy (Sampson et al. 1997); greater levels of "community social organization" (social and emotional connection to neighbors; feelings of efficacy and control in addressing neighborhood issues, and feeling part of a safe neighborhood where neighbors trust one another) (Cantillon 2006); greater sense of responsibility for others in their neighborhood (Reynald 2010); greater commitment to the neighborhood, and developed social networks within the community (Merry 1981). Additionally those who were more involved in their communities were more likely to intervene. For example, Schnieder (1987) found that those who participated in community block meetings were more likely to engage in bystander helpfulness (such as intervening when a crime was suspected) and neighborhood protectiveness (such as taking action to protect the neighborhood through participating in awareness-raising). More recently, Edwards, Mattingly, Dixon & Banyard 's (2014) study with rural young adults found that within communities, a greater sense of collective efficacy was related to positive bystander behaviors in the context of intimate partner violence.

Limited but growing research was applied to college campuses, indicating that larger sense of community on campus may be an important influence on college students' willingness to intervene. Banyard (2008) found that a greater sense of community was correlated with positive bystander behavioral intent and actual behaviors related to sexual violence among college students. Similarly, Sulkowski (2011) found that college students who felt connected to the campus environment were more likely to report a peer's threat of committing an act of campus violence. Bennett et al. (2013) found that students who felt a greater sense of responsibility for others on their campus were more likely to intervene, and those with a greater sense of community reported greater helping of friends.

Sense of Community: Research Directions for College Campuses

The larger bystander literature provides support for the importance of a sense of community connectedness and paves the way for an important line of research inquiry for college campuses. In particular, a sense of collective efficacy appears to be critical (Edwards et al. 2014; Sampson et al. 1997). Communities that are cohesive and have the capability to monitor the behavior of others are regarded as having greater levels of collective efficacy (Browning 2002; Sampson et al. 1997). These findings suggest that increasing a sense of collective efficacy on campus may contribute to a greater willingness to intervene to address sexual violence and other issues. However, the concept of neighborhood collective efficacy has been largely applied to crimes such as burglary or juvenile delinquency, and

may not directly translate to situations involving domestic violence or sexual assault, where the "crime" often takes place in private settings, and the behavior may not be viewed as "deviant" (Browning 2002; Frye et al. 2012). However, a growing body of evidence specific to college campuses (i.e. Banyard 2008; Bennett et al. 2013; Edwards et al. 2014) suggests that sense of community and collective efficacy may indeed be significant predictors of bystander intervention.

On college campuses, there are also many "subgroups" or small communities within the university setting. Further research is needed to see if findings from neighborhood studies translate to campus community units such as residence halls or areas of campus housing. Using naturally occurring cohesive groups on campus (i.e. sports teams, fraternities, residence halls) can also be key areas to build community and assess whether this contributes to increased bystander behavior. For example, McMahon and Farmer (2009) found that college athletes with a greater sense of team bonding reported a greater willingness to intervene with teammates who acted in abusive ways. However, research should also explore whether there are times that a strong sense of subgroup community may prohibit certain types of pro-social behavior. For example, while athletes may be willing to confront a team member, they may be less likely to report their team member to authorities. Therefore, further research is needed to determine if a sense of community on campus and within subgroups is indeed related to a greater willingness to intervene, and if it might vary based on the type of bystander action.

Moving in this direction will require researchers to consider incorporating sense of community measures to determine their correlation with bystander behavioral intent and behavior. There are a number of sense of community instruments that have been used previously in bystander studies (i.e., Banyard 2008) as well as instruments that are validated in other areas that could potentially be adapted (i.e. Peterson et al. 2008). The recent campus climate tool released by the White House Task Force also includes a number of questions to assess the sense of community, as well as the larger campus climate (White House 2014). Additionally, qualitative research methods that allow participants to discuss their sense of connection with other students and the university and how they believe it influences their willingness to intervene as a bystander could provide a deeper understanding of these constructs. Comparing sense of community and bystander behavior across campuses could also help answer important research questions in this area.

Pro-social Modeling

A third group of factors found in the review relates to pro-social modeling as an important influence on bystander intervention. In the larger bystander literature, there is evidence that individuals are more likely to intervene if the behavior is modeled by others. For example, Bryan and Test (1967) conducted a series of experiments and found that individual's helping behaviors significantly increase when others model helping behavior. Similarly, Rushton and Campbell (1977) found that individuals were more likely to donate blood after viewing others donate.

The area of modeling was supported by research specific to college campuses. A number of studies indicated that interaction with peer educators and leaders on issues of sexual violence and bystander intervention are important factors for encouraging pro-social action among college students, both within formal program delivery settings as well as within informal social networks (Ahrens et al. 2011; Banyard et al. 2007; Cares et al. 2015; Coker et al. 2014; Langhinrichsen-Rohling et al. 2011; Foubert et al. 2010; Gidycz et al. 2011; Moynihan et al. 2014). A related idea that was expressed in the literature is to recruit popular opinion leaders (POLs), or students who hold high status and leadership on campus, to receive bystander training and thereby model pro-social behavior for their peers (Coker et al. 2011). In fact Coker et al.'s (2014) research found that not only did bystander intervention education programs using POLs have a positive impact on participants, but that there were actually lower rates of sexual victimization and perpetration on those campuses as a whole that had a bystander intervention program, compared to campuses that did not.

While peers provide one level of modeling in the campus community, there is also the role of other key community members within the campus. Banyard (2011) suggests that attitudes and behaviors of community leaders may be an important area for bystander intervention within the context of sexual violence. Sulkowski (2011) found that college students' trust in campus authorities was a significant factor in predicting whether they were willing to report a peer who threatened to commit an act of violence.

While there are no empirical studies about the role of authority figures influencing attitudes about bystander intervention related specifically to campus sexual violence, a few articles on bullying and younger students shows that expectations of authority figures (i.e. teachers) may have an impact on students' decisions to intervene (McLaughlin et al. 2005). For example, Hektner and Swenson (2012) conducted a study with elementary and high school students and teachers, and found that students whose teachers were more accepting of bullying as a normative part of growing up were less likely to intervene in bullying situations. Fonagy et al's (2009) work on anti-bullying programs in elementary schools found that successful interventions have a whole-school approach, involving administration and training for teachers. In a study by

Jaime et al. (2014), the authors found that high school athletic coaches who participated in bystander education training were more likely to intervene themselves, as well as discuss bystander intervention with their teams and encourage pro-social action. Thornberg et al.'s (2012) qualitative study with adolescents also found that students identified coaches as motivating them to step in as bystanders in bullying situations.

The literature also suggests that pro-social models in the media may influence students' intentions to intervene as helpful bystanders. Hust et al's (2013) study tested a number of predictors of bystander intervention intentions with college students and found that crime drama viewership had a small but unique contribution. This suggests that further work is needed to explore the role of models in the media.

Pro-social modeling: Research directions for college campuses

There are a number of areas for colleges and universities to pursue research on the impact of modeling on bystander intervention. While the role of peer educators and "popular opinion leaders" (POLS) has been fairly well established in the research literature as successful in delivering health promotion information, there is less information about their role specifically in delivering information about bystander intervention. Research that compares peer delivery of bystander education versus other forms of education would be useful. Additionally, there is a need for research to understand the methods by which peers can best deliver the information to others. Peers are able to model behavior both in the formal delivery of an educational program, but also in the informal interactions that occur in dorms, classes, social situations and other settings (McMahon 2009). Better understanding the mechanisms that support the "diffusion of information" about bystander intervention among peer networks would provide a body of information that could potentially be utilized to influence education and prevention design. Bennett et al. (2013) also suggests that further research is needed to understand the moderators of bystander intervention programs, and to determine for whom these programs work best.

Another important area for researchers to examine is the role of other models on college campuses, such as faculty, staff, and administration. Research is needed to determine how they respond to sexual violence as well as how they promote bystander intervention, and how these messages are conveyed to and interpreted by students. It would be useful to understand if and how students perceive campus leaders' attitudes about sexual violence and bystander intervention, and how this impacts their own actions. Additionally, research is needed to help understand how community leaders communicate their positions about sexual violence and bystander intervention, and how these are these interpreted by students, as well as whether certain community leaders have more of an influence than others (i.e. Residence Life, faculty, counseling center, coaches, university administrators and leaders). Research would also be useful to evaluate whether explicit training for campus community leaders (i.e. Residence Life Staff, coaches) may result in a greater ability to model and assist students with pro-social interventions (Jaime et al. 2014).

To address the area of modeling, researchers can include survey measures that assess students' perceptions of how leaders on their campuses respond to sexual violence and bystander intervention (White House 2014). It would be useful to utilize these types of measures to determine if there is a correlation with individuals' own bystander efficacy, behavioral intent, and bystander behaviors. However, these types of measures are still really individual-based, as they measure an individual's perceptions of the behavior of others. This highlights the need for researchers to consider expanding their methods to include more community-level types of measurement, such as utilizing interviews with key community leaders, or observations of behaviors and messages communicated by campus leaders through analysis of speeches, lectures, and other forms of communication to the student body.

Policies and Accountability Cues

A fourth group of findings were related to policies and accountability cues, although only a few articles represented this category and were not applied to sexual violence on college campuses. For example, in an early study, Huston et al. (1976) examined the impact of Good Samaritan laws by interviewing individuals in California who had been awarded money for intervening in criminal events, and found that most of the bystanders were not even aware that there were laws to protect or encourage their action and had no influence on their decisions to intervene. However, another study suggests that it is the level of awareness/enforcement of policies which may be salient. Curphy et al's (1998) study with the U.S. Air Force Academy found that having a strictly enforced ethics code requiring peer reporting of certain offenses (i.e. lying, cheating, and stealing) is an important factor. Cadets can be dismissed for failing to do anything when witnessing an offense, and this code coupled with the presence of peers may therefore increase a sense of responsibility.

A related factor found in the larger bystander literature is the impact of "accountability cues" on helping behavior. van Bommel et al. (2012) looked at undergraduate's helping behaviors in online forums where people posted messages about being in distress, and found that the

bystander effect (meaning that individuals are less likely to intervene when more people are present) was attenuated by increasing "accountability cues". For example, if the students were being observed with a webcam, they were more likely to intervene, even as the number of bystanders increased. The authors suggest that further research is needed to examine the role of accountability cues in real-life bystander situations as well. Similarly, van Rompay et al. (2009) found that college students were more likely to engage in helping behavior (assisting someone who dropped papers, or making a donation) if they thought there was a security camera recording them. In another study with college students, Abbate et al. (2013) examined the role of "priming" as a cue to help and found that those students exposed to words about helping right before a bystander opportunity to help someone who fell were more likely to engage in prosocial behaviors assist the individual. However, in another study, Palasinski (2012) found that when students were informed that there were high levels of computer monitoring for chat groups, they were actually *less* likely to intervene when sexually abusive behavior occurred. Because of these mixed findings, and further work is needed to determine what "cues", if any, are related to increasing bystander intervention, especially in the context of campus sexual violence.

Policies and Accountability Cues: Research Directions for College Campuses

Although understudied, the potential influence of policies has been noted as a key area in the field of sexual violence prevention more broadly (i.e. Cohen and Swift's Spectrum of Prevention 1999; White House Task Force 2014). While model policies prohibiting campus sexual assault are available (McMahon 2008), there is no information available on campus policies specific to bystander intervention, nor their potential utility. This is an area in great need of further research, as many questions remain about what type of bystander intervention policies would be useful. One first step is to gather descriptive information about current campus policies related to sexual violence or student codes of conduct to determine if they even address bystander intervention or encourage pro-social behavior. If so, an exploration of how the information translates to students is warranted to determine if it has any impact on their own decisions about bystander intervention.

Another line of research could explore the development of policies where consequences are provided if an individual witnesses an act of abuse and fails to take action. For example, in the field of bullying prevention, there is discussion about the development of policies to hold bystanders to cyberbullying liable as well as the bullies (Benzmiller 2013). This is similar to the Air Force Academy's policy that requires peer reporting of certain behaviors that they observe (Curphy et al. 1998). The consideration of "Bad Samaritan" policies to hold those responsible who witness bullying or other "bad behavior" and do nothing is certain to spark debate, but could be an interesting area for colleges and universities to pilot test and/or compare with other types of bystander policies that might be incorporated more broadly into codes of conduct.

Another potential area for research is to consider how policies are conveyed to students. Other authors have suggested that policies may be ineffective largely due to students' lack of awareness that they exist (Borges et al. 2008). A 2013 report from SAFER (Students Active For Ending Rape) found that nationwide, one quarter of student activists did not know if their university had a sexual assault policy and over one half had never read a policy (SAFER 2013). Therefore, how the policy is communicated is essential to consider as well. The White House Task Force Report (2014) emphasizes the need for universities and colleges to engage in comprehensive campus climate surveys, which should include an assessment of students' awareness of policies related to sexual violence. As a part of these assessments, researchers can also ask about whether students are aware of any policies related to bystander intervention, and analyze whether knowledge of such policies is related at all to bystander outcomes (i.e. bystander efficacy, behavioral intent or behaviors).

The issue of accountability cues is not one that has been explored yet in relationship to bystander intervention and campus sexual violence. Further research could explore whether the presence of formal cues through monitoring (i.e. cameras, security guards, adult authority figures) influence bystander behavior on campus. In addition, the role of informal, peer "monitors" could be a useful area to pursue. For example, does the presence of peer educators, team captains, residence life assistants, or others influence the likelihood of bystander intervention among their peers? In a qualitative study with male athlete peer educators trained in sexual violence prevention, some of the respondents described themselves as "monitors" and described how their teammates and peers acted differently when they were present, such as by refraining from using sexist language (McMahon 2009). This line of inquiry could be further explored, and tied in with the area of modeling, as those informal monitors who have training in bystander intervention may have a greater influence on monitoring the behavior of their peers. Additionally, the findings by Abbate et al. (2013) suggest that research can explore the idea of "priming" students to intervene. Priming in the context of sexual violence bystander intervention could occur through exposing students to visual and written messages about intervention. Combining the idea of priming with other strategies such as social

marketing campaigns may provide an important area of exploration.

Physical Environment

A small group of factors beyond the individual level were related to the physical environment, representing the fifth category of findings. This group of factors included two related areas: the physical, architectural environment and the visual, informational environment. In this category, there were only a few articles found and only minimal reference to college campuses, yet this still represented a distinct area in the content analysis.

The first area of the physical environment that was discussed in the larger bystander literature was related to architectural design. This included studies that suggest that actual building design may influence helpful intervention in crime. Newman's (1973) and Merry's (1981) early work in criminal justice puts forth the idea of "defensible space", or areas where community members feel ownership and a willingness to intervene. This may be influenced by a variety of factors such as the positioning of windows to facilitate greater observation of what is occurring in the space. Merry's (1981) work concludes that a combination of environmental design and social organization (including factors such as a sense of community) may positively influence bystander intervention.

A second area of the physical environment that emerged in the analysis of the larger bystander literature focused on the visual, informational environment. Bickman's (1975) early bystander research found that students who were exposed to a media campaign about shoplifting (through posters, articles in the student paper, and handouts) had greater behavioral intentions to report shoplifters (although actual behavior was not impacted). The literature on college campuses and the physical environment were mostly concentrated on this area of the visual environment and presence of messaging about bystander intervention. Evidence is growing that exposure to visual information about bystander intervention (i.e. through posters) increases students' willingness to intervene (Moynihan et al. 2014; Potter et al. 2011), especially if the posters depict familiar people and situations (Katz et al. 2013).

Physical Environment: Research Directions for College Campuses

The physical environment is one of the least researched areas in the bystander intervention literature, yet represents an interesting line of ecological inquiry. Specifically, can physical environments promote protective factors for bystander intervention and if so, in what ways? There are a number of potential areas to research related to the relationship between the physical environment and bystander intervention.

First, although there was no research found specifically looking at the influence of architectural design on campus bystander intervention, the idea of building design influences on health has been explored in other areas that did not come up in the current analysis, but which provide an interesting direction to consider. Architectural design has been demonstrated to influence behaviors in a number of settings (see Chesir-Teran 2003). For example, the school shootings that have occurred in recent years have prompted a number of schools to consider the design of physical environments, based on the theory of crime prevention through environmental design (McLester 2011). One trend that has been noted is to allow for "natural surveillance" throughout the schools, where visibility is promoted (McLester 2011). Similarly, researchers have explored the role of housing design on sexual assaults on women in public housing (Holzman et al. 2001).These studies could potentially also be used to explore whether there are certain aspects of architectural design on campus that encourage the observation of and intervention with sexual assault and other forms of violence. This is a complicated prospect because sexual assault often occurs in private settings. However, some sexual assaults do occur in more public spaces, so research could explore whether physical elements on campus such as better lighting or spacing of buildings to allow natural surveillance could be related to bystander intervention in these situations. This must occur with caution, however, as to avoid perpetuating the myth that most assaults occur by "strangers jumping out of bushes".

Additionally, it could be useful to determine if there are certain physical spaces on campus where more bystander intervention is reported. Tools such as Geographic Information Services (GIS) have been employed to determine if there are "hot spots" on campus where sexual assaults occur, and this approach could potentially be utilized to seek if there are certain spaces on campus where students are more likely to intervene. Certain bystander intervention programs have used mapping of pro-social interventions (i.e. Green Dot) and researchers could examine what it is about these "spaces" that promote bystander intervention.

It may be that the physical environment is related to bystander intervention through the development of spaces that increase meaningful communication and a sense of community, as was found in Merry's (1981) work. Future research could explore whether access to spaces that promote community are related to increased bystander intervention. Nonetheless, it is an area worthy of further study, perhaps in conjunction with other strategies.

In terms of the visual environment, research in other health promotion fields (i.e. workplace health, nutrition)

have been highlighting the need to measure the informational environments to understand their influence on actual health behaviors. For example, Oldenburg et al. (2002) developed a checklist of characteristics that indicate a healthy workplace environment, including the "information environment" which includes assessment of the quantity and quality of visual messages through posters, signs, or notices. Chesir-Teran (2003) proposes a number of environmental aspects to evaluate in schools that are related to homophobia, such as posters, contents of signs about rules, graffiti in locker rooms or bathrooms, and the presence or absence of safe spaces that individuals can identify through pink triangle stickers on the door. Along similar lines, emerging research points to the potential importance of visual messaging on sexual violence and bystander intervention (Katz et al. 2013; Moynihan et al. 2014; Potter et al. 2011). Future research is needed to first determine what the informational environment should look like on college campuses related to bystander intervention and sexual violence. The development of objective, observational tools is needed to assess the informational environment. Additionally, questions remain as to whether visual messages (such as a media campaigns) influence behavior as a stand-alone method, or whether they are more powerful when combined with other forms of intervention. A recent study by Moynihan et al. (2014) found that the combination of exposure to a social marketing campaign and participation in a bystander education training program yielded better outcomes than exposure to social marketing alone. Further work can replicate these findings and determine what other combinations may work best in yielding better outcomes. Additionally, further research is needed to determine which forms of messaging are most influential (i.e. posters, social media, television).

Future Directions

This analysis identified five key environmental areas related to bystander intervention. Further research is needed to explore whether these five areas are indeed representative of the key environmental areas for college campuses to address related to sexual violence prevention, whether they should be modified, or whether there may be additional areas to consider.

In addition to better understanding how each of these five key areas may be related to promoting bystander intervention to prevent sexual violence, it is also important to pursue how these different areas may influence one another. There are potential questions about the pathways by which these different categories may ultimately lead to increased bystander outcomes. For example, it appears that the physical environment may not directly impact bystander intervention outcomes, but it may work indirectly by facilitating a sense of community which may then contribute to bystander intervention. Further development of a conceptual model could include more information about how these areas overlap, relate, and work together to achieve increased positive bystander outcomes.

Research is also needed to test the interaction between campus community level factors and other levels of the socio-ecological framework. For example, how do campus community level factors interact with individual level factors, such as a person's own experiences with sexual violence or previous bystander intervention, or their exposure to bystander intervention education? On a microsystem level, how do family or peer influences interact with campus-level factors? Additionally, how does the larger community (where the campus is located, or where the student's home is located) work together? At the societal level, how do certain factors interact with campus level factors, such as the mass media, pornography, television, music, film, advertising and news coverage (see Flood and Pease 2009). Research is needed to understand how these different levels of the social ecology interact with campus level factors and subsequently, whether there are particular opportunities for intervention and prevention. Additionally, research is needed to determine if there is a cumulative effect, and if greater exposure to prevention messages from different levels of the ecology results in better bystander outcomes. As suggested by the recent study by Moynihan et al. (2014), a combination of prevention programming (participation in a bystander education program and exposure to social marketing posters) results in a greater willingness by students to engage in bystander actions. Further research like Moynihan et al.'s study is needed to determine if ongoing and multiple messages about sexual violence prevention result in stronger outcomes (Bennett et al. 2013).

In addition to considering research questions concerning community-level factors on college campuses, future studies should also consider alternative research methodologies. Most current bystander measures are focused on individual level variables, consisting largely of survey research with college students. To capture broader, settings-level factors, additional, community-level measurement methods will need to be considered. Researchers from community psychology who have evaluated environmental change strategies have used methods such as conducting community surveys and using participatory research strategies (Gabriel et al. 2013); employing natural experiments and spatial models (Freisthler et al. 2013); and conducting audits and observation (Johns et al. 2013; Seidman 2012). These can all be potentially translated to the assessment of environmental change strategies to address bystander intervention on college campuses. For

example, community campus climate surveys, resource and policy audits, observations of community members' interactions and behaviors, and analysis of the messaging visible on campus all provide possible means for gathering community level data.

Assessment of environmental factors addressing bystander intervention could be incorporated into universities' larger sexual violence prevention efforts. Lichty et al. (2008) provide a model for conducting environmental scans to determine how well campuses are addressing sexual violence, and this framework can also be used to guide universities in evaluationof their efforts to address and encourage bystander intervention. Their process involves bringing together key stakeholders that represent a diversity of groups on campus, conducting a needs assessment and environmental scan of what resources currently exist on campuses, and identifying what additional support is needed for a comprehensive, institutional response. Additionally, other fields such as substance abuse prevention provide models such as the Strategic Prevention Framework, which provides a structured approach to identify and target environmental conditions in the community that can be changed at the population level (Nargiso et al. 2013). Such work could be adapted to address environmental influences on bystander intervention, as well as campus sexual assault more generally.

The findings from this study must be interpreted within a number of limitations. First, while the researchers attempted to conduct a broad and systematic review of the larger bystander literature, there may also be articles or factors that were overlooked because of the search terms used. Additionally, many of the factors identified in this review as influencing bystander behavior were derived from research on other types of crimes and may not apply in same way to sexual assault. There is much that distinguishes sexual violence from other types of crimes including its frequent occurrence behind closed doors, the tendency for certain situations to be viewed as "ambiguous" and therefore not intervention-appropriate, and rape mythology that causes silence or shame (Burn 2009; McMahon and Banyard 2012). Research is needed to determine whether these factors extracted from the larger bystander literature indeed translate to sexual violence.

Despite these limitations, this study provides a starting point for researchers to pursue key questions related to environmental influences on bystander intervention. As colleges and universities move forward with implementing bystander approaches, it is critical to build an evidence base to help campuses determine how they can best promote environments that facilitate pro-social behavior to prevent and respond to sexual assault. This study provides an initial road map of research questions to help move the field in this direction.

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References

Abbate, C. S., Ruggieri, S., & Boca, S. (2013). The effect of prosocial priming in the presence of bystanders. *The Journal of Social Psychology, 153*(5), 619–622.

Ahrens, C. E., Rich, M. D., & Ullman, J. B. (2011). Rehearsing for real life: The impact of the InterACT Sexual Assault Prevention Program on self-reported likelihood of engaging in bystander interventions. *Violence Against Women, 17*, 760–776.

American College Health Association. (2007). Position statement on preventing sexual violence on college and university campuses. Retrieved from http://www.acha.org/info_resources/ACHA_SexualViolence_Statement07.pdf

Banyard, V. L. (2008). Measurement and correlates of pro-social bystander behavior: The case of interpersonal violence. *Violence and Victims, 23*, 85–99.

Banyard, V. L. (2011). Who will help prevent sexual violence: Creating an ecological model of bystander intervention. *Psychology of Violence, 1*(3), 216–229.

Banyard, V. L., & Moynihan, M. M. (2011). Variation in bystander behavior related to sexual and intimate partner violence prevention: Correlates in a sample of college students. *Psychology of Violence, 1*(4), 287–301.

Banyard, V. L., Moynihan, M. M., & Plante, E. G. (2007). Sexual violence prevention through bystander education: An experimental evaluation. *Journal of Community Psychology, 35*(4), 463–481.

Banyard, V. L., Plante, E. G., & Moynihan, M. M. (2004). Bystander education: Bringing a broader community perspective to sexual violence prevention. *Journal of Community Psychology, 32*(1), 61–79.

Bennett, S., Banyard, V. L., & Garnhart, L. (2013). To act or not to act, that is the question? Barriers and facilitators of bystander intervention. *Journal of interpersonal violence, 29*(3), 476–496.

Benzmiller, H. (2013). The cyber-Samaritans: Exploring criminal liability for the "innocent" bystanders of cyberbullying. *Northwestern University Law Review, 107*(2), 927–962.

Berkowitz, A. D. (2005). Chapter 13: An overview of the social norms approach. In L. C. Lederman, & L. P. Stewart (Eds.), *Changing the culture of college drinking* (pp. 193–214). Cresskill, NJ: Hampton Press.

Berkowitz, A. (2009). *Response ability: Transforming values into action*. Chicago, IL: Beck.

Bickman, L. (1975). Bystander intervention in a crime: The effect of a mass-media campaign. *Journal of Applied Social Psychology, 5*(4), 296–302.

Borges, A. M., Banyard, V. L., & Moynihan, M. M. (2008). Clarifying consent: Primary prevention of sexual assault on a college campus. *Journal of Prevention & Intervention in the Community, 26*(1/2), 75–88.

Brauer, M., & Chaurand, N. (2010). Descriptive norms, prescriptive norms, and social control: An intercultural comparison of people's reactions to uncivil behaviors. *European Journal of Social Psychology, 40*(3), 490–499.

Bronfenbrenner, U. (1979). *The ecology of human development: experiments by nature and design*. Cambridge: Harvard University Press.

Brown, A. L., Banyard, V. L., & Moynihan, M. M. (2014). College students as helpful bystanders against sexual violence: Gender, race and year in college moderate the impact of perceived peer norms. *Psychology of Women Quarterly, 38*(3), 350–362.

Brown, A. L., & Messman-Moore, T. L. (2010). Personal and perceived peer attitudes supporting sexual aggression as predictors of male college students' willingness to intervene against sexual aggression. *Journal of Interpersonal Violence, 25*, 503–517.

Browning, C. R. (2002). The span of collective efficacy: Extending Social Disorganization Theory to partner violence. *Journal of Marriage and Family, 64*, 833–850.

Bryan, J. H., & Test, M. A. (1967). Models and helping: Naturalistic studies in aiding behavior. *Journal of Personality and Social Psychology, 6*, 400–407.

Burn, S. M. (2009). A situational model of sexual assault prevention through bystander intervention. *Sex Roles, 60*, 779–792.

Cantillon, D. (2006). Community social organization, parents, and peers as mediators of perceived neighborhood block characteristics on delinquent and prosocial activities. *American Journal of Community Psychology, 37*(1–2), 111–127.

Cares, A. C., Banyard, V. L., Moynihan, M. M., Williams, L. M., Potter, S. J., & Stapleton, J. G. (2015). Changing attitudes about being a bystander to violence: Translating an in-person sexual violence prevention program to a new campus. *Violence Against Women, 21*(2), 165–187. doi:10.1177/1077801214564681.

Carlson, M. (2008). I'd rather go along and be considered a man: Masculinity and bystander intervention. *The Journal of Men's Studies, 16*(1), 3–17.

Carr, J. L. (2007). American College Health Association campus violence white paper. *Journal of American College Health, 5*, 304–320.

Casey, E. A., & Lindhorst, P. T. (2009). Toward a multi-level, ecological approach to the primary prevention of sexual assault. *Trauma Violence and Abuse, 10*(2), 91–114.

Casey, E. A., & Ohler, K. (2012). Being a positive bystander: Male antiviolence allies' experiences of "Stepping Up". *Journal of Interpersonal Violence, 27*(1), 62–83.

Centers for Disease Control (CDC), National Center for Injury Prevention and Control, Division of Violence Prevention. (2007). The social–ecological model: A framework for prevention. http://www.cdc.gov/ncipc/dvp/social-ecological-model_dvp.htm

Chesir-Teran, D. (2003). Conceptualizing and assessing heterosexism in high schools: A setting-level approach. *American Journal of Community Psychology, 31*(3/4), 267–279.

Cohen, L., & Swift, S. (1999). The spectrum of prevention: Developing a comprehensive approach to injury prevention. *Injury Prevention, 5*, 203–207.

Coker, A. L., Cook-Craig, P. G., Williams, C. M., Fisher, B. S., Clear, E. R., Garcia, L. S., & Hegge, L. M. (2011). Evaluation of Green Dot: An active bystander intervention to reduce sexual violence on college campuses. *Violence Against Women, 17*, 777–796.

Coker, A. L., Fisher, B. S., Bush, H. M., Swan, S. C., Williams, C. M., Clear, E. R. & DeGue, S. (2014). Evaluation of the Green Dot bystander intervention to reduce interpersonal violence among college students across three campuses. *Violence Against Women*. doi: 10.1177/1077801214545284.

Curphy, G. J., Gibson, F. W., Macomber, G., Calhoun, C. J., Wilbanks, L. A., & Burger, M. J. (1998). Situational factors affecting peer reporting intentions at the U.S. Air Force Academy: A scenario-based investigation. *Military Psychology, 10*(1), 27–43.

DeGue, S., Holt, M. K., Massetti, G. M., Matjasko, J. L., Tharp, A., & Valle, L. (2012). Looking ahead toward community-level strategies to prevent sexual violence. *Journal of Women's Health, 21*(1), 1–3.

Eagly, A. H., & Crowley, M. (1986). Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin, 100*(3), 283.

Edwards, K. M., Mattingly, M. J., Dixon, K. J., & Banyard, V. L. (2014). Community matters: Intimate partner violence among rural young adults. *American Journal of Community Psychology, 53*(1–2), 198–207.

Fabiano, P., Perkins, H. W., Berkowitz, A. B., Linkenbach, J., & Stark, C. (2003). Engaging men as social justice allies in ending violence against women: Evidence for a social norms approach. *Journal of American College Health, 52*(3), 105–112.

Flood, M., & Pease, B. (2009). Factors influencing attitudes to violence against women. *Trauma, Violence & Abuse, 10*(2), 125–142.

Fonagy, P., Twemlow, S. W., Vernberg, E. M., Mize Nelson, J., Dill, E. J., Little, T. D., & Sargent, J. A. (2009). A cluster randomized controlled trial of child-focused psychiatric consultation and a school systems-focused intervention to reduce aggression. *Journal of Child Psychology and Psychiatry, 50*(5), 607–616.

Foubert, J. D., Langhinrichsen-Rohling, J., Brasfield, H., & Hill, B. (2010). Effects of a rape awareness program on college women: Increasing bystander efficacy and willingness to intervene. *Journal of Community Psychology, 38*(7), 813–827.

Freisthler, B., Kepple, N. J., Sims, R., & Martin, S. E. (2013). Evaluating medical marijuana dispensary policies: Spatial methods for the study of environmentally-based interventions. *American Journal of Community Psychology, 51*(1–2), 278–288.

Frye, V., Paul, M. M., Todd, M. J., Lewis, V., Cupid, M., Coleman, J., et al. (2012). Informal social control of intimate partner violence against women: Results from a concept mapping study of urban neighborhoods. *Journal of Community Psychology, 40*(7), 828–844.

Gabriel, R. M., Leichtling, G. J., Bolan, M., & Becker, L. G. (2013). Using community surveys to inform the planning and implementation of environmental change strategies: Participatory research in 12 Washington communities. *American Journal of Community Psychology, 51*(1–2), 243–253.

Gidycz, C. A., Orchowski, L. M., & Berkowitz, A. D. (2011). Preventing sexual aggression among college men: An evaluation of a social norms and bystander intervention program. *Violence Against Women, 17*(6), 720–742.

Hektner, J. M., & Swenson, C. A. (2012). Links from teacher beliefs to peer victimization and bystander intervention: Tests of mediating processes. *Journal of Early Adolescence, 32*(4), 516–536.

Holzman, H. R., Hyatt, R. A., & Dempster, J. M. (2001). Patterns of aggravated assault in public housing: Mapping the nexus of offense, place, gender, and race. *Violence Against Women, 7*(6), 662–684.

Hust, S., Garrigues Marrett, E., Lei, M., Chang, H., Ren, C., McNab, A., & Adams, P. (2013). Health promotion messages in entertainment media: crime drama viewership and intentions to intervene in a sexual assault situation. *Journal of Health Communication., 18*, 105–123.

Huston, T. L., Geis, G., Wright, R., & Garrett, T. (1976). Good Samaritans as crime victims. *Victimology: An International Journal, 1*(2), 284–294.

Jaime, M. C. D., et al. (2014). Athletic coaches as violence prevention advocates. *Journal of Interpersonal Violence, 30*(7), 1090–1111.

Johns, M., Coady, M. H., Chan, C. A., Farley, S. M., & Kansagra, S. M. (2013). Evaluating New York City's smoke-free parks and beaches law: A critical multiplist approach to assessing behavioral impact. *American Journal of Community Psychology, 51*(1–2), 254–263.

Katz, J., & Moore, J. (2013). Bystander education training for campus sexual assault prevention: an initial meta-analysis. *Violence and Victims, 28*(6), 1054–1067.

Katz, J., Olin, R., Herman, C., & DuBois, M. (2013). Spotting the signs: First-year college students' responses to bystander-themed rape prevention posters. *Journal of Community Psychology, 41*(4), 523–529.

Koelsch, L. E., Brown, A. L., & Boisen, L. (2012). Bystander perceptions: Implications for university sexual assault prevention programs. *Violence and victims, 27*(4), 563–579.

Langhinrichsen-Rohling, J., Foubert, J. D., Brasfield, H., Hill, B., & Shelley-Tremblay, S. (2011). The Men's Program: Does it impact college men's bystander efficacy and willingness to intervene? *Violence Against Women, 17*(6), 743–759.

Latane, B., & Darley, J. M. (1970). *The unresponsive bystander: Why doesn't he help?*. New York: Appleton-Century Crofts.

Lichty, L. F., Campbell, R., & Schuiteman, J. (2008). Developing a university-wide institutional response to sexual assault and relationship violence. *Journal of Prevention and Intervention in the Community, 36*(1–2), 5–22.

McCauley, H. L., Tancredi, D. J., Silverman, J. G., Decker, M. R., Austin, S. B., McCormick, M. C., et al. (2013). Gender-equitable attitudes, bystander behavior, and recent abuse perpetration against heterosexual dating partners of male high school athletes. *American Journal of Public Health, 103*(10), 1882–1887.

McLaughlin, C., Arnold, R., & Boyd, E. (2005). Bystanders in schools: What do they do and what do they think? Factors influencing the behaviour of English students as bystanders. *Pastoral Care in Education, 23*(2), 17–22.

McLester, S. (2011). Designing safe facilities. *District Administration, 47*(8), 71–78.

McMahon, P. P. (2008). Sexual violence on the college campus: A template for compliance with federal policy. *Journal of American College Health, 57*(3), 361–365.

McMahon, S. (2009). Hearing from student-athlete peer educators: A qualitative study of the impact of participation in an interpersonal violence peer education group. *Academic Athletic Journal, 20*(1), 1–28.

McMahon, S. (2010). Rape myth beliefs and bystander attitudes among incoming college students. *Journal of American College Health, 59*(1), 1–11.

McMahon, S., & Banyard, V. L. (2012). When can I help? A conceptual framework for preventing violence through bystander intervention. *Trauma, Violence & Abuse, 13*(1), 3–14.

McMahon, S., & Farmer, G. L. (2009). The bystander approach: Strengths-based sexual assault prevention with at-risk groups. *Journal of Human Behavior in the Social Environment, 19*(8), 1042–1065.

Merry, S. E. (1981). Defensible space undefended: Social factors in crime control through environmental design. *Urban Affairs Review, 16*(4), 397–422.

Mertens, D. M. (1998). *Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches*. Thousand Oaks, CA: Sage Publications.

Moynihan, M. M., Banyard, V. L., Cares, A. C., Potter, S. J., Williams, L. M. & Stapleton, J. G. (2014). Encouraging responses in sexual and relationship violence prevention: What program effects remain one year later? *Journal of Interpersonal Violence* (advance online publication).

Nargiso, J. E., Friend, K. B., Egan, C., Florin, P., Stevenson, J., Amodei, B., et al. (2013). Coalitional capacities and environmental strategies to prevent underage drinking. *American Journal of Community Psychology, 51*(1–2), 222–231.

National Sexual Violence Resource Center. (2013). *Engaging bystander to prevent sexual violence*. Retrieved from http://www.nsvrc.org/sites/default/files/publications_nsvrc_overview_engaging- bystanders-prevent-sexual-violence.pdf

Newman, O. (1973). *Defensible space: Crime prevention through urban design*. New York: Macmillan.

Oldenburg, B., Sallis, J. F., Harris, D., & Owen, N. (2002). Checklist of Health Promotion Environments at Worksites (CHEW): Development and measurement characteristics. *American Journal of Health Promotion, 16*(5), 288–299.

Palasinski, M. (2012). The roles of monitoring and cyberbystanders in reducing sexual abuse. *Computers in Human Behavior, 28*(6), 2014–2022.

Peterson, A., Speer, W., & McMillan, D. (2008). Validation of a brief sense of community scale: Confirmation of the principal theory of sense of community. *Journal of Community Psychology, 36*(1), 61–73.

Pettibone, K. G., Friend, K. B., Nargiso, J. E., & Florin, P. (2013). Evaluating environmental change strategies: Challenges and solutions. *American Journal of Community Psychology, 51*(1–2), 217–221.

Poland, B., Krupa, G., & McCall, D. (2009). Settings for health promotion: An analytic framework to guide intervention design and implementation. *Health Promotion Practice, 10*(4), 505–516.

Potter, S. J. (2012). Using a multimedia social marketing campaign to increase active bystander on the college campus. *Journal of American College Health, 60*(4), 282–295.

Potter, S. J., & Banyard, V. L. (2011). Guest editors' introduction. *Violence Against Women, 17*, 679–683.

Potter, S. J., Moynihan, M. M., & Stapleton, J. G. (2011). Using social self-identification in social marketing materials aimed at reducing violence against women on campus. *Journal of Interpersonal Violence, 26*, 971–990.

Potter, S. J., Moynihan, M. M., Stapleton, J. G., & Banyard, V. L. (2009). Empowering bystanders to prevent campus violence against women: A preliminary evaluation of a poster campaign. *Violence Against Women, 15*(1), 106–121.

Reynald, D. M. (2010). Guardians on guardianship: Factors affecting the willingness to supervise, the ability to detect potential offenders, and the willingness to intervene. *Journal of Research in Crime & Delinquency, 47*(3), 358–390.

Rushton, J. P., & Campbell, A. C. (1977). Modeling, vicarious reinforcement and extraversion on blood donating in adults: Immediate and long-term effects. *European Journal of Social Psychology, 7*, 297–306.

SAFER (Students Active for Ending Rape). (2013). Moving beyond blue lights and buddy systems: A national study of student anti-rape activists. A summary report from SAFER. Retrieved from http://www.safercampus.org/userfiles/file/NASummaryReport.pdf

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*(5328), 918–924.

Schnieder, A. L. (1987). Coproduction of public and private safety: An analysis of bystander intervention, 'protective neighboring', and personal protection. *The Western Political Quarterly, 40*(4), 611–630.

Sulkowski, M. L. (2011). An investigation of students' willingness to report threats of violence in campus communities. *Psychology of Violence, 1*, 53–65.

The White House. (2014). *The first report of the White House task force to protect students from sexual assault*. Retrieved May 9, 2014 from http://www.whitehouse.gov/sites/default/files/docs/report_0.pdf

Thornberg, R., Tenenbaum, L., Varjas, K., Meyers, J., Jungert, T., & Vanegas, G. (2012). Bystander motivation in bullying incidents: To intervene or not to intervene? *Western Journal of Emergency Medicine., 8*(3), 247–252.

van Bommel, M., van Prooijen, J. W., Elffers, H., & Van Lange, P. A. M. (2012). Be aware to care: Public self-awareness leads to a reversal of the bystander effect. *Journal of Experimental Social Psychology, 48*, 926–930.

van Rompay, T., Vonk, D., & Fransen, M. (2009). The eye of the camera: Effects of security cameras on prosocial behavior. *Environment and Behavior, 41*(1), 60–74.

Yoshihama, M., & Tolman, R. (2015). Using interactive theater to create socioculturally relevant community-based intimate partner violence prevention. *American Journal of Community Psychology, 55*, 136–147.