AN ABSTRACT OF THE DISSERTATION OF

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Title: Students as Pro-Social Bystanders: Opportunities, Past Behaviors, and Intentions to Intervene in Sexual Assault Risk Situations

Abstract approved:

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Brian R. Flay

Sexual assault is a major public health concern in the U.S, and college students are particularly vulnerable to victimization. A health issue that affects nearly one in four women (Fisher, Cullen, & Turner, 2000; Karjane, Cullen, & Turner, 2005) and that is associated with severe negative health outcomes, including depression substance abuse, suicide ideation, and risky sexual behaviors (CDC, 2012), warrants effective prevention programs. Moving away from traditional prevention efforts, which target females as potential victims in risk reduction programs and males as potential perpetrators in attitudinal-shifting programs, bystander engagement programs have become increasingly more widespread. These programs aim to engage all students on the college campus as potential bystanders who can intervene to prevent a sexual assault or reduce the harm of an assault that has already occurred (Banyard, Moynihan & Plante, 2007). Burn (2009) investigated potential barriers to pro-social bystander intervention using the Situational Model of Bystander Intervention, a model based on the original research of bystander behavior of Latanè and Darley (1970). The model outlines five barriers that influence students' intent to intervene as witnesses to sexual assault: failure to notice the situation, failure to identify the situation as high risk, failure to take intervention responsibility, failure to intervene due to skills deficit, and failure to intervene due to audience inhibition (Burn, 2009). She found that

students' perception of barriers negatively correlated with intervention behaviors as bystanders to sexual assault (Burn, 2009).

Although bystander engagement programs have shown initial promise in increasing students' intent to intervene, more needs to be known about the opportunities students have to intervene, their past intervention actions, and their intent to intervene in the future across the wide range of situations that encompass sexual assault risk. In addition, to develop effective programs that aim to increase pro-social behavior, understanding the salient influences of students' intent is critical. This study uses the Theory of Planned Behavior (TPB; Ajzen & Fishbein, 1991) to examine the influences of students' intent to perform 12 different pro-social bystander behaviors. The TPB asserts that individuals' behavior is most proximally influenced by their behavioral intentions, and intentions are influences by their perceived behavioral control to perform the behavior, subjective norms that support performing the behavior, and attitudes toward the behavior (Ajzen & Fishbein, 1991).

The four primary aims of this study were: 1) to examine the demographic correlates of students' opportunities, past intervention actions, and reported intent to intervene; 2) to examine any differences in students' intent to intervene based on the level of intervention (pre-, mid-, and post-assault) and type of intervention (with the potential or actual victim compared to the potential or actual perpetrator); 3) to examine the influences of perceived behavioral control, subjective norms, and attitudes on students' intent to intervene as bystanders; and 4) to compare the TPB-based model to the Situational Model of Bystander Intervention (Burn, 2009) in its ability to explain students' intent to intervene as bystanders.

In the Fall of 2014, a sample of 815 undergraduate students at Oregon State University completed the Sexual Assault Bystander Behavior Questionnaire (SABB-Q), a tool comprised of items to measure students' opportunities, past behaviors, and future intent, in addition to measures assessing the influences of students' intent in line with the Theory of Planned Behavior and Burn's (2009) Situational Model of Bystander Intervention. Students who participate in Greek communities

(fraternities and sororities) reported significantly greater odds of having the opportunity to perform four of the 12 intervention behaviors compared to non-Greek students, while student-athletes reported significantly greater odds of having the opportunity to perform two of the 12 intervention behaviors. Females reported significantly more past pro-social intervention behaviors ($\bar{x}$ = 0.87) compared to males ($\bar{x}$ = 0.79; p = 0.007).

Regarding intent to intervene in the future, females reported significantly greater intent to intervene compared to males ($\bar{x}$ = 6.07 vs. 5.68; p = 0.007). Students with friends who have been victims of sexual assault reported greater intent to intervene compared those without friends who have been victims ($\bar{x}$ = 6.04 vs. 5.89; p = 0.02). Students with a personal history of victimization reported significantly greater intent compared to those without a personal history ($\bar{x}$ =6.13 vs 5.93; p = 0.03).

Students reported significantly greater intent to intervene with the potential or actual victim compared to the potential or actual perpetrator ($\bar{x}$ = 6.19 vs. 5.74, p < 0.001). Females reported significantly greater intent to intervene with both the potential or actual victims and perpetrators ($\bar{x}$ = 6.31 and 5.84, respectively) compared to males ($\bar{x}$ = 5.88 and 5.49, respectively). Both males and females reported the greatest intent to perform post-assault intervention behavior ($\bar{x}$ = 6.23), followed by pre-assault ($\bar{x}$ = 6.08) and mid-assault behaviors ($\bar{x}$ = 5.57). Females reported significantly greater intent to perform nine of the 12 pro-social intervention behaviors compared to males.

A multiple regression analysis revealed that perceived behavioral control, subjective norms, and attitudes explained a significant proportion of the variance in intent to intervene (R^2 = 0.55, F(3, 771) = 315.68, p < 0.000). Perceived behavioral control was highly significant (β = 0.48, p < 0.001), as were subjective norms (β = 0.15, p < 0.001) and attitudes (β = 0.30, p < 0.001). Gender differences were also observed. For females, perceived behavioral control was highly significant (β = 0.49, p < 0.001), as were subjective norms (β = 0.15, p < 0.001) and attitudes (β = 0.29, p < 0.001). For males, perceived behavioral control was highly significant (β = 0.49, p < 0.001), as were attitudes (β = 0.29, p < 0.001).

However, males' subjective norms were not significantly related (β = 0.07, p = 0.199) to their intent to intervene. Further analysis revealed a significant interaction between gender and subjective norms (β = -0.28; p = 0.039). The TPB-based model including this moderation effect explained a significant proportion of the variance in students' intent to intervene (R^2 = 0.57, F(6, 766) = 168.46, p < 0.000).

Interveners reported significantly greater perceived behavioral control than non-interveners for seven of the 12 intervention behaviors; more supportive subjective norms than non-interveners for six of the 12 intervention behaviors; more positive attitudes than non-interveners for only one of the 12 intervention behaviors; and greater intent to intervene in the future for six of the 12 intervention behaviors. However, differences in the three TPB variables between interveners and non-interveners were not consistent for the 12 intervention behaviors.

Regarding Burn's (2009) Situational Model of Bystander Intervention, a multiple regression analysis revealed two of the five barriers were significantly related to students' intent to intervene: the failure to take intervention responsibility barrier (β = -0.29, p < 0.001) and the failure to intervene due to audience inhibition barrier (β = -0.22, p < 0.001). The model in whole explained a large proportion of the variance (R^2 = 0.25, F(5, 768) = 50.14, p < 0.000). Gender differences were also observed. For females, failure to take intervention responsibility (β = -0.23; p < 0.000) and failure to intervene due to audience inhibition (β = -0.23; p < 0.001) both had a significant, negative influence on their intent to intervene. For males, failure to take intervention responsibility (β = -0.21; p < 0.014) had a significant, negative influence on intent to intervene. Additional analysis revealed no significant interactions between gender and any of the five barriers.

The TPB-based model explained a greater proportion of the variance (R^2 = 0.55) compared to Situational Model of Bystander Intervention (R^2 = 0.25) in the multiple regression analysis using all 12 intervention behaviors. All three variables in the TPB-based model were significantly related to students' intent, whereas only two of the five barriers were significantly related. A final multiple regression

analysis was conducted using all three significant TPB variables and the two significant barriers to explain students' intent to intervene. The combined model explained a significant proportion of variance in students' intent ($R^2 = 0.58$ $F(5, 756) = 206.19$, $p < 0.000$) and significantly improved upon the TPB-based model ($\Delta R^2 = 0.03$; $p < 0.000$).

The results of this study have several implications for future research and public health practice. First, it is important to ask students about their opportunities to intervene in addition to their actual intervention behaviors because this information helps paint a clearer picture of bystander engagement. This assessment could also help identify high-risk groups: students who have greater opportunities to intervene as bystanders and/or report fewer intervention behaviors compared to their reported opportunities. Second, students may conceptualize intervention behaviors differently depending on the phase of the assault and with whom the intervention behavior requires intervening. Accordingly, programs aimed at encouraging students to intervene should take these differences into consideration. Third, the Theory of Planned Behavior, used to explain and change other health-related behaviors, can effectively be applied to help uncover determinants of pro-social bystander behaviors. Perceived behavioral control, subjective norms, and attitudes appear to be salient influences in students' intent to intervene. Therefore, bystander engagement programs should incorporate activities to heighten students' skills to intervene, change social norms that support bystander intervention, and shift attitudes toward the benefits of intervening. This study demonstrates the importance of using an established, evidenced-based theoretical framework to explain behavioral influences and strengthens the argument for continued use of theory to identify, and potentially change, salient influences in behavioral performance.

Students as pro-social bystanders have the potential to make a positive impact on the reduction of sexual assault on the college campus. Although the responsibility for sexual assault rests on those who perpetrate such acts, and primary prevention strategies aimed at those demonstrating a risk for

perpetration are imperative, sexual assault is a public health issue that warrants a multi-pronged approach to reduce its incidence and migrate its associated harms. Programs that engage students as pro-social bystanders have the potential to make a positive impact on the reduction of sexual assault incidence in the absence of effective primary prevention strategies. The findings of this study make a contribution to the literature examining influences of students' pro-social bystander intervention to sexual assault situations and provide suggestions for strategies to increase bystander engagement.

Students as Pro-Social Bystanders:
Opportunities, Past Behaviors, and Intentions to Intervene in Sexual Assault Risk Situations

by
Jill C. Hoxmeier

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APPROVED:

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Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Jill C. Hoxmeier, Author

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I decided to attend Oregon State University in 2012 specifically to work with Dr. Brian Flay. Several weeks into the program, after receiving what remains the worst grade I have received as a graduate student, I wondered whether I had made the right choice. With the softened perspective that only time can provide, I have grown so happy with not only my decision to come to OSU but to stay when I wasn't sure whether I was on the correct path. When the barriers seemed insurmountable, or just really quite unpleasant, Dr. Flay's support and belief in me pushed me through, and I discovered what it truly means to be mentored. Dr. Flay intellectually challenged me in all of the ways I expected from a doctorate program – it was all of the emotional challenges I was ill-prepared for. I am forever grateful for that mentorship. Thank you, Brian, for supporting my exploration and pursuit of this topic, for allowing me to make mistakes that provided the best type of learning experience, and working, tirelessly, I imagine, to make me a better student, instructor, and scholar.

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CHAPTER 1. INTRODUCTION

Nearly one in four American college and university women are victims of sexual assault (Fisher, Cullen, & Turner, 2000; Karjane, Cullen, & Turner, 2005). The Centers for Disease Control define sexual violence as "any sexual act that is perpetrated against someone's will," including "a completed sex act; an attempted, but not completed, sex act; an abusive sexual contact; and non-contact sexual abuse" (CDC, 2012). The United States Department of Justice, as well as other government agencies, often uses the legal term "sexual assault" to describe similar acts of victimization (USDOJ, 2013). Victims are more likely than non-victims to experience depression, substance abuse, risky sexual behaviors, and other negative health outcomes (CDC, 2012). The high incidence of sexual assault on the college campus coupled with the negative health outcomes victims experience warrants investigation into prevention strategies that move beyond the traditional paradigm of changing rape-supporting attitudes among males and risk reduction among females. Nearly one in three acts of sexual assaults are witnessed by a third party (Planty, 2002). In what has become one of the most highly publicized sexual assaults, coined "the Steubenville Rape", a group of teen party-goers watched on as a female classmate was raped by two high school football players. This is a stark reminder that sexual assault is not simply a private matter that occurs in private (Burn, 2009; Macur & Schweber, 2012).

Recognizing the need for effective prevention strategies, in January of 2014, President Barack Obama created a task force of senior administration officials to coordinate federal enforcement efforts of sexual assault prevention efforts on college campuses, and has said a priority is "to find ways to encourage more men to intervene when they see an attack or report assaults" (Calmes, 2014). Bystander behavior was first investigated to understand how third party witnesses respond to emergency situations. Today, bystanders' pro-social intervention behavior is increasingly studied as an

effective way to reduce the incidence and mitigate the effects of sexual assault. In the Fall of 2014, Oregon State University heeded the President's call and launched the "It's All On Us" campaign in effort to increase awareness of sexual assault on campus (OSU, 2014). As part of this effort, the school now requires incoming students to participate in Haven™, a web-based interpersonal violence awareness program that includes messages of pro-social bystander engagement to help prevent sexual assault (OSU, 2014).

Although the responsibility for violence rests on the perpetrators of these crimes, sexual assault is a major public health issue that necessitates multi-pronged prevention programs, such as training bystanders to intervene. To continue in the development of effective prevention programs aimed at engaging the student population as pro-social bystanders, more needs to be known about the opportunities students have to intervene, their past intervention behaviors, and the intentions to intervene in future.

Research Significance and Implications

The Bystander Intervention model emphasizes everyone's role in "interrupting situations that could lead to assault before it happens or during an incident, speaking out against social norms that support rape, and having skills to be an effective and supportive ally to survivors" (Banyard, Moynihan & Plante, 2007). Thus, programs based on this model recognize that all students in the college setting are potential bystanders of sexual violence, and perhaps a more effective strategy to reduce incidence is to engage them as a critical mass rather than as potential perpetrators or victims. Peers of the perpetrator and victim are often present during the pre-sexual assault phase (e.g. getting someone drunk to have sex with them) (Burn, 2009), providing opportunities to intervene to prevent an assault from occurring. However, as Banyard and colleagues (2007) point out, students also have the opportunity to interrupt the assault during the incident and provide support to survivors after an assault has already occurred.

More needs to be known regarding the variables related to students' intent to intervene as well as the variables related to having the opportunities to intervene and actual intervention behavior. Understanding the determinants of pro-social bystander behavior could contribute to more effective interventions by helping college and university health promotion practitioners develop programs specifically designed to address those influences. When students can intervene as pro-social bystanders, there is potential to reduce the incidence of sexual assault and mitigate the detrimental effects of victimization.

Research Gap

Although there exists a growing body of literature investigating the influences of students' pro-social intervention behavior as bystanders to sexual assault, there is limited research on the opportunities students have to intervene and their actual past intervention behavior. Specifically, to ask students about their past intervention behavior without asking whether or not they have had the opportunity to intervene fails to capture a crucial aspect of bystander engagement. Several studies have asked students about their reported past intervention behaviors but did not ask whether they have had the opportunity to intervene (Banyard & Moynihan, 2011; Banyard, Plante, & Moynihan, 2005; Bennett, Banyard, & Garnhart, 2014). To paint a fuller picture of students' engagement as pro-social bystanders, scholars have noted the importance of investigating students' reported opportunities to intervene in addition to their reported intervention behaviors (Bennett, Banyard, & Garnhart, 2014).

Although previous research has investigated determinants of students' intent to intervene, this research has been limited, most commonly, to attitudes toward sexual assault (Banyard and Moynihan 2011; Brown & Messman-Moore, 2010; McMahon, 2010) or the perceived barriers to intervening (Bennett, Banyard, & Garnhart, 2014; Burn, 2009). Understanding students' intent to intervene from a theoretical perspective is a critical precursor to developing effective programs aimed at engaging

students as pro-social bystanders to reduce the incidence and mitigate the harms of sexual assault. For instance, more information is needed regarding students' perception of their ability to intervene when they have the opportunity, perceived peer approval to intervene, and believing that intervening is beneficial to preventing an assault and/or mitigating the detrimental effects of an assault.

Bystander intervention behaviors span a wide range. McMahon and Banyard (2011) outlined a spectrum of opportunities that students could potentially intervene in, aligned with the range of risk situations associated with the pre-assault, mid-assault, and post-assault phases of sexual assault. Pre-assault opportunities include low risk (someone making a sexist joke) to high risk (someone planning to give alcohol to someone to get sex) (McMahon & Banyard, 2011). Mid-assault opportunities include walking in on someone having sex with another person who appears to be physically forced. And post-assault opportunites include both those situations that necessitate intervening with the perpetrator (reporting a friend who has committed a sexual assault) and the victim (a friend seeking help after they have been sexually assaulted) (McMahon & Banyard, 2011). Banyard and Moyhihan (2011) found that students' willingness to take different types of intervention behaviors (in those situations that are low vs. high risk, for example) varied. Thus, it is important to know how the determinants of intent vary based on the intervention behavior at each of these levels, as well as when the intervention behavior involves intervening with the (potential) perpetrator compared to intervening with the (potential) victim.

This study uses the Theory of Planned Behavior (TPB; Azjen & Fishbein, 1991) to examine students' intent to intervene. The TPB is predicated on the notion that a person's intent to perform a behavior, the most proximal determinant of behavioral performance, is preceded by their perceived behavioral control to perform the behavior, subjective norms that support that behavior, and an attitude that the behavior is beneficial. Findings from a preliminary study using this framework suggest that students who report a) greater perceived behavioral control to intervene as a bystander, b)

subjective norms that support intervening as a bystander, and c) attitudes that intervening is beneficial to reducing the incidence of sexual assault, have greater intentions to intervene as pro-social bystanders (Hoxmeier, 2014). Given the wide range of situations that students potentially encounter (Banyard & Moynihan, 2011; McMahon & Banyard, 2010) and, thus, have the opportunity to intervene in, it is important to know how their perceived behavioral control, subjective norms, and attitudes vary by intervention behaviors that are performed before an assault, during an assault, or after an assault, and either with the (potential) perpetrator or the (potential) victim.

As previously stated, based on the original model of bystander behavior (Burn, 2009; Latanè & Darley, 1970), students' intentions have commonly been examined in relation to their perceived barriers for intervening. The original model asserts that in order to intervene, witnesses to emergency situations must notice the event, identify it as one where intervention is necessary, take responsibility for intervening, decide to intervene, and finally, take steps to intervene (Latanè & Darley, 1970). Burn (2009) adapted this model for sexual assault specifically in her Situational Model of Bystander Intervention, aligning these critical areas with five areas hypothesized to create barriers for students to intervene: failure to notice, failure to identify a situation as high risk, failure to take intervention responsibly, failure to intervene due to skills deficit, and failure to intervene due to audience inhibition. Exploring students' intent to intervene outside of this model is a gap in the present literature, and the TPB-based Sexual Assault Bystander Behavior Questionnaire (SABB-Q) attempts to fill that gap.

Study Purpose

This study investigates Oregon State University students' opportunities, past behaviors, and intent to intervene as bystanders and the correlates thereof. Additionally, this study investigates whether students' intent differs based on the intervention behavior being one of pre-assault, mid-assault, or post-assault or between behaviors that necessitate intervening with the (potential)

perpetrator compared to intervening with the (potential) victim. Using the TPB as a framework for understanding behavioral intent, this study also examines OSU students' intent to behave pro-socially in the future, and how students' perceived behavioral control to intervene, subjective norms that support intervention, and attitudes toward intervention influence intentions. Finally, because the TPB has not been used as a framework to assess determinants of students' intent to intervene, the Situational Model of Bystander Intervention (Burn, 2009), will also be used to examine determinants of students' intent for the purpose of comparing the two frameworks in terms of ability to explain students' intent to intervene.

CHAPTER 2: REVIEW OF THE LITERATURE

Sexual assault is a major concern on college campuses. Different than rape, which specifically refers to an attempted or completed vaginal, anal, or oral penetration by force, sexual assault is more encompassing of nonconsensual sex acts that include penetration, other sexual contact, and verbal sexual coercion (Koss, Gidycz, Wisniewski, 1987). Force includes physical overpowering, verbal coercion, and the threat of harm, as well as when the victim is incapacitated and not able to give consent (Abbey & McAuslen, 2004).

During college, a woman is at much greater risk for being sexually assaulted that at any other time in her life (Fisher, Cullen, & Turner, 2000). One-fifth to one-fourth of college women experience rape or attempted rape during college (Karjane, Cullen, & Turner, 2005). Although less is known about victimization among men, some reports estimate one in 10 victims of sexual assault are male (DOJ, 2003). Because sexual assault victimization disproportionately affects women, and the majority of those who perpetrate sexual assault against them are men (Koss, Gidycz, & Wisniewski, 1987), this study focuses on sexual assaults where the victims are female and the perpetrators are male.

More often than not, victims of sexual assault know their perpetrator. The Bureau of Justice Statistics reported that 70% of rapes and 80% of all sexual assaults are committed by someone who is known to the victim (Bureau of Justice Statistics, 2001). In addition, these acts usually occur without the use of a weapon or violent force and typically occur in the home of either the perpetrator or the victim (Turchik, Probst, Irvin, Chau, & Gidycz, 2010). In a longitudinal study examining sexual assault victimization of adolescent females from childhood through four years of college, 62% of victims identified the perpetrators as “boyfriends.” The percentage of perpetrators identified as boyfriends rose each year in college, from 67.7% after the first year to 77.5% after the fourth year (Smith, White, & Holland, 2003). Ullman and colleagues examined features of sexual assault victimization of a national sample and found that over half the women in the sample had experienced victimization and, of those,

the majority were victimized while on a date (39.7%), by one man (97%) whom they knew moderately to very well (55%) and who used physical force (40%) (Ullman, Karabatsos, & Koss, 1999).

Many scholars note the role alcohol plays in sexual assault on the college campus (see Ullman, 2003 for a review). A 2011 national study showed that over 75% of college students who reported nonconsensual sex had consumed alcohol and/or other drugs when they were victimized (Core Alcohol and Drug Survey, 2011). In a study of sexual assault with a national sample, investigators found that pre-assault alcohol use was associated with greater victimization severity, as compared to assault without prior-alcohol use (Ullman et al., 1999). Investigators found that the greater the severity of the sexual assault, the more likely it was that the perpetrator was using alcohol prior to committing the assault (Ullman et al., 1999). Alcohol use is widespread on college campuses in the U.S. with more than half of students in a national sample reporting drinking on at least one occasion in the previous 30 days (ACHA, 2012). At OSU, 46.5 % of students reported drinking between one and nine times in the previous 30 days, and 24.9% of students report drinking 10 or more days in the last 30 day period. Male and female OSU students reported consuming 7.01 and 4.92 drinks, respectively, the “last time [they] partied”, compared to 6.50 and 4.24 drinks for males and females in the national sample (ACHA, 2012).

Sexual assault victimization is associated with a myriad of negative health outcomes. Victims are at increased risk for substance use and abuse, depressive symptoms, and post-traumatic stress syndrome symptoms, characterized by “re-experiencing symptoms (i.e. nightmares, flashbacks), avoidance symptoms (i.e. numbing, avoidance of reminders), and increased arousal (i.e. hypervigilance, sleep disturbances)” (Arata & Burkhart, 1996, p.81). Victims of assault have been found to exhibit risky sexual behaviors post-assault, including an increase in the number of sexual partners and a decrease in condom use, in addition to an increase in use of drugs and alcohol during their sexual relations (Campbell, Self, & Ahrens, 2004). Compared to women who experienced other serious, life-threatening but nonsexual life events, such as physical attacks or car accidents, one study found that those women

who have experienced sexual assault showed greater prevalence of sexual, eating, and mood disorders (Faravelli, Guigni, Salbatori, & Ricca, 2004), all of which can contribute to a diminished quality of life.

In a study examining post-trauma impact between victims of different types of sexual assault, no significant differences were found between victims of completed rape and attempted rape in their immediate and long-term response to the sexual assault (Becker, 1982). In addition, another study found no significant difference of post-assault psychological impact between those victimized by strangers compared to those victimized by acquaintances (Frazier & Seales, 1997). Thus, although the specific nature of the sexual assault may vary from victim to victim, there is evidence demonstrating the potential for negative health impacts regardless of those specific features.

Traditional Sexual Assault Prevention Strategies

In a 2005 meta-analysis of sexual assault prevention programs, Anderson and Whiston (2005) identified four types of programming. First, information-based programs provide definitions and statistics, information to correct sexual assault myths, and descriptions of the consequences of sexual assault. Second, empathy-focused programs include activities aimed at increasing participants' empathy for victims. Third, socialization-focused programs examine the societal contexts that result in gender role stereotyping and rape-supporting norms. And fourth, risk-reduction programs aim to increase one's skills in reducing their risk for assault (Anderson & Whiston, 2005). DeGue and colleagues, in a 2014 systematic review, investigated primary prevention strategies of sexual assault perpetration and concluded that the majority of programming efforts were psycho-educational, aimed at increasing knowledge or changing attitudes of participants (DeGue, Valle, Holt, Massetti, Matjasko, & Tharp, 2014). The Anderson and Whiston (2005) review included those strategies aimed to change attitudes that support the use of violence, in addition to measuring actual perpetration of violence, which builds off

the previous meta-analyses of Breklin and Forde (2001) and Flores and Hartlaube (1998) that focused only on attitudinal outcomes.

These traditional prevention strategies have produced limited effects (Anderson & Whiston, 2005; Breklin & Forde, 2001; Flores & Hartlaube, 1998; and DeGue et al., 2014). Anderson and Whiston (2005) did find in their analysis of 69 empirical studies of sexual assault programs some evidence of statistically significant changes in rape knowledge, attitudes, behavioral intentions, and incidence of sexual assault. However, only changes in knowledge met criteria for a moderate effect size (.57) and attitude met criteria for a small effect size (.21) (Anderson & Whiston, 2005; Cohen, 1988). The effect sizes for behavioral intentions and incidence of sexual assault (.14 and .10, respectively) did not meet these criteria (Anderson & Whiston, 2005; Cohen, 1988). Despite some evidence that support use of programming of this nature, there remains mixed reviews on these approaches. Attitudinal change is often temporary and can sometimes have a backlash effect (e.g. men's rape-supporting attitudes increase; Rozee and Koss, 2001); and asking women to change their behavior to prevent assault is perceived as victim-blaming (Ullman, 2007). DeGue and colleagues found that nearly half of the primary prevention programs in their analysis had null effects on self-reported perpetration, although the majority of programs they examined reported significant positive changes in participant knowledge of sexual assault, pro-social bystander intentions and skills (DeGue et al., 2014).

The Bystander Intervention Model

The bystander effect, originally studied by Latanè and Darley in 1968, posits that individuals are less likely to intervene in an emergency situation in the presence of other bystanders, where the perceived responsibility is diffused on the assumption that their assistance is unwanted or that others would be more qualified to help (Darley & Latanè, 1968). The situational model of bystander intervention, proposed for a variety of situations where bystanders could potentially intervene,

identifies five critical elements necessary for individuals to intervene. Bystanders must first notice the event, and second, they must identify it as an event where intervention is necessary. Third, they must take responsibility for intervening. Fourth, they must decide to intervene, and finally, take steps to intervene (Latanè & Darley, 1970).

Burn (2009) used these five critical elements for bystander intervention to study students' perceived barriers to intervening as pro-social bystanders in a paper titled, "A Situational Model of Sexual Assault Prevention through Bystander Intervention" (Burn, 2009). Barriers were categorized as: failure to notice, failure to identify situation as high risk, failure to take intervention responsibly, failure to intervene due to skills deficit, and failure to intervene due to audience inhibition. As hypothesized, students' perception of barriers negatively correlated with intervention intentions (Burn, 2009). Students were less likely to report behaving pro-socially ("not letting my intoxicated female friends go to a private location with a guy", for example) when they reported greater agreement with barrier statements ("Even if I thought it was my responsibility to intervene to prevent a sexual assault, I am not sure I would know how to intervene", for example). Although the Situational Mode of Bystander Behavior has not been used extensively in this body of literature, recent replications have found similar results with a different college student population examining barriers to intervening as bystanders to sexual assault (Bennett et al., 2014), and with a high school student population examining barriers to intervening as bystanders to peer bullying and sexual harassment (Nickerson, Aloe, Livingston, & Feeley, 2014).

The Situational Model of Bystander Intervention (Burn, 2009) identifies potential barriers to intervene at the primary level of prevention of sexual assault. Although there is evidence to support the utility of this model in explaining students' intent to intervene, what follows is a discussion of the range of bystander opportunities beyond the pre-assault phase that can mitigate the detrimental effects of sexual assault.

Sexual Assault Situations

Students may encounter a spectrum of sexual assault situations. In their conceptual framework for sexual assault prevention through bystander prevention, McMahon & Banyard (2010) outlined a model for categorizing risk situations, including pre-assault primary prevention, mid-assault secondary prevention, post-assault tertiary prevention, and pro-active bystander opportunities (See Figure 1). The intervention behaviors can be differentiated by their level of prevention as well as by whom the behavior necessitates intervening with, either the (potential) perpetrator or the (potential) victim. Thus, the spectrum of intervention behaviors is quite varied.

Primary prevention bystander behaviors are those that aim to prevent the assault from occurring, such as intervening when "a friend is bringing an intoxicated woman back to his room" (McMahon & Banyard, 2010). Primary prevention ultimately seeks to reduce the incidence of sexual assault. Given the well-documented intersection between sexual assault and alcohol use, primary prevention for sexual assault may not appear to be specifically to prevent a sexual assault, but rather, trying to get an intoxicated friend to stop drinking, who is neither the victim nor the perpetrator of an assault.

Secondary prevention behaviors are those that occur mid-assault and aim to reduce the impact of the assault, such as intervening when "witnessing a group rape" (McMahon & Banyard, 2010). Although the assault has already occurred in this situation, secondary preventative bystander behaviors could reduce injury or harm to the victim and is still an important aspect of bystander intervention, supported by the findings of Ullman and colleagues, who showed that victims who resisted more during the assault experienced greater severity in their assault (1999).

Tertiary prevention behaviors are those taken post-assault, such as when "a friend is seeking information for herself or another person on where to go for help for an assault" (McMahon & Banyard, 2010). Again, although the assault has already occurred, helping a friend access services for that assault,

such as therapy, can mitigate the harms of the sexual assault. Research supports that therapeutic services can help reduce risk for post-trauma symptomology and/or reduce the impact of the negative health outcomes associated with sexual assault (Foa, Rothbaum, Riggs, & Murdock, 1991; Taylor & Harvey, 2009). However, Beebe et al. (1994) found that very few women who have been sexually assaulted reported obtaining counseling. Thus, pro-social bystander behavior, such as assisting survivors to access therapy, is important on a tertiary prevention level. Also on the tertiary level of prevention are those behaviors that necessitate intervening with the perpetrator. Research has found that perpetrators often serially commit assaults and, more often than not, assaults go unreported (Lisak & Miller, 2002).

Figure 1. McMahon & Banyard's Nomological Network of Bystander Opportunities

<table>
<tr><th>Reactive Bystander Opportunities</th><th colspan="2">Primary Prevention (before the assault)</th><th>Secondary Prevention (during the assault)</th><th>Tertiary Prevention (after the assault)</th></tr>
<tr><td rowspan="8"></td><td>Low Risk</td><td>High Risk</td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>Friends make a sexist joke or use sexist language to describe women and girls</td><td>A friend is bringing an intoxicated woman back to his room</td></tr>
<tr><td>Activities or rituals are held where women's bodies are ranked or rated</td><td>A friend says he plans to intoxicate a woman to have sex</td><td>Witnessing a group rape</td><td>A friend or classmate discloses that she is a survivor</td></tr>
<tr><td>Pornographic or sexualizing posters of women and girls are displayed</td><td>A woman is being harassed by a group of men</td><td>Hearing cries for help or distress</td><td>A friend is seeking information for herself or another person on where to go for help for an assault</td></tr>
<tr><td>Friends make rape or abuse jokes</td><td rowspan="2">A woman who is passed out on a couch is being approached or touched</td><td>Walking in on a situation where an individual appears to be either physically forced or verbally coerced into sex</td><td>There is suspicion that a friend or classmate is a perpetrator</td></tr>
<tr><td rowspan="2">Friends or classmates blame a victim of sexual violence in conversation or class</td><td rowspan="2">Directly observing an intoxicated victim being sexually assaulted by a perpetrator</td><td>Authorities or residence life are looking for information on a possible sexual assault</td></tr>
<tr><td>A police or judicial investigation needs corroboration</td></tr>
<tr><td>Proactive Bystander Opportunities</td><td colspan="4">Taking a course on gender based violence
Joining a peer education group
Participating in Take Back the Night
Arranging an educational program on sexual assault for a dorm or student organization
Changing student organizational policies to address sexual assault
Volunteering at a local sexual assault organization</td></tr>
</table>

Who intervenes? Demographic Variables and Characteristics of the Bystander

Scholars often examine the relationship between bystander demographic variables and characteristics and their intent to intervene. The sex of the bystander is commonly investigated as a correlate of pro-social intervention behavior, though the findings have been mixed. In their meta-analysis, Eagly and Crowly (1986) found that men reported greater intent to intervene across nearly 100

different situations, although the situations encompassed a wide range not specific to sexual assault, including picking up a hitch-hiker and helping to fix a flat tire. In situations of interpersonal violence, including domestic violence and sexual assault, Shotland and Stebbins (1980) found no gender differences in study participants' willingness to intervene when overhearing a violent sexual assault. However, gender differences have been observed in the types of intervention behavior participants were willing to perform in other studies. Men have reported greater willingness to take direct and active intervention behaviors (Rabow, Newcomb, Monto, & Hernandez, 1990; George, Carroll, Kernsick & Calderon, 1998; Shotland & Stebbins, 1980), whereas women have reported greater willingness to take less direct, but supportive, actions like calling the police (Chabot, Tracey, Manning & Poisson, 2009; Eagley & Crowly, 1986; Nicksa, 2014).

In more recent, and relevant research, females have been found to report greater willingness to intervene in sexual assault risk situations than males (Banyard, 2008; Bennett, Banyard, & Garnhard, 2014; Burn, 2009; McMahon, 2010). Burn (2009) reasoned that females may be more likely to intervene because of their own vulnerability to sexual assault and better identification with the risk of the potential victim. This was further exemplified in her finding that females are more likely to intervene with the potential victim whereas males were more likely to intervene with the potential perpetrator (Burn, 2009).

Because pro-social bystander behaviors span the spectrum of the kinds of help that could be provided, from pre-assault risk speculation to imminent risk of harm to post-assault support, understanding how the sex of the bystander correlates with bystander intent to intervene in the wide range of helping behaviors is important.

Students' psychosocial characteristics have also been investigated to help understand who is likely to intervene. Bennett and colleagues investigated the relationship between several intrapersonal variables and helping behaviors, including pro-social tendencies, mood, sense of control, and

satisfaction with social support (Bennett et al., 2014). Although students' pro-social tendencies were significantly related to reported intervention behaviors (with strangers, not with friends), the other variables were not. Authors suggested further investigation of peer norms for intervening, rather than relying exclusively on intrapersonal variables (Bennett et al., 2014).

One extensively studied psychosocial variable is "rape-myth acceptance". Rape myths are attitudes that justify men's use of sexual aggression against women, such as women deserving to be assaulted based on how they are acting or what they are wearing (Burt, 1980; Lonsway & Fitzgerald, 1994). Several studies have found that students who are more accepting of sexual aggression and/or who support rape-myths are less willing to intervene as pro-social bystanders to sexual assault (Banyard and Moynihan 2011; Brown & Messman-Moore, 2010; McMahon, 2010.)

Students who participate in university athletics, fraternities or sororities, and those without training in sexual assault were found to report greater acceptance of rape-supporting myths and reported less willingness to intervene as bystanders, compared to counterparts (Banyard, 2008; Forbes, Adams-Curtis, Pakalka, & White, 2006; McMahon, 2010; Foubert, 2010). Foubert and colleagues (2013) found that bystander willingness positively correlated with intrinsic religiosity, defined as living out one's faith by attending church or joining a Bible study group. Previous research also suggests that students who report having a friend who has been the victim of sexual assault report greater intent to intervene (Banyard, 2008; McMahon, 2010). And, although not specific to sexual assault, there is some evidence to suggest that individuals with a history of victimization are more likely to intervene as bystanders, for example, when witnessing child abuse (Christy & Voigt, 1994) or violence between romantic partners (Nabi & Horner, 2001).

Gender differences in the Situational Model of Bystander Intervention

Although Burn (2009) was the first to use the Situational Model of Bystander Intervention, and thus, there was no previous evidence suggesting gender differences in reported barriers to bystander

intervention, based on previous research in attitudes toward sexual assault, Burn hypothesized that certain barriers would be more salient for males compared to females. Because women are more likely to experience victimization of sexual assault (Tjaden & Thoennes, 2000), Burn argued that a heightened sense of risk of potential victimization and empathy toward potential victims may reduce the barriers of failing to notice the situation and failing to identify the situation as high risk (Burn, 2009). Although previous research suggests that men are more likely to intervene in situations that present clear and imminent danger (Eagly & Crowly, 1986), the often ambiguous nature of the pre-assault phase may make noticing the potential assault or identifying it as one that warrants intervention more adversely influential on males' intervention. Burn cites the findings of Hall (1984) and Eagly (1987) to suggest that "women's greater skill at reading others' emotions and their more relational, interdependent focus" may positivity influence their pro-social intervention on the basis that failing to notice and identifying the situation as high-risk are less salient as barriers, compared to men (Burn, 2009, p. 782). As previously noted, the acceptance of rape myths have been investigated as potential risk factors for perpetrating sexual violence and lack of intervention as a bystander. Males have been found to be more accepting of rape myths compared to females (Lonsway & Fitzgerald, 1994; Shechory & Idisis, 2006). Thus, Burn (2009) hypothesized that failing to take intervention responsibility would serve as a greater barrier for males' intervention than females because of their greater propensity to assign blame to the potential victim. The aforementioned empathy for potential victims that women may experience as a result of their own heightened risk for sexual assault served as the basis for Burn (2009) to hypothesize that failing to take intervention responsibility would be less salient for women in her study. Given the dearth of literature in skills-specific gender differences for bystander intervention, and the wide range of intervention behaviors possible, Burn did not hypothesize whether failing to intervene due to skills deficit would be more salient for males or females (Burn, 2009). Failing to intervene due to audience inhibition was hypothesized to be more negatively influential on males' intervention compared to

females (Burn, 2009). This was supported by the findings of Carlson (2008) and Fabiano et al. (2003) that suggest there exists among some male peer groups social norms against "interfering with another's sexual conquests" (Burn, 2009, p. 783) and in favor of "maximizing sexual conquests irrespective of consent" (Burn, 2009, p. 783).

In line with her hypothesis, males reported significantly greater agreement with the barriers than women in all areas with the exception of skills deficit (Burn, 2009). For women, the regression analysis revealed that failure to take intervention responsibility and failure to intervene due to skills deficit were significantly related to their intervention behaviors. For males, failure to take intervention responsibility was significantly related to intervention behaviors (Burn, 2009). Thus, it would be prudent to test gender differences in students' reported barriers, as well as the influence of those barriers on students' intent to intervene in the current study.

Gender Differences in Perceived Behavioral Control, Subjective Norms, and Attitudes

The TPB has not been used to examine the influence of bystander behavior, so there exists no literature to support gender differences in perceived behavioral control, subjective norms, or attitudes, in addition to gender differences in how those variables influence behavioral intent. However, given the previous synthesis of relevant literature, and the findings that support potential gender differences in barriers to intervene (Burn, 2009), it would be prudent to examine gender differences in the TPB variables.

The findings of Carlson (2008) and Fabiano et al. (2003) that intervening may be construed as interfering among males suggests that males may hold less supportive subjective norms, as conceptualized by Ajzen and Fishbein (1991) as the perception of peer approval, compared to women. Similarly, because females are more at risk for sexual victimization and that their heightened risk may increase their empathy toward potential victims, females may hold more positive attitudes toward intervention behaviors, as conceptualized by Azjen and Fishbein (1991) as the perception that

intervening is helpful to either preventing an assault or reducing the harm of one that has already occurred. Although Burn's conceptualization of skills deficit (2009) differs from Ajzen and Fishbein's perceived behavioral control (1991), these two constructs both attempt to capture students' perception of knowing how to intervene and the role that perception plays in their intent to do so. Burn measured intervention skills by asking students about "knowing what to do or say" (Burn, 2009) to intervene whereas the TPB operationalizes perceived behavioral control as the extent to which the behavior is "easy" or "difficult" (Ajzen, 1991). Despite their differences, however, males and females reported no significant difference in skills deficit as a barrier to bystander intervention (Burn, 2009). Given the evidence that supports potential gender differences, it is judicious to test whether males and females differ in their perceived behavioral control, subjective norms, and attitudes, in addition to the potential gender differences in the influence of those variables on their intent to intervene.

When do they intervene? Context of the Situation

In addition to the demographic variables and characteristics explored above, scholars have also explored how the context of the sexual assault risk situation may play a role in students' intent to intervene. In general emergency situations, there is evidence demonstrating that individuals report greater pro-social bystander intentions as the severity of the situation increases (see Fischer et al., 2011 for a review). In general emergency situations comparing intervention behaviors between situations involving friends compared to strangers, some evidence supports that individuals report greater intent in situations involving people they know (Levine, Prosser, Evans, & Reicher, 2005). Similarly, students report greater intent to intervene with their friends compared to strangers (Bennett et al., 2014; Banyard, 2008; Burn, 2009), although Burn (2009) found that males reported greater intent to intervene when the perpetrator was a friend, and Schwartz & DeKeseredy (1997) found that males are less likely to intervene when they know the perpetrator.

However, little is known regarding students' intent to intervene in the various levels of sexual assault risk (pre-, mid-, or post-assault) most notably because, as Banyard (2011) clarified, it has been only recently that a conceptual framework for the spectrum of intervention behaviors has been developed. Similarly, little is known regarding students' intervention behaviors with the (potential) perpetrator compared to the (potential) victim. Thus, previous investigation into students' intervention behaviors has been limited to conceptualizing all intervention behaviors regardless of the potential differences between intervention behaviors.

Research Aims

There are four central aims of this study: 1) to investigate the relationship between students' demographic variables and characteristics and their opportunities to intervene as a pro-social bystander, their reported actual past intervention behavior, and their intent to intervene in the future; 2) to examine whether students' intent to intervene differs between the primary, secondary, and tertiary prevention levels and whether students' intent differs between intervening with the (potential) perpetrator compared to (potential) victim of the sexual assault; 3) to examine the influence of students' perceived behavioral control to intervene, subjective norms toward intervention, and attitudes regarding the benefit of taking intervening on students' intent to intervene as bystanders; and 4) to compare the Situational Model of Bystander Intervention (Burn, 2009) and the Theory of Planned Behavior (Azjen & Fishbein, 1999) in their ability to explain students' intent to intervene as bystanders to sexual assault. The following outlines the research questions, as well as the hypotheses, of this study:

Aim 1: To investigate the relationships between student demographic variables and their reported opportunities to intervene as a pro-social bystander, their reported actual past intervention behavior, and their intent to intervene in the future.

Research Question: Which variables are associated with students' opportunities to intervene, past intervention behavior, and intent to intervene as pro-social bystanders?

Hypothesis 1: Students who have a history of party attendance, are members of a fraternity/sorority, and participate in intercollegiate athletics will report greater opportunities to intervene compared to students without a history of party attendance, who are not members of a fraternity/sorority, and do not participate in intercollegiate athletics.

Hypothesis 2: Females, those students with friends who have been victims of sexual assault, those students who have a history of being sexually assaulted, and those who have received information and/or training in sexual assault prevention will report more past pro-social bystander behaviors compared to males, those students without a friend who has been victimized or have been victimized themselves, and those students who have not received information and/or training on sexual assault prevention.

Hypothesis 3: Females, those students with friends who have been victims of sexual assault, those students who have a history of being sexually assaulted, and those who have received information and/or training in sexual assault prevention will report a greater intent to intervene as pro-social bystanders compared to males, those students without a friend who has been victimized or have been victimized themselves, and those students who have not received information and/or training on sexual assault prevention.

Aim 2: To examine whether students' intent to intervene differs between the primary, secondary, and tertiary prevention levels and whether students' intent differs between intervening with the (potential) perpetrator versus the (potential) victim of the sexual assault.

Research Question 1: Do students report greater intent to intervene at the primary, secondary, or tertiary levels of sexual assault prevention, and does intent differ by sex of the bystander?

Hypothesis 1: Male students will report greater intent to intervene at the secondary level (during the assault) compared to intervening at the primary level (pre-assault) or tertiary level (post-assault).

Hypothesis 2: Female students will report greater intent to intervene at the tertiary level (post-assault) compared to intervening at the primary level (pre-assault) or secondary level (post-assault).

Research Question 2: Does intent to intervene with the (potential) victim compared to the (potential) perpetrator differ by sex of the bystander?

Hypothesis 1: Male students will report greater intent to intervene with the (potential) perpetrator compared to the (potential) victim, while female students will report greater intent to intervene with the (potential) victim compared to the (potential) perpetrator.

Hypothesis 2: Female students will report greater intent to intervene with both the (potential) perpetrators and (potential) victims compared to male students.

Aim 3: To examine the relationship between students' perceived behavioral control to intervene, subjective norms toward intervention, and attitudes regarding the benefit of intervention and their intent to intervene.

Research Question 1: Do students who report greater perceived control to intervene, more supportive subjective norms, and more positive attitudes toward intervention report greater intent to intervene?

Hypothesis: Students who report greater perceived control to intervene, more supportive subjective norms, and more positive attitudes toward intervention will report greater intent to intervene.

Research Question 2: Do students who report past pro-social intervention behaviors report greater perceived behavioral control, more supportive subjective norms, more positive attitudes toward intervention behaviors, and greater intent to intervene in the future compared to students who report not to have intervened when they had the opportunity?

Hypothesis: Students who report past pro-social intervention behaviors will report greater perceived behavioral control, more supportive subjective norms, more positive attitudes toward the intervention behaviors, and greater intent to intervene in the future compared to students who report not to have intervened when they had the opportunity.

Research Aim 4: To compare the Situational Model of Bystander Intervention to the Theory of Planned Behavior in its ability to explain students' intent to intervene as bystanders to sexual assault.

Research Question: How does the Situational Model of Bystander Intervention compare to the Theory of Planned Behavior for explaining students' intent to intervene as bystanders to sexual assault?

Hypothesis: The Theory of Planned Behavior will account for a greater proportion of the variance of students' intent to intervene as bystanders compared to the Situational Model of Bystander Intervention.

Theoretical Perspective to Understand Bystander Behavior

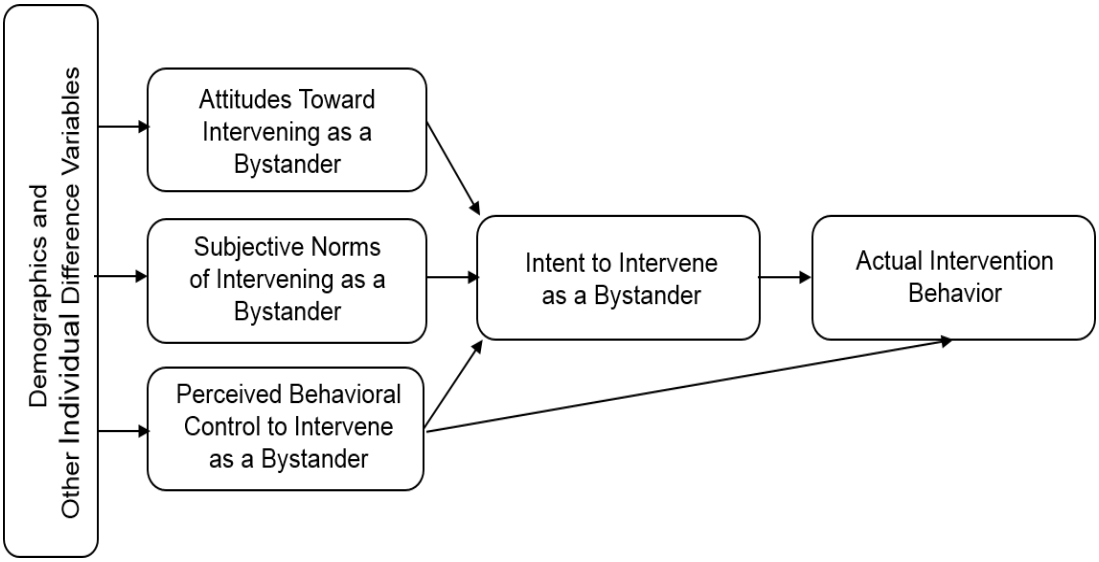
Understanding the determinants of behavior is critical when developing interventions that aim to change those behaviors, and examining the potential influences of bystander helping behaviors is no exception (Carlyle, Orr, Savage, & Babin, 2014). The Theory of Planned Behavior (TPB; Figure 2), and its predecessor, the Theory of Reasoned Action (TRA), assert that behavioral intent is the most important determinant of behavioral performance (Fishbein, 1967; Ajzen & Fishbein, 1991; Montano & Kasprzyk, 2008). In the Theory of Reasoned Action (Fishbein, 1967), one's attitudes toward the behavior and social normative perceptions toward the behavior determine one's intent to perform the behavior. The construct of perceived behavioral control was later added to the TRA to capture individuals' efficacy to

perform the behavior and renamed the Theory of Planned Behavior (Ajzen & Fishbein, 1991). TPB also asserts that external variables can influence behavioral intent, such as demographics and other variables of personal difference (Azjen & Fishbein, 1975; Montano & Kasprzyk, 2008).

Although the TPB to date has not been used to understand students' pro-social bystander behavior, the TPB has been extensively used to explain variation in multiple health behaviors, such as smoking, smoking cessation, diet, and exercise, among others (See Armitage & Conner, 2001 and Gaston & Kok, 1996 for reviews).

The TPB asserts that one's perception of control over behavior precedes their intention to perform the behavior (Azjen, 1991). Perceived control over the behavior is also an independent determinant of behavior, where, holding one's subjective norms and attitudes constant, their intent to perform a behavior is influenced by their perception that they can perform it. Self-efficacy, or the confidence one has to perform a behavior (Bandura, 1967), can be used as a direct measure of one's perceived behavioral control (Ajzen, 2002; Montano & Kasprzyk, 2008). Although the former construct is often measured using a uni-directional rating scale (certainty to perform a behavior on a scale of 0 to 100, for example; Bandura, 1997), perceived behavioral control is often measured using a bi-polar rating scale, such as "*not at all confidence"* to *"very confident"* to perform a behavior, for example (Azjen, 2002) – as are the other two determinants of intent in the TPB.

Figure 2. Determinants of Intent to Intervene, as outlined by the Theory of Planned Behavior (Azjen & Fishbein, 1991)



The Bystander Efficacy Scale (Banyard, Plante, & Moynihan, 2005) was developed to measure students' certainty of performing intervention behaviors but uses a uni-directional scale of 0 ("can't do") to 100 ("very certain can do"). Its original use was to test the effects of a bystander engagement program on participants' self-efficacy to intervene (Banyard, et al., 2005) and it has been used in other studies in its original or an abbreviated form (Banyard, 2008; Langhinrichsen-Rohling, Foubert, Brasfield, Hill, & Shelley-Trembley, 2011). However "a direct measure of perceived behavioral control should capture people's confidence that they are capable of performing the behavior under investigation" (Ajzen, 2002). In a review paper comparing the operationalization of self-efficacy as compared to perceived behavioral control for diet and exercise related behaviors, higher reliability of measurement was found for a perceived behavioral control scale that asked respondents to rank the ease or difficulty in performing the identified behavior on a bi-directional scale compared to those asking respondents to rank their confidence ($\alpha = 0.9$ compared to $\alpha = 0.71$; Azjen, 2002).

Social normative processes have been found to be a salient influence in one's behavioral intent (Ajzen & Fishbein, 1991). TPB posits that individuals who perceive greater approval by others to perform a certain behavior will report greater intent to do so (Ajzen & Fishbein, 1974). The direct measure of one's subjective norms is measured by assessing one's belief of whether others, specifically those that are most important to the individual, approve or disapprove of the behavior, using a bi-polar rating scale (Ajzen, 2002). Regarding social normative processes, and its relation to bystander behavior, in the current literature, Burn (2009) hypothesized that "audience inhibition" served as a barrier to pro-social bystander intervention. Other studies (Gidycz et al., 2011; Brown and Messman-Moore, 2011; and Fabian, Perkins, Berkowitz, Linkenbach, and Stark, 2003) have investigated the role of peer norms in bystander intervention; however, their measures focused more on norms surrounding sexual assault, rather than specific norms of intervening pro-socially as a bystander to sexual assault.

Subjective norms were measured in this study, using the TPB perspective, by assessing students' perception of their friends' approval or disapproval when performing pro-social intervention behaviors. And, most importantly, subjective norms in this study will capture the norms of students' friends specifically, as opposed to other people in general, a potentially important distinction from Burn's measurement of audience inhibition.

Attitudes are also posited to be predictive of behavioral intent (Fishbein & Ajzen, 1975). Importantly, Fishbein differentiated between attitudes toward the object (sexual assault, for example) and attitudes toward the behavior with respect to that object (intervening in sexual assault, for example) (Fishbein & Ajzen, 1975). Previous studies in bystander intervention have measured attitudes toward sexual assault, but, to the author's knowledge, none have differentiated between students' attitudes toward those issues and their attitudes toward intervention behaviors, an important distinction. In the TPB, attitudes are a measure of one's beliefs about the "outcomes or attributes"

(Fishbein & Ajzen, 1975) of their intervention, measured again on a bi-polar rating scale, from their intervention behavior perceived as “unhelpful” to “helpful” (Ajzen, 2002).

As previously noted, the current literature often investigates attitudes toward sexual assault as a determinant of intent to intervene. Although there is some evidence suggesting that those students who hold rape-supporting attitudes report low intent to intervene, there has been no investigation of how students’ perception of the benefit of their intervention behavior to reducing the incidence and/or mitigating the impact of sexual assault correlates with their intent to intervene.

Perceived behavioral control, subjective norms, and attitudes are the proximal predictors of one’s behavioral intent (Ajzen & Fishbein, 1991). Based on this theoretical framework, it is hypothesized that students’ perceived behavioral control, subjective norms, and attitudes will account for a large proportion of the variance in their intent to intervene. Similarly, based on the framework, it is hypothesized that students who report past pro-social intervention behaviors will report greater perceived behavioral control, more supportive subjective norms, more positive attitudes, and greater intent to intervene in the future compared to students who did not report past pro-social intervention behaviors when they had the opportunity. However, again, given the spectrum of intervention behaviors students’ may have the opportunity to perform, it is important to know how students’ intentions, and the influences thereof, vary based on the type of intervention behavior.

Contribution of the Study

This investigation attempts to contribute to the literature on bystander intervention in several meaningful ways. First, this study seeks to understand any difference in students’ reported opportunities to intervene, past intervention behaviors, and intentions to intervene in the future based on demographic variables. Demographic variables include sex, age, year in school, national status, and having a personal history of victimization. Other variables of personal difference include being a

member of a fraternity or sorority, intercollegiate athletic team at OSU or a religious community, having received intervention training and/or prevention information on sexual assault, history of party attendance, and having a friend who has either been the victim or perpetrator of sexual assault.

The demographic variables noted above were used to examine differences in students' reported opportunities to intervene, actual past intervention behaviors, and intent to intervene in the future. Currently, there are limited data on how students' intervention behaviors compare to the opportunities they actually have to intervene. It is important to know whether students have had the opportunity to intervene when asking if they have intervened in order to get a more accurate picture of students' bystander behaviors. Furthermore, examining which students have greater opportunities to intervene, or report fewer intervention behaviors when presented with the opportunity to intervene, could prove beneficial in identifying both potential leaders in pro-social bystander behavior and at-risk groups that could be targeted for bystander engagement programming.

Although previous research has examined the intervention intentions of those who participate in sororities, fraternities, and intercollegiate athletes, little is known regarding how the intervention behaviors of these groups compare to the opportunities they have to intervene. Party attendance is likewise an important variable to examine. Although this variable is not hypothesized to correlate with intentions to intervene as bystanders, it is hypothesized that students who report a history of party attendance will report having had more opportunities to intervene than those without such a history. In a preliminary study, I found that those with a history of party attendance were more likely to intervene compared to those students without such a history (Hoxmeier, 2014). However, to better understand this, it is important to rule out lack of opportunities for those students reporting low actual pro-social bystander behaviors.

Students were also asked whether they have a friend who has been the victim of sexual assault and if they personally have been the victim of sexual assault. It is hypothesized that both of these

variables are positively related to intent to intervene. In addition to investigating the effect these variables have on intent to intervene, asking students about their assault history, and whether they know a friend who has been victimized, helps to understand the scope of the issue at OSU.

Second, this study uses a theoretical framework not previously used in the investigation of students' intent to intervene as pro-social bystanders to sexual assault. The TPB (Ajzen & Fishbein, 1991) has been used to explain other health-related behaviors and could provide new insight into students' bystander intentions and behaviors. Additionally, the influence of students' perceived behavioral control, subjective norms, and attitudes on their intent to intervene should be investigated because these variables lend themselves well to health promotion programming aimed at increasing students' pro-social bystander behaviors.

Third, this study investigates any difference in intent to intervene based on features of the intervention behavior. Differentiating features include whether the intervention behavior is primary prevention (pre-assault), secondary prevention (during the assault), or tertiary prevention (post-assault), as well as whether the pro-social behavior necessitates intervening with the (potential) victim or (potential) perpetrator. Although previous research has highlighted the continuum of intervention behaviors that individuals have the opportunity to perform (Banyard & Moynihan, 2010), there has been little examination of how students' intent to intervene varies between the levels of prevention and/or who the behavior necessitates intervening with. Experts in the field have suggested that using a typology of pro-social behaviors can help uncover variation in determinants of intervention behavior, which can better guide sexual assault prevention strategies through bystander engagement (Banyard, 2008; Moynihan, 2011). Primary, secondary, and tertiary intervention behaviors all play an important role in either reducing the incidence of sexual assault or mitigating the harms of sexual assault and, therefore, it is crucial to differentiate between the different types of intervention behavior.

It is important to know how intent, and its proximal determinants, vary between those intervention behaviors with perpetrators versus victims because the former behavior lends itself to primary prevention strategies (intervening with a friend who plans to give alcohol to someone in order to get sex, for example, as compared to checking in with a friend who is drunk and is going back to someone's room at a party). As previously noted, research has found that females report greater willingness to intervene with potential victims whereas males report greater willingness to intervene with potential perpetrators, yet males, in general, report less willingness to intervene (Burn, 2009). This gender gap presents a real challenge for primary prevention. Understanding how determinants of intent vary between these behaviors will better guide prevention efforts to change perceived behavioral control, subjective norms, and/or attitudes for intervening with potential perpetrators, in the case that students report greater willingness to intervene with potential victims.

Several investigations have examined the difference in reported intent to intervene with friends versus strangers (Bennett et al., 2014; Burn, 2009). Encouraging students to intervene even when they do not personally know the perpetrator or victim is an important aspect of engaging students as pro-social bystanders. However, given the range of sexual assault situations that involve students and their friends, it is important to understand how students respond to helping their friends specifically without the added potential barriers of not knowing the perpetrator or victim.

And lastly, this study will compare the Situational Model of Bystander Intervention (Burn, 2009) to the TPB in its ability to explain students' intent to intervene. As noted above, Burn's model is a based on the original work of Latanè and Darley (1970). If students' intent to intervene is influenced by those determinants outlined in the TPB, it may suggest that future examination of bystander behavior should incorporate other potential behavioral influences, especially those from an established, evidence-based theoretical framework, outside of those outlined in the original bystander intervention model.

CHAPTER 3. METHODOLOGY

This study used a cross-sectional design. A sample of students at Oregon State University (OSU) completed the Sexual Assault Bystander Behavior Questionnaire (SABB-Q). The SABB-Q was administered in a paper and pencil format. Data were managed and stored according to the OSU Institutional Review Board's requirements. Quantitative analyses were conducted using Stata 13 to answer the research questions of this study. The following outlines the specific methods that were administered for the completion of this study.

Sample and Recruitment

A sample of 800 OSU undergraduate students was sought to participate in the study from lecture-based undergraduate courses. Using the power and sample size (PSS) analysis command in Stata 13, I calculated the desired sample size for a two-tailed test of independent samples' means for the primary outcome variable in this study, students' intent to intervene. A sample size of 735 would be required to detect a small effect (ES = 0.15) with $\alpha = 0.05$ and $\beta = 0.9$. However, using the standard accepted power value of $\beta = 0.8$, a sample size of 550 would have been adequate. I used the PSS analysis command to determine the desired sample size for a fixed-effects, multiple regression model, using the accepted alpha and power values ($\alpha = 0.05$ and $\beta = 0.8$) for a multiple regression analysis with three independent variables. A sample of 280 would be required. Based on these estimates, a sample size of 800 was deemed appropriate to enable tests of the study hypotheses.

In accordance with the OSU IRB stipulations for recruiting students to participate in research during class time, sampling was limited to those classes with curricula that aligned with the research subject (OSU IRB, 2014). From courses offered in the Fall of 2014 at OSU, a list was generated based on these parameters, in addition to the potential subject of the required presentation aimed to enhance

student learning (OSU IRB, 2014). From this list, recruitment e-mails were sent to instructors to solicit participation in the research study in the Spring and Summer of 2014. See Appendix B for the recruitment letter. If the instructor agreed to allow recruitment from their class, a date was scheduled for both the collection and the presentation. In all cases, presentations followed the data collection. Participation of both the instructors and the students was voluntary and confidential.

During the scheduled recruitment and data collection, students were provided information on the purpose of the research study, along with a consent document and the survey. To help ensure confidentiality, no signature of consent was collected. Rather, consent was implied by students' reading the consent letter, completing the survey, and turning it in. Only OSU students were invited to participate in the study and the SABB-Q was only offered in English.

Data Management

Once completed surveys were collected, data were entered into an Excel spreadsheet by the study investigator. Data were double entered and verified using Excel's cross-referencing formula before being transferred into Stata 13 for analysis. Research study data will be kept in paper and electronic form for three years post-study termination. As per the OSU IRB's guidelines, the original surveys are stored in a locked file cabinet in Dr. Brian Flay's office at OSU. The electronic data are stored in a password protected file on both the investigator's and Dr. Flay's computer for three years. Data, neither in original paper survey form nor electronic form, are available to anyone outside of the investigative team.

Measurement

The Sexual Assault Bystander Behavior Questionnaire (SABB-Q) was used as the measurement tool to answer the proposed study aims. The SABB-Q includes demographic variable items, items to

assess students' opportunities to intervene and past intervention behaviors, TPB-based items, and the Situational Model of Bystander Intervention (Burn, 2009) items. See Appendix A for the full measurement tool.

Demographics Variables

The demographic information collected in the SABB-Q included: age, sex, year in school, and resident status (international vs. non-international student), socio-economic status (parents' educational attainment), and race/ethnicity. In addition, other variables collected included: participation in a fraternity or sorority, intercollegiate athletics, other OSU-sponsored organizations, religiously affiliated communities; living in an OSU residence hall; having received information and/or training on sexual assault prevention from OSU, including participation in Haven™ (the web-based bystander engagement training used at OSU); frequency of attending parties where alcohol is present; knowing a friend who has been the victim and/or perpetrator of sexual assault; and personal history of sexual assault victimization.

Risk Situations and Intervention Behaviors

Banyard and colleagues (2005) conducted foundational research on the sexual assault risk situations that college and university students were likely to encounter and, thus, had the opportunity to intervene in. This research included a review of the literature as well as discussions with practitioners in the field of sexual assault prevention (Banyard, Plante, & Moynihan, 2005). The Bystander Behaviors Scale (Banyard, 2008), developed by Banyard has been adapted and used in investigations of bystander behavior and includes a wide range of pro-social behaviors from pre-assault, primary prevention ("Check in with my friend who looks drunk when s/he goes to a room with someone else at a party") to imminent risk, secondary prevention ("Confront a friend who is hooking up with someone who was

passed out") to post-assault, tertiary prevention ("Report a friend that committed a rape.") (Banyard, 2008; Banyard, Plante, & Moynihan, 2002; Banyard, Plante, & Moynihan, 2005; McMahon & Banyard, 2011). The Intent to Help Friends Scale ($\alpha = 0.93$; Banyard, Moynihan, Cares, & Warner, 2014) was developed after more recent research in this area and describes additional, relevant opportunities to intervene that students may encounter. Both of these tools have met standards for reliability (Cronbach alpha values listed above) in a population similar to the one in this proposed study. In addition, McMahon & Banyard (2011) developed a conceptual model of bystander behavior outlining other potential situations that have not yet been included in measurement tools. These situations were adapted here to further the spectrum of intervention behaviors.

Building from McMahon and Banyard's Conceptual Framework for the Prevention of Sexual Violence though Bystander Intervention (McMahon & Banyard, 2011), this study used a variety of bystander behaviors to test the study aims, aligned with specific levels of primary, secondary, and tertiary prevention which the literature supports as being beneficial to both reducing the incidence and mitigating the detrimental effects of sexual assault. From the aforementioned scales, several items were removed or revised to create the items in the SABB-Q. The original tools included intervention behaviors that are unrelated to sexual assault (e.g. dating violence), and those items were not included in this study. Other items were revised to keep language consistent throughout the tool (change "rape" to "sexual assault", for example), and items that did not specify the sex of the potential or actual victim or perpetrator were changed to reflect sexual assault contexts where females are the potential or actual victim and males are the potential or actual victim. In addition, I developed several original items based on intervention opportunities specified in the Conceptual Framework (McMahon & Banyard, 2011). These include: help your female friend who is passed out and being approached or touched by a guy or group of guys; interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him; interrupt the situation when you walk in on a guy who appears to be forcing your

female friend to have sex with him; interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl; interrupt the situation when you walk in in on a guy who is having sex with your intoxicated female friend; criticize your friend who says he had sex with a girl who was passed out or didn't give consent; help your friend who has been sexually assaulted access support services, i.e. therapy, groups, etc.; and cooperate with the police or campus security in an investigation of sexual assault that your friend committed.

Cognitive Interviews

Cognitive interviews were conducted with eight undergraduate students at OSU in May 2014 to ensure the readability of the items as well as to ensure students' comprehension of the intervention behaviors. During the interviews, students were presented with the list of the 12 intervention behaviors. Using the verbal, concurrent probing technique as described by Willis (1999; 2005), students were asked to read each behavior, then explain to the researcher what they believed the situation to be describing. Using scripted probes, I asked follow-up questions of the students to better understand how they interpreted each of the intervention behaviors. Upon completion of each of the interviews, I compiled notes and students' suggestions for how each of the items should be phrased, if different than the original phrasing. Upon completion of all interviews, I reviewed all suggestions made for each item and revised items based on how the majority of students re-phrased them.

The students indicated that "woman" was inappropriate to refer to college-aged females and that "intoxicate" was not commonly used among college students to refer to being drunk in this particular setting, such as in the case of the Banyard and McMahon's risk situation "a friend is bringing an intoxicated woman back to his room" (McMahon & McMahon, 2011). All students interviewed preferred the use of the terms "girl" and "drunk" to indicate a female college student who was unable

to consent to sexual activity due to the influence of alcohol. See Appendix C for a complete description of the cognitive interview process and its findings.

Table 1 outlines the intervention behaviors about which students were asked to report whether they have had the opportunities to perform, whether they did intervene, and their intent to intervene in the future, in addition to their perceived behavioral control, their subjective norms, and their attitudes toward each of the 12 intervention behaviors.

Table 1. Sexual Assault Bystander Behaviors

Sexual Assault Bystander Behavior Questionnaire	Original Item Wording
Pre-Assault / Before the Assault	
Help your female friend who is passed out and being approached or touched by a guy to group of guys.	*Original item developed from McMahon & Banyard Conceptual Framework (2011)*
Confront your friend who says he plans to get a girl drunk to have sex.	Confront your friend who plans to give someone alcohol to get sex [a]
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	*Do something to help a very intoxicated personal who is being brought upstairs to a bedroom by a group of people at a party.* [a]
Say someone to your friend who is taking a drunk person back to their room at a party	*Say someone to my friend who is taking a drunk person back to his/her room at a party.* [b]
Secondary Prevention / During the Assault	
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	*Original item developed from McMahon & Banyard Conceptual Framework (2011)*
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	*Original item developed from McMahon & Banyard Conceptual Framework (2011)*
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	*Original item developed from McMahon & Banyard Conceptual Framework (2011)*
Interrupt the situation when you walk in in on a guy who is having sex with your intoxicated female friend.	*Original item developed from McMahon & Banyard Conceptual Framework (2011)*
Post-Assault / After the Assault	
Express concern if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	*If someone said they had an unwanted sexual experience but don't call it rape, I express concern or offer to help.* [b]
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	*Criticize a friend who says they had sex with someone who was passed out or didn't give consent.* [a]
Help your friend who has been sexually assaulted access support services, i.e. therapy, groups, etc.	*Original item developed from McMahon & Banyard Conceptual Framework (2011)*
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed	*Original item developed from McMahon & Banyard Conceptual Framework (2011)*

[a] Perceptions of Peer Helping [b] Intent to Help Friends Scale: Brief

Opportunities to Intervene and Past Intervention Behaviors

The bystander intervention behaviors described above were used in measurement items assessing students' opportunities, reported past intervention behaviors, intentions, perceived behavioral control, subjective norms, and attitudes relating to bystander behaviors. Students were asked to report whether they have had the opportunity to intervene, marking "yes" or "no" on the questionnaire for each of the 12 intervention behaviors. Next, students were asked whether they have performed any of the pro-social bystander behaviors, marking "yes" or "no" on the questionnaire.

Perceived Behavioral Control, Subjective Norms, Attitudes, and Intentions

Perceived behavioral control was assessed by asking students to rate how difficult or easy it would be to perform each of the pro-social bystander behaviors, using a 7-point, bipolar rating scale (from *Very Difficult* to *Very Easy)*. To measure subjective norms of intervening as a bystander, students were asked to state how much their good friends would disapprove or approve of their intervention behaviors, using the same behaviors noted above, using a 7-point, bipolar rating scale (from *Greatly Disapprove* to *Greatly Approve*). Students' attitudes toward intervening as a bystander were assessed in two parts. For the pre-assault intervention behaviors, students were asked how unhelpful or helpful each intervention behavior is to prevent a sexual assault, using a 7-point, bipolar rating scale (from *Very Unhelpful* to *Very Helpful)*. For the mid- and post-assault/secondary and tertiary intervention behaviors, students were asked how unhelpful or helpful each is to reduce the harm of a sexual assault, using a 7-point, bi-polar rating scale (from *Very Unhelpful* to *Very Helpful*). To measure intent to intervene, students were asked to report the likelihood that they would perform each of the intervention behaviors on a 7-point rating scale *(*from *Very Unlikely* to *Very Likely).*

The Situational Model of Bystander Behavior

The Situational Model of Bystander Intervention (Burn, 2009) was used to assess students' perceived barriers to intervene as a bystander, in line with the five critical elements of bystander intervention. Additionally, the model was used to examine the barriers' influence on students' intent to intervene. Students were asked to specify the extent to which they agree with each of the statements using a 7-point rating scale (from *Strongly Disagree* to *Strongly Agree*). Table 2 outlines the items of this tool, as well as their respective element of bystander intervention, as proposed by Latanè and Darley (1970) in their original model.

Table 2. The Situational Model of Bystander Intervention Questionnaire (Burn, 2009) [1]

Failure to Notice
At a party or bar, I am probably too busy to be aware of whether someone is at risk for sexual assault.
Failure to Identify Situation as High Risk (α = 0.72)
In a party or bar situation, I find it hard to tell whether a guy is at risk for sexually assaulting someone.
In a party or bar situation, I think I might be uncertain as to whether someone is at risk for being sexually assault.
Even if I thought a situation might be high in sexual assault risk, I probably wouldn't say or do anything if other people appeared unconcerned.
Failure to Take Intervention Responsibility (α = 0.85)
Even if I thought someone was at risk for being sexually assault, I would probably leave it up to others to intervene.
If I saw someone I didn't know was at risk for being sexually assault, I would leave it up to his/her friends to intervene.
I am less likely to reduce a person's risk of sexual assault if I think she made choices that increased her risk.
If a person is dressed provocatively, or acts provocatively, I am less likely to intervene to prevent others from taking sexual advantage of them.
If a person is extremely intoxicated, I am less likely to intervene to prevent others from taking sexual advantage of them.
If a person is dressed provocatively, or acts provocatively, I feel less responsible for preventing others from taking sexual advantage of them.
I am more likely to intervene to prevent sexual assault if I know the potential victim than if I do not.

[1] Due to a clerical error, one item from the Burn (2009) Situational Model of Bystander Intervention was left out of the SABB-Q. Additional analysis was conducted to determine any impact of this, including comparisons made between the original mean values for subscales, Cronbach's alpha reliability, and Spearman's Rank Correlation conducted by Burn (2009) and values in the OSU sample used in this study. No difference was found. See Appendix F for the results of these analysis.

I am more likely to intervene to prevent sexual assault if I know the personal that may be at risk for committing sexual assault that I do not know him.
Failure to Intervene Due to Skills Deficit (α = 0.89)
Although I would like to intervene when a guy's sexual conduct is questionable, I am not sure I would know what to say or do.
Even if I thought it was my responsibility to intervene to prevent sexual assault, I am not sure I would know how to intervene.
Failure to Intervene Due to Skills Deficit (α = 0.70)
I am hesitant to intervene when a man's sexual conduct is questionable because I am not sure other people would support me.
Even if I thought it was my responsibility to intervene to prevent a sexual assault, I might not out of concern I would look foolish.

Overview of Analysis

Statistical analysis was conducted to test each of the outlined research hypothesis, under the four respective research aims. First, a descriptive analysis was performed to compare the sample demographics against the OSU student population. Additionally, descriptive analysis was conducted to show the proportion of students who reported having the opportunity to perform each of the 12 intervention behaviors, along with their past actual intervention behavior. Means and standard deviations are reported for students' intent to intervene, and the three proximal determinants of intent, for each of the 12 intervention behaviors, in addition to means and standard deviations of the five elements of the Situational Model of Bystander Intervention (Burn, 2009). The following outlines the statistical analysis conducted to test the study's hypotheses.

Aim 1 Analysis

Aim 1: To investigate the relationships between student demographic variables and characteristics and their reported opportunities to intervene as a pro-social bystander, their reported actual past intervention behavior, and their intent to intervene in the future.

Research Question: Which personal-level variables are associated with students' opportunities to intervene, past intervention behavior, and intent to intervene as pro-social bystanders?

Hypothesis 1: Students who have a history of party attendance, are members of a fraternity/sorority, and participate in intercollegiate athletics will report greater opportunities to intervene compared to students without a history of party attendance, who are not members of a fraternity/sorority, and do not participate in intercollegiate athletics.

Hypothesis 2: Females, those students with friends who have been victims of sexual assault, those students who have a history of sexual assault, and those who have received information and/or training in sexual assault prevention will report more past pro-social bystander behaviors compared to males, those students without a friend who has been victimized or have been victimized themselves, and those students who have not received information and/or training on sexual assault prevention.

Hypothesis 3: Females, those students with friends who have been victims of sexual assault, those students who have a history of sexual assault, and those who have received information and/or training in sexual assault prevention will report a greater intent to intervene as pro-social bystander compared to males, those students without a friend who has been victimized or have been victimized themselves, and those students who have not received information and/or training on sexual assault prevention.

To test the first hypothesis, I conducted logistic regressions to determine any difference in students' reported opportunities to intervene for each of the 12 behaviors based on the dichotomous, categorical variables. To test the second hypothesis, I created a composite score for students' reported past intervention behaviors and used t-tests to determine any differences in students' intent based on the dichotomous variables. To test the third hypothesis, I created a composite score for bystander intentions using an average of the items measuring intent to intervene and used t-tests to determine any differences in students' intent based on the dichotomous variables. T-tests were conducted to determine whether there were significant differences between male and female students' intentions to intervene for each of the 12 intervention behaviors.

Aim 2 Analysis

Aim 2: To examine whether students' intent to intervene differs between the primary, secondary, and tertiary prevention levels and whether students' intent differs between intervening with the (potential) perpetrator compared to (potential) victim of the sexual assault.

Research Question 1: Do students report greater intent to intervene at the primary, secondary, or tertiary levels of sexual assault prevention, and does intent differ by sex of the bystander?

Hypothesis 1: Male students will report greater intent to intervene at the secondary level (during the assault) compared to intervening at the primary level (pre-assault) or tertiary level (post-assault).

Hypothesis 2: Female students will report greater intent to intervene at the tertiary level (post-assault) compared to intervening at the primary level (pre-assault) or secondary level (post-assault).

To test these hypotheses, the 12 intervention behaviors were divided into the three phases of assault, and a composite score using the average of the items was generated. I used t-tests to assess whether students' intent to intervene pre-, mid-, and post-assault were statistically different and whether intent to intervene at each phase was statistically different between males and females.

Research Question 2: Does intent to intervene with the (potential) victim compared to the (potential) perpetrator differ by sex of the bystander?

Hypothesis 1: Male students will report greater intent to intervene with the (potential) perpetrator compared to the (potential) victim, while female students will report greater intent to intervene with the (potential) victim compared to the (potential) perpetrator.

Hypothesis 2: Female students will report greater intent to intervene with both the (potential) perpetrators and (potential) victims compared to male students.

To test these two hypotheses, the 12 intervention behaviors were divided into those that involve intervening with the (potential) perpetrator and those that involve intervening with the (potential) victim, and a composite score was generated for each of those two groups of intervention behaviors using the average of the corresponding items. First, I used t-tests to determine whether male students reported greater intent to intervene with (potential) perpetrators compared to (potential) victims and whether females reported greater intent to intervene with (potential) victims compared to (potential) perpetrators. To test the second hypothesis, I used t-tests to determine whether male students' intent to intervene with (potential) perpetrators was statistically different than females' intent

to intervene with (potential) perpetrators and whether females' intent to intervene with (potential) victims was statistically different from males' intent to intervene with (potential) victims.

Aim 3 Analysis

Aim 3: To examine the relationship between students' perceived behavioral control to intervene, subjective norms toward intervention, and attitudes regarding the benefit of intervention and their intent to intervene.

Research Question 1: Do students who report greater perceived control to intervene, more supportive subjective norms, and positive attitudes toward intervention report greater intent to intervene?

Hypothesis: Students who report greater perceived control to intervene, more supportive subjective norm, and positive attitudes toward intervention will report greater intent to intervene.

Research Question 2: Do students who report past pro-social intervention behaviors report greater perceived behavioral control, more supportive subjective norms, more positive attitudes toward the intervention behaviors, and greater intent to intervene in the future compared to students who report not to have intervened when they had the opportunity?

Hypothesis: Students who report past pro-social intervention behaviors will report greater perceived behavioral control, more supportive subjective norms, more positive attitudes toward intervention behaviors, and greater intent to intervene in the future compared to students who report not to have intervened when they had the opportunity.

Several preliminary steps were taken to ensure the appropriateness of the TPB-based subscales. I conducted a Cronbach's alpha reliability analysis for each of the four TPB-based subscales. Internal consistency reliability was measured using a standardized Cronbach's coefficient for each of the subscales. Scales with low alpha values (<.70) were reviewed, and items that would improve the alpha value if dropped were potentially dropped from the subscale. Item-scale correlations, using intraclass correlations, were calculated to ensure that items were appropriately grouped in each of the subscales. Those items with a correlation coefficient of 0.3 with at least one other item in the subscale were retained.

Composites variables (means of items) were generated for each of the TPB variables for males and females, and I conducted t-tests to determine whether gender differences existed. Second, multiple regression analyses were conducted to examine the relationship between these variables and intent for each phase of the three phases of assault (pre-, mid-, and post-assault) and for each of the two types (with the perpetrator or with the victim). Third, a multiple regression analysis was conducted with all 12 behaviors to determine the relationship between students' perceived behavioral control, subjective norms, and attitudes and their intent to intervene as bystanders. Regression analysis were conducted for males and females separately to determine any difference in the influence of the TPB variables on their intent to intervene.

To test whether students who report past intervention behaviors (interveners) report greater perceived behavioral control, more supportive social norms, more positive attitudes, and greater intent to intervene compared to students who reported not to have intervened (non-interveners), t-tests were conducted using mean values for each behavior.

Aim 4 Analysis

Research Aim 4: To compare the Situational Model of Bystander Intervention to the Theory of Planned Behavior in its ability to explain students' intent to intervene as bystanders to sexual assault.

Research Question: How does the Situational Model of Bystander Intervention compare to the Theory of Planned Behavior for explaining students' intent to intervene as bystanders to sexual assault?

Hypothesis: The Theory of Planned Behavior will account for a greater proportion of the variance of students' intent to intervene as bystanders compared to the Situational Model of Bystander Intervention.

To compare the Situational Model and the TPB, a linear regression analysis was conducted using composite scores on the relevant subscales. The unstandardized and standardized beta coefficients, along with the standard deviation and level of significance for each of the predictors in relation to

students' reported intent to intervene for each of the models were reported. Then, a comparison was made between the proportions of the variance explained by examining the R^2 values for each of the two regression analyses.

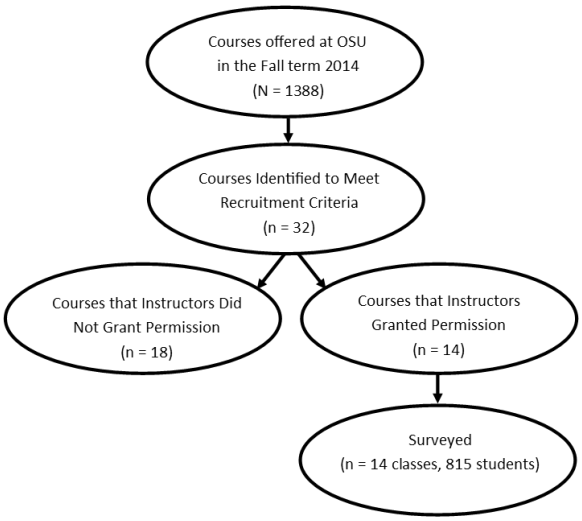
CHAPTER 4. RESULTS

The following section presents the results for the recruitment of study participants, sampling, and cross-sectional analysis findings for each of the study aims.

Sampling Results

Data were collected in the Fall of 2014 at OSU. From a total of 1,388 undergraduate lecture-based courses (Office of Institutional Research, 2014), 32 met criteria for recruitment (courses that were in line with the research subject material, as per OSU IRB). Of those, 14 courses were recruited from the Departments of Human Development and Family Science, Public Health, Psychology, and Sociology. Instructors for eight courses declined to participate, and instructors for 10 courses did not respond to the recruitment e-mail. A total of 1460 students were registered for enrollment in those 14 courses, and 815 students volunteered to participate (55.8%). In the Fall of 2014, the OSU undergraduate enrollment was 23,161; thus, the study sample represents 3.5% of undergraduate population. Figure 3 illustrates the recruitment results from the sampling frame.

Figure 3. Sampling Frame and Recruitment Results



Sample and OSU Undergraduate Demographics

Student demographic characteristics were collected as part of the survey to compare against the greater OSU undergraduate student population and ensure representativeness. Overall, the study sample is similar to the OSU student population. However, several differences should be noted. In the Fall of 2014, the OSU undergraduate student population was 44.4% female, compared to 70.1% in the study sample. Sixty-seven percent of the undergraduate students were younger than 25 years old, compared to 95.1% in the study sample, and more non-White students than the OSU population (Office of Institutional Research, 2014). These differences in the proportions were statistically significant ($p < 0.000$). And, although members of Greek organizations and student-athletes represent 12% and 2% of the OSU population, respectively, they represent nearly 24% and 6% of the study sample, respectively. Table 3 presents the study sample and OSU demographic characteristics, along with indicators of statistical significance in those proportions.

Table 3. Study Sample Demographics Compared to OSU Undergraduate Student Population

	Sample		OSU Fall 2014	
	n	**%**	**N**	**%**
Sample				
Undergraduates	815		23,161	
Sex				
Male	237	29.15***	12,874	55.59
Female	576	70.85	11,029	44.41
Year				
Freshman	163	20.02	4,905	21.17
Sophomore	155	19.04	4,536	19.58
Junior	259	31.82***	5,295	22.86
Senior	184	22.60***	6,863	29.63
Age				
<25 years	773	95.08***	18,705	67.00
Status				
Domestic	769	94.70	21,286	91.01
International	43	5.30**	1,875	8.09

Race/Ethnicity				
White, Non-Hispanic	573	70.74***	18,494	79.84
Black or African-American	22	2.72	395	1.71
Hispanic	67	8.27	2,101	9.07
Asian / Pacific Islander	120	14.81	1,999	8.63
American Indian / Alaskan Native	7	0.86	172	7.42
Members of Greek Organizations				
	195	23.93***	2,779	12.00
Participants in NCAA Division I Athletics				
	47	5.77***	502	2.17

*$p < 0.05$, **$p < 0.01$, ***$p < 0.000$

Sample Demographics

Participants were asked several questions to collect demographic information that were hypothesized to influence students' intent to intervene pro-socially as bystanders to sexual assault. Not all variables collected were included in hypotheses, such as age, year in school, race/ethnicity, socio-economic status as defined by parental education attainment, and participation in OSU-sponsored activities, and were collected in part to better compare against the OSU undergraduate population.

Sixty-eight percent of students reported having received sexual assault prevention information from OSU, and 27.89% reported having participated in OSU sexual assault prevention training, such as Haven™, the web-based education program about several forms of interpersonal violence, including sexual assault. Half of the study sample reported attending parties where alcohol was present one to five times per month. Nearly 30% of the sample reported attending parties where alcohol was present more than five times per month and 21% reported never attending such parties. Forty-five percent of students reported having a friend who had been the victim of sexual assault, and 15% reported having a personal history of sexual assault victimization; 5.5% of males reported victimization and 23.5% of females reported victimization. Nearly 6% of students reported having a friend who has perpetrated

sexual assault. Table 4 presents findings for all demographic and individual characteristic variables collected in the SABB-Q.

Table 4. Sample Demographics and Variables of Personal Difference

Variable	N	%
Sex		
Male	237	29.15
Female	576	70.85
Missing	2	
Year		
First	163	20.02
Second	155	19.04
Third	259	31.82
Fourth	184	22.60
Fifth	53	6.51
Missing	1	
Status		
Domestic	769	94.70
International	43	5.30
Missing	3	
Race/Ethnicity		
White, Non-Hispanic	573	70.74
Black or African-American	22	2.72
Hispanic	67	8.27
Asian / Pacific Islander	120	14.81
American Indian / Alaskan Native	7	0.86
Other	21	2.59
Missing	5	
Father's Education		
Less than High School	65	8.04
High School	155	19.18
Some College	210	25.99
Bachelor's Degree	244	30.20
Advanced Degree	134	16.58
Missing	7	

Mother's Education		
Less than High School	55	6.77
High School	140	17.24
Some College	250	30.79
Bachelor's Degree	242	29.80
Advanced Degree	125	15.39
Missing	3	
Member of a Fraternity / Sorority		
Yes	195	23.93
No	620	76.07
Participation on NCAA Athletics		
Yes	47	5.77
No	768	94.23
Participation in Religiously Affiliated Community		
Yes	263	32.27
No	552	67.73
Participation in OSU-sponsored Activities		
Yes	453	55.79
No	359	44.21
Missing	3	
Currently Living in OSU Dormitory		
Yes	186	22.82
No	629	77.18
Missing	1	
Received OSU Sexual Assault Prevention Information		
Yes	556	68.3
No	258	31.7
Missing	1	
Participated in OSU Sexual Assault Prevention Training		
Yes	227	27.89
No	587	72.11
Missing	1	
Frequency of Party Attendance		
Never	173	21.25
1-5 times per month	408	50.12
6-10 times per month	171	21.01
More than 10 times per month	62	7.62
Missing	1	
Friends with a Victim of Sexual Assault		
Yes	369	45.39
No	444	54.61
Missing	2	

Friends with a Perpetrator of Sexual Assault		
Yes	48	5.9
No	765	94.1
Missing	2	
Personal History is Sexual Assault Victimization		
Yes	122	15.06
No	688	84.94
Missing	5	
Victimization by Gender		
Males	13	10.65
Females	109	89.35

Aim 1, Hypothesis 1 Results

The first aim of this study was to investigate the relationships between student demographic variables and characteristics of personal difference and their reported opportunities to intervene as a pro-social bystander, their reported actual past intervention behavior, and their intent to intervene in the future. Over 35% of students reported not having the opportunity perform any of the 12 intervention behaviors provided in the SABB-Q. Over 28% reported having the opportunity to perform at least three of the intervention behaviors. Table 5 presents the total number of opportunities students reported having to intervene as bystanders.

Table 5. Number of Pro-Social Intervention Opportunities Students Report

# of Opportunities	N	%
0	290	35.94
1	148	18.34
2	132	16.36
3	90	11.15
4	67	8.3
5	30	3.72
6	26	3.22
7+	24	2.97

Students' reported opportunities to intervene ranged from zero to all 12 of the behaviors ($\bar{x}$ = 1.79, sd = 1.99). The most commonly reported intervention behavior students had the opportunity to perform was to "Check in with your friend who looks intoxicated and is being taken to a room by a guy". Nearly 40%, or 322 students, reported having that opportunity. The least commonly reported intervention behavior students had the opportunity to perform was to "Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him". Just over 2%, or 18 students, reported having that opportunity. Intervention opportunities in the pre-assault phase were reported at greater frequency, followed by the post-assault and mid-assault intervention opportunities. For all phases of intervention, students reported greater frequency of intervention opportunities with the potential or actual victim compared to the potential or actual perpetrator of the sexual assault. Table 6 presents the number of students who reported having the opportunity to perform each of the 12 pro-social intervention behaviors, along with indicators of statistical differences in those proportions.

Table 6. Number of Students Reporting to Have the Opportunity to Intervene as Bystanders (N = 815)

	Yes, I have had the Opportunity N (%)	**No, I have not had the Opportunity N (%)**
Confront your friend who says he plans to get a girl drunk to have sex.	98 (12.02)	717 (87.89)***
Help your friend who is passed out and being approached or touched by a guy or group of guys.	258 (31.66)	555 (68.27)***
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	322 (39.51)	322 (39.61)***
Say something to your friend who is taking an intoxicated girl back to his room.	161 (19.83)	651 (80.17)***
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	18 (2.21)	797 (97.79)***
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	29 (3.56)	786 (96.44)***
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	31 (3.80)	784 (96.20)***
Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	35 (4.29)	780 (95.71)***

Express concern or offer help if your friend said she had an unwanted sexual experienced even if she doesn't call it rape.	295 (36.2)	520 (63.80)***
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	81 (9.94)	520 (63.80)***
Go with your female friend to get help or talk with someone about an unwanted sexual experience.	112 (13.74)	734 (90.06)***
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	22 (2.7)	814 (86.24)***

*p < 0.05, **p < 0.01, ***p < 0.001

Under the first aim, I hypothesized that students who reported greater frequency of party attendance, membership in Greek organizations, and participation in NCAA athletics would report more opportunities to intervene as bystanders. Members of Greek organizations reported significantly more opportunities to intervene ($\bar{x}$ = 2.32, sd = 1.99) than nonmembers ($\bar{x}$ = 1.62, sd = 1.97; $p < 0.000$). However, opportunities to intervene were only marginally significantly different between student athletes ($\bar{x}$ = 2.26, sd = 2.21) and non-athletes ($\bar{x}$ = 1.59, sd = 1.96; $p = 0.0517$).

Although I did not state any hypotheses regarding the following variables, t-tests were conducted to determine whether gender, resident status, participation in religiously affiliated communities, and dorm residency was related to the number of intervention opportunities students reported. There was no significant difference between males ($\bar{x}$ = 1.70, sd = 2.3) and females ($\bar{x}$ = 1.84, sd = 1.86; $p = 0.37$), nor between students who participate in religiously-affiliated communities ($\bar{x}$ = 1.85, sd = 2.24) and those who do not ($\bar{x}$ = 1.77, sd = 0.08; $p = 0.58$). International students reported fewer opportunities ($\bar{x}$ = 1.15, sd = 1.70) than non-international students ($\bar{x}$ = 1.82, sd = 2.01; $p < 0.04$), and students living in dorms reported significantly fewer opportunities ($\bar{x}$ = 1.51, sd = 1.86) than those not living in dorms ($\bar{x}$ = 1.88, sd = 2.03; $p < 0.03$).

To uncover information about the types of intervention opportunities students reported, odds ratios were calculated to determine relationships between personal characteristics and each intervention opportunity. Table 7 presents findings for students' reported opportunities to intervene for

the 12 intervention behaviors. The odds of having the opportunity to intervene correlated significantly with frequency of party attendance for eight of the 12 behaviors. Table 10 presents findings for the increase of odds for having the opportunity to intervene associated with the frequency of students' party attendance, compared to those students who reported never to attend parties where alcohol is present.

Table 7. Opportunities to Intervene by Frequency of Party Attendance Compared to Students who Report Never to Attend Parties where Alcohol is Present, Logistic Regression (N = 815)

	1-5x per month (n = 408)	**6-10x per month (n = 171)**	**10+ per month (n = 62)**
	OR CI (95%)	**OR CI (95%)**	**OR CI (95%)**
Confront your friend who says he plans to get a girl drunk to have sex.	1.79 0.90-3.54	3.39** 1.68-6.98	3.18* 1.30-7.76
Help your friend who is passed out and being approached or touched by a guy or group of guys.	4.09*** 2.40-6.95	7.84*** 4.42-13.91	7.09*** 3.53-14.26
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	4.71*** 2.83-7.81	15.30*** 8.70-26.89	9.02*** 4.54-17.91
Say something to your friend wo is taking an intoxicated girl back to his room.	4.49*** 2.16-9.55	9.60*** 4.40-20.94	15.77*** 6.54-37.80
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	2.59 0.57-11.70	1.01 0.14-7.27	2.85 0.39-20.68
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	4.17 0.96-18.13	2.04 0.37-11.33	5.89* 1.05-33.04
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	2.81 0.63-12.60	4.75* 1.01-22.32	10.88** 2.19-53.93
Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	1.95 0.65-5.85	2.9 0.91-9.31	1.41 0.70-7.89
Express concern or offer help if your friend said she had an unwanted sexual experienced even if she doesn't call it rape.	1.67* 1.13-2.48	2.02** 1.28-3.19	2.34** 1.28-4.29
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	1.62 0.79-3.35	2.16 0.98-4.76	4.75*** 1.96-11.38
Go with your female friend to get help or talk with someone about an unwanted sexual experience.	1.16 0.68-1.97	0.96 0.51-1.82	1.31 0.59-2.98
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	0.67 0.22-2.08	1.01 0.29-3.56	2.31 0.60-8.92

*p<0.05,** p<0.01, ***p<0.001

As hypothesized, students who participate in Greek organizations reported significantly greater odds of intervention opportunities for four of the 12 pro-social bystanders behaviors. Student athletes reported greater odds of intervention opportunities for two intervention behaviors, Table 8 presents the reported opportunities to intervene of students who participate in Greek organizations and student-athletes.

Table 8. Opportunities to Intervene for Greek Students and Student-Athletes Compared to Non-Greek Students and Non-Student Athletes, Logistic Regression

	Greek	**Athletes**
	OR CI (95%)	**OR CI (95%)**
Confront your friend who says he plans to get a girl drunk to have sex.	1.26 0.76-2.08	2.98** 1.33-6.69
Help your friend who is passed out and being approached or touched by a guy or group of guys.	1.79** 1.26-2.52	1.56 0.76-3.19
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	3.24*** 2.29-4.58	2.69** 1.34-5.41
Say something to your friend who is taking an intoxicated girl back to his room.	2.34*** 1.59-3.44	1.62 0.71-3.69
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	0.68 0.19-2.41	1.23 0.16-9.70
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	1.37 0.59-3.19	1.87 0.42-8.36
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	2.57* 1.23-5.41	-
Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	0.68 0.27-1.67	-
Express concern or offer help if your friend said she had an unwanted sexual experienced even if she doesn't call it rape.	1.29 0.91-1.82	1.52 0.76-3.06
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	1.34 0.78-2.29	1.37 0.46-4.04
Go with your female friend to get help or talk with someone about an unwanted sexual experience.	1.12 0.69-1.79	1.10 0.42-2.93
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	1.29 0.49-3.39	1.15 0.15-9.00

Note: For intervention opportunities 7 and 8, no athlete reported to have that opportunity and OR is indicated with " – "
Note: Reference groups are students who do not participate in Greek communities or NCAA Division 1 Athletics (N=586)
*p<0.05,** p<0.01, ***p<0.001

The relationship between both Greek organization membership and participation in NCAA Division I Athletics and frequency of party attendance was examined (See Table 9). Students who are members of either a fraternity or sorority reported significantly greater frequency of party attendance (OR 4.42 for "1-5 times per month"; OR 18.13 for "6-10 times per month"; and OR 26.74 for "10 or more times per month") compared to non-member counterparts. The increase in odds for party attendance was significant at the $p < 0.001$ level. No significant odds increase in frequency of party attendance was observed for student athletes, compared to non-student athletes.

Table 9. Frequency of Party Attendance for Greek Students and Student-Athletes Compared to Non-Greek Students and Non-Student Athletes, Logistic Regression

	Greek	Athletes
Frequency of Party Attendance	**OR CI (95%)**	**OR CI (95%)**
1 – 5 times per month	3.88*** 1.81-8.29	1.04 0.44-2.48
6 – 10 times per month	17.98*** 8.29-39.04	1.63 0.57-4.66
More than 10 times per month	26.69*** 11.09-64.23	1.57 0.32-7.82

Note: Reference groups are students who do not participate in Greek communities or NCAA Division 1 Athletics (N=586)
*p<0.05,** p<0.01, ***p<0.001

Because findings were significant for frequency of party attendance by membership of fraternities and sororities, further analysis was conducted. Table 10 shows the distribution of frequency of party attendance between students who are members of fraternities and sororities. Frequency of party attendance was statistically different between Greek and non-Greek students, χ^2 (3, N = 815) = 129.26, $p < 0.000$). Members of Greek organizations make up a greater proportion of those students who reported greater frequency of party attendance. For example, whereas 26.7% of non-Greek students reported never attending parties where alcohol was present, only 4% of Greek students reported never attending such parties. In comparison, whereas less than 5% of the non-Greek students

reported attending parties where alcohol was present more than 10 times per month, 18% of the Greek students reported attending parties of that frequency. Thus, although an increase in frequency of party attendance increased the odds of having intervention opportunities, those students who reported a greater frequency of party attendance were more likely to be members of fraternities and sororities.

Table 10. Frequency of Party Attendance Reported by Greek Students Compared to Non-Greek Students (N = 814), Pearson's Chi-Square

	Frequency of Party Attendance, N (%)				
	Never	**1-5 times per month**	**6-10 times per month**	**10+ times per month**	**Total**
Greek	8 (4.10)	72 (36.92)	80 (41.03)	35 (17.95)	195 (23.95)
Non-Greek	165 (26.66)	336 (54.28)	91 (14.70)	27 (4.36)	619 (76.04)
Total	173 (21.25)	408 (50.12)	171 (21.01)	62 (7.62)	814 (100)

Note: $\chi^2 = 129.26$, df = 3
$p < 0.000$

Aim 1, Hypothesis 2 Results

The second hypothesis indicated that females, those students with a friend who has been the victim of sexual assault, those students who have a personal history of victimization, and those students who have received information and/or training in sexual assault prevention will report more past pro-social bystander behaviors compared to males, those students without a friend who has been victimized or have been victimized themselves, and those students who have not received information and/or training on sexual assault prevention. Table 11 presents findings for students who reported having the opportunity to intervene and from those students, those who reported not taking that opportunity to behave pro-socially, along with indication of statistical significance in the difference in proportions of interveners and non-interveners.

Table 11. Proportion of Students who Report Having the Opportunity to Intervene and Students who Report Not Intervening

	Students who Had the Opportunity n (%)	Of Those, Students who Did Not Intervene n (%)
Confront your friend who says he plans to get a girl drunk to have sex.	98 (12.02)	23 (23.47)***
Help your friend who is passed out and being approached or touched by a guy or group of guys.	258 (31.66)	17 (6.59)***
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	322 (39.51)	29 (9.01)***
Say something to your friend who is taking an intoxicated girl back to his room.	161 (19.83)	40 (24.84)***
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	18 (2.21)	6 (33.33)***
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	29 (3.56)	4 (13.79)***
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	31 (3.80)	18 (58.06)***
Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	35 (4.29)	16 (45.71)***
Express concern or offer help if your friend said she had an unwanted sexual experienced even if she doesn't call it rape.	295 (36.2)	31 (10.51)***
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	81 (9.94)	13 (16.05)***
Go with your female friend to get help or talk with someone about an unwanted sexual experience.	112 (13.74)	29 (25.89)***
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	22 (2.70)	8 (36.36)***

*p < 0.05. **p < 0.01, ***p < 0.001

To test whether females, students who are survivors of sexual assault, students with a friend who has been a victim of sexual assault, and students who have received prevention information and/or training reported performing more pro-social intervention behaviors when they had the opportunity, a composite score was generated from the sample who reported having had at least one opportunity to intervene. Students who reported having had at least one of the 12 opportunities ($\bar{x}$ = 1.79) to intervene

had a mean pro-social intervention behavior score of 0.85 (sd = 0.30). Thus, not all students who reported having the opportunity to intervene reported taking the intervention behavior.

Females reported significantly greater intervention behaviors when they had the opportunity compared to males ($\bar{x}$ = 0.87 compared to $\bar{x}$ = 0.79, p = 0.007). However, there was no significant difference in pro-social intervention behaviors for students who have a friend who has been a victim of sexual assault, students with a personal history of victimization, or students who received information and/or training in sexual assault prevention. Although no hypothesis was made for intervention behaviors of students who participate in religiously affiliated communities, those students who do not participate in such communities intervened ($\bar{x}$ = 0.87) more than those who do participate in such communities ($\bar{x}$ = 0.81, p < 0.045). Table 12 presents mean intervention scores for students who reported having the opportunity to intervene.

Table 12. Students' Intervention Behaviors for those who Report Having the Opportunity

	Those Reporting Opportunities		Pro-Social Intervention	*p*-value
Variable	**N**	**%**	***M* (sd)**	
Sex				
Male	131	24.95	0.79 (0.34)	
Female	394	75.05	0.87 (0.28)**	0.007
Status				
Domestic	503	96.17	0.85 (0.29)	
International	20	3.83	0.76 (0.37)	0.177
Received OSU Sexual Assault Prevention Information				
Yes	397	75.76	0.84 (0.32)	
No	157	24.24	0.87 (0.25)	0.270
Participated in OSU Sexual Assault Prevention Training				
Yes	129	24.62	0.87 (0.28)	
No	395	75.38	0.84 (0.30)	0.299
Member of a Fraternity / Sorority				
Yes	155	29.52	0.86 (0.28)	
No	370	70.48	0.84 (0.30)	0.511
Participation on NCAA Athletics				
Yes	34	6.48	0.90 (0.25)	
No	491	93.52	0.85 (0.29)	0.294
Participation in Religiously Affiliated Community				
Yes	162	30.86	0.81 (0.33)	
No	363	69.14	0.87 (0.28)*	0.046
Friends with a Victim of Sexual Assault				
Yes	308	58.89	0.85 (0.29)	
No	215	41.11	0.84 (0.31)	0.784
Friends with a Perpetrator of Sexual Assault				
Yes	40	7.65	0.82 (0.28)	
No	483	92.35	0.85 (0.30)	0.461
Personal History is Sexual Assault Victimization				
Yes	106	20.38	0.84 (0.30)	
No	414	79.62	0.85 (0.30)	0.759

*p<0.05, **p<0.01, ***p<0.001

Aim 1, Hypothesis 3 Results

The third hypothesis indicated that females, those students with a friend who has been a victim of sexual assault, those students who have a personal history of victimization, and those who have

received information and/or training in sexual assault prevention would report a greater intent to intervene in the future compared to males, those students without a friend who has been victimized or who have not been victimized themselves, and those students who have not received information and/or training on sexual assault prevention. The Intent to Intervene subscale met criteria for adequate reliability (α = 0.90), and this value would not have been increased by dropping any item in the subscale. Using a mean of students' intent to perform all 12 intervention behaviors, students' reported a generally high intent to intervene ($\bar{x}$ = 5.96, sd = 0.90). Table 16 presents mean intent scores by the specified variables.

As hypothesized, females reported significantly greater intent to intervene compared to males ($\bar{x}$ = 6.07 vs. 5.68; *p* = 0.007). Students with friends who have been victims of sexual assault reported greater intent to intervene than those without friends who have been victims ($\bar{x}$ = 6.04 vs. 5.89; *p* = 0.02). Students who have a history of sexual assault report significantly greater intent to intervene than those without a history of victimization ($\bar{x}$ =6.13 vs 5.93; *p* = 0.03). However, different than expected, students who reported having received sexual assault prevention information and/or training ($\bar{x}$ = 5.98 and 6.00, respectively) at OSU did not report greater intent to intervene as bystanders than students who had not ($\bar{x}$ = 5.91 and 5.94, respectively).

Although no hypothesis was made on the relationship between intent and student status, participation in NCAA Division 1 athletics, or participation in religiously affiliated communities, significant results were observed. Non-international students reported significantly greater intent to intervene compared to international students ($\bar{x}$ = 6.00 vs. 5.19; *p* < 0.001). Student-athletes reported significantly greater intent to intervene compared to non-student-athletes ($\bar{x}$ = 6.28 vs. 5.29; *p* = 0.01). And, students who participate in religiously affiliated communities reported significantly greater intent to intervene compared to students who do not participate in such communities ($\bar{x}$ = 6.07 vs. 5.90; *p* = 0.01). Table 13 presents findings for students' reported intent to intervene, by selected variables.

Table 13. Students' Intent to Intervene by Selected Variables (n = 788)

Variables	Sample		
Demographics	**N**	**%**	**Intent *M* (SD)**
Sex			
Male	237	29.15	5.68 (0.83)
Female	576	70.85	6.07 (1.00)***
Status			
Domestic	769	94.70	6.00 (0.85)***
International	43	5.30	5.19 (1.43)
Received OSU Sexual Assault Prevention Information			
Yes	556	68.3	5.98 (0.86)
No	258	31.7	5.91 (0.97)
Participated in OSU Sexual Assault Prevention Training			
Yes	227	27.89	6.00 (0.81)
No	587	72.11	5.94 (0.93)
Member of a Fraternity / Sorority			
Yes	195	23.93	5.97 (0.90)
No	620	76.07	5.93 (0.87)
Participation on NCAA Athletics			
Yes	47	5.77	6.28 (0.59)*
No	768	94.23	5.94 (0.91)
Participation in Religiously Affiliated Community			
Yes	263	32.27	6.08 (0.84)*
No	552	67.73	5.90 (0.92)
Friends with a Victim of Sexual Assault			
Yes	369	45.39	6.04 (0.83)*
No	444	54.61	5.89 (0.95)
Friends with a Perpetrator of Sexual Assault			
Yes	48	5.9	6.07 (0.68)
No	765	94.1	5.96 (0.91)
Personal History is Sexual Assault Victimization			
Yes	122	15.06	6.13 (0.82)*
No	688	84.94	5.93 (0.91)

*p<0.05, **p<0.01, ***p<0.001

Aim 2, Hypothesis 1 Results

The second aim of this study was to examine whether students' intent differs between the pre-, mid-, and post-assault intervention behaviors, and whether students' intent differs between intervening with the (potential) perpetrator compared to (potential) victim of the sexual assault. The first hypothesis

indicated that males would report greater intent to perform intervention behaviors as the mid-assault phase compared to the pre or post-assault phase. The second hypothesis indicated that females would report greater intent to perform intervention behaviors at the post-assault phase compared to the pre or post-assault. Table 14 presents the findings for students' intent to intervene by intervention type.

Table 14. Gender Comparison of Intent to Intervene, by Intervention Type (n = 788)

Intervention Type	**All Students** ***M*** **(sd)**	**Males** ***M*** **(sd)**	**Females** ***M*** **(sd)**
Intervening with (Potential) Victim	6.19 (0.86)***	5.88 (1.01)	6.31 (0.79)***
Intervening with (Potential) Perpetrator	5.74 (1.05)	5.49 (1.09)	5.84 (1.01)***
Intervention Level			
Pre-Assault Intervention	6.08 (0.96)	5.70 (1.13)	6.24 (0.83)***
Mid-Assault Intervention	5.57 (1.28)	5.39 (1.30)	5.63 (1.27)***
Post-Assault Intervention	6.23 (0.92)	5.94 (1.11)	6.35 (0.80)***

*p<0.05, **p<0.01, ***p<0.001

Students reported significantly greater intent to intervene with the potential or actual victim compared to the potential or actual perpetrator ($\bar{x}$ = 6.19 vs. 5.74, $p < 0.001$). As hypothesized, females reported significantly greater intent to intervene with the potential or actual victims compared to males. Different than expected, females also reported greater intent to intervene with the potential or actual perpetrator compared to males.

Both males and females reported the greatest intent to intervene for the post-assault bystander behaviors ($\bar{x}$ = 6.23), followed by pre-assault intervention ($\bar{x}$ = 6.08) and mid-assault behaviors ($\bar{x}$ = 5.57). As hypothesized, females reported significantly greater intent to perform pre- and mid-assault intervention behaviors compared to males. However, different than hypothesized, females also reported greater intent to perform mid-assault intervention behaviors. Females reported significantly greater intent to perform 9 of the 12 behaviors compared to males. All differences were significant at

the $p < 0.001$ level. Table 15 presents students' mean intent scores for taking each of the 12 pro-social intervention behaviors.

Table 15. Students' Intent to Intervene by Intervention Behavior (n = 788)

	All *M* (sd)	Males *M* (sd)	Females *M* (sd)
Pre-Assault Phase (Primary Prevention)			
Confront your friend who says he plans to get a girl drunk to have sex.	5.90 (1.28)	5.51 (1.47)	6.05 (1.16)***
Help your friend who is passed out and being approached or touched by a guy or group of guys.	6.50 (0.93)	6.20 (1.22)	6.62 (0.76)***
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	6.25 (1.13)	5.77 (1.34)	6.44 (0.96)***
Say something to your friend who is taking an intoxicated girl back to his room.	5.70 (1.36)	5.33 (1.49)	5.84 (1.28)***
Mid-Assault Phase (Secondary Prevention)			
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	5.70 (1.44)	5.69 (1.47)	5.70 (1.42)
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	5.97 (1.32)	5.90 (1.40)	6.00 (1.29)
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	5.08 (1.61)	4.71 (1.71)	5.22 (1.56)***
Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	5.52 (1.48)	5.29 (1.55)	5.61 (1.44)**
Post-Assault Phase (Tertiary Prevention)			
Express concern or offer help if your friend said she had an unwanted sexual experienced even if she doesn't call it rape.	6.44 (1.01)	6.09 (1.24)	6.58 (0.86)***
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	5.97 (1.39)	5.93 (1.32)	5.98 (1.42)
Go with your female friend to get help or talk with someone about an unwanted sexual experience.	6.44 (1.05)	6.00 (1.34)	6.62 (0.84)***
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	6.01 (1.38)	5.75 (1.62)	6.22 (1.24)***

*p<0.05, **p<0.01, ***p<0.001

Aim 3: Relationship between TPB Variables and Intent to Intervene

The third aim of this study was to examine the relationship between students' intent to intervene and their perceived behavioral control to intervene, subjective norms toward the intervention behavior, and attitudes regarding the benefit of performing each intervention behavior.

Reliability of Subscales

Each TPB-based subscale was tested in full to determine reliability of measuring students' perceived behavioral control, subjective norms, and attitudes for all 12 intervention behaviors. The Perceived Behavioral Control subscale met criteria for adequate reliability ($\alpha = 0.89$), and although dropping one item ("Cooperate in a police investigation") would increase the alpha value by 0.009, this was not deemed a substantial enough increase to warrant dropping the item. The Subjective Norms subscale met criteria for adequate reliability ($\alpha = 0.92$), and this could not have been increased by dropping any item from the scale. The Attitudes subscale met criteria for adequate reliability ($\alpha = 0.89$), and although dropping one item ("Confront a friend") would have increased the value by 0.014, this again was not substantial enough to warrant dropping the item from the subscale.

Correlation of Subscales

Third, a Pearson's Correlation analysis was conducted between the four subscales to assess their relatedness. The subscales met adequate correlation thresholds ($r > 0.40$), all at the $p < 0.000$ level significance, with the exception of Attitudes and Social Norms ($r > 0.33$). Table 16 presents the results for the Pearson's Correlation analysis.

Table 16. Pearson's Correlation Matrix for TPB-Based Subscales

Subscale	PBC	SN	Atts	Intent
Perceived Behavioral Control	-			
Subjective Norms	0.40***	-		
Attitudes	0.42***	0.33***	-	
Intent	0.67***	0.45***	0.55***	-

*p<0.05, **p<0.01, ***p<0.001

Aim 3, Hypothesis 1 Results

Aim 3 of this study used the TPB to examine the influences of males' and females' intent to intervene. Based on the literature, I hypothesized that females would report greater intent to intervene, as influences by more supportive subjective norms, and more positive attitudes toward intervention behavior compared to males. The literature did not support any hypothesis regarding gender differences in perceived behavioral control. As hypothesized, females reported significantly more supportive subjective norms ($\bar{x}$ = 6.01) compared to males ($\bar{x}$ = 5.75; p = 0.003) and significantly more positive attitudes toward intervention ($\bar{x}$ = 6.19) compared to males ($\bar{x}$ = 5.96; p = 0.0009). Although no hypothesis was made, females also reported significantly greater perceived behavioral control to intervene ($\bar{x}$ = 5.75) compared to males (5.58; p = 0.03). Table 17 presents the findings for mean score values of the TPB variables, along with gender comparisons.

Table 17. Sex Comparison of TPB Variables (n = 788)

Variable	All Students *M* (sd)	Males *M* (sd)	Females *M* (sd)
Perceived Behavioral Control	5.70 (1.02)	5.58 (1.06)	5.75 (0.99)*
Subjective Norms	5.93 (1.11)	5.75 (1.14)	6.01 (1.08)**
Attitudes	6.12 (0.88)	5.96 (0.93)	6.19 (0.86)**
Intent	5.96 (0.90)	5.69 (1.00)	6.07 (0.83)***

*p<0.05, **p<0.01, ***p<0.000

I hypothesized that students who reported greater perceived behavioral control to intervene, more supportive subjective norms to intervene, and more positive attitudes toward intervention would report greater intent to intervene in the future. To assess the relationship between the three TPB-variables and students' intent, multiple linear regression analyses were conducted. Because the previous analysis showed that students' intent differed depending on the phase of the intervention behavior (pre-, mid-, and post-assault) and intervention behavior type (with the potential or actual perpetrator vs. with the potential or actual victim), I conducted separate regression analyses for each of the three levels and each of the two types. The relationships between the three TPB variables and intent to intervene were significant in the hypothesized direction for all three levels of prevention and for both intervention types (see Tables 18 and 19).

At the pre-assault phase, the TPB variables explained a significant proportion of the variance in students' intent to intervene ($R^2 = 0.45$, $F(3, 771) = 213.96$, $p < 0.001$). The analysis revealed students' intent was significantly related to all three TPB variables. At the mid-assault phase, the TPB variables explained a significant proportion of the variance in students' intent to intervene ($R^2 = 0.48$, $F(3, 769) = 239.70$, $p < 0.001$). The analysis revealed students' intent to intervene was significantly related to all three TPB variables. At the post-assault phase, the TPB variables explained a significant proportion of the variance in students' intent to intervene ($R^2 = 0.54$, $F(3, 771) = 302.17$, $p < 0.001$). The analysis revealed students' intent to intervene was significantly related to the three TPB variables. Perceived behavioral control was highly significant ($\beta = 0.47$, $p < 0.001$), as were subjective norms ($\beta = 0.13$, $p < 0.001$) and attitudes ($\beta = 0.30$, $p < 0.001$).

Table 18. Intent at Pre-, Mid-, and Post-Assault Phase, Linear Regression (n=775)

Pre-Assault	**Unstandardized (se)**	**Standardized**
Perceived Behavioral Control	0.35 (0.02)	0.42***
Subjective Norms	0.18 (0.02)	0.22***
Attitudes	0.22 (0.02)	0.27***
Mid-Assault		
Perceived Behavioral Control	0.38 (0.03)	0.43***
Subjective Norms	0.18 (0.03)	0.20***
Attitudes	0.31 (0.03)	0.26***
Post-Assault		
Perceived Behavioral Control	0.43 (0.03)	0.47***
Subjective Norms	0.12 (0.02)	0.13***
Attitudes	0.29 (0.03)	0.30***

*p<0.05, **p<0.01, ***p<0.001

Next, multiple linear regression analyses were done separately to assess the relationship between TPB variables and intent to intervene with the potential or actual victim and intent to intervene with the potential or actual perpetrator (see Table 19). The TPB variables explained a significant proportion of the variance in students' intent to intervene with the potential or actual victim ($R^2 = 0.51$, $F(3, 771) = 269.26$, $p < 0.001$). The analysis revealed students' intent to intervene was significantly related to the three TPB variables. Perceived behavioral control was highly significant ($\beta = 0.43$, $p < 0.001$), as were subjective norms ($\beta = 0.12$, $p < 0.001$) and attitudes ($\beta = 0.33$, $p < 0.001$). The TPB variables explained a significant proportion of the variance in students' intent to intervene with the potential or actual perpetrator ($R^2 = 0.56$, $F(3, 771) = 322.54$, $p < 0.001$). The regression analysis revealed students' intent to intervene was significantly related to the three TPB variables. Perceived behavioral control was highly significant (b=0.49; $p < 0.001$), as were subjective norms ($\beta = 0.20$, $p < 0.001$) and attitudes ($\beta = 0.26$, $p < 0.001$).

Table 19. Intent to Intervene with Victim vs. Perpetrator, Multiple Linear Regression (n=775)

Intervene with Victim	Unstandardized (se)	Standardized
Perceived Behavioral Control	0.37 (0.03)	0.43***
Subjective Norms	0.10 (0.02)	0.12***
Attitudes	0.36 (0.03)	0.33***
Intervene with Perpetrator		
Perceived Behavioral Control	0.45 (0.02)	0.49***
Subjective Norms	0.16 (0.02)	0.20***
Attitudes	0.25 (0.03)	0.26***

*p<0.05, **p<0.01, ***p<0.001

Finally, I conducted a multiple linear regression analysis to determine the relationship between the TPB variables and intent to perform all 12 intervention behaviors (See Table 20). The analysis revealed that perceived behavioral control, subjective norms, and attitudes explained a significant proportion of the variance in intent to intervene ($R^2 = 0.55$, $F(3, 771) = 315.68$, $p < 0.000$). Perceived behavioral control was highly significant ($\beta = 0.48$, $p < 0.001$), as were subjective norms ($\beta = 0.15$, $p < 0.001$) and attitudes ($\beta = 0.30$, $p < 0.001$).

Table 20. Intent to Perform all Behaviors, Multiple Linear Regression (n=773)

Predictor	Unstandardized (se)	Standardized
Perceived Behavioral Control	0.42 (0.02)	0.48***
Subjective Norms	0.13 (0.02)	0.15***
Attitudes	0.31 (0.03)	0.30***

*p<0.05, **p<0.01, ***p<0.001

To determine any gender differences in the relationship between the TPB variables and intent to intervene, I conducted regression analysis separately for females and males (see Table 21). Because there was no evidence in the literature suggesting gender differences in the strength of the relationship between the TPB variables and intent, no hypothesis was made. The analysis revealed that perceived behavioral control, subjective norms, and attitudes explained a significant proportion of the variance in

females' intent to intervene (R^2 = 0.57, F(3, 553) = 242.17, p < 0.000). Perceived behavioral control was highly significant (b = 0.49, p < 0.001), as were subjective norms (β = 0.15, p < 0.001) and attitudes (β = 0.29, p < 0.001). The analysis revealed that perceived behavioral control, subjective norms, and attitudes also explained a significant proportion of the variance in males' intent to intervene (R^2 = 0.52, F(3, 216) = 77.75, p < 0.000). Perceived behavioral control was highly significant (β = 0.49, p < 0.001), as were attitudes (b = 0.29, p < 0.001). However, males' subjective norms were not significantly related (β = 0.07, p = 0.199) to their intent to intervene.

Table 21. Gender Differences in TPB Variables and Intent to Intervene (N = 773)

Females	**Unstandardized (se)**	**Standardized**
Perceived Behavioral Control	0.41 (0.03)	0.49***
Subjective Norms	0.15 (0.02)	0.19***
Attitudes	0.28 (0.03)	0.29***
Males		
Perceived Behavioral Control	0.46 (0.05)	0.49***
Subjective Norms	0.06 (0.05)	0.07
Attitudes	0.32 (0.06)	0.29***

*p<0.05, **p<0.01, ***p<0.001

Further analysis was conducted to determine whether gender moderated the effect of any of the three TPB variables on intent (see Table 22). When I regressed the three TPB variables and the three interaction terms on intent to intervene, the interactions between gender and perceived behavioral control (p = 0.335), and attitudes (p = 0.915) were non-significant. The interaction between gender and subjective norms, however, was significant (b = -0.28; p = 0.039). When including this significant interaction in a multiple regression analysis, this model explained a significant proportion of the variance in students' intent to intervene (R^2 = 0.57, F(6, 766) = 168.46, p < 0.000).

Table 22. The Relationship between TPB Variables and Intent, with Modification Effects of Gender (N = 773)

Variable	Unstandardized (se)	Standardized
Perceived Behavioral Control	0.41 (0.03)	0.46***
Subjective Norms	0.15 (0.03)	0.18***
Attitudes	0.29 (0.03)	0.29***
Gender x Perceived Behavioral Control	0.05 (0.05)	0.15
Gender x Subjective Norms	-0.09 (0.05)	-0.28*
Gender x Attitudes	0.01 (0.05)	0.02

*p<0.05, **p<0.01, ***p<0.001

In a nested regression analysis, comparing the first model using the three TPB variables to predict intent to intervene to the second model using the TPB variables and the gender moderation effect on subjective norms, the second model demonstrated a small, yet significant improvement upon the first model ($\Delta R^2 = 0.01$; $p < 0.000$). Table 23 presents findings for the nested regression analysis.

Table 23. Nested Regression Analysis with Gender Modification of Subjective Norms (N = 773)

Block 1	Unstandardized (se)	95% CI	Standardized
Perceived Behavioral Control	0.42 (0.02)	0.37 – 0.47	0.48***
Subjective Norms	0.13 (0.02)	0.08 – 0.17	0.16***
Attitudes	0.30 (0.03)	0.25 – 0.36	0.30***
Block 2			
Perceived Behavioral Control	0.42 (0.02)	0.38 – 0.47	0.48***
Subjective Norms	0.13 (0.02)	0.09 – 0.18	0.16***
Attitudes	0.29 (0.03)	024 – 0.35	0.29***
Gender X Subjective Norms	-0.04 (0.01)	-0.07 - -0.03	-0.12***

*p<0.05, **p<0.01, ***p<0.001

Aim 3, Hypothesis 2 Results

The previous, descriptive statistics revealed that some students reported not to have intervened when they had the opportunity to do so. Thus, t-tests were conducted to assess any differences in the corresponding TPB variables between interveners and non-interveners. Based on the theoretical framework of the TPB, I hypothesized that students who reported past intervention behavior would report greater perceived behavioral control, more supportive subjective norms, more positive attitudes toward each of the intervention behaviors, and greater intent to intervene in the future compared to those who did not report past intervention behavior when they had the opportunity and significant findings were observed, all in the hypothesized direction.

Interveners reported significantly greater perceived behavioral control than non-interveners for seven of the 12 intervention behaviors. Interveners also reported more supportive subjective norms than non-interveners for six of the 12 intervention behaviors. Interveners reported significantly more positive attitudes than non-interveners for only one of the 12 intervention behaviors. However, interveners did not necessarily report more supportive subjective norms for the same intervention behaviors they also reported greater perceived behavioral control. For example, students who reported to have "helped a friend who was passed out and being approached or touched by a guy or group of guys" did not report significantly greater perceived behavioral control ($\bar{x}$ = 6.5) compared to those who did not perform that intervention behavior they had the opportunity ($\bar{x}$ = 6.4), but they did report significantly more supportive subjective norms ($\bar{x}$ = 6.51, 5.71; $p < 0.001$) and more positive attitudes toward that intervention behavior ($\bar{x}$ = 6.63, 6.12; $p < 0.05$).

For other intervention behaviors, TPB variables were significantly different between interveners and non-interveners. For example, students who "criticized a friend who said they had sex with a girl who was passed out or didn't give consent" reported significantly greater perceived behavioral control than those who did not perform that behavior when they had the opportunity. However, subjective

norms and attitudes did not significantly differ between interveners and non-interveners for that behavior. Table 24 presents results for the t-test analysis between interveners and non-interveners' perceived behavioral control, subjective norms and attitudes for each of the 12 intervention behaviors.

Table 24. Comparison of TPB Variables between Interveners and Non-Interveners

	Perceived Behav. Control *M* (sd)		**Subjective Norms *M* (sd)**		**Attitudes *M* (sd)**	
Intervention Behavior	Interveners	Non-Interveners	Interveners	Non-Interveners	Interveners	Non-Interveners
Confront your friend who says he plans to get a girl drunk to have sex.	5.88(1.25)***	4.48(1.41)	5.67(1.53)***	3.95(2.08)	5.75(1.35)	5.14(1.59)
Help your friend who is passed out and being approached or touched by a guy or group of guys.	6.4(0.96)	6.5(1.09)	6.51(0.96)**	5.71(2.14)	6.63(0.78)*	6.12(1.65)
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	6.4(0.95)*	5.96(1.40)	6.44(1.03)**	5.86(1.36)	6.46(0.99)	6.28(1.13)
Say something to your friend who is taking an intoxicated girl back to his room.	5.82(1.26)**	5.13(1.72)	5.86(1.38)***	4.59(2.01)	6.03(1.36)	5.74(1.55)
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	6.00(1.28)*	4.00(1.58)	5.67(1.43)	4.5(2.07)	5.92(1.62)	5.67(1.86)
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	5.64(1.82)	5.00(1.00)	6.42(1.06)*	4.75(2.63)	6.32(1.31)	6.5(0.58)
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	4.31(1.60)*	3.11(1.54)	5.31(1.55)	4.5(2.12)	5.62(1.45)	5.81(1.42)
Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	5.11(1.91)	5.20(1.82)	5.95(1.35)	5.69(1.74)	6(1.52)	6.36(0.84)
Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	6.53(0.84)**	5.86(1.50)	6.60(0.77)**	6.10(1.56)	6.40(1.02)	6.41(0.82)
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	6.36(1.03)**	5.25(1.54)	5.93(1.48)	5.46(1.85)	5.79(1.65)	5.62(1.85)
Go with your female friend to get help or talk with someone about an unwanted sexual experience.	6.51(1.09)**	5.86(1.03)	6.70(0.75)	6.31(1.26)	6.56(0.96)	6.55(0.83)
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	5.93(1.32)	5.29(1.89)	6.29(1.14)	5.75(1.83)	6.21(0.97)	5.88(1.81)

***p*<0.05, ****p*<0.01, *****p*<0.001

Next, I compared mean intent scores between interveners and non-interveners' for each of the 12 intervention behaviors (see Table 25). Students who reported past intervention behavior reported significantly greater intent to intervene in the future for six of the 12 behaviors. Non-significant results for the other six intervention behaviors may be the result of small sample sizes of students reporting to have had the opportunity to perform those intervention behaviors. Table 25 presents findings for the comparison of intent to intervene in the future between students' who did and did not intervene.

Table 25. Comparison of Future Intent between Interveners and Non-Interveners

Intervention Behavior	**Intent *M* (sd)**	
	Interveners	Non-Interveners
Confront your friend who says he plans to get a girl drunk to have sex.	5.89 (1.23)**	4.59 (1.89)
Help your friend who is passed out and being approached or touched by a guy or group of guys.	6.67 (0.74)	6.43 (1.50)
Check in with your friend who looks intoxicated and is being taken to a room by a guy.	6.55 (0.89)	6.21 (0.99)
Say something to your friend who is taking an intoxicated girl back to his room.	5.86 (1.20)***	4.87 (1.94)
Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	5.58 (2.11)	5.4 (1.52)
Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	6.4 (1.29)	5.5 (2.1)
Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	5.08 (1.65)*	3.47 (2.19)
Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	5.42 (1.71)	5.31 (1.03)
Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	6.56 (0.67)**	6.1 (0.99)
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	6.23 (1.11)*	5.36 (1.85)
Go with your female friend to get help or talk with someone about an unwanted sexual experience.	6.71 (0.89)**	6.17 (1.04)
Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	6.23 (1.21)	5.42 (1.61)

*p<0.05, **p<0.01, ***p<0.001

Aim 4: Burn's Situational Model of Bystander Intervention

The fourth aim of this study used the Burn (2009) Model of Bystander Intervention to assess students' reported barriers for intervening. Measurement subscales included five critical areas posited to pose barriers for intervention, based on the original Latané and Darley (1969) research: failure to notice the situation; failure to identify the situation as high risk (α = 0.72); failure to take intervention responsibility (α = 0.85); and failure to intervene due to skills deficit (α = 0.89); and failure to intervene due to audience inhibition (α = 0.82). These scales were rated on a 7-point Likert Scale (from 1 = *Strongly Disagree* to 7 = *Strongly Agree*), therefore, a larger mean value indicates that students reported to agree more with the barrier. Table 26 presents the results for each of the five barriers for all students and t-test results comparing males and females' reported mean values for each barrier.

Table 26. Students' Reported Barriers, by Gender (n = 792)

Barrier	All Students *M* (sd)	Males *M* (sd)	Females *M* (sd)
Failure to Notice Situation	3.72 (1.53)	4.07 (1.52)	3.58 (1.52)***
Failure to Identify Situation as High Risk	3.70 (1.20)	3.73 (1.22)	3.69 (1.20)
Failure to Take Responsibility	3.43 (1.20)	3.84 (1.19)	3.26 (1.17)***
Failure to Intervene due to Audience Inhibition	3.12 (1.58)	3.27 (1.57)	3.07 (1.58)
Failure to Intervene due to Skills Deficit	4.03 (1.63)	3.91 (1.62)	4.07 (1.64)

*p<0.01, **p<0.01, ***p<0.001

Regarding gender differences in reported barriers, male students reported significantly greater agreement with barriers than females in two areas: failure to notice the situation ($\bar{x}$ = 4.07, 3.58; p < 0.001) and failure to take intervention responsibility ($\bar{x}$ = 3.84, 3.26, p < 0.001). These findings were different than Burn's (2009) findings where males reported greater agreement with all barriers compared to females, with the exception of failure to intervene due to skills deficit.

Aim 4, Hypothesis 1 Results

Similar to the previous analysis that examined the influence of TPB variables on students' intent to intervene, I conducted a multiple linear regression to assess – and compare – the influence of students' reported barriers to intervening on their intent to perform the 12 pro-social bystander behaviors. First, I regressed the five barrier areas on students' intent to perform the four pre-assault intervention behaviors. Two barriers had a significant, negative influence on intent to intervene: failure to take intervention responsibility ($\beta = -0.27$, $p < 0.001$) and failure to intervene due to audience inhibition ($\beta = -0.20$, $p < 0.001$). The model explained a significant proportion of the variance ($R^2 = 0.20$, $F(5, 768) = 37.38$, $p < 0.000$). Next, I regressed the five barrier areas on students' intent to intervene perform the four mid-assault behaviors. In addition to the failure to take intervention responsibility barrier ($\beta = -0.25$, $p < 0.001$) and the audience inhibition barrier ($\beta = -0.18$, $p < 0.001$), the failure to identify the situation as high risk barrier also had a significant, negative influence on intent to intervene at the mid-assault phase ($\beta = -0.11$, $p < 0.001$). The model explained a significant proportion of the variance ($R^2 = 0.22$, $F(5, 768) = 43.39$, $p < 0.000$). Then, I regressed the five barrier areas on students' intent to perform the for post-assault intervention behaviors. The failure to take intervention responsibility barrier had a significant, negative influence on intent ($\beta = -0.24$, $p < 0.001$), as did the audience inhibition barrier ($\beta = -0.19$, $p < 0.001$). The model explained a significant proportion of the variance ($R^2 = 0.12$, $F(5, 768) = 21.72$, $p < 0.001$), although the proportion of variance explained was less than in the pre-assault and the mid-assault phase. Table 27 presents the results for the multiple regression analysis for each of the three levels of intervention.

Table 27. Influence of Reported Barriers on Pre-Assault Intent, Multiple Regression (n =792)

Pre-Assault	Unstandardized (se)	Standardized
Failure to Notice Situation	-0.01 (0.02)	-0.01
Failure to Identify Situation as High Risk	-0.06 (0.04)	-0.07
Failure to Take Responsibility	-0.22 (0.03)	-0.27***
Failure to Intervene due to Audience Inhibition	-0.12 (0.03)	-0.20***
Failure to Intervene due to Skills Deficit	0.03 (0.03)	0.05
Mid-Assault		
Failure to Notice Situation	0.02 (0.03)	0.03
Failure to Identify Situation as High Risk	-0.12 (0.05)	-0.11
Failure to Take Responsibility	-0.27 (0.05)	-0.25***
Failure to Intervene due to Audience Inhibition	-0.14 (0.04)	-0.18***
Failure to Intervene due to Skills Deficit	-0.03 (0.03)	-0.04
Post-Assault		
Failure to Notice Situation	0.000 (0.02)	0.00
Failure to Identify Situation as High Risk	-0.00 (0.03)	-0.00
Failure to Take Responsibility	-0.18 (0.03)	-0.24***
Failure to Intervene due to Audience Inhibition	-0.11 (0.03)	-0.19***
Failure to Intervene due to Skills Deficit	0.02 (0.03)	0.04

*p<0.05, **p<0.01, ***p<0.001

And last, I regressed the five barrier areas on students' intent for all 12 of the intervention behaviors. Only two of the five barriers were significantly related to students' intent to intervene: the failure to take intervention responsibility barrier (β = -0.29, $p < 0.001$) and the failure to intervene due to audience inhibition barrier (β = -0.22, $p < 0.001$). The model in whole explained a large proportion of the variance ($R^2 = 0.25$, $F(5, 768) = 50.14$, $p < 0.000$). Table 28 presents the results of the multiple regression analyses conducted for all 12 interventions behaviors.

Table 28. Influence of Reported Barriers on Intent, Multiple Regression (n = 792)

Barrier	Unstandardized (se)	Standardized
Failure to Notice Situation	0.01(0.02)	0.01
Failure to Identify Situation as High Risk	-0.06(0.03)	-0.08
Failure to Take Responsibility	-0.22(0.03)	-0.29***
Failure to Intervene due to Audience Inhibition	-0.12(0.03)	-0.22***
Failure to Intervene due to Skills Deficit	0.01(0.02)	0.01

*p<0.05, **p<0.01, ***p<0.001

Based on previous research, Burn (2009) hypothesized potential gender differences in reported barriers and, accordingly, I conducted separate analysis for males and females (see Table 29). In line with her findings, I hypothesized that failure to take intervention responsibility would have a significant, negative influence on students intent to intervene for both males and females. For females, failure to take intervention responsibility (β = -0.26; $p < 0.000$) and failure to intervene due to audience inhibition (β = -0.23; $p < 0.001$) both had a significant, negative influence on their intent to intervene. For males, failure to take intervention responsibility (β = -0.21; $p < 0.014$) had a significant, negative influence on intent to intervene. For females, the model explained a significant proportion of the variance in their intent to intervene ($R^2 = 0.25$, $F(5, 545) = 35.54$; $p < 0.000$). For males, the model explained a significant proportion of the variance in their intent to intervene ($R^2 = 0.22$, $F(5, 221) = 11.96$; $p < 0.000$).

Table 29. Gender Differences in the Influence of Barriers on Intent to Intervene (n = 772)

Females (n = 551)	**Unstandardized (se)**	**Standardized**
Failure to Notice	0.04 (0.02)	0.08
Failure to Identify Situation as High Risk	-0.08 (0.04)	-0.12
Failure to Take Responsibility	-0.18 (0.04)	-0.26***
Failure to Intervene due to Skills Deficit	-0.01 (0.03)	-0.01
Failure to Intervene due to Audience Inhibition	-0.12 (0.03)	-0.23***
Males (n = 221)		
Failure to Notice the Situation	-0.04 (0.05)	-0.07
Failure to Identify as High Risk	-0.73 (0.07)	-0.09
Failure to Take Intervention Responsibility	-0.18 (0.07)	-0.21*
Failure to Intervene due to Skills Deficit	-0.03 (0.05)	-0.04
Failure to Intervene Audience Inhibition	-0.11 (0.06)	-0.17

*p<0.05, **p<0.01, ***p<0.001

Additional analysis revealed that the interactions between gender and the five barriers were all non-significant: failure to notice the situation ($p = 0.061$), failure to identify situation as high risk ($p = 0.828$), failure to take intervention responsibility ($p = 0.729$), failure to intervene due to audience inhibition ($p = 0.817$) and failure to intervene due to skills deficit ($p = 0.729$).

Aim 4, Hypothesis 2: Comparing the TPB and the Situational Model of Bystander Intervention

I then compared the proportion of variance explained in students' intent between the TPB-based model and the Situational Model of Bystander Intervention. The TPB-based model explained a greater proportion of the variance ($R^2 = 0.55$) compared to Situational Model of Bystander Intervention ($R^2 = 0.25$) in the multiple regression analysis using all 12 intervention behaviors. All three variables in the TPB-based model were significantly related to students' intent, whereas only two of the five barriers were significantly related.

Finally, I regressed all significant predictors from each model on students' intent to intervene (see Table 30). The combined model explained a significant proportion of variance in students' intent ($R^2 = 0.58$ $F(5, 756) = 206.19$, $p < 0.000$). This model, with the additional variables from the Situational Model of Bystander Intervention, was a small, though significant improvement upon the first, with the three TPB variables ($\Delta R^2 = 0.03$; $p < 0.000$).

Table 30. Nested Regression Analysis, with Added Situational Model of Bystander Intervention Barriers (N = 773)

Block 1	**Unstandardized (se)**	**95% CI**	**Standardized**
Perceived Behavioral Control	0.42 (0.02)	0.37 – 0.47	0.47***
Subjective Norms	0.13 (0.02)	0.08 – 0.17	0.16***
Attitudes	0.31 (0.03)	0.25 – 0.36	0.31***
Block 2			
Perceived Behavioral Control	0.36 (0.03)	0.31 – 0.41	0.41***
Subjective Norms	0.11 (0.02)	0.07 – 0.16	0.14***
Attitudes	0.29 (0.03)	0.23 – 0.34	0.28***
Failure to Take Intervention Responsibility	-0.10 (0.02)	-0.14 - -0.05	-0.13**
Failure to Intervene due to Audience Inhibition	-0.05 (0.02)	-0.08 - -0.01	-0.08***

*p<0.05, **p<0.01, ***p<0.001

CHAPTER 5. DISCUSSION

This study makes several valuable contributions to the literature on bystander behavior. This is the first study to apply the Theory of Planned Behavior as a model for understanding the influences of students' intent to intervene as bystanders, as well as the first to explicitly inquire of students' opportunities to intervene to compare against their actual intervention behaviors. These findings help uncover salient influences of pro-social bystander behavior and important differences between students who do and do not intervene when presented with the opportunity. In the following discussion, I provide a more in-depth examination of the results and their public health implications.

Student Demographics and Variables of Personal Differences

There were several findings of the descriptive analysis that are important to point out. First, nearly one-third the sample had not received information on sexual assault prevention from OSU. Given the recent, federal strategies to bolster campus's sexual assault prevention efforts (Office of the Press Secretary, 2014), this finding underscores the need for widespread distribution of such information. Less than one-third of the sample participated in sexual assault prevention training, such as Haven™, the web-based interpersonal violence awareness program offered at OSU that also underscores the need for more widespread distribution of this program. It is important to note that Haven™ was new at OSU in the Fall of 2014 and was not yet mandatory for all students at the time of data collection (OSU, 2014). Potentially, more students will participate in the future, and thus, continued examination of whether participation in prevention training is related to pro-social bystander engagement is important.

Forty-five percent of sample of students had a friend who had been victimized by sexual assault; 6% of students had a friend who has been perpetrated sexual assault; and 15% of the sample of students had a personal history of victimization. Although it cannot be assumed that these assaults took

place at OSU, these findings underscore the importance of sexual assault as a public health issue. The results indicate that females are more likely than males to experience victimization, which is in line with previous research (Fisher, Cullen, & Turner, 2000; Karjane, Cullen, & Turner, 2005; Koss, Gidycz, & Wisniewski, 1987).

Aim 1 Findings

The majority of the students had the opportunity to perform at least one pro-social intervention behavior, most commonly at the pre-assault phase where alcohol is present. This is in line with previous research that bystanders are likely to have the opportunity to intervene before an assault occurs (Burn, 2009), as well as research showing that alcohol plays a substantial role in victimization (Ullman, 2003). Collecting data on students' opportunities to intervene can help focus programmatic efforts by tailoring activities to intervention behaviors students most commonly have the opportunity to perform. Although students reported more opportunities to intervene in the pre-assault phase, the second most reported opportunity to intervene was to offer support to a friend who has been victimized. Although intervening at the pre-assault intervention should be a major focus of any programming effort, given the evidence that suggests that a positive victimization disclosure experience aids in survivor healing (Foa at al., 1991; Taylor & Harvey, 2009), and the probability that students will have the opportunity to provide such support, post-assault intervention, is also an important aspect of programming.

Regarding who reports having those opportunities, the results indicated, as hypothesized, that those students with a greater frequency of party attendance had greater odds to perform most of the 12 intervention behaviors. Participants who are members of fraternities and sororities reported significantly greater odds of having the opportunity to perform three of the four pre-assault intervention behaviors and one of the four mid-assault intervention behaviors. These findings suggest that members of fraternities and sororities represent a high-risk population, consistent with previous research

(Foubert, 2013). Student-athletes have also been identified in previous research as high-risk (McMahon, 2010; Moynihan, Banyard, Arnold, Eckstein, & Stapleton, 2010). Although student-athletes in this sample did not report significantly greater frequency of party attendance compared to counter parts, they did report having greater opportunities to perform two intervention behaviors ("Confront your friend" and "Check in with your friend"), both in the pre-assault phase.

Examining the variables associated with a lack of pro-social intervention when presented with the opportunity also contributes considerably to the literature. I hypothesized that females, students who have a friend who has been the victim of sexual assault, students with a personal history of victimization, students who received prevention information and/or participated in prevention training would report more past pro-social intervention behaviors. However, these variables were not associated with pro-social intervention behaviors, with the exception of gender. Females reported more pro-social behaviors when they had the opportunity, compared to males. It is possible that, given the small sample of students who did not intervene when they had the opportunity, no statistical difference could be observed on the basis of friendship with a victim of sexual assault, personal history of victimization, and prevention information and training.

Although no hypothesis was generated predicting past intervention behavior based on participation in religiously affiliated communities, a difference was found. Students who did not participate in such communities reported a greater number of past intervention behaviors compared to those students who did participate in such communities.

Those who intervene and those who do not when they have the opportunity

A very important finding of this study concerns the proportion of students who did not intervene when they had the opportunity to do so. Students were more likely to have intervened pre- and post-assault compared to mid-assault. Also, for all behaviors, students were more likely to have

intervened with the potential or actual victim than with the potential or actual perpetrator. Although mid-assault intervention opportunities were not frequently reported by students, given the obvious victimization in these situations as explicitly described with the term “forcing”, the lack of pro-social intervention warrants discussion. Another interesting and important finding of students’ intervention behaviors at the mid-assault phase is the disparity between performing the aforementioned behaviors and identical behaviors where the victim was “intoxicated.” More students did not intervene when the victim was intoxicated compared to when they were being forced. This finding suggests that students may be less likely to perceive situations in which the victim is intoxicated as sexual assault. However, given the evidence that victims of sexual assault are likely to have consumed alcohol prior to victimization (Ullman, 2003), increasing students’ knowledge and recognition of these situations is vital to increasing pro-social intervention behaviors. Although the assault may already occurring, and primary prevention is not possible, stopping the assault could decrease injury.

At the post-assault phase, students reported performing more intervention behaviors with the victim compared to the perpetrator. Still, not all students intervened with their friend who had been victimized when they had the opportunity to do so. Given the importance of receiving support during a sexual assault disclosure, it would be important for bystander engagement efforts to include education and skill-building in how to be a supportive friend when someone discloses. Similarly, not all students who could have intervened with their friend who had committed an assault did so when they had the opportunity. In light of previous research that finds perpetrators of sexual assault often commit these crimes serially (Lisak & Miller, 2002), intervening with perpetrators has the potential to prevent future perpetration of sexual assault. Therefore, understanding the influences of such intervention and addressing it through bystander engagement programs could be an effective strategy to minimize future incidence of sexual assault.

Aim 2 Findings

Overall, students reported high intent to perform pro-social bystander behaviors. Females reported significantly greater intent compared to males. This, coupled with the finding that females reported more actual pro-social bystander behaviors, gives weight to the use of intent as one appropriate measure of bystander engagement. However, intent alone is insufficient for measuring engagement or assessing program effectiveness. Including measures of actual intervention behavior, compared to opportunities to intervene, will paint a more accurate picture of bystander engagement.

Other demographic variables were also shown to be significantly related to students' intent to intervene. As hypothesized, students who have a friend who has been the victim of sexual assault, and those students with a personal history of victimization, reported greater intent to intervene. This finding is consistent with previous findings (Christy & Voigt, 1994; Nabi & Horner, 2001) that those with a personal history of victimization, domestic violence and child abuse may be more likely to intervene in similar situations. This is the first study to examine the relationship between victimization and intent to intervene as a bystander of sexual assault specifically.

International students reported significantly less intent to intervene compared to non-international students. Given the diversity of the international students on campus, it is difficult to determine the specific cultural factors that may influence their intent. However, this finding suggests that programming could be useful in helping international students understand the appropriateness of intervening in such situations.

Student-athletes reported significantly greater intent to intervene compared to non-student-athletes. Students who have received information and/or training in sexual assault prevention did not report greater intent to intervene compared their counterparts. Previous research has found that students who participate in university athletics and those without training in sexual assault were found to report greater acceptance of rape-supporting myths and reported less willingness to intervene as

bystanders (Banyard, 2008; Forbes et al., 2006; McMahon, 2010; Foubert, 2010). Thus, the contradictory pattern of findings here suggests that student culture and prevention messaging may vary from institution to institution, and examination thereof is important to understanding which student groups may be at-risk for low bystander engagement.

Although no hypothesis was made regarding a difference in intent based on participation in religiously affiliated communities, students who participate in such communities reported significantly greater intent compared to those who do not participate. This finding aligns with previous research which found that students who participate in religiously-affiliated communities reported greater willingness to intervene as bystanders (Foubert, 2013). However, my study found that students who participate in religiously-affiliated communities reported fewer pro-social bystander behaviors when presented with the opportunity. This suggests that measuring students' intent to intervene is only partially representative of students' pro-social bystander engagement, and measuring opportunities and actual behavior is equally, if not more, important.

Difference in Intent by Prevention Level and Intervention Type

As hypothesized, students' intent to intervene pro-socially varied depending on the intervention behavior. Students reported significantly greater intent to intervene with the potential or actual victim compared to intervening with the potential or actual perpetrator of sexual violence. Students also reported the greatest intent to perform post-assault intervention behaviors. Different than hypothesized, females reported greater intent to intervene than males in all three phases, as well as greater intent to intervene with the potential or actual perpetrators. These findings, in addition to the previous research demonstrating greater perception of peer disapproval for males' intervention behavior, suggests that more bystander engagement programming should be implemented specifically with males to combat the barriers they experience when faced with the opportunity to intervene.

Regardless of gender, however, the programming should differentiate between the pro-social bystander behaviors it encourages to better tailor the program activities to the types of intervention behaviors students have less intent to perform. Although students reported fewer opportunities to intervene mid-assault, they also reported less intent to intervene there. Intervening when a sexual assault is underway could reduce the harm of the assault by lessening – or preventing – further injury to the victim. Therefore, increasing intent to intervene at this phase is crucial. Similarly, students reported less intent to intervene with potential or actual perpetrators, and this provides an opportunity to alter the behavior of those ultimately responsible for sexual assault.

Aim 3 Findings

This study demonstrated the utility of the Theory of Planned Behavior (Azjen & Fishbein, 1991) to effectively explain students' intent to intervene. Students' perceived behavioral control, subjective norms, and attitudes were all significant predictors of intent and these three variables explained a significant and substantial proportion of the variance in their intent to intervene as bystanders. Specifically, students' perceived behavioral control – the degree to which they believe intervening was easy – was the most salient influence in their intent. Students' subjective norms – the degree to which they perceived peer approval – were also observed as influential to their intent. Programming efforts may benefit from being implemented among established peer groups, where the information and skill development can be conducted among the friends who may be present during an intervention opportunity and can approve of their intervention behavior. Students' attitudes – their beliefs that intervention is helpful in either preventing an assault or mitigating the harm of one that had already occurred – was also observed as influential to their intent. Heightening the beliefs that intervention is beneficial should be incorporated into programming efforts.

Although males reported significantly less supportive subjective norms for intervening compared to females, those norms were not significantly related to their intent, whereas females' subjective norms were significantly related to intent. Despite these gender differences, however, programming would benefit from including messages aimed to shift norms about pro-social behavior as socially acceptable.

Difference in TPB Variables between Those who Intervene and Those who Do Not

In light of the significance of the relationships between the TPB variables, and their influence on intent, it was prudent to test whether these variables differed between interveners and non-interveners for each of the 12 bystander behaviors. Although interveners generally reported significantly greater perceived behavioral control, more supportive subjective norms, more positive attitudes, and greater intent to intervene in the future compared to non-interveners, the differences were inconsistent across the intervention behaviors.

This analysis demonstrated that not all intervention behaviors are influenced by the same factors. That is, for some behaviors, interveners and non-interveners reported no difference in their perceived behavioral control ("Help your friend who is passed out and being approached or touched by a guy or group of guys," for example), but interveners reported more supportive subjective norms and more positive attitudes toward that behavior. Although interveners and non-interveners reported no differences in their attitudes toward another pro-social bystander behavior ("Say something to your friend who taking an intoxicated girl back to his room," for example), interveners reported significantly greater perceived behavioral control and more supportive subjective norms toward the behavior than non-interveners. The differences between interveners' and non-interveners' perceived behavioral control, subjective norms, and attitudes may be a reflection of how students conceptualize the intervention behaviors differently. Despite that interveners and non-interveners reported no significant

difference in their perceived behavioral control to intervene, the difference in their reported subjective norms and attitudes underscore that skills alone, or perception that this intervention behavior is easy to perform, may not influence someone to intervene.

Also important to note is the difference in behavioral intent to intervene in the future for those students who intervened in the past. This finding suggests that past intervention experience may influence future behavior, and that, potentially, past intervention experience leads to greater perceived behavioral control, more supportive subjective norms, and more positive attitudes.

Aim 4 Findings

The multiple regression analyses demonstrated that the TPB-based model explained a significant and substantial proportion of the variance in students' reported intent to intervene at all three levels of prevention and for the two intervention types. Perceived behavioral control, subjective norms, and attitudes, explained a greater proportion of the variance in intent to perform all 12 intervention behaviors compared to the Situational Model of Bystander Behavior. Additionally, all three variables were significantly related to intent while only two of the five barriers were significantly related to students' intent. Although Burn (2009) established a model useful for describing the types of barriers that students may face as bystanders to sexual assault based on the original work of Latanè and Darley (1970), the findings of this study demonstrate the utility of including additional, theoretically-based determinants of behavior and behavioral intent. The TPB has been used extensively to explain and change a variety of health-related behaviors, although this is its first application, to the author's knowledge, to explain bystander behavior.

Using the two models demonstrated the strength of the relationship between intervention norms and intent to intervene. The TPB-based measures and the Situational Model of Bystander Intervention measures assessed the influence of normative beliefs in students' intent to intervene,

operationalized as subjective norms (Ajzen & Fishbein, 1991) and audience inhibition (Burn, 2009; Latanè & Darely, 1970). Subjective norms and audience inhibition were both significantly related to females' intent to intervene. The first assessment specified students' perception of their "good" friends' approval or disapproval, whereas the latter did not specify a relationship between the student and the other bystanders. Combined, these findings underscore the importance of heightening social norms to support intervention behavior.

The Role of Language in Assessing Bystander Behavior

There are several potential reasons that the TPB-based model proved more effective in explaining students' intent to intervene. Perhaps the most important is that the TPB is an evidence-based behavior theory, one that has substantial support of its effectiveness in explaining other health-related behaviors. However, the different language used in the TPB-based and the barrier-based scales warrants discussion. Students' perceived behavioral control, subjective norms, attitudes, and intent were all assessed using the same twelve intervention behaviors. These subscales used items that described a sexual assault risk situation rather than using the term "sexual assault," while the Burn (2009) scales used items to assess students' perception of barriers using the term "sexual assault," rather than describing the intervention behavior.

There exists no research on the difference in language regarding bystander behavior specifically; however, recent evidence (Edwards, Bradshaw, & Hinsz, 2014) suggests that students respond differently to questions about intent to perpetrate sexually violent acts when the items use the term "sexual assault" compared to when the act is described without that term. Edwards and colleagues (2014) found that students were less likely to report an intent to commit "rape," presumably due to the social undesirability of rape, compared to their intent to commit behaviors that described a rape, such as "Have you ever coerced somebody to intercourse by holding them down?" (Edwards, Bradshaw, &

Hinsz, 2014). Foundational research conducted by Koss (1998) identified this discrepancy, and since then, this phenomenon has been well-established amongst those who research sexual aggression (Bachman & Paternoster, 1993; Littleton & Axsom, 2003; Littleton et al., 2009). Edwards and colleagues assert that, "individuals struggle with accurately identifying the range of different circumstances that all might constitute sexual assault" (Edwards et al., 2014, p. 188).

This suggests a potential bias based on language used to capture pro-social bystander behavior. For instance, to assess students' perceived behavioral control to intervene, I developed an item, based on the TPB, "How easy or difficult would it be for you to confront your friend who says he plans to get a girl drunk to have sex," and perceived behavioral control was a significant predictor of intent. Comparatively, Burn's (2009) item asks students, in order to assess their perception of skills deficit as a barrier to intervene, "Even if I thought it was my responsibility to intervene to prevent sexual assault, I am not sure I would know how to intervene." This item is one of two items assessing students' skills deficit as a barrier to intervention. The failure to intervene due to a skills deficit barrier was not significantly related to students' intent to intervene. This is not to say, however, that skills are not influential in students' intent. Rather, the language used to capture students' perception of skills, or their perceived behavioral control, may influence how students respond. This may be due to the range of behaviors that are associated with sexual assault and the evidence that supports students' inability to accurately identify the full range of behaviors. Future examination should describe the behaviors of pro-social intervention in sexual assault situations rather than depend on an assumed understanding of what sexual assault risk looks like.

Study Limitations

This study is not without its limitations. First, the use of a convenience sample may limit the generalizability of findings beyond the greater OSU student population. Given the constraints of

conducting research with OSU students, a population deemed vulnerable by the Institutional Review Board, a random sample was not feasible as recruitment was reliant on instructors' permission to allow the SABB-Q to be administered in their classroom. Convenience samples are not new to this literature, and there is little reason to believe that students recruited into the study differed in ways that biased study findings. However, the student population at OSU is ethnically homogenous, and a predominantly White sample was recruited. Therefore, findings may not generalize to a more ethnically diverse student population.

Second, this study relied on self-report data, and students' reports of their opportunities to intervene and their actual past intervention behaviors are subject to the accuracy of their memory. However, self-report data are not new to this body of literature. It is difficult and unethical to create opportunities for students to intervene as bystanders to sexual assault in a lab setting, or observe them as a natural experiment, to test actual intervention behavior.

Third, the SABB-Q measurement tool was adapted from several existing measures, as well as, from the author's own measures in sexual assault bystander behavior based on the TPB (Banyard, Moynihan, Cares, & Warner, 2014; Banyard, Plante, & Moynihan, 2002; Hoxmeier, 2014; McMahon & Banyard, 2011). The tool in its entirety did not undergo extensive pilot testing. Cognitive interviewing was used to determine and enhance readability of the bystander behavior. However, only eight students were interviewed, and the changes in the item language may not reflect universal understanding of the intervention behaviors. At the same time, the cognitive interviews revealed the need to change the language of the intervention behaviors from those found in the existing literature (Banyard, Plante, & Moynihan, 2002; McMahon & Banyard, 2011) to fit the needs of the OSU population, and the subscales in the SABB-Q demonstrated good internal consistency with this sample. It would be prudent for future research of this nature to conduct similar analysis with its intended population to determine the readability and understanding of the proposed items.

Fourth, a cross-sectional study design does not lend itself to causal inference. Specifically, I am not able to draw conclusions of causal relationships between students' perceived behavioral control, subjective norms, attitudes and their intent to intervene as bystanders to sexual assault. Although students who intervened pro-socially reported greater perceived behavioral control, more supportive subjective norms, and more positive attitudes toward intervening compared to non-interveners, it cannot be assumed that these variables preceded their intervention behavior. However, given the significant findings of the relationship between the variables and the significant differences between interveners and non-interveners, it is suggestive that these variables are indeed highly associated with students' bystander behavior experiences.

It is a long-term goal to investigate students' intervention behavior, and the determinants thereof, in an effort to identify high-risk populations that could benefit from bystander engagement programming and to provide the basis for such programming. This study was a first step in such a goal and sheds light on potential target populations, as well as potentially influential factors of students' intent to intervene. Adaptation of the SABB-Q is necessary to provide universities throughout the U.S. with an effective tool in examining students' opportunities, behaviors, and intentions to intervene as bystanders to sexual assault.

Implications for Public Health

Despite these limitations, the contributions of this study to literature in bystander behavior stands. Extending the knowledge and understanding of the influences of students' intent to intervene is critical to develop effective programs that aim to increase pro-social bystander behaviors. In addition, this study investigates intervention behaviors across the three levels of preventative intervention behaviors that involve intervening with potential and actual perpetrators and victims of sexual assault which has not previously been done and found variability in students' intent to perform the behaviors.

Differentiating between the types of intervention behaviors is important as demonstrated by the findings of this study because of their respective impact on sexual assault. The findings suggest that students conceptualize these intervention behaviors quite differently. Future research should continue to differentiate between the types of intervention behaviors that bystanders have the opportunity to perform, and future programming should be mindful of the different conceptualizations of pro-social intervention behaviors and develop strategies to increase students' intent to intervene accordingly. That is, although students may report a high intent to intervene as bystanders, if that intent is greater for post-assault intervention compared to pre-assault intervention, then more emphasis needs to be placed on increasing the skills, shifting the norms, and changing the attitudes associated with pre-assault intervention behaviors to address primary prevention of sexual assault.

The use of a different theoretical framework, and the related new questions, to identify students who have greater opportunities to intervene helps paint a clearer picture of bystander engagement and the determinants thereof. The Theory of Planned Behavior is a new framework for examining bystander behavior and, as such, uncovered new influences of students' intent. By comparing this framework to the Situational Model of Bystander Intervention, this study demonstrated the utility of an alternative model for understanding bystander intentions, one that has substantial evidence supporting its use to explain and change a variety of other health-related behaviors. The issue of sexual assault on college campuses is serious and will benefit from the use of evidence-based, theoretical frameworks for understanding students' intent to help prevent the incidence of sexual assault, as well as mitigate the detrimental effects of sexual assault. This knowledge can better guide the development of programs that aim to increase helping behavior.

Measuring students' perceived behavioral control or self-efficacy is an important aspect of any initial needs assessment study or program evaluation to assess effects of a bystander engagement program. However, students' reported self-efficacy should not be used as the only indication of their

intent to intervene, as other variables may be more influential in their intent to intervene or their actual intervention behavior. A more comprehensive needs assessment study or program evaluation would include measures to assess students' perception of peer approval for intervening and attitudes toward intervening - in addition to measures assessing areas that Burn (2009) outlined.

The TPB was chosen as the framework for this study based on its utility in explaining, and changing, other health behaviors, in addition to its potential utility in programming aimed at increasing pro-social behavior. Understanding the gaps in students' perceived behavioral control lends itself to skill-building activities tailored to intervention behaviors that students not only commonly report as having the opportunity to use but also intervention behaviors where students report less efficacy to perform. In addition to perceived behavioral control, which has been used in previous research as a predictor of intent to intervene, students' subjective norms and attitudes were also salient in their intent to intervene as well as in their actual intervention behavior. To focus on the role subjective norms play in students intervention behaviors, programming could be more effective when employed with existing peer networks. Peer approval – or disapproval – is a perception of students that could be addressed when friends, and presumably those that students will be partying with, participate in bystander engagement programming together. Attitudes toward intervention behavior – as helpful or unhelpful to preventing an assault or mitigating its affects – has not previously been examined as an influence to pro-social bystander behavior, which is vastly different than previous examinations of attitudes toward sexual assault as an influential factor in intervention behavior. Although it remains important to include the latter in any bystander engagement program, this study demonstrates the potential utility of bolstering supportive attitudes toward intervention. Survivor narratives have been used in traditional, empathy-based programming (DeGue, 2014), and pro-social bystander narratives could also be used as a strategy to change students' attitudes toward the helpful role they can play in preventing an assault or reducing the harm of one that has already occurred.

Implications notwithstanding, it should also be noted that although increasing students' pro-social bystander behaviors has the potential to decrease the incidence of sexual assault, primary prevention of sexual assault is the result of a reduction of the perpetration of sexual assault, and thus, are directed at those who demonstrate risk for perpetration (CDC, 2004). DeGue and colleages (2014) speak to this very issue in a review of programs aimed to decrease actual perpetration of sexual assault. Their findings support the need not only for greater programming efforts to be focused on actual decrease of perpetration but also for evaluation of those programs to demonstrate their potential effectiveness on reducing incidence of perpetration as a measureable outcome (DeGue et al., 2014). Although programming of this nature is challenging, given the continued discovery and debate of modifiable risk for perpetration and reliance of self-report data of perpetration, it would be negligent to ignore the gap of bystander intervention programs in their ability to address perpetration of sexual assault. That is, even a clear understanding of the influences of pro-social bystander behavior and effective programs that increase bystander intervention is not a silver bullet for sexual assault prevention because they do not specifically aim to change the sexually violent behaviors of perpetrators. So, although measuring the effects of these pro-social bystander behaviors on actual perpetration of assault would be challenging, increasing students' perceived behavioral control, subjective norms, and attitudes that support these intervention behaviors is still warranted.

Areas for Future Research

There are several areas for future research that would benefit the literature. First, although the majority of sexual assaults occur between female victims and male perpetrators, it is important to expand research to examine bystander behaviors to assaults that occur outside of this dyad. In a 2002 review of the literature of male victims of sexual assault, Davies found that myths about male victimization, whether victimized by other males or females, presented barriers to male victims when

disclosing their assaults to confidants, in their reporting process, and when seeking treatment services (Davies, 2002). The myths, based on the notion that male masculinity serves as protective factor against assault, and thus, cannot be victims (Davies, 2002), could pervade the college campus and serve as barriers in students' pro-social intervention behavior as bystanders to male-victim sexual assault contexts. Similarly, bystanders to same-sex sexual assault may experience barriers that prevent pro-social intervention. Potter el al (2012) argue that a bystander-approach to preventing and intervening in sexual assaults occurring in the lesbian, gay, bisexual, and transgendered community has the potential to be effective, though requisite of effectiveness rests on the ability of the bystander to recognize, and take seriously, violence that occurs within these dyads (Potter, Fountain, & Stapleton, 2012). Thus, more needs to be known about how students' pro-social behavior may differ when victims are male, perpetrators are female, and when victims and perpetrators are the same sex.

Second, future research should look into the potential variation of bystander intentions and behaviors across different ethnicities. It may also be relevant to include additional measures to assess not only the race/ethnicity of the bystander but the race/ethnicity of the potential or actual perpetrators and victims to examine any difference in bystander behaviors and/or intent when the race/ethnicity of the bystander and those involved in the assault are dissimilar. Although there is some evidence suggesting that the race/ethnicity of the (potential) victim may influence bystander-helping behavior (Gaertner, Dovidio, & Johnson, 1981; Saucier, Miller, & Doucet, 2005; Wegner & Crano, 1975), this area has not been explored in the context of campus sexual assault. This information could shed light on complexities of helping behavior that could benefit campuses that are both ethnically homogenous and heterogeneous, where victims of sexual assault who are also racial/ethnic minorities could be further vulnerable if bystander intervention is influenced by race/ethnicity.

Third, there remains a dearth of longitudinal studies that can contribute to strengthening the relationship between students' reported intent to intervene and students' actual intervention behavior.

Although creating opportunities to intervene in a lab setting, or observing them in a natural experiment, is both challenging and unethical, more needs to be known about whether students' intent to intervene translates to actual pro-social behavior. Future research should examine students' intentions, the determinants thereof, and the opportunities and actual intervention behaviors measured throughout students' time in college, rather than exclusively depending on students' reported intent to intervene and their intervention behaviors, absent the inquiry of their intervention opportunities. In an experimental design of a program aimed to increase pro-social bystander behaviors, participants reported an increase in their intent to intervene post-intervention, as well as an increase in their intervention behaviors two months post-intervention (Banyard, Moynihan, & Plante, 2007). However, an absence of items to measure opportunities to intervene failed to consider whether students' increase in intervention was a result of students' having more opportunities to intervene. Thus, measuring both (changes in) opportunities to intervene and actual intervention behaviors is important for both understanding the relationship between intent and behavior and identifying potentially high-risk groups who report greater opportunities to intervene and lesser intervention behaviors. Students' reported intent to intervene should not be used exclusively as a measure of bystander willingness and engagement.

And last, research in the behavioral sciences should continue to use evidence-based theoretical frameworks to explain and change health-related behaviors. Theories that have demonstrated their effectiveness to explain and change behaviors can be used in new areas in behavioral science research, such as bystander behavior, and contribute to the evidence to support the utility of these frameworks. Using established theoretical frameworks to explain behavior can also ease the translation to behavior change interventions, which greatly serves public health practice.

Conclusions

The prevention of sexual assault is a complex and challenging public health endeavor. Although research should continue to examine the risk and protective factors for perpetration in efforts to develop primary prevention programming, the sensitive and often politically-polarizing nature of sexual assault make it difficult to discern the impact of efforts to reduce its incidence. Engaging students as pro-social bystanders can help close the primary prevention gap. Students who are willing and able to help prevent a sexual assault from taking place or reduce the harm of one that has already occurred have the potential to make a positive impact in the lives of victims and perpetrators. Recognizing this, and the sheer incidence of sexual assault on college campuses, new federal mandates encourage a shift in prevention efforts to focus on engaging students as pro-social bystanders.

Effective behavior change programs are built from research that seeks to examine the influences of behavior. To effectively increase students' intervention behaviors, continued efforts to understand what propels students to intervene is imperative. Bystanders do not intervene when they have the opportunity to do so, and the findings of this study suggest that students' perceived behavioral control to intervene, subjective norms that support intervention, and attitudes that intervention is beneficial to assault prevention influence their intent to intervene as bystanders. Additionally, students appear to conceptualize intervention behaviors differently, as their perceived behavioral control, subjective norms, attitudes, and intentions vary across the spectrum of behaviors students have the opportunity to perform as bystanders to sexual assault.

The collection of findings from this study contribute to a better understanding of pro-social bystander behavior and call for continued research in this area to develop more effective programming. Bystander engagement programs can play a critical role in any sexual assault prevention agenda, and sexual assault prevention is vital to health promotion efforts on the U.S. college campus.

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Appendix A

SABB-Q Cognitive Interviewing
Student Evaluation of Pro-Social Bystander Behavior

Pre-Assault Bystander Behaviors
A friend says he plans to intoxicate a woman to have sex. (McMahon & Banyard, 2011)
Confront your friend who says he plans to intoxicate a woman to have sex.
A woman who is passed out on a couch is being approached or touched. (McMahon & Banyard, 2011)
Do something to help your friend who is passed out when she is being approached or touched by a man or group of men.
I stop and check in with my friend who looks very intoxicated when they are being taken upstairs at a party. (Banyard, 2008)
Stop and check in with your friend who looks very intoxicated when she is being taken upstairs by a man at a party.
A friend is bringing an intoxicated woman back to his room (McMahon & Banyard, 2011)
Say someone to your friend who is taking an intoxicated woman back to his room.
Mid-Assault Bystander Behaviors
Walking in on a situation where an individual appears to be either physically forced or verbally coerced to have sex. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on your friend who appears to be physically forcing a woman to have sex with him.
Walking in on a situation where an individual appears to be either physically forced or verbally coerced to have sex. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on a man who appears to be physically forcing your female friend to have sex.
Directly observing an intoxicated person being sexually assaulted. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on your male friend having sex with an intoxicated woman.
Directly observing an intoxicated person being sexually assaulted. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on a guy having sex with your intoxicated female friend.
Post-Assault Bystander Behaviors
If someone said they had an unwanted sexual experience but don't call it rape, I express concern or offer help. (Banyard, Moynihan, Cares, & Warner, in review)
Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.
Criticize a friend who says they had sex with someone who was passed out or didn't give consent. (Banyard, Moynihan, Cares, & Warner, in review)

Criticize your friend who says he had sex with a woman who was passed out or didn't give consent.
Go with my friend to talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience. (Banyard, Moynihan, Cares, & Warner, in review)
Go with your female friend to talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience.
A police or judicial investigation needs corroboration. (McMahon & Banyard, 2011)
Cooperate with the police or campus security in an investigation of sexual assault that your male friend committed.

Process:

1) Introduce myself and the purpose of cognitive interviewing. Explain there is no data collection and students' participation is designed to better understand how students interpret survey items to be used in a study conducted this Fall. Explain the "males as perpetrators" and "females as victims" dynamic used in this study, but acknowledge that sexual assault does occur outside of this specific dynamic.

2) Present each student participant with a document outlining each of the risk situations, with space underneath for writing/notes. Introduce the scale for "Intent to Intervene" with the stem, "If you were to encounter this situation, how unlikely or likely are to you to perform each of the behaviors?"

3) Ask students to read each of the intervention behaviors and begin concurrent probe questions outlined below. Take notes for each participant, and have participants write, if any, the recommended changes to each item under the item as it currently appears. (Note: the original item wording, shown here in red, will not be shown to students)

4) Conduct cognitive interviews with 8 participants, both males and females, and of varying ages. Record sex and age/year in school of participant on their respective document.

Concurrent Probe Questions:

1) Will you, in your own words, repeat back what you think this question is asking?

2) Can you tell me who the potential or actual perpetrator is in this situations? The potential or actual victim?

3) Is there anything you would change about the wording of this situation to make it clearer?

4) How do you feel about the use of the term "man" and "woman" in these situations? (Compared to "guys" and "girls"?)

5) How do you feel about the use of the term "intoxicated" in these situations? (Compared to "drunk"?)

Pre-Assault Bystander Behaviors

Original: A friend says he plans to intoxicate a woman to have sex. (McMahon & Banyard, 2011)
SABB-Q: Confront your friend who says he plans to get a girl drunk to have sex.
No suggested change.

Notes: Students understood this to be a potential sexual assault, indicated by "get a girl drunk". The term "confront" was understood to mean the bystander was trying to get the friend not to do this. Students preferred "girl" over "woman" and stated they identified more with "girl", as this would be a peer/another student rather than an older female who is not a student.

Original: A woman who is passed out on a couch is being approached or touched. (McMahon & Banyard, 2011)
SABB-Q: Help your friend who is passed out and being approached or touched by a guy or group of guys.
No suggested change.

Notes: Students understood this to be a sexual assault situation, indicated by the girl being passed out. "Help" was understood to mean the bystander would try to get the girl out of the situation. Same thoughts on "girl" vs. "woman".

Original: I stop and check in with my friend who looks very intoxicated when they are being taken upstairs at a party. (Banyard, 2008)
Check in with your friend who looks very intoxicated and is being taken to a room by a guy.
No suggested change.

Notes: Students understood this to be a sexual assault situation, as indicated by "intoxicated" and "being taken". They preferred "intoxicated" over "drunk", as the former was more indicative that the potential victim was not able to consent, whereas "drunk" indicated she was still able to make decisions. They understood "check in" to mean that the bystander was asking/making sure that the potential victim was ok with what was happening, but not necessarily that they were stopping the situation.

A friend is bringing an intoxicated woman back to his room (McMahon & Banyard, 2011)
Say something to your friend who is taking a drunk girl back to his room.
Suggested change: Stop your friend who is taking an intoxicated girl back to his room.

Notes: Students preferred "intoxicated" over "drunk", as noted above. They suggested "say something" to be changed to "stop" when the original working included "drunk", but thought "say something" was appropriate when the girl was intoxicated because that indicated she was not able to consent. Students prefer "girl" over "woman", as that is more appropriate to mean a female in college.

Mid-Assault Bystander Behaviors

Walking in on a situation where an individual appears to be either physically forced or verbally coerced to have sex. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on your friend who appears to be physically forcing a girl to have sex with him.
No suggested change.

Notes: Students understood this situation as rape, indicated by "physically forcing". They stated "physically" forcing may not even be necessary to include. Interrupt was understood to mean "stop" the rape.

Walking in on a situation where an individual appears to be either physically forced or verbally coerced to have sex. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on a guy who appears to be physically forcing your female friend to have sex.
No suggested change.

Notes: Students understood this to be rape, indicated by "physically forcing" and "physically" may not be necessary to include. Interrupt was understood to mean "stop" the rape. "Guy" was preferred in this situation, and students assumed this "guy" was unknown to them. Some students mentioned that "female" friend may not be necessary, as they assumed it would be a female.

Directly observing an intoxicated person being sexually assaulted. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on your male friend having sex with a drunk girl.
Suggested change: Interrupt the situation when you walk in on your male friend having sex with an intoxicated girl.

Notes: Students understood this to be a rape situation when the girl was "intoxicated" rather than "drunk", as the latter was interpreted as possible consensual sex that the bystander accidentally walked in on.

Directly observing an intoxicated person being sexually assaulted. (McMahon & Banyard, 2011)
Interrupt the situation when you walk in on a guy having sex with your intoxicated female friend.
No suggested change.

Notes: As noted above, students understood this situation as rape, as indicated by the female friend being "intoxicated". Some students didn't feel "female" was necessary, as it was assumed to be a girl. "Intoxicated" was also preferred over "drunk", as the former is more suggestive of a rape situation whereas the latter could be interpreted as consensual sex.

Post-Assault Situations

If someone said they had an unwanted sexual experience but don't call it rape, I express concern or offer help. (Banyard, Moynihan, Cares, & Warner, in review)
Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.
No suggested change.

Notes: Students understood "unwanted sexual experience" as different than a "regret" situation. They agreed that this was a clear situation of sexual assault, and "expressing concern/offering help" could be interpreted as going with the victim to campus security or the police, or offering emotional support.

Criticize a friend who says they had sex with someone who was passed out or didn't give consent. (Banyard, Moynihan, Cares, & Warner, in review)
Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.
No suggested change.

Notes: Students interpreted this situation as a rape, indicated by lack of consent. They interpreted "criticize" as letting the friend know that what he did was "not ok" and "not to it again". Some felt "criticize" was less severe that "reprimanding", that the former was more of a verbal confrontation, but the latter was more of a physical altercation between the bystander and the perpetrator.

Go with my friend to talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience. (Banyard, Moynihan, Cares, & Warner, in review)
Go with your female friend to get help or talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience.
No suggested change.

Notes: Students interpreted this as to help a friend who has been raped. They stated the examples of services were realistic and similar, in that they were all "professional". They agreed that "family" should not be included in this list of examples (because family is different than police and could be a different item/behavior), and possibly church clergy member could be included in the list. Students understood "wanted sexual experience" as a sexual assault or rape, rather than a "regret" type consensual experience.

A police or judicial investigation needs corroboration. (McMahon & Banyard, 2011)
Cooperate with the police or campus security in an investigation of sexual assault that your male friend committed.
No suggested change.

Notes: Students interpreted "cooperate" as being honest with the police, helping with the investigation, or providing information. They interpreted this situation as "knowing the friend had committed the assault" and "feeling morally obligated to help, even though it's your friend".

Appendix B

Recruitment Announcement (for those research-related courses):

Good morning/afternoon! My name is Jill Hoxmeier, and I am a PhD student in Public Health. I am here today to recruit students to participate in my research study, the title of which is: Students as Pro-Social Bystanders: Opportunities, Actions, and Intentions to Intervene in Sexual Assault Risk Situations. This study is in fulfillment of my doctoral dissertation.

Sexual assault is a major public health concern on the college campus, and my study is designed to look at the influences of students' intent to intervene as bystanders to these situations, as well as students' opportunities to intervene and past intervention behaviors. Participation takes about 20 minutes and is voluntary. I will not collect your names on the survey, and if you would rather participate outside of class time, I am holding office hours that I will share with your instructor. After students have completed the survey, I will make a presentation on a topic that aligns with the objectives of this course.

Brian R. Flay in the College of Health and Human Sciences is the Principal Investigator of this study and his contact information is: 541-737-3837 or brian.flay@oregonstate.edu. I will leave this information with your instructor, along with my email and phone number. Please feel free to contact Brian or myself if you have any questions.

The consent form that I am about to distribute along with the survey provides additional information regarding this study, alternatives to participate, the potential benefits, and steps to help ensure confidentiality. Please feel free to ask any questions. Thank you for your time.

Recruitment Announcement (for un-related courses):

Good morning/afternoon! My name is Jill Hoxmeier, and I am a PhD student in Public Health. I am here today to recruit students to participate in my research study, the title of which is: Students as Pro-Social Bystanders: Opportunities, Behaviors, and Intentions to Intervene in Sexual Assault Risk Situations. This study is in fulfillment of my doctoral dissertation.

Sexual assault is a major public health concern on the college campus, and my study is designed to look at the influences of students' intent to intervene as bystanders to these situations, as well as students' opportunities to intervene and past behaviors. Participation takes about 20 minutes and is voluntary, and I am holding office hours that I will share with your instructor where you can complete the survey, if interested. Your names will not be collected on the survey.

Brian R. Flay in the College of Health and Human Sciences is the Principal Investigator of this study and his contact information is: 541-737-3837 or brian.flay@oregonstate.edu. I will leave this information with your instructor, along with my email and phone number. Please feel free to contact Brian or myself if you have any questions.

If you choose to participate, you will receive a consent form, along with the survey, that provides additional information regarding this study, alternatives to participate, the potential benefits, and steps to help ensure confidentiality. Please feel free to ask any questions. Thank you for your time.

APPENDIX C

Thank you for participating in the research study:

Students as Pro-Social Bystanders:
Opportunities, Behaviors, and Intentions to Intervene in Sexual Assault Risk Situations

Purpose: The purpose of this study is to better understand the influences of OSU students' intent to intervene in sexual assault risk situations, in addition to their opportunities for intervention and their past intervention behaviors. The following survey asks a variety of questions regarding your intent to intervene in "sexual assault" risk situations. For the purpose of this survey, sexual assault is defined as any sexual act that is perpetrated against someone's will, including a completed sex act; an attempted, but not completed, sex act; an abusive sexual contact; and non-contact sexual abuse. Also for the purpose of this study, we are looking at sexual assaults where the perpetrator is a male and the victim is a female. Although sexual assaults can and do occur outside of this specific dynamic, this study is focusing exclusively on those that occur between men and women.

Activities and Time: Participation in this study includes the completion of the Sexual Assault Bystander Behavior Questionnaire. Completion of this survey will take approximately 20 minutes. For those students participating during class time, a presentation will also be made to enhance student learning in alignment with course objectives.

Risks: Any information that you can provide is greatly appreciated. This survey is completely voluntary. You may skip any question you are not comfortable answering. If you feel uncomfortable during this survey and wish to speak with someone at OSU's Counseling and Psychological Services, you can contact them at 541-737-CAPS (2131). There is a chance that we could accidentally disclose information that could identify you. However, your name will not be collected on this survey, and several steps will be taken to help ensure confidentiality of your participation.

Benefits: For those students participating in this study during class time, there are several benefits for participating. You will receive an education presentation on information relevant to this course that can enhance learning and understanding of course material, and results of this study will be made available by the researcher via an emailed research brief to your course instructor who can share results. Regardless of whether participation is during class or during the office hours, your participation in this study contributes to a better understanding of the influences of bystander behavior to help prevent sexual assault, which is important to develop intervention programs to help reduce its incidence.

Confidentiality: Information will be shared and stored in a manner that restricts access to authorized individuals (Dr. Flay and Ms. Hoxmeier). Data will not be disclosed to additional parties without prior IRB approval specifically authorizing the disclosure. The original surveys will be stored in a locked file cabinet in the PI's office at Oregon State University, and electronic data files will be password protected.

Voluntariness: You may choose not to participate or not to answer any specific question. If you decide not to participate, your grade in this course or university standing will not be affected, and you can work on any homework for this class. If you do choose to participate, your grade in this course or university standing will also not be affected, and you may skip any question you are not comfortable answering.

Contact Information: If you have questions regarding this study, you may contact Brian Flay, Principal Investigator, at 541-737-3837 or brian.flay@oregonstate.edu or Jill Hoxmeier, study coordinator, at 406-249-9911 or hoxmeiej@onid.orst.edu. If you have questions about your rights or welfare as a research participant, you may contact the Oregon State University Institutional Review Board (IRB) Office at 541-737-8008 or by emailing irb@oregonstate.edu.

Directions: Please read each question and circle the response that best matches what is true for you. Read the questions and scales carefully, as some of the scales will change depending on the questions. Select only one response. You may use a pencil or a pen, but please do not use pens with ink that soaks through the paper. Please make no marks of any kind on the survey which could identify you individually.

Thank you for your time! We appreciate your participation!

Appendix D

The Sexual Assault Bystander Behavior Questionnaire

Please answer the following questions, by writing your age on the line provided and checking the appropriate circle.

1. Age: _____

2. Sex: ◯ Female ◯ Male ◯ Other

3. Year in School: ◯ Freshman ◯ Sophomore ◯ Junior ◯ Senior ◯ Fifth-year

4. Resident Status: ◯ Non-International ◯ International

5. How do you identify? ◯ White, Non-Hispanic ◯ Black or African American ◯ Hispanic
◯ Asian / Pacific Islander ◯ American Indian / Alaska Native ◯ Other

6. What is the education level of your father? ◯ Less than High School ◯ High School
◯ Some College ◯ Bachelor's Degree ◯ Advanced Degree

7. What is the education level of your mother? ◯ Less than High School ◯ High School
◯ Some College ◯ Bachelor's Degree ◯ Advanced Degree

8. Are you a member of a sorority or fraternity at Oregon State University? ◯ No ◯ Yes

9. Are you a NCAA Intercollegiate athlete at Oregon State University? ◯ No ◯ Yes

10. Do you participate in any OSU-sponsored activities (clubs, intermural sports, etc.)? ◯ No ◯ Yes

11. Do you participate in a religiously affiliated community, i.e. church? ◯ No ◯ Yes

12. Do you currently live in the dorms/residence halls at OSU? ◯ No ◯ Yes

13. Have you received information from OSU on sexual assault prevention? ◯ No ◯ Yes

14. Have you participated in OSU sexual assault prevention training, i.e. Haven? ◯ No ◯ Yes

15. How often do you attend parties where alcohol is present?
◯ Never ◯ 1-5 times a month ◯ 5-9 times a month ◯ 10 or more times a month

16. Do you have a friend who has been the victim of sexual assault? ◯ No ◯ Yes

17. Do you have a friend who has been the perpetrator of sexual assault? ◯ No ◯ Yes

18. Are you a survivor of sexual assault? ◯ No ◯ Yes

This section of the survey asks two questions using 12 situations. First, please circle "Yes" or "No" to indicate if you have or have not had the opportunity to take each of the actions listed. Second, please circle "Yes" or "No" to indicate if you have taken each of the actions listed.

		Have you had the opportunity to take this action?		**Have you taken this action?**	
19	Confront your friend who says he plans to get a girl drunk to have sex.	No	Yes	No	Yes
20	Help your friend who is passed out and being approached or touched by a guy or group of guys.	No	Yes	No	Yes
21	Check in with your friend who looks intoxicated and is being taken to a room by a guy.	No	Yes	No	Yes
22	Say something to your friend who is taking an intoxicated girl back to his room.	No	Yes	No	Yes
23	Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	No	Yes	No	Yes
24	Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	No	Yes	No	Yes
25	Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	No	Yes	No	Yes
26	Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	No	Yes	No	Yes
27	Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	No	Yes	No	Yes
28	Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	No	Yes	No	Yes
29	Go with your female friend to get help or talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience.	No	Yes	No	Yes
30	Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	No	Yes	No	Yes

For the next section, you will be asked four different questions (written in bold) about the same 12 intervention actions. Please circle the number that corresponds to the answer that is true for you.

If you were to encounter this situation, how difficult or easy would it be for you to take each of these action?		**Very Difficult……..**						**Very Easy**
31	Confront your friend who says he plans to get a girl drunk to have sex.	1	2	3	4	5	6	7
32	Help your friend who is passed out and being approached or touched by a guy or group of guys.	1	2	3	4	5	6	7
33	Check in with your friend who looks intoxicated and is being taken to a room by a guy.	1	2	3	4	5	6	7
34	Say something to your friend who is taking an intoxicated girl back to his room.	1	2	3	4	5	6	7
35	Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	1	2	3	4	5	6	7
36	Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	1	2	3	4	5	6	7
37	Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	1	2	3	4	5	6	7
38	Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	1	2	3	4	5	6	7
39	Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	1	2	3	4	5	6	7
40	Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	1	2	3	4	5	6	7
41	Go with your female friend to get help or talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience.	1	2	3	4	5	6	7
42	Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	1	2	3	4	5	6	7

How much do you think your good friends would disapprove or approve of you if you were to take each of the following actions?		**Totally Disapprove……..**						**Totally Approve**
43	Confront your friend who says he plans to get a girl drunk to have sex.	1	2	3	4	5	6	7
44	Help your friend who is passed out and being approached or touched by a guy or group of guys.	1	2	3	4	5	6	7
45	Check in with your friend who looks intoxicated and is being taken to a room by a guy.	1	2	3	4	5	6	7
46	Say something to your friend who is taking an intoxicated girl back to his room.	1	2	3	4	5	6	7
47	Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	1	2	3	4	5	6	7
48	Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	1	2	3	4	5	6	7
49	Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	1	2	3	4	5	6	7
50	Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	1	2	3	4	5	6	7
51	Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	1	2	3	4	5	6	7
52	Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	1	2	3	4	5	6	7
53	Go with your female friend to get help or talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience.	1	2	3	4	5	6	7
54	Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	1	2	3	4	5	6	7

To prevent a sexual assault, how unhelpful or helpful do you think it is to take each of these actions?		**Totally Unhelpful**						**Totally Helpful**
55	Confront your friend who says he plans to get a girl drunk to have sex.	1	2	3	4	5	6	7
56	Help your friend who is passed out and being approached or touched by a guy or group of guys	1	2	3	4	5	6	7
57	Check in with your friend who looks intoxicated and is being taken to a room by a guy.	1	2	3	4	5	6	7
58	Say something to your friend who is taking an intoxicated girl back to his room.	1	2	3	4	5	6	7
To reduce the harm of a sexual assault, how unhelpful or helpful do you think it is to take each of these actions?		**Totally Unhelpful**						**Totally Helpful**
59	Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	1	2	3	4	5	6	7
60	Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	1	2	3	4	5	6	7
61	Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	1	2	3	4	5	6	7
62	Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	1	2	3	4	5	6	7
63	Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	1	2	3	4	5	6	7
64	Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	1	2	3	4	5	6	7
65	Go with your female friend to get help or talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience.	1	2	3	4	5	6	7
66	Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	1	2	3	4	5	6	7

If you were to encounter this situation, how likely are you to take each of these actions?		**Totally Unlikely……**						**Totally Likely**
67	Confront your friend who says he plans to get a girl drunk to have sex.	1	2	3	4	5	6	7
68	Help your friend who is passed out and being approached or touched by a guy or group of guys.	1	2	3	4	5	6	7
69	Check in with your friend who looks intoxicated and is being taken to a room by a guy.	1	2	3	4	5	6	7
70	Say something to your friend who is taking an intoxicated girl back to his room.	1	2	3	4	5	6	7
71	Interrupt the situation when you walk in on your friend who appears to be forcing a girl to have sex with him.	1	2	3	4	5	6	7
72	Interrupt the situation when you walk in on a guy who appears to be forcing your female friend to have sex with him.	1	2	3	4	5	6	7
73	Interrupt the situation when you walk in on your friend who is having sex with an intoxicated girl.	1	2	3	4	5	6	7
74	Interrupt the situation when you walk in on a guy who is having sex with your intoxicated female friend.	1	2	3	4	5	6	7
75	Express concern or offer help if your friend said she had an unwanted sexual experience even if she doesn't call it rape.	1	2	3	4	5	6	7
76	Criticize your friend who says he had sex with a girl who was passed out or didn't give consent.	1	2	3	4	5	6	7
77	Go with your female friend to get help or talk with someone (e.g. police, counselor, crisis center, resident advisor) about an unwanted sexual experience.	1	2	3	4	5	6	7
78	Cooperate with the police or campus security in an investigation of sexual assault that your friend committed.	1	2	3	4	5	6	7

This section asks a different set of questions than those above. Please circle the number for the answer that is true for you:

How much do you disagree or agree with each of the following statements?		**Strongly Disagree…**						**Strongly Agree**
79	At a party or bar, I am probably too busy to be aware of whether someone is at risk for sexual assault.	1	2	3	4	5	6	7
80	In a party or bar situation, I find it hard to tell whether a guy is at risk for sexually assaulting someone.	1	2	3	4	5	6	7
81	In a party or bar situation, I think I might be uncertain as to whether someone is at risk for being sexually assault.	1	2	3	4	5	6	7
82	Even if I thought someone was at risk for being sexually assault, I would probably leave it up to others to intervene.	1	2	3	4	5	6	7
83	Even if I thought someone was at risk for being sexually assaulted, I would probably leave it up to others to intervene.	1	2	3	4	5	6	7
84	If I saw someone I didn't know was at risk for being sexually assault, I would leave it up to his/her friends to intervene.	1	2	3	4	5	6	7
85	I am less likely to reduce a person's risk of sexual assault if I think she made choices that increased her risk.	1	2	3	4	5	6	7
86	If a person is dressed provocatively, or acts provocatively, I am less likely to intervene to prevent others from taking sexual advantage of them.	1	2	3	4	5	6	7
87	If a person is dressed provocatively, or acts provocatively, I feel less responsible for preventing others from taking sexual advantage of them.	1	2	3	4	5	6	7
88	I am more likely to intervene to prevent sexual assault if I know the potential victim than if I do not.	1	2	3	4	5	6	7
89	I am more likely to intervene to prevent sexual assault if I know the personal that may be at risk for committing sexual assault that I do not know him.	1	2	3	4	5	6	7
90	Although I would like to intervene when a guy's sexual conduct is questionable, I am not sure I would know what to say or do.	1	2	3	4	5	6	7
91	Even if I thought it was my responsibility to intervene to prevent sexual assault, I am not sure I would know how to intervene.	1	2	3	4	5	6	7
92	I am hesitant to intervene when a guy's sexual conduct is questionable because I am not sure other people would support me.	1	2	3	4	5	6	7
93	Even if I thought it was my responsibility to intervene to prevent a sexual assault, I might not out of concern I would look foolish.	1	2	3	4	5	6	7

Appendix E

The item, "If a person is extremely intoxicated, I am less likely to intervene to prevent others from taking sexual advantage of them" from the Situational Model of Bystander Intervention (Burn, 2009), was not included in the SABB-Q. Therefore, additional analyses were conducted to determine the reliability of this subscale, with the current sample, compared to the original 8-item subscale in the Burn (2009) study.

First, the two samples' mean scores on each of the five subscales were compared. Items on these subscales were measured on a 7-point rating system (*1=Totally Disagree* to *7 = Totally Agree*). The table below presents the findings for this analysis. The results show that the sample of the Burn study had higher means on each of the five scales, both men and women, compared to the sample in the present study, indicating that students in the OSU sample reported less agreement with the five areas of intervention barriers.

Table 31. Comparison of Mean Values for Barrier Subscales

	Burn Women	OSU Women	Burn Men	OSU Men
Subscale	**M(SD)**	**M(SD)**	**M(SD)**	**M(SD)**
Failure to Notice	4.13(1.45)	3.58(1.52)	4.51(1.5)	4.06(1.52)
Failure to Identify as High Risk	3.96(1.19)	3.68(1.19)	4.29(1.12)	3.73(1.22)
Failure to Take Responsibility	3.70(1.04)	3.26(1.17)	4.29(.98)	3.8(1.19)
Failure to Intervene due to Skills Deficit	4.16(1.64)	4.07(1.64)	4.24(1.52)	3.91(1.62)
Failure to Intervene due to Audience Inhibition	3.20(1.36)	3.07(1.58)	3.80(1.34)	3.27(1.57)

Second, a Cronbach's alpha reliability analysis was conducted to determine the similarity of subscale reliability between the samples. Each of the five subscales reached adequate thresholds for reliability in the OSU sample, and similar alpha values were achieved (Burn, 2009). Failure to Take Intervention Responsibility, the subscale that was missing an item in the OSU sample, reached the same alpha reliability as in the original analysis conducted by Burn (2009).

Table 32. Comparison of Cronbach's Alpha Reliability Analysis

	Burn	OSU
Subscale	**α**	**α**
Failure to Notice	-	-
Failure to Identify as High Risk	0.72	0.72
Failure to Take Intervention Responsibility	0.85	0.85
Failure to Intervene due to Skills Deficient	0.89	0.89
Failure to Intervene due to Audience Inhibition	0.7	0.82

Second, a Spearman's Correlation analysis was conducted to assess how similarly the subscales correlated in the OSU sample compared how well they correlated in the Burn (2009) sample. The table below presents correlation coefficients found in the Burn (2009) study first and the correlation coefficients found in the OSU sample. Because Burn (2009) conducted the analysis for males and females separately, both coefficients are presented. Subscale correlation coefficients for males are presented below the diagonal, and subscale correlation coefficients for females are presented above the diagonal. Similar correlation coefficients and significance levels were achieved in the OSU sample, including for the subscale that was missing one item.

Table 33. Comparison of Spearman's Correlation for Subscale

Burn Study Subscales	**1**	**2**	**3**	**4**	**5**
Failure to Notice	-	0.57***	0.35***	0.29***	0.33***
Failure to Identify as High Risk	0.56***	-	0.44***	0.5***	0.47***
Failure to Take Responsibility	0.38***	0.51***	-	0.51***	0.56***
Failure to Intervene due to Skills Deficit	0.2**	0.39***	0.47***	-	0.66***
Failure to Intervene due to Audience Inhibition	0.23**	0.47***	0.59***	0.7***	-

OSU Study Subscales	**1**	**2**	**3**	**4**	**5**
Failure to Notice	-	0.53***	0.31***	0.25***	0.24***
Failure to Identify as High Risk	0.52***	-	0.54***	0.52***	0.49***
Failure to Take Responsibility	0.39***	0.56***	-	0.51***	0.59***
Failure to Intervene due to Skills Deficit	0.26***	0.47***	0.55***	-	0.66***
Failure to Intervene due to Audience Inhibition	0.29***	0.49***	0.58***	0.7***	-

*p<0.05, **p<0.01, ***p<0.001