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Bystander Antecedent Scale: Initial Development And Validation

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BYSTANDER ANTECEDENT SCALE: INITIAL DEVELOPMENT AND VALIDATION

by

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Ashley Friesen-Janochoski
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ABSTRACT

The present study explored the development and initial validation of a measure of bystander intervention behaviors in situations of sexual assault. There is a gap in existing scales using a theoretical basis when measuring bystander behaviors. The scales that do exist focus primary on bystander attitudes and are not theory driven (Banyard et al., 2005; Banyard & Moynihan, 2008; Banyard, 2008; McMahon et al., 2011).

Our purpose was to develop and provide initial norming and validity information for the Bystander Antecedent Scale (BAS). The BAS assesses the attitudes, social norms, and behavioral control people experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault, in doing so is organized around the Theory of Planned Behavior (TPB; Ajzen, 2002). The BAS is comprised of four subscales that represent the three predictive components of the Theory of Planned Behavior (Ajzen 2002): Perceived Behavioral Control about their ability to intervene as a bystander; Subjective Norms to Intervene about how they believe friends might react in bystander intervention situations; and Attitudes Toward Intervening involves how helpful they believe the bystander intervention would be in situations involving sexual assault.

In regard to the findings of the BAS, an orthogonal, four-factor structure emerged, which accounted for 58% if the total variance. This factor structure was representative of the three predictive components of the Theory of Planned Behavior (Ajzen, 2002), and further delineated by post assault behaviors. Cronbach's alpha levels ranged from .83 to .87. Overall, the corresponding factors of the BAS demonstrated moderate to moderate to strong convergent validity with the Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008), the Bystander Behaviors Scale-Revised (McMahon et al., 2011), the Bystander Efficacy Scale (Banyard, 2008), and the Acceptance of Modern Myths of Sexual Aggression (Gerger et al., 2007).

Similarly, the corresponding factors of the BAS demonstrated divergent validity with the Social Desirability Scale-17 (Stöber, 2001).

The BAS has limitations which include a sample of participants residing primarily in the Midwestern United States, and identifying as white, heterosexual, and cisgender female. However, when further norming is completed, the BAS is a useful tool for further understanding the attitudes, social norms, and behavioral control people experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault.

INTRODUCTION

Sexual assault is a pervasive crime (Pugh & Becker, 2018; Regehr et al., 2013; Rotenberg, 2018) often resulting in psychological and physical consequences that are often severe and lifelong (Mason & Lodrick, 2013). Sexual assault can be defined as a sexual act or sexual touching in which a person is coerced or forced to engage against their will or for which consent cannot be given dur to incapacitation (Cantor et al., 2015). An estimated 730,000 sexual assaults occur in a one-year period in the United States (Morgan & Oudekerk, 2019), and one in five American women experience sexual assault in their lifetime (RAINN, 2020). An important method to reducing the high prevalence of sexual assault is bystander interventions (Wee et al., 2016; Frye et al., 2012). Our understanding of which bystander behaviors are both feasible and effective is nascent, and our knowledge of which situational factors influence peoples' willingness to intervene is underdeveloped (Hortensius et al., 2016). Part of the limitations in research in this area may be due to the lack of theoretically based measures of bystander intervention antecedents, and it is unclear how bystander training may moderate the potential of individuals to engage in behaviors that reduce sexual assault. Therefore, measures of bystander behaviors are needed to better evaluate and optimize bystander intervention programming. The purpose of this study is aimed to use the Theory of Planned Behavior (TPB, Ajzen, 2002), to explore the development of a psychometrically sound measure, the Bystander Antecedents Scale (BAS), that assesses bystander intervention attitudes, social norms, and behavioral control in situations of sexual assault.

Bystanders

Bystanders can be defined as people who are present immediately before, during, and/or after a violent event, but are not a perpetrator nor the intended victim (Coker et al., 2019).

Bystanders are likely to witness numerous inappropriate, offensive, and illegal actions and are often situated to intervene effectively. According to the National Crime Victim Survey (NCVS), bystanders are present in over 70% of assaults, 54% of robberies, and 29% of sexual assaults (Planty, 2002). Hawkins et al. (2001) indicated that over half of bullying behaviors and harassment ceases within 10 seconds of bystander intervention. Furthermore, bystanders are often present during the pre-assault phase where markers of sexual assault risk are present (Banyard et al., 2004; Berkowitz, 2002), putting them in an important position to intervene and potentially prevent an assault. A better understanding of the motivations and variables related to people's attitudes, social norms, and behavioral control related to bystander behaviors when confronted with situations involving sexual assault or potential sexual assault . Additionally, knowing which variables promote or inhibit bystanders' willingness to intervene could facilitate positive changes in our communities.

Bystander Effect

Social psychology research revealed evidence of a "bystander effect" in which witnesses to emergency situations fail to take action to aid those in need (Darley & Latane, 1968; Latane & Darley, 1969). More recent research suggests that the bystander effect may play a role in the prevalence of sexual assault among adolescents and college students, as young people are often unlikely to act when witnessing signs of sexual violence (Banyard, 2008; Bennett et al., 2014; Burn, 2009; Casey & Ohler, 2012; Exner & Cummings, 2011; McCauley et al., 2013; McMahon, 2010; Noonan & Charles, 2009).

Situational variables were among the first to be examined to better understand general bystander behavior (Latané, 1970). The relationship between bystander behavior and diffusion of responsibility are well documented in social psychology research. For instance, the number of

bystanders present during an emergency is negatively related to an individual's likelihood to intervene (Checkroun & Brauer, 2002). Yet, little research has examined the impact of increased bystander awareness on sexual assault-specific bystander behavior.

Bystander Intervention

Sexual assault remains a serious problem on college campuses with 10% of female and 3% of male students experiencing unwanted sexual touching in the past 12 months; and 3% of females and 1% of males expiring sexual penetration without consent in the past 12 months (American College Health Association, 2016). Differing views exist on how to address the problem of sexual assault. One view suggests prevention of sexual assault should be on the responsibility of women (Söchting, Fairbrother, & Koch, 2004). Others believe responsibility should be on men as they are most often the perpetrators (Berkowitz, 1992; McDermott, Kilmartink, McKelvey, & Kridel, 2015). Bystander intervention is another way to decrease prevalence rates (Latané & Darley, 1970).

An effective bystander intervention program should be able to impart knowledge and awareness regarding what sexual assault is, prevalence rates, negative consequences associated with victimization, learning to identify possible warning signs, and the opportunity to develop the skills and confidence to effectively intervene with minimal negative repercussions. Bystander intervention programs could then be a tool utilized to debunk rape culture and provide victims with confidence and additional support to report a sexual assault. Furthermore, it could increase overall bystander intervention, as a third of all sexual assaults are witness by a bystander (Burn, 2009), and they only intervene a third of the time (Planty, 2002). Progress has been made in utilizing bystander intervention programs, such as the Green Dot bystander intervention program (Green Dot, 2016) or the 'Bringing in the Bystander' (Banyard, Moynihan, Plante, 2007) to

develop prosocial bystander behaviors. Researchers such as Senn and Forrest (2016) have been successfully evaluating and applying these programs to test the effectiveness of improving bystander attitudes and behavior regarding sexual assault; their findings have confirmed the effectiveness of the workshop when included as part of the undergraduate curriculum. Bystander intervention is, therefore, a valuable resource that could be exploited to reduce prevalence rates (McMahon & Farmer, 2009; Senn & Forrest, 2016). However, while bystander intervention programs have produced positive results prevalence rates remain unchanged, suggesting further research is needed to investigate what influences bystander intervention.

Bystander Intervention Challenges

Research suggests that bystanders are often unsure of themselves as responders. They are unclear about whether intervention is needed or welcome, or what they should do to help. A study of college students found that 58% did not know how to help a victim (Bennett et al., 2014). These studies show that bystanders often lack awareness and skills to take helpful actions. Recent research also indicates that bystander action is different if they know the victim, the perpetrator, or both (Levine & Cassidy, 2009). Further, some new findings suggest that compared to other forms of interpersonal violence, sexual violence may be less safe for bystanders (Coker et al., 2019), highlighting the importance of bystander safety as a critical component of prevention work. Part of increasing safety is changing community contexts so that there are adequate resources for bystanders to draw upon, that peer norms are encouraging of bystander interventions, and that bystanders learn skills for how to help without putting themselves in danger.

Bystander intervention is one promising component of sexual violence prevention. Research suggests interventions are most effective if bystanders are provided with active

learning experiences to build skills, if education is conducted in combination with peer norm shifts, and if intervention is supported by policies that provide safety nets for bystanders.

Bystander Intervention Training Programs

Workshops of varying lengths are the most researched prevention training for potential bystanders. Some of the programs were Mentor's in Violence Prevention (Katz et al., 2011), and Men's Project (Gidycz et al., 2011). Bringing in the Bystander mainly addresses sexual violence but also includes segments related to relationship abuse (Banyard et al., 2007). Green Dot (www.livethegreendot.com) has an intensive training curriculum called SEEDS for college students that is also now being implemented and evaluated in high schools (Coker et al., 2011). One in Four has programs for men and women that train them to be active bystanders, again with more of a focus on sexual assault (Langhinrichsen-Rohling et al., 2011).

The biggest and most consistent impacts of bystander training are on knowledge, confidence as a bystander, intent to act, and perceived benefits of action (Banyard et al., 2007). Students have also shown decreases in rape myth beliefs and increases in bystander knowledge (Cares et al., 2015). Published results exist for Mentors in Violence Prevention, Bringing in the Bystander, One in Four, Coaching Boys to Men, and Green Dot, though studies vary quite a bit in the methods used (Ahrens et al., 2010; Banyard et al., 2007; Cares et al., 2015; Gidycz et al., 2011; Foubert et al., 2010; Katz et al., 2011; Langhinrichsen-Rohling et al., 2011; Miller et al., 2012). The Coaching Boys to Men program and the Bringing in the Bystander have both show higher self-reported bystander behaviors among participants in these programs (Miller et al., 2012). Several key studies of bystander programs used more rigorous experimental and quasi-experimental designs, but more research is needed (Miller et al., 2012). A recent meta-analysis found promising effects of bystander prevention curricula (Katz & Moore, 2013).

Social Marketing Campaigns

Social marketing campaigns have been developed to raise awareness across many different groups of people. On campuses, Know Your Power, a program that models positive bystander actions (Potter, 2012), is one of the best researched. Similarly, Green Dot is also a college-based anti-violence project that includes a social marketing awareness campaign. Evaluations of this work are underway (Coker et al., 2011). The Red Flag campaign in Virginia has not yet been evaluated. These are merely a few examples as new local campaigns are being developed at a rapid rate.

Research suggests that these campaigns increase awareness of the problem of relationship abuse and sexual violence, as well as positive attitudes about being an active bystander across various groups of people (Potter, 2012). However, social marketing campaigns alone have not yet been linked to changes in behavior and are likely to be particularly useful when linked with other prevention tools (Banyard et al., 2017). Evaluation data are limited except for the Know Your Power campaign, which found promising attitude change results across several studies (Potter, 2012).

Bystander Intervention Model

Scholars have used several approaches to guide the understanding of bystander intervention. Socio-ecological models provide researchers with a way to make sense of the many contextual factors influencing bystanders' perceptions of a situation and appropriate responses. Yet, the socio-ecological models are limited in their ability to describe the cognitive processes by which bystanders interpret and act in distressing situations. The decision model of helping developed by Latané and Darley (1970), and refined by Piliavin et al. (1981), sequences the

cognitive steps bystanders must complete, and the factors they consider, to successfully intervene.

More specifically, the situational model of bystander behaviors (SMB; Latané & Darley, 1970) identifies intrapersonal processes underlying the decision to act in a troubling situation, with each decision including the presence of other people (known as the "bystander effect"). Among these processes are (1) noticing that a problem is occurring, (2) interpreting a situation as problematic, (3) seeing oneself as responsible for acting in that situation, (4) knowing how to intervene and weighing which action to take, and (5) taking action (Latané & Darley, 1970).

While the SMB is helpful for modeling bystander decision-making, the antecedents associated with noticing an event and deciding it needs intervention (the first two stops in SMB) were not fully developed within the original model. Currently, there are no instruments detecting which one of these reasons influences the bystander decisions. Furthermore, the original SMB does not include a broad range of cognitive factors (e.g., attitudes and beliefs) that may also influence bystander intervention behaviors (Banyard, 2014; Casey & Ohler, 2012), and more detail is needed to fully understand the interaction of contexts and confidence in skills on bystander behavior. While other researchers have suggested various remedies for these short comings (e.g., consequences of bystander action, choosing to help, response of the victim and perpetrator), we are here proposing that the TPB is a robust theoretical model that may serve to better understand crucial elements in the process.

The Theory of Planned Behavior

Behavior change research suggests that the Theory of Planned Behavior (TPB; Ajzen, 1991) is well positioned to capture many of these additional influences not accounted for by the SMB model of bystander behavior. The TPB is empirically validated and theoretically rigorous

social cognitive model which pinpoints critical cognitive predictors of a range of health behaviors (St. Lawrence et al., 2002). Scholars have argued for the conceptual relevance of constructs within the TPB to bystander behavior across types of violence (Banyard, 2014; Banyard et al., 2009; McMahon et al., 2013; Stueve et al., 2006). Furthermore, emerging evidence supports the use of this model and its component constructs for distinguishing between interveners and non-interveners (Casey et al., 2014). The Theory of Planned Behavior postulates that behaviors are predicted by individuals' intentions to engage in those behaviors (Ajzen, 1991, 2002). These intentions are influenced by three factors: attitudes, subjective norms, and perceived behavioral control.

First, within TPB, intentions to behave are predicted by *attitudes* toward a specific behavior. Attitudes are defined as affective evaluations of the behavior and possible outcomes of doing the behavior (Ajzen, 1991, 2002). For example, individuals who perceive that intervening results in ridicule or retaliation and assess these as unpleasant outcomes report more passivity in the context of aggression toward women (Casey & Ohler, 2012), and bulling among youth (Thornberg et al., 2012). Second, intentions are influenced by perceived *subjective norms*, which are perceptions of what important others want one to do (Ajzen, 1991, 2002). Youth are less likely to intervene in bullying (Pozzoli & Gini, 2010; Rigby & Johnson, 2006), and college males are less likely to intervene in potential sexual assaults (Messman-Moore & Brown, 2010) if they believe that their peers would not do the same. The final construct predicting intention is *perceived behavioral control*, which is when an individual believes that they may actually have control over changing an outcome (Ajzen, 1991, 2002). Additionally, the TPB asserts that one's perception of control over behavior precedes their intention to perform the behavior (Ajzen, 1991). Prior research has used similar measures to assess bystander efficacy and found them to

be salient in intervention intentions (Palmer et al., 2018); however, none of this research has specifically examined the differences in the perceived behavioral control between interveners and non-interveners to more closely investigate the potential role this variable plays in actual intervention behavior.

The TPB suggests that individuals who perceive greater approval by others to perform a certain behavior will report greater intent to do so (Fishbein & Ajzen, 1975). 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 bipolar rating scale (Ajzen, 1991). Some studies have investigated the role of peer norms in bystander intervention; however, their measures focused more on norms surrounding sexual assault, rather than specific norms around intervening as a bystander (Brown & Messman-Moore, 2010; Fabiano et al., 2003; Gidycz et al., 2011). Using a TPB framework for this study, subjective norms will be measured to assess the perceived approval or disapproval individuals may get from their good friends and family when intervening as a bystander.

Attitudes are also proposed to influence behavioral intent, and thus, behaviors (Fishbein & Ajzen, 1975). Fishbein and Ajzen (1975) differentiated between attitudes toward the object (e.g., intent to intervene in situations of sexual assault) and attitudes toward the behavior with respect to that object (e.g., intent to intervene in situations of sexual assault). Previous research has measured attitudes toward sexual assault, but only one study has differentiated between attitudes toward those issues and their attitudes toward intervening, an important distinction (Hoxmeier et al., 2015). In TPB, attitudes are a measure of one's beliefs about the outcomes or attributes (Ajzen, 1991; Fishbein & Ajzen, 1975).

Overall, TPB provides insight into making sense of individuals perceived behavioral control to intervene, subjective norms that support intervening, attitudes toward intervening, and intent to intervene in the future. Understanding these determinants of behavior is critical to developing interventions and increasing intervention behaviors. Despite the power of TPB to provide explanation and prediction of intervention models—especially related to the antecedents (attitudes, norms, and behavioral control)—no measures currently exist that examine these constructs. Such measures would provide program developers and trainers the steps to improve bystander intent and consequently the steps in between intent and bystander behaviors. The TPB also has applications to sexual assault prevention efforts. In fact, the TBP was one of theoretical models used to develop the CDC's Rape Prevention and Education (RPE) Program's theory model, Creating Safer Communities: The Rape Prevention and Education Model of Community Change (Cox, Lang, Townsend, & Campbell, 2010). In the context of sexual violence and bystander intervention, the TPB model would suggest that intention to engage in bystander behaviors aimed at preventing or responding to sexual violence would be predicted by attitudes, subjective norms, and perceived behavioral control. In other words, an individual's attitudes towards bystander intervention, perception of social norms about bystander interventions, and the degree to which one believes they have the capacity to act to prevent sexual violence would all impact intention to perform the bystander intervention behavior. Together, all these components ultimately impact actual behaviors aimed at preventing or responding to sexual violence.

Current Bystander Measures

As campuses implement programs aimed at encouraging bystander intervention behavior, several quantitative measures of students' attitudes toward intervening and past interventions

have been developed and utilized to assess the efficacy of these initiatives. There are few measures of bystander behavior in the specific context of sexual assault. The most frequently used measures include the Bystander Intention to Help Scale, the Bystander Behaviors Scale, and the Bystander Efficacy Scale. An evaluation and critique of the three prominent bystander scales that are most closely related to the TPB are discussed below.

Bystander Intent to Help Scale

The most used measure to assess bystander intent in the context of sexual violence prevention is the Bystander Attitude Scale (Banyard et al., 2007), and later referred to as the Bystander Intent to Help Scale (Banyard & Moynihan, 2008). The original scale asks how likely participants are to engage in a range of 51 bystander behaviors, spanning the continuum from before an assault occurs to after. Responses are on a 6-point Likert scale range from 1 = *strongly disagree* to 6 = *strongly agree*. Reliability for the original scale (Banyard et al., 2005) was .94 (N = 389). A short form of the scale exists and includes 12 items (Banyard & Moynihan, 208), and participants rate the likelihood to perform the behaviors using a 5-point Likert scale (1 = *not at all likely* and 6 = *extremely likely*). An example item includes, "Think through the pros and cons of different ways I might help if I see an instance of sexual violence" (p. 292). Higher scores indicate that the participant would be more likely to perform the behavior listed. Participants in the sample included (N = 406) undergraduate students at the University of New Hampshire and the Cronbach's alpha was .85 with a range of 12-60, M = 45.41, SD = 7.60 (Banyard & Moynihan, 2011). Banyard and Cross (2008) have created the Bystander Intent to Help Scale-Short Form, which is a 12 item, shortened version of the Bystander Intent to Help Scale (Banyard & Moynihan, 2008). The Bystander Intent to Help Scale has been modified and used by several researchers to evaluate bystander intervention education programs, with reported

reliability ranging from .82 to .92 (McMahon et al., 2011; Ahrens et al., 2011; Foubert et al., 2010; Moynihan et al., 2010; Langhinrichsen-Rohlin et al., 2011; Latané & Darley, 1970; Coker et al., 2011).

The Bystander Intent to Help Scale (Banyard & Moynihan, 2011) predominantly assesses distract, direct, and delegate behaviors as they may occur in a high-risk sexual assault situation (e.g., calling an emergency phone number, speaking up when witnessing problematic behavior), as taught by Green Dot. In Green Dot training, *distract* refers to taking action to generate a distraction that diverts the perpetrator's attention, creating an opportunity for the victimized individual to depart or potentially find assistance (Coker et al., 2015). The second action of Green Dot is *direct* which means that intervention action involves becoming directly involved in the concerning situation to facilitate de-escalation (Coker et al., 2015). The final action in Green Dot training includes *delegating*, or finding another person, service, office, or resource to task with addressing the problematic situation (Coker et al., 2015).

Despite the strengths of this scale there are areas of for improvement. For example, the scenarios asked in the Bystander Intent to Help Scale (Banyard & Moynihan, 2011) provides potential bystander behaviors, but it does not leave room for respondents to communicate other possible intervention behaviors. Additionally, self-reported measures of bystander intent to help appears in the literature (Banyard, 2008; Burn, 2009), but few studies have directly examined the psychometric properties of assessing this construct. What seems to be missing from this measure of bystander intervention is an individual's perceived behavioral control (ability) to intervene, the subjective norms that support intervening, and attitudes about intervening. Banyard and Cross (2008) developed a short form of the scale that consists of 12 items. The scale has been modified and used by a number of authors to evaluate bystander intervention education

programs, with reported reliability ranging from .82 to .92. McMahon et al., 2011; Ahrens et al., 2011; Foubert et al., 2011; Moynihan et al., 2010; Langhinrichsen-Rohlin et al., 2011).

Bystander Intent to Help Scale–Short Form. This scale (Banyard & Cross, 2008) includes 12 items assessing participants' likelihood to engage in certain bystander behaviors. Research participants rate their likelihood to perform the behaviors using a 5-point Likert-type scale (1 = not at all likely, 5 = extremely likely). Items include, for example, "Think through the pros and cons of different ways I might help if I see an instance of sexual violence" and "If I heard a stranger insulting their partner, I would get help from others including authorities or university staff." Higher scores indicate that participants would be more likely to perform the behavior listed. The Cronbach's alpha on this scale for this sample was .82.

Despite these strong psychometric properties, there are limitations to McMahon et al., (2011) BBS-R measure including the relatively short list of bystander behaviors on the survey, the over-sample of first-year undergraduate students, and the lack of racial/ethnic diversity in the sample. Given that context is important in a bystander's decision to intervene, it is important to examine perceptions of bystander behavior across a variety of groups. The decision process, available behavioral options, and consequences for the bystander will likely vary by the social context of the individual. Additionally, while the current bystander behavior measure assesses whether students participated in certain opportunities to intervene, this measure may not fully capture the other possible bystander intervention behaviors. Potential limitations including knowing whether students intervened or not (rather than their report), how they intervened, and or whether it resulted in a positive outcome.

Bystander Behavior Scale

The most widely used measure of bystander behavior to date is the Bystander Behavior Scale (Banyard et al., 2005; Banyard, 2008). The original scale listed the same 51 bystander behaviors as the Bystander Attitudes Scale (Banyard et al., 2005), and participants are asked whether they have engaged in the behavior in the previous two months (1 = yes, 2 = no). The scale has been adapted and used by others to evaluate sexual violence bystander programs (Banyard et al., 2005; Banyard, 2008; Coker et al., 2011), with reliability ranging from .69 to .80.

A revised version of the Bystander Behavior Scale (BBS-R; McMahon et al., 2011) was used in this study to assess the dependent variable of bystander behaviors. The original version of the Bystander Behavior Scale (Banyard et al., 2005) included 51 items that assessed whether respondents actually engaged in the behaviors listed in the previous five weeks. The Cronbach's alpha for the original BBS was 0.89. As with the BAS-R, to establish reliability and content validity of the BBS-R, McMahon and colleagues (2011) based all modifications on a review of the literature, anecdotal information gathered from their own interactions with students, consultation with experts in the field, and through a series of three focus groups with undergraduate students and professionals who work with rape survivors on campus. The Cronbach's alpha for the revised version of the Bystander Behavior Scale was 0.69 (McMahoen et al., 2011).The BBS-R includes the same 16 items as the Bystander Attitudes Scale-Revised (McMahon et al., 2011), but the response options include a 6-point Likert scale response 1 (*extremely unlikely)* to 6 (*extremely likely*), much like the Bystander Intent to Help scale (Banyard & Moynihan, 2008). Examples of items on the BBS-R include "I tell a friend if I think

their drink may have been spiked with a drug," and "Speak up if I hear someone, say "She deserved to be raped." (See Appendix).

Bystander Efficacy Scale

To assess confidence in one's ability to intervene, the Bystander Efficacy Scale was used (Banyard, Plante, & Moynihan, 2005; Appendix A). Respondents were asked to rate their confidence in performing certain bystander behaviors on a scale of 0 (''can't do'') to 100 (''very certain can do''). For example, ''express my discomfort if someone says that rape victims are to blame for being raped'' or ''talk to a friend who I suspect is in an abusive relationship." Each individual received a score by subtracting the mean of the 14 items from 100 to create a scale of perceived ineffectiveness, with high scores indicating greater ineffectiveness and low scores items become the total score used. The Cronbach's alpha on this scale for this sample was .9 indicating lower ineffectiveness (Banyard, 2005). The 14-item scale had good reliability (Cronbach's alpha = 0.87; Banyard). This scale also upholds high test-retest reliability (r = .81). When compared to similar efficacy measures from the literature (e.g., the Slaby Bystander Efficacy Scale and the MVP Efficacy Scale), Banyard and colleagues' Bystander Efficacy Scale appears to be negatively correlated with reverse ineffectiveness scoring ($r = -.35$, $p < .001$; $r = -.58$, $p < .001$; Banyard, 2008).

Bystander Efficacy Scale

The Bystander Efficacy Scale (Banyard et al., 2005) assesses perceived ability to intervene as a bystander and has 14 items that describe bystander behaviors. Participants are asked to indicate their confidence level in performing each of the bystander behaviors stated on a scale of 0 (*can't do*) to 100 (*very certainly can do*). Scores are created by subtracting the mean of these 14 items from 100 to create a scale of perceived ineffectiveness; thus, higher scores

indicate lesser effectiveness. Participants included 389 predominantly white undergraduate students, and the Cronbach's alpha was .87 (with scores ranging from 0 to 92.86, $M = 20.55$, $SD = 14.19$; Banyard et al., 2007). Example items include, "express my discomfort if someone says that rape victims are to blame for being raped" or "ask a friend if they need to be walked home from a party" (p. 108). Previously, this scale yielded an internal consistency of .89 in a sample of undergraduate women ($N = 279$) (Foubert et al., 2010). This measure has shown adequate reliability and validity and was found to correlate with other instruments that measure bystander efficacy (e.g., Slaby et al, 1994). Criterion validity of the BES was established through a significant correlation between bystander efficacy and actual bystander behavior ($r = .30$; Banyard, 2008). Construct validity was established with a significant correlation between bystander efficacy and rape myth acceptance (Banyard, 2008).

Purpose and Hypotheses

The purpose of this study is to psychometrically test the reliability and validity of a new instrument, Bystander Antecedent Scale (BAS), developed to measure individual bystander antecedents in line with the Theory of Planned Behavior (TPB; Ajzen, 2002). More specifically, the scale intends to measure the attitudes, social norms, and behavioral control participants experience related to bystanders behaviors when confronted with situations involving sexual assault or potential sexual assault, in doing so is organized (by subscale) around the Theory of Planned Behavior (TPB; Ajzen, 2002).The scale was hypothesized to represent the three antecedent components of behavior intention as described by the Theory of Planned Behavior; including perceived behavioral control to intervene, subjective norms that support intervening, and attitudes toward intervening in situations of sexual assault.

The TPB was chosen for this study because of its emphasis on personal development and perceived locus of control. The TPB has gained recent support in literature associated with assessing effective bystander intervention behaviors outside of collegiate contexts (Abbott & Cameron, 2014; Casey & Ohler, 2012; Stueve et al., 2006). Positioned within the context of this study, attitudes can be broadly considered as the extent to which individuals' perceive intervention as being favorable or unfavorable; subjective norms as the perceived social pressure to intervene, which can often be shaped by the community context and social norms; and perceived behavioral control as the perceived degree of difficulty associated with engaging in the behavior, which is often associated with both previous bystander experiences and anticipated skills to intervene (Ajzen, 1991).

The scale was hypothesized to have three orthogonal scales, corresponding to the three antecedent components of TPB (attitudes, subjective norms, perceived behavioral control) (Ajzen, 2002). Additionally, it was expected that the overall scale will have coefficient alpha's of approximately .80. Finally, in terms of convergent and divergent validity, the hypothesis of the current study was that the individual scales of the BAS would have positive moderate correlations with other current measures of bystander behaviors and attitudes, a negative moderate correlation with a measure of rape myth acceptance, and a weak correlation with a measure of social desirability. More specifically, we hypothesized the following:

Hypothesis one. It was hypothesized that the Bystander Antecedent Scale (BAS) will be composed of three subscales, each reflective of the three predictive components of the Theory of Planned Behavior (perceived behavioral control to intervene, subjective norms that support intervening, and attitudes toward intervening in situations of sexual assault; Ajzen, 2002).

Hypothesis two. It was hypothesized that the individual item loadings would be ≥ .40 for items on each factor (perceived behavioral control to intervene, subjective norms that support intervening, and attitudes toward intervening in situations of sexual violence) of the BAS.

Hypothesis three. It was predicted that the BAS would demonstrate an orthogonal factor structure that accounts for over 50% of the total variance.

Hypothesis four. It was predicted that the three scales of the BAS would demonstrate a strong internal consistency, as evidenced by an alpha coefficient of an .80 or higher (DeVellis, 2012).

Hypothesis five. It was predicted that there would be a moderate to strong convergent validity of bystander intervention attitudes using the Bystander Intent to Help Scale (Banyard & Cross, 2008) with the attitudes towards intervening subscale ($r \geq .30$), the subjective norms about intervening scale ($r \geq .30$), and with the perceived behavioral control to intervene scale ($r \geq .30$).

Hypothesis six. It was predicted that there would be a moderate to strong convergent validity of bystander behaviors using the Bystander Behaviors Scale-Revised (McMahon et al., 2011) with the attitudes towards intervening scale ($r \geq .30$), the subjective norms about intervening scale ($r \geq .30$), and with the perceived behavioral control to intervene scale ($r \geq .30$).

Hypothesis seven. It was predicted that there would be a moderate to strong convergent validity measuring one's confidence in ability to perform bystander interventions using the Bystander Efficacy Scale (Banyard et al., 2005) with the attitudes towards intervening scale ($r \geq .30$), the subjective norms about intervening scale ($r \geq .30$), and with the perceived behavioral control to intervene scale ($r \geq .30$).

Hypothesis eight. It was predicted that there would be no significant correlations between any of the factors of the BAS, $-.40 < r < .40$.

Hypothesis nine. It was predicted that there would be a moderate to strong negative convergent validity of belief in rape myths using the Acceptance of Modern Myths of Sexual Aggression (Gerger et al., 2007) with the attitudes towards intervening scale ($r \geq -.30$), the subjective norms about intervening scale ($r \geq -.40$), and with the perceived behavioral control to intervene scale ($r \geq -.30$).

Hypothesis ten. It is predicted that there would be low correlations between social desirability bias and with the attitudes toward intervening scale, the subjective norms about intervening scale, and with the perceived behavioral control to intervene scale, $-.20 < r < .20$, using the the Social Desirability Scale-17 (Stöber, 2001).

METHODOLOGY

The present study explored the initial development and exploratory analyses of a psychometrically sound measure named the Bystander Antecedent Scale (BAS), which is assessing bystander intervention behaviors in situations that involve sexual violence. The scale will be representative of the three predictive components of intervention behavior as described by the Theory of Planned Behavior of attitudes toward intervening, subjective norms about intervening, and perceived behavioral control to intervene.

Study Participants

Respondent Recruitment. With prior approval from the University of North Dakota (UND) Institutional Review Board (IRB), the BAS was broadcasted on social media and listservs to the participants in the United States. Participants engaged in completing the survey through convenience sampling, upon their willingness.

The survey was presented on Qualtrics. Informed consent was obtained, and participants had the option to check "I agree" to agree to engage in the survey. Following consent, demographic information questions were presented in multiple choice format, followed by the BAS, and then randomly ordered validity scales. After completion of the survey, participants viewed a debriefing page, in which a thank you for participating, the researchers' contact information, purpose of the study, expected benefits and potential risks for participation, as well as resources for mental health support, if needed, were listed.

Demographics. Data was collected from a diverse sample of individuals (N = 253); however, after removing participants for incomplete data or inappropriate responses (see cleaning procedures at the end of this methodology section), the final sample size was N = 196. The participants in the final sample indicated their ages as of 18 and twenty-four (12.2%),

twenty-five to thirty-four (56.1%), thirty-five to forty-four (10.2%), forty-five to fifty-four (11.7%), fifty-five to sixty-four (8.2%), and sixty-five to seventy-four years old (1.5%). Most participants were between the ages 25 and 34 (56.1%). Participants identified as White (90.5%), Black/African American (2%), American Indian/Alaska Native/Indigenous (1.5%), Asian American (1.5%), North African/Middle Eastern (.5%), Biracial (1.5%), Multiracial (.5%), and Other (2%). Participants identified as Cisgender Woman (76.1%), followed by Cisgender Man (14.3%), Nonbinary (1%), Agender (0.5%), Other (3.6%), and three participants (1.5%) marked that they did not want to disclose their gender identity. Participants identified as heterosexual (78.6%), followed by Bisexual (10.7%), Gay (2.6%), Pansexual (2%), Asexual (1%), Lesbian (1%), Queer (1%), Questioning/Unsure (1%), Aromantic (0.5%), Fluid (0.5%), and one participant (0.5%) preferred not to disclose their sexual orientation.

Most participants currently reside in the Midwest, including IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI (76.5%), West (9.2%), Southeast, including AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV (5.1%), Northeast, including CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT (4.6%), and Southwest, including AZ, NM, OK, TX (4.6%). Participants indicated that the population or community size they live in is a small town, consisting of less than 10,000 people (27.6%), town, population between 10,000 and 50,000 people (26.5%), large town, population between 50,000 and 200,000 people (22.4%), and city, more than 200,000 people (23.5%). Participants identified as Democrat (45.4%), Republican (22.4%), Independent (31%).

Sixty-six participants highest level of education is a bachelor's degree (33.7%), followed by a master's degree (33.2%), some college credit (8.7%), doctorate degree (8.2%), associate degree (6.6%), high school diploma or GED (5.1%), Trade, technical, vocational training (2%),

Professional degree (1.5%), completed some high school, but no diploma (0.5%), and one participant had a medical degree (0.5%). Most participants reported that they are married or in a domestic partnership (57.1%), currently single (36.2%), other (25%), and widowed (0.5%). Participants identified as employed for wages (73%), student (9.7%), retired (3.1%), self-employed (7.7%), out of work and looking (3.1%), homemaker (1.5%), and unable to work (1%).

A majority of participants have never attended a bystander intervention training (84.7%). Of the small sample of participants that have attended a bystander intervention training (15.3%), they indicated that they have completed the following trainings: Green Don't (6.1%), Bringing in the Bystander (0.5%), Step Up (2.6%), Mentor's in Violence Prevention (2%), and eight participants marked "other" (4.1%).

Table 1 Exploratory Study Sample Demographic Information

	Participant Demographic Data	
Demographic		%
Age		
18-24	24	12.2
25-34	110	56.1
35-44	20	10.2
45-54	23	11.7
55-64	16	8.2
65-74	3	1.5
Total	196	100
Gender Identity		
Cisgender woman	155	79.1
Cisgender man	28	14.3
Nonbinary	2	1
Agender	1	.5
Other	7	3.6
Prefer not to disclose	3	1.5
Total	196	100.0
Race		

	Participant Demographic Data	
Demographic		%
American Indian/Alaska Native/Indigenous	3	1.5
Asian American	3	1.5
Black/African American	4	2
North African/Middle Eastern	1	.5
White	178	90.5
Biracial	3	1.5
Multiracial	1	.5
Other	4	2
Total	196	100
Hispanic/LatinX		
Yes	9	4.6
No	186	94.9
Missing	1	.5
Total	196	100
Sexual Orientation		
Aromantic	1	.5
Asexual	3	1.5
Bisexual	21	10.7
Fluid	1	.5
Gay	5	2.6
Lesbian	2	1
Pansexual	4	2
Queer	2	1
Questioning or Unsure	2	1
Straight (heterosexual)	154	78.6
Prefer not to disclose	1	.5
Total	196	100
Region of Country		
Midwest- IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI	150	76.5
Northeast- CT, DC, DE, MA,	9	4.6

Demographic	Participant Demographic Data	%
MD, ME, NH, NJ, NY, PA, RI, VT		
Southeast- AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV	10	5.1
Southwest- AZ, NM, OK, TX	9	4.6
West- AK, CA, CO, HI, ID, MT, NV, OR, UT, WA, WY	18	9.2
Total	196	100
Population/Community Size		
Small town- less than 10,000 people	54	27.6
Town- between 10,000 & 50,000 people	52	26.5
Large town- between 50,000 and 200,000 people	44	22.4
City- more than 200,000 people	46	23.5
Total	196	100
Education		
Completed some high school, no diploma	1	.5
High school graduate, diploma, or the equivalent (e.g., GED)	10	5.1
Some college credit, no degree	17	8.7
Trade/technical/vocational training	4	2.0
Associate degree	13	6.6
Bachelor's degree	66	33.7

	Participant Demographic Data	
Demographic		%
Master's degree	65	33.2
Professional degree	3	1.5
Doctorate degree	16	8.2
Medical degree	1	.5
Total	196	100
Political Affiliation		
Democrat	89	45.4
Republican	44	22.4
Independent/Other	63	31
Total	196	100
Current Relationship Status		
Single, never married	71	36.2
Married or domestic partnership	112	57.1
Divorced	8	4.1
Widowed	1	.5
Other	4	2
Total	196	100
Current Employment		
Employed for wages	143	73
Self-employed	15	7.7
Out of work and looking	6	3.1
Out of work but not currently looking	2	1
Homemaker	3	1.5
Student	19	9.7
Retired	6	3.1
Unable to work	2	1
Total	196	100
Religious/Spiritual Affiliation		
Agnostic	35	17.9
Atheist	23	11.7
Buddhist	1	.5

	Participant Demographic Data	
Demographic		%
Catholic	33	16.8
Christian	58	29.6
Hindu	1	.5
Jewish	1	.5
Muslim	1	.5
Protestant	11	5.6
Spiritual	23	11.7
Indigenous Spirituality	2	1
Other	6	3.1
Missing	1	.5
Total	196	100
Attended Bystander Training		
Yes	30	15.3
No	166	84.7
Total	196	100
Types of bystander training attended		
Bringing in the Bystander	1	.5
Green Dot	12	6.1
Mentor's in Violence Prevention	4	2
Step Up	5	2.6
Other	8	4.1
Total	30	100

Measures

Participants were asked to complete a demographics questionnaire, the Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008); the Bystander Behaviors Scale-Revised (McMahon et al., 2011); the Bystander Efficacy Scale (Banyard, 2008), the Social Desirability Scale-17 (Stöber, 2001), and the Acceptance of Modern Myths of Sexual Aggression (Gerger et

al., 2007). These questionnaires were in addition to completing the Bystander Antecedent Scale (BAS), developed in the present study.

Demographics questionnaire. Participants were asked to answer a series of demographics questions. Items on this demographic section included: age, gender identity, race, ethnicity, sexual orientation, political affiliation, current relationship status, religious or spiritual affiliation geographic location type, education level, employment status, and bystander intervention trainings attended.

Bystander Intent to Help Scale-Short Form. For convergent validity purposes, the Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008) will be administered. This scale includes 12 items assessing participants' willingness and likelihood to engage in certain bystander behaviors. Participants will rate their likelihood to engage in certain bystander behaviors using a 6-point Likert-type scale *(1 = not at all likely, 6 = extremely likely)*. Example of items include, "Think through the pros and cons of different ways I might help if I see an instance of sexual violence" and "If I heard a stranger insulting their partner, I would get help from others including authorities or university staff." Higher scores will indicate that participants would be more likely to perform the behavior listed. The Cronbach's alpha on this scale for this sample was .82 (Banyard & Cross, 2008).

Bystander Behaviors Scale-Revised (BBS-R). For additional support of convergent validity, the Bystander Behaviors Scale-Revised (BBS-R; McMahon et al., 2011) was used. This scale measures likelihood to engage in certain bystander behaviors. bystander behaviors used by participants. Specific bystander behaviors include "Challenge a friend who made a sexist joke," and "Decide not to have sex with a partner if they are drunk." This scale consists of 16 items with responses of 1 (*extremely unlikely*) and 6 (*extremely likely*). The Cronbach's alpha for the

revised version of the Bystander Behavior Scale was 0.69 (McMahon et al., 2011). Participants will rate their likelihood to engage in certain bystander behaviors using a 6-point Likert-type scale *(1 = not at all likely, 6 = extremely likely)*.

Bystander Efficacy Scale (BES). For additional support of convergent validity, the Bystander Efficacy Scale (BES; Banyard et al., 2005) was used. The BES includes 14 items assessing the participant's confidence in performing bystander behaviors successfully in a variety of abusive or otherwise deleterious situations. The participants will rate their confidence to perform the behaviors on a 5-point Likert-type scale that ranges from *1 (not at all likely) to 5 (extremely likely)*, with higher scores reflecting higher levels of confidence to intervene. Example items include, "Speak up against sexist jokes," and "Call 911 if I hear someone yelling and fighting." The authors report adequate internal consistency ($\alpha = .87$; Banyard et al., 2005).

Social Desirability Scale-17. For divergent validity purposes, the Social Desirability Scale-17 (Stöber, 2001). This scale measures the degree to which participants portray themselves in a positive light. The scale consists of 17 true (coded as 1) or false (coded as 0) items, such as "I take out my bad moods on others now and then." Average scores are calculated for each participant, with higher scores indicating higher rates of social desirability. The scale has demonstrated validity in the U.S. context (Blake et al., 2006). The Cronbach's alpha on this scale was .80 (Stöber, 2001).

Acceptance of Modern Myths of Sexual Aggression (AMMSA). The Acceptance of Modern Myths of Sexual Aggression scale (AMMSA; Gerger et al., 2007) includes 30 items intended to assess the extent to which the participant endorses subtle rape myths. Items are rate on a 7-point Likert-type scale with *1 (strongly disagree) to 7 (strongly agree).* An example item includes, "Many women tend to misinterpret a well-meant gesture as a 'sexual assault." Scores are

averaged and higher scores indicate an increased acceptance of subtle rape myths. Evidence for convergent validity was investigated using a sample of U.S. college students. AMMSA scores correlated with other related and established concepts including an earlier measure of Rape Myth Acceptance, Sex Role Stereotyping, and Adversarial Sexual Beliefs (Watson, 2016). Reliability coefficients from the original study reflected adequate reliability (α = .90-.95; Gerger et al., 2007).

Bystander Antecedent Scale (BAS) Development Steps

Scale Construction. The seven steps to scale development of Devillis (2017) were followed in the development of the BAS. The first step involves construct identification and exploration (Devillis, 2017). The BAS assesses the attitudes, social norms, and behavioral control participants experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault, in doing so is organized (by subscale) around the Theory of Planned Behavior (TPB).

More specially, the TPB is the structure on which the scale is formatted, with the goal of assessing individual's beliefs about the likely outcomes of their implementation of bystander intervention behaviors in situations of sexual assault (Ajzen, 2002). Consequently, three factors are projected to emerge, each representing the three aspects of the TPB: Perceived Behavioral Control (about their ability to intervene as a bystander); Subjective Norms to Intervene (about how they believe friends might react in bystander intervention situations); and Attitudes Toward Intervening (about how helpful they believe the bystander intervention would be in situations involving sexual assault) (Ajzen, 2002).

The next step was to generate an item pool (See Appendices for specific items) (DeVillis, 2017). We generated an item pool by developing definitions for the scale (noted above) and then

attempting to encapsulate what the current literature is missing, which is a theoretical basis using the TPB. Additionally, we attempted to avoid double-negatives, ambiguous pronouns, adjective forms of words rather than nouns, and ambiguity (DeVillis, 2017; Clark & Watson, 1995). The primary investigators brainstormed items and discussed the terminology that would be simplest for participants to understand. Once a list of 23 items was generated, the researchers determined which of the three subscales the items fell under (Perceived behavioral control, Subjective Norms to Intervene, and Attitudes Towards Intervening). These items were further analyzed with suggested revisions as part of the item analysis section of our results and are discussed in full in that section. We generated an item pool by developing definitions for the scale (noted above), and then attempting to encapsulate what the current literature is missing, which is a theoretical basis using the TPB. The primary investigators brainstormed items and discussed the terminology that would be simplest for participants to understand. Once a list of 23-items was generated, the researchers determined which of the three subscales the items fell under (Perceived behavioral control, Subjective Norms to Intervene, Attitudes Towards Intervening).

Step three in scale development involves determining the format for measurement (DeVillis, 2017). Items were presented as statements, with the option to respond in Likert formatting, as suggested for use with scales using the TPB structure (Ajzen, 2002). Responses for the Perceived Behavioral Control to intervene subscale ranged from 1 (*Very difficult*) to 7 (*Very easy*). For Subjective Norms about intervening subscale, responses will range from 1 (*totally unlikely*) to 7 (*totally likely*). Reponses for Attitudes toward intervening subscale ranged from 1 (*totally unhelpful*) to 7 (*totally helpful*). Such response options are displayed horizontally across the screen, with 1 on the left, followed by 2, 3, 4, and 5, sequentially. The display of response options is crucial to reduce possibilities of confusion (DeVillis, 2017). A neutral option

was included to assess for individuals that do not feel strongly either way, and contribute to the potential for response variance, and item discrimination (DeVillis, 2017).

In step four, DeVillis (2017) notes the importance of evaluating how the items are written, including the language, length, and structure. An expert panel received the items to review and provide feedback to assist with confirmation and/or invalidation of the definition of the constructs (DeVillis, 2017). Each expert was asked to "rate how relevant they think each item is to what (we) intend to measure" (DeVillis, 2017, p. 134). In addition to this, the panel was asked for feedback on item clarity, conciseness, and general feedback including factors left out that should be included (DeVillis, 2017). Finally, the expert review panel was invited to provide commentary on each individual item, as well as the overall scale.

The expert reviewers were (1) RaeAnn Anderson, Ph.D.; (2) Dana Conzemius MA.; and (3) Jessica Henault, MS, CA. Expert reviewer one was Dr. RaeAnn Anderson, an assistant professor in the Clinical Psychology and Principal Investigator of the University of North Dakota Sexual Violence Prevention Laboratory. She received her Ph.D. in Clinical Psychology from the University of Wisconsin – Milwaukee. Her research interests include public health response to sexual violence by conducting inclusive, innovative, and solution-focused research, including a focus on improving methodologies. Additionally, she has a strong background in experimental methods and behavioral psychology with specific training in methods for collecting sensitive data, including the development or testing of multiple tools to improve sexual violence research.

The second reviewer was Dana Conzemius. She received her master's in counseling from the University of North Dakota (UND). She is currently a counseling psychology doctoral student at UND and conducts research on sexual violence prevention. Additionally, she has a background in scale development using the Theory of Planned Behavior (Cavalhieri et al., 2022).

Jessica Henault is the final expert reviewer. She is a Sexual and Relationship Violence Prevention Specialist at Kansas State University. Additionally, she is a doctoral student in the Kansas State University Applied Human Science department, studying Prevention Science.

These expert reviewers presented qualitative and quantitative feedback on item wording, structure, and content, as well as the definition of the construct. Results from the expert review panel demonstrated strong agreement on item clarity and construct definition. Specifically, there was consensus on the appropriateness of the item anchors, in reference to their use as assessment of the three components of the TPB (Perceived Behavioral Control, Subjective Norms, and Attitudes Toward Intervening). Two expert reviewers gave feedback on items of the BAS which referenced *"If someone who looks intoxicated and is being taken to a private room by a peer, stopping them would be,"* and item 4. *"If a peer is taking a drunk person back to their bedroom, stopping them would be*," However, the researchers decided to keep both items, as the items were assessing separate behaviors. Item 3 is assessing bystander interventions that stopping a peer from sexually assaulting someone whereas item 4 is assessing interventions that stop a peer from sexually assaulting a stranger. Another expert reviewer noted that items 18 and 19 had similar verbiage. Item 18 *"If someone who looks intoxicated and is being taken to a private room by a peer, stopping them would be,"* and item 19 *"If a peer is taking a drunk person back to their bedroom, stopping them would be."* We decided to keep these items for the same reasons as stated up for items three and item four, as previous research has noted that people are more likely to intervene when it involves a friend than a stranger (Seo et al. 2022). The reviewers indicated whether the items were necessary, not necessary (delete item), or useful item (but not necessary). Overall, the expert reviewers were in agreement that the items were necessary or useful, and they

did not indicate that items needed to be deleted. None of the reviewers provided feedback with additional items to consider adding to the scale.

Step five of the scale development procedures includes consideration of inclusion and validity items. Though no validity items were added specifically to the BAS, two validity checks were included in the overall survey "*Please answer "Somewhat Likely" (5) if you are reading this question*," and "*Please answer with "Disagree" (2) if you are paying attention."* Participants were dropped from the sample if they did not attend appropriately to these two items (N = 8).

Step six of the scale development procedures is the administer the scale. According to DeVillis (2017) a large, diverse sample will help reduce the effects of chance, increase representation of the population, and help to stabilize patterns of covariation. Once construct-related and validity items are included in the questionnaire (from the scales mentioned above), an exploratory phase (current study) was be conducted, in which (N =196) participants were included.

Finally, step seven is an evaluation of the items, which is detailed in the analysis section below, and includes items and items analyses, the factor structure (exploratory factor analysis with orthogonal rotation), analysis of, convergent and discriminant validity and examination of reliability (Cronbach's alpha).

Procedures

Survey development procedure. Following approval from the Institutional Review Board (IRB) from the University of North Dakota, participants completed the survey Qualtrics. The survey included informed consent, demographic information questions presented in multiple choice format followed by the Bystander Antecedents Scale (BAS), Bystander Behaviors Scale-Revised (McMahon et al., 2011), Bystanders Intent to Help Scale-Short Form (Banyard & Cross,

2008), Social Desirability Scale-17 (Stöber, 2001), Bystander Efficacy Scale (Banyard, 2008), and the Acceptance of Modern Myths of Sexual Aggression scale (Gerger et al., 2007).

The participant had to consent prior to accessing the survey and had the option to check "yes" or "no" to agree to engage in the survey. Following consent, demographic information questions were presented in multiple choice format, followed by the BAS, and then the validity scales. Participants were informed that they could discontinue the survey at any time. After completion of the survey, participants viewed a debriefing page, in which a thank you for participating, the researchers' contact information, purpose of the study, expected benefits and potential risks for participation, as well as resources for mental health support, if needed, were listed. Participants were not compensated for their participation. The survey had an average time completion of 20 minutes.

The data was reviewed to ensure "clean and complete data" that is effective for the provision of quality data (Karmaker & Kwek, 2006, p. 547). Participants that did not attend to the validity/attention checks, were missing any data points on the Bystander Antecedents Scale (BAS), engaged in "long-streaming" (e.g., responded with all "2's"), or who missed more than 20% of the items on the validity scales were considered incomplete or uninterpretable and removed from the study (N = 57). For the remaining sample, all MCAR tests were non-significant, which suggests that the missing data were missing at random (Enders, 2010). Missing data were then imputed using Expectation Maximization (EM). The EM algorithm is a general method for obtaining maximum likelihood estimates when data are missing (Dempster, Laird & Rubin, 1977). Following data cleaning and missing data imputation, the data was subjected to item analyses, exploratory factor analysis, reliability (coefficient alpha) analysis,

and tests of convergent and divergent validity. Results of those analyses can be found in the next section.

RESULTS

The purpose of this chapter is to detail the results of the development of the Bystander Antecedents Scale (BAS). Specifically, evidence from the BAS exploratory study, particularly as they relate to factor structure, reliability, and validity, are presented.

Preliminary Analysis

This section includes information regarding preliminary analyses of the exploratory data, which provide evidence for the appropriateness of conducting an EFA. Sampling adequacy was assessed using Bartlett's test of sphericity and the Kaiser-Meyer-Olkin test. Normality of the data was also evaluated, including the utilization of Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) tests, and examination of a histogram.

Sampling adequacy. The process of determining sampling adequacy begins with Bartlett's test of sphericity (Bartlett, 1953) and the Kaiser-Meyer-Olkin (KMO; Kaiser, 1974). Bartlett's test of sphericity is a function of the sample size, number of variables, and $\log_{10}$ of the determinant of the correlation matrix (Dziuban & Shirkey, 1974). It "examines the null hypothesis that the correlation matrix is an identity matrix, that is, a matrix whose

elements are non-correlated, which implies that the factor model is inappropriate" (Gazzaz, Yusoff, Ramli, Aris, & Juahir, 2012, p. 692). The rejection of this hypothesis is desired. The KMO predicts if data are likely to factor well. It provides an index between zero and one, which demonstrates the proportion of variance among the variables that is common (Gazzaz, Yusoff, Ramli, Aris, & Juahir, 2012).

For the entire BAS, the KMO value of .85 was produced. For the Perceived Behavioral Control items, the KMO value was .83. Subjective Norms to Intervene revealed a KMO of .78 and Attitudes Toward Intervening had a KMO value of .83. These values exceed the minimum value of .50 recommended for factor analysis (Kaiser, 1974). In fact, values between .80 and .89 are considered "meritorious", meaning the KMO values indicate the strength of the relationships and the factorability of the variables included within the BAS (Beavers, Lounsbury, Richards, Huck, Skolits, & Esquivel, 2013, p. 4).

Bartlett's Test of Sphericity (Bartlett, 1954) revealed a χ^2 of 823.847 (df = 2145, p>.000) for the entire BAS, a χ^2 of 2099.269 (df = 231, p>.000) for the Perceived Behavioral Control, a χ^2 of 647.082 (df = 21, p>.000) for the Subjective Norms to Intervene, and a χ^2 of 823.847 (df = 21, p>.000) for the Attitudes Towards Intervening. These values demonstrate evidence for sampling adequacy and the suitability of proceeding with factor analysis.

Data distribution. Prior to conducting factor analysis, it is important to verify the assumption that the data is normally distributed. If data does not follow a bell-shaped distribution which peaks near the mean, the succeeding results may be biased (Marmolejo-Ramos & Gonzalez-Burgos, 2013). Analysis of the means and standard deviations revealed means between 53.00 and 161.00 for the BAS, with the means for Perceived Behavioral Control falling between 8.00 and 56.00; the means for Subjective Norms to Intervene ranging from 23.00 to 49.00, and

the means for Attitudes Towards Intervening ranging from 8.00 to 56.00. The average mean item across the BAS was 134.76, which indicates that the average response was close to the center of the 7-point Likert scale, although slightly negatively skewed. The standard deviations ranged from 5.85 to 8.35.

The Kolmogorov-Smirnov (KS) and the Shapiro-Wilk (SW) tests are typically conducted to aid in the determination of data normality (Marmolejo-Ramos & Gonzalez-Burgos, 2013). The KS test revealed values of $D = .059$, $p = .096$ and the SW test revealed values of $D = .928$, $p < .001$, thus suggesting non-normality of the data. Despite this, the histogram produced a symmetrical bell curve. Overall, while the preliminary analyses indicated suitability of conducting EFA with the BAS, they provided initial evidence for the necessity of a statistic that does not assume normality, such as the use of maximum likelihood in the exploratory factor analysis.

Main Analysis

The main analyses included assessment of the factor structure via an exploratory factor analysis (EFA) using Maximum Likelihood. The construct validity was assessed via a series of Pearson's *r* correlations, and internal consistency by analyzing Cronbach's coefficient alphas.

Factor Analysis

Guidelines for conducting factor analysis. Exploratory factor analysis (EFA) is a widely utilized, data-driven approach (Auerswald & Moshagen, 2019; deWinter & Dodou, 2012; DeVillis, 2017). The primary purpose of factor analysis is to determine the underlying latent structure of a set of items (DeVillis, 2017). The EFA aids in the investigation of how many constructs are needed to characterize an item set (DeVillis, 2017). Further, factor analysis can assist with understanding the variation among many variables using fewer, newly created

variables (DeVillis, 2017). Overall, when conducting an EFA, it is important to consider characteristics such as the estimation method to utilize, the number of factors to retain, the rotation method to utilize, and the method for calculating scores (deWinter & Dodou, 2012).

The extraction of factors and rotation of factors are the first steps in factor analysis (DeVillis, 2017). A primary goal of factor extraction is to increase variance explained through the extraction of the most parsimonious set of factors (Tabachnick & Fidell, 2007). Maximum likelihood estimation is one of the most widely utilized estimation methods in exploratory factor analysis and is the analysis method utilized in the present study (deWinter & Dodou, 2012; Tabachnick & Fidell, 2007).

Regarding the rotation of factors, DeVillis (2017) notes, "raw, unrotated factors are rather meaningless mathematical abstractions" (p. 171). Thus, to improve interpretability, factor rotations identify clusters of variables that are characterized in terms of one latent variable (DeVillis, 2017). Factor rotation aids with achieving a simple structure in which each factor has high absolute value loadings for only some of the variables, making it easier to identify (Norusis, 2003).

Orthogonal and oblique rotations are two rotational framework classifications (Lorr, 1957). Factor rotations involving factors which are correlated are described as *oblique* (DeVillis, 2017). An oblique rotation aids in the determination of the extent to which the factors are correlated. Factors which are statistically uncorrelated with one another are termed *orthogonal* (DeVillis, 2017). Orthogonal rotations involve factors which are independent of one another, giving the "theoretical advantage of simplicity" (Lorr, 1957, p. 448). The Varimax rotation (Kaiser, 1958) is one such type of orthogonal factor rotation which maximizes the variance of the squared loadings for each item (DeVillis, 2017; Tabachnick & Fidell, 2007). The Varimax

rotation is the most commonly utilized orthogonal rotation and is the rotation method utilized in the present study (Schmitt & Sass, 2011).

After the estimation and rotation of factors, consideration of the number of factors to retain follows. Extracting factors via factor analysis assists with the investigation of how much association among individual items is explained by a single concept (DeVillis, 2017). Eigenvalues aid in the determination of how many factors to retain, as they represent the amount of variance accounted for per factor (DeVillis, 2017; Kaiser, 1958). Factors with eigenvalues less than 1.0 should not be retained (Kaiser, 1960).

The scree test (Cattell, 1966) further aids with this determination, through the visual plotting of eigenvalues. The relative, rather than absolute, values are utilized as criterion in the scree plot (DeVillis, 2017). When examining the scree plot, the suggested number of appropriate factors to retain is evident by noting the "abrupt transition from vertical to horizontal and clear 'elbow'" (DeVillis, 2017, p. 167).

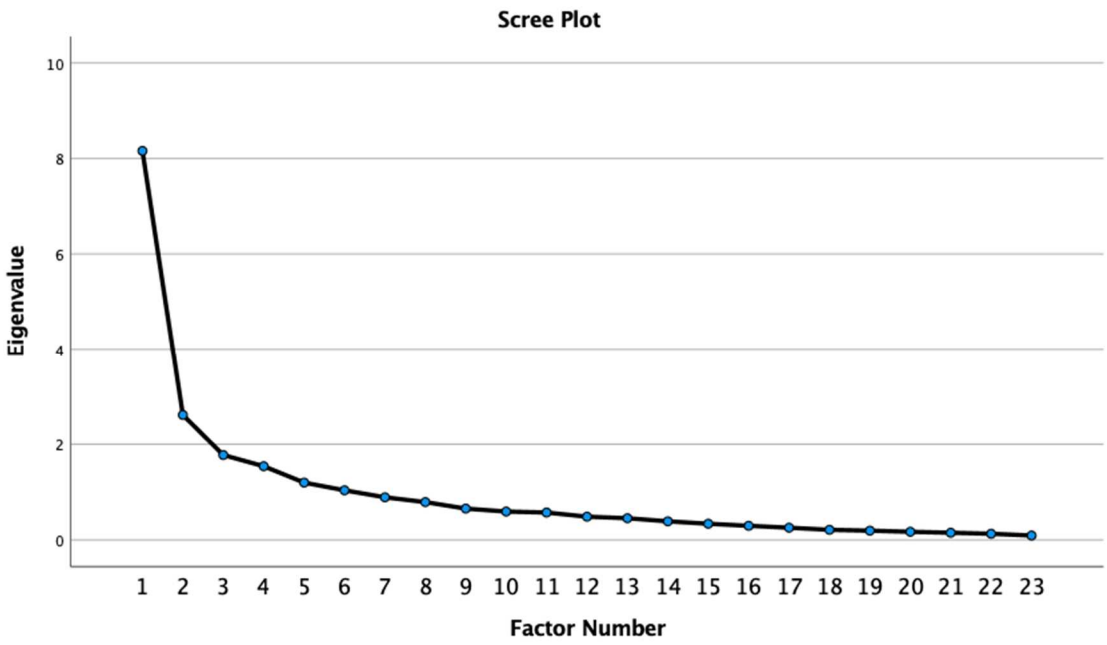
Further facilitating in the determination of how many factors to keep is the consideration of the strength of the loadings of each item per factor. In general, "item loadings above .30, [which have] no or few items cross loadings [and] no factors with fewer than three items" demonstrate good factor structure (Costello & Osborne, 2005, p. 3). Comrey and Lee (1992) suggest consideration of factor loadings in the following manner: .71 (50% overlapping variance) are considered excellent, .63 (40% overlapping variance) are considered very good, .55 (30% overlapping variance) are considered good, .45 (20% overlapping variance) are considered fair, and .32 (10% overlapping variance) are considered poor. However, Tabachnick and Fidell (2007) consider the exact choice of loading cutoffs as a matter of researcher preference.

Factor Structure (Hypothesis One)

It was hypothesized that three factors would emerge within the BAS. These three factors were expected to align with the three factors of the Theory of Planned Behavior (Ajzen, 2001), including Perceived Behavioral Control for Intervening, Subjective Norms to Intervene, and Attitudes Toward Intervening, specifically (in each scale) intervening in situations that involve potential or actual sexual violence.

Twenty-Three Item BAS. An exploratory factor analysis was conducted with all 23 items of the BAS, utilizing the Statistical Package for the Social Sciences version 28.0.0. (SPSS; IBM, 2021). Maximum likelihood was the estimation method selected, with an orthogonal rotation. More specifically, the Varimax rotation was utilized (Kaiser, 1958). The Varimax rotation provides uncorrelated factors that are easily interpretable (Schmitt & Sass, 2011). The BAS generated a six-factor structure. This was evidenced in the scree plot, which began to curve in a vertical fashion, or "elbowed" at point six (DeVillis, 2017) (see figure 1). The six-factor structure was further supported by the eigenvalues higher than one (see hypothesis two for details).

Figure 1 Scree Plot with 23 Original Items, Utilizing Maximum Likelihood Factoring with Varimax Rotation



Upon analysis of the item loadings on the rotated factor matrix, it was determined that most items loaded as expected on the three predictive components of the Theory of Planned Behavior (Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening, Ajzen, 2001). However, three additional factors also emerged, largely dealing with seeking help from outside resources (See Table 2 below). More specifically, the first factor, Attitudes Toward Intervening Immediately, is made up of five items aimed at exploring bystander perception of how helpful they believe each intervention (each item) would be in stopping or preventing sexual assault. This first factor accounted for 16% of the variance in the overall scale. The second factor, Perceived Behavioral Control to Intervene Immediately, is made up of six items exploring perceived ability to perform interventions meant to prevent or stop sexual assault. Overall, this second factor accounted for 14% of the variance in the overall scale. The third factor, Subjective Norms to Intervene Immediately, is made up of four items aimed at assessing the belief that important individuals (e.g., friends and family) would perform

bystander behaviors. Overall, this third factor accounted for 12% of the variance in the overall scale.

The fourth factor, Accessing Resources, is made up for four items, and the items all address bystander interventions related to supporting a victim or potential victim through the engaging outside resources (police, medical help). Two items loaded from the items written for the Perceived Behavioral Control subscale (*"6. If a peer says they had an unwanted sexual experience, helping them access support services (e.g., therapy, medical help) would be,"* and *"8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be").* One item was originally written for the Subjective Norms subscale (*"5. My friends would help a peer access support services (e.g., therapy, medical help, etc.) if they tell them about an unwanted sexual experience"),* and the fourth item was originally written for the Attitudes Subscale, (*"8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be.").*Overall, this fourth factor accounted for 9% of the variance.

The fifth factor is made up of three items and looks at post assault support behaviors. The first item was originally written for the Subjective Norms Subscale (*"7. My friends would get authorities (e.g., police, Residential Authority [RA], etc.) involved if it seems like a peer was in danger of being sexually assaulted")* and two items loaded from the third subscale (Attitudes Towards Intervening, *"1. If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be,"* and *"7. If a peer says they would have sex with a person who is passed out, educating them on consent would be").* Overall, this fifth factor accounted for 7% of the variance.

One item loaded onto a factor by itself (the sixth factor); therefore, it does not create a factor. However, this item also performed poorly overall, and was dropped due to its poor item factor loading, which will be further described below. This particular item, originally written for the Subjective Norms to Intervene subscale, was *"6. My friends would support a peer who has sex with a person who was passed out drunk or did not give consent."* It is likely that the negative valence of this times—different from all the other items—cause the item to load differently than all the other items. Overall, the results of the EFA of the twenty-three item BAS do not fully support the originally proposed three-factor structure.

Twenty item BAS. To create the simplest structure and relatively equal number of items per factor, items that demonstrated loadings below .40 or were determined to be poorly worded were eliminated (Comrey & Lee, 1992; DeVillis, 2017). Three items were dropped from the original BAS. Specifically, item 6 (*If a peer says they had an unwanted sexual experience, helping them access support services [e.g., therapy, medical help] would be*) was eliminated because it was determined to be poorly worded and a consequence of not engaging in bystander intervention behaviors when confronted with situations of sexual assault. Item 6 on the Subjective Norms to Intervene subscale (*My friends would support a peer who has sex with a person who was passed out drunk or did not give consent*) was dropped due to poor item loading (.19) and was determined to be poorly worded. Finally, item 6 on the third subscale, Attitudes Towards Intervening (*If a peer says they had an unwanted sexual experience, helping them access support services [e.g., therapy, medical help]would be*) because similar to the item on the first subscale, Perceived Behavioral Control, it had good item loadings, but the item was poorly worded and determined to be consequences for lack of bystander interventions rather than antecedents to engaging in bystander interventions when confronted with sexual assault. As with

the Twenty-three-item version, the factor structure of the Twenty-item version of the BAS was explored with exploratory factor analysis utilizing Maximum Likelihood with Varimax rotation. Four factors emerged, as evidenced by eigenvalues exceeding one and the scree plot (See Tables 2 and 3 below).

Upon analysis of the item loadings on the rotated factor matrix, it was determined that (as with the 23-item version of the BAS) many of the original items loaded as predicted on the three predictive components of the Theory of Planned Behavior (Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening). However, one additional subscale emerged in looking at the data, but this area was further divided by either taking immediate action to intervene, or by accessing outside resources, for a total of four factors. Each factor included three to six items.

More specifically, the six items on the first factor revolved around the theme of Attitudes Toward Intervening and are aimed at exploring bystander perception of how helpful they believe the intervention behaviors would be in stopping or preventing sexual assault. This first factor account for 19% of the variance. The six items on the second factor, Perceived Behavioral Control to Intervene, and address the participants perceived ability to perform interventions aimed at preventing or stopping sexual assault. This factor accounted for 16% of the variance. The four items on the third factor, Subjective Norms to Intervene, are aimed at assessing the belief that important individuals (e.g., friends and family) would perform bystander behaviors. This factor accounted for 14% of the variance. The four items on the fourth factor, Accessing Resources, are aimed at identifying bystander interventions related to supporting a victim or potential victim through the accompaniment of resources. This factor accounted for 9% of the variance in the overall scale. While the first three factors in the EFA supported the original

hypothesis and factor structure of the BAS, the additional fourth factor was not expected and consequently does not support the hypothesis.

Figure 2 Scree Plot with revised 20 items, utilizing Maximum Likelihood Factoring with Varimax

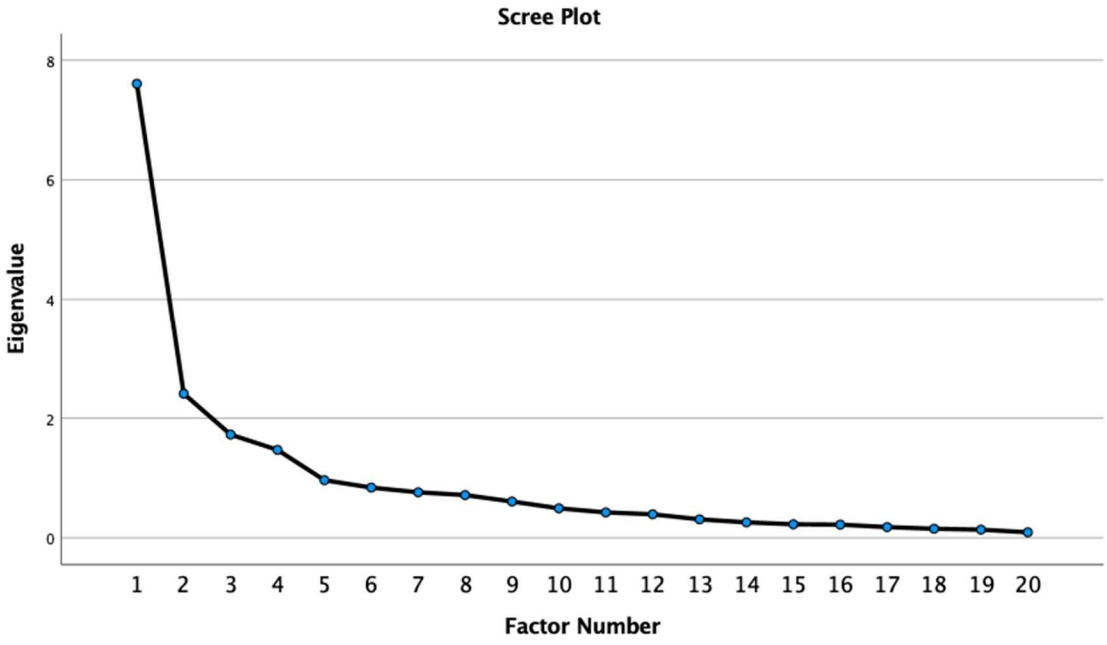


Table 2 23-item vs. 20-item BAS Maximum Likelihood Factoring with Varimax Rotation

			Original 23-item BAS		Revised 20-item BAS	
	M	SD	Item Loading	Factor on which Item Loaded	Item Loading	Factor on which Item Loaded
Perceived Behavioral Control						
1. If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be	5.91	1.49	.47	2	.44	2
2. If I see someone is passed out from drinking alcohol and is being touched by a peer, stopping the peer would be	6.18	1.25	.71	2	.60	2
3. If someone who looks intoxicated and is being taken to a private room by a peer, stopping the peer would be,	5.32	1.58	.77	2	.88	2
4. If a peer is taking a drunk person back to their bedroom, stopping the peer would be,	5.22	1.62	.74	2	.86	2
5. If I walked into a situation where a peer appears to be forcing someone to have sex with them, stopping the peer would be,	5.90	1.52	.70	2	.58	2
6. If a peer says they had an unwanted sexual experience, helping them access support services (e.g., therapy, medical help) would be,	6.08	1.29	.41	4	--	--
7. If a peer says they would have sex with a person who is passed out, educating them on consent would be,	5.88	1.49	.38	2	.36	2
8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be,	5.17	1.64	.62	4	.53	4

Subjective Norms to Intervene						
1. My friends would stop a peer who is touching someone who is passed out from drinking alcohol.	6.17	1.01	.91	3	.91	3
2. If my friends see someone passed out from drinking alcohol and are being touched by a peer, they will stop them.	6.22	.921	.85	3	.86	3
3. My friend would stop a peer taking a drunk person back to their private room.	5.67	1.31	.62	3	.57	3
4. My friends would stop a peer that appears to be forcing someone to have sex with them.	6.37	.899	.55	3	.56	3
5. My friends would help a peer access support services (e.g., therapy, medical help, etc.) if they tell them about an unwanted sexual experience.	6.15	1.21	.50	4	.47	4
6. My friends would support a peer who has sex with a person who was passed out drunk or did not give consent.	3.61	2.56	.19	6	--	--
7. My friends would get authorities (e.g., police, Residential Authority [RA], etc.) involved if it seems like a peer was in danger of being sexually assaulted.	5.63	1.38	.74	5	.90	4
Attitudes Towards Intervening						
1. If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be	5.43	1.41	.39	5	.47	1
2. If I see someone is passed out from drinking alcohol and is being touched by a peer, stopping the peer would be	6.45	.919	.72	1	.81	1
3. If someone who looks intoxicated and is being taken to a private room by a peer, stopping the peer would be,	6.28	.967	.90	1	.81	1
4. If a peer is taking a drunk person back to their bedroom, stopping the peer would be,	6.26	1.02	.81	1	.76	1
5. If I walked into a situation where a peer appears to be forcing someone to have sex with them, stopping the peer would be,	6.56	.848	.70	1	.80	1
6. If a peer says they had an unwanted sexual experience, helping them access support services (e.g., therapy, medical help) would be,	6.51	.919	.54	1	--	--
7. If a peer says they would have sex with a person who is passed out, educating them on consent would be,	5.97	1.22	.88	5	.62	1
8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be,	5.74	1.37	.47	4	.49	4

Note. BAS = Bystander Antecedent Scale

Table 3 20-item BAS Rotated Factor Matrix

	1	2	3	4
Perceived Behavioral Control				
1. If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be	.314	.440	.206	.048
2. If I see someone is passed out from drinking alcohol and is being touched by a peer, stopping the peer would be	.318	.598	.122	.002
3. If someone who looks intoxicated and is being taken to a private room by a peer, stopping the peer would be,	.158	.884	.187	.180
4. If a peer is taking a drunk person back to their bedroom, stopping the peer would be,	.220	.862	.106	.171
5. If I walked into a situation where a peer appears to be forcing someone to have sex with them, stopping the peer would be,	.229	.578	.243	.147
7. If a peer says they would have sex with a person who is passed out, educating them on consent would be,	.227	.358	.234	.114
8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be,	.225	.296	.107	.523
Subjective Norms to Intervene				
1. My friends would stop a peer who is touching someone who is passed out from drinking alcohol.	.143	.114	.906	.068
2. If my friends see someone passed out from drinking alcohol and are being touched by a peer, they will stop them.	.135	.192	.863	.045
3. My friend would stop a peer taking a drunk person back to their private room.	.017	.368	.566	.323
4. My friends would stop a peer that appears to be forcing someone to have sex with them.	.070	.214	.555	.323
5. My friends would help a peer access support services (e.g., therapy, medical help, etc.) if they tell them about an unwanted sexual experience.	.343	.057	.320	.472
7. My friends would get authorities (e.g., police, Residential Authority [RA], etc.) involved if it seems like a peer was in danger of being sexually assaulted.	.025	.087	.284	.902
Attitudes Toward Intervening				
1. If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be	.471	.206	.015	.132
2. If I see someone is passed out from drinking alcohol and is being touched by a peer, stopping the peer would be	.813	.204	.063	.030
3. If someone who looks intoxicated and is being taken to a private room by a peer, stopping the peer would be,	.805	.253	.129	.214
4. If a peer is taking a drunk person back to their bedroom, stopping the peer would be,	.755	.190	.262	.214
5. If I walked into a situation where a peer appears to be forcing someone to have sex with them, stopping the peer would be,	.798	.201	.239	.080
7. If a peer says they would have sex with a person who is passed out, educating them on consent would be,	.622	.178	-.004	.121
8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be,	.397	.123	-.065	.486

Item loadings (Hypothesis Two)

It was hypothesized that the individual item loadings would be ≥ .40 for items on each factor of the BAS, which is a commonly recognized and acceptable item loading (Osborne & Costello, 2004).

Twenty-three item BAS. Items on the original, 23-item BAS satisfied this hypothesis, except for three items. The three underperforming items fell between .189 and .388 for item loadings, and included: *My friends would support a peer who has sex with a person who was passed out drunk or did not give consent* (.189); *If a peer says they would have sex with a person who is passed out, educating them on consent would be* (.381); and *If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be,* (.388). The other twenty-items on the BAS ranged in factor loadings from .476 (*.If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be* to .912 (*My friends would stop a peer who is touching someone who is passed out from drinking alcohol.*). Consequently, the three low-performing items were dropped in further analysis.

Twenty item BAS. In the new, 20-item, four factor structure version of the BAS, all items loaded .40, with one exception. The underperforming item loading was .358 and included: *If a peer says they would have sex with a person who is passed out, educating them on consent would be.* Despite this low item loading, the other 19 items on the BAS demonstrated moderate to strong loadings between .440 (*If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be*) to .906 (*My friends would stop a peer who is touching someone who is passed out from drinking alcohol*; see table 2).

Total Variance Explained (Hypothesis Three)

Twenty-three item BAS. It was predicted that the BAS would demonstrate an orthogonal factor structure that accounts for over 50 percent of the total variance. The first iteration of Maximum Likelihood with Varimax rotation, including all 23 items, yielded eigenvalues ranging from 3.605 (accounting for 15.672 percent of variance) to 1.045 (accounting for 4.555 percent of variance, See Table 4).

Table 4Twenty-three Item BAS Eigenvalues and Percent Variance Explained for Rotated Factor Structure

Total Variance Explained for 23-item BAS	Eigenvalues	Percent variance explained
Factor One	3.605	15.672
Factor Two	3.144	13.669
Factor Three	2.839	12.344
Factor Four	1.984	8.627
Factor Five	1.491	6.483
Factor Six	1.045	4.544
Total		61.339

Twenty item BAS. The second exploratory factor analysis, utilizing Maximum Likelihood with Varimax rotation included twenty of the original twenty-three items and loaded four factors (see Table 5). The eigenvalues ranging from 3.872 (accounting for 19.362 percent of variance) to 1.921 (accounting for 9.607 percent of variance). The twenty item, four-factor structure accounted for 58.452 percent of the variance explained.

Table 5 Twenty Item BAS Eigenvalues and Percent Variance Explained

Total Variance Explained for 20-item BAS	Eigenvalues	Percent variance explained
Factor One	3.872	19.362
Factor Two	3.139	15.696
Factor Three	2.757	13.786
Factor Four	1.921	9.607
Total		58.452

In sum, the twenty-three item, six-factor structure for 61.339 percent of the total variance explained. The twenty item, four-factor structure accounted for 58.452 percent of the variance explained, and despite the lower-than-desired percent of total variance explained, it is within a reasonable range of variance explained (Beavers, Lounsbury, Richards, Huck, Skolits, & Esquivel, 2013). Exploration of eigenvalues and the scree plot are additional supporting criterion to consider (Beavers et al., 2013).

Reliability Analysis

Internal Consistency (Hypothesis Four)

Internal consistency is classically associated with Cronbach's (1950) coefficient alpha (α; DeVillis, 2017). The Cronbach's alpha level provides evidence that the items within the scale correlate strongly with one another and, in the present study, would indicate that they are an internally related measure of the attitudes, social norms, and behavioral control participants experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault.

DeVillis (2017) reports that alpha levels below .60 are unacceptable; between .60-.65 are undesirable; between .65 and .70 are minimally acceptable; between .70 and .80 are respectable; between .80 and .90 are very good; and much above .90 may indicate the need to shorten the

scale (in lengthier scales). In general, Cronbach's alpha levels above .80 are indicative of high levels of internal consistency.

Twenty-three item BAS. It was hypothesized that the Cronbach's alpha level of the overall BAS, as well as each individual subscale of the Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening, would fall between .80-.99. When analyzed as a three-factor structure (Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening), actual alpha levels ranged from .68 and .88 across the full scale and subscales.

Table 6 Cronbach's Alpha for Original 23-item BAS

BAS with Associated Items	Cronbach's α full 23-item BAS
BAS Overall Alpha	.891
Perceived Behavioral Control	.847
Subjective Norms to Intervene	.683
Attitudes Toward Intervening	.879

Note. α = Cronbach's Alpha

Twenty item BAS. The revised, four-factor structure demonstrated alpha levels between .83 and .87. which indicates a strong internal consistency for the 20-item, 4-factor structure of the BAS.

Table 7 Cronbach's Alpha for Revised, 20-item BAS

BAS with Associated Items	Cronbach's α revised, 20-item BAS
BAS Alpha Overall	.906
Perceived Behavioral Control	.857
Subjective Norms to Intervene	.825
Attitudes Toward Intervening	.866

Note. α = Cronbach's Alpha

Validity Analyses

Convergent Validity

To assess convergent validity, the 20-item BAS was compared to existing measure of bystander attitudes, including the Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008); the Bystander Behaviors Scale-Revised (McMahon et al., 2011); the Bystander Efficacy Scale (Banyard, 2008).

Convergent and discriminant validity were assessed at the factor-levels due to the unrelated nature of the overall BAS scale, hence the use of an orthogonal rotation. The Acceptance of Modern Myths of Sexual Aggression (Gerger et al., 2007) was utilized as a measure of divergent validity. The Social Desirability Scale-17 (Stöber, 2001) was used for discriminant validity.

Convergent validity provides evidence that the scale measures the construct it set out to measure the attitudes, social norms, and behavioral control people experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault, in doing so is organized (by subscale) around the Theory of Planned Behavior (TPB).

Divergent and discriminant validity ideally indicate either a small overlap, or no overlap, between the construct intended to measure and a measure of a different construct. In the present study this would include an overlap between Perceived Behavioral Control to Intervene, Subjective Norms to Intervene, and Attitudes Toward Intervening on the BAS with the Bystander Intent to Help, Bystander Behaviors, as well as the Bystander Efficacy scales. Additionally, it was predicted that there would be a negative overlap between with acceptance of myths regarding sexual violence and aggression. It was predicted that there would be Minimal (under 40%) overlap between the three BAS factors: between Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening. Finally, it was predicted that

there would be a small overlap between the measurement of Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening on the BAS with social desirability.

Pearson's *r* correlation is utilized to signify the relationship among variables (DeVillis, 2017). It establishes the extent to which measures are interrelated (DeVillis, 2017). Several Pearson's *r* correlation tests were run and demonstrated partial support for convergent, discriminant, and divergent validity.

Convergent validity of the Bystander Intent to Help (Hypothesis Five). The most commonly used measure to assess bystander intent in the context of sexual violence prevention is the Bystander Attitude Scale, developed originally by Banyard, Moynihan, and Plante (2005) and later referred to as the Bystander Intent to Help Scale (Banyard & Moynihan, 2011). The original scale asks how likely respondents are to engage in a range of 51 different bystander behaviors. Banyard and Cross (2008) also developed a short form of the scale that includes 12 items, which is the scale used in the present study. It was predicted that there would be a moderate to strong convergent validity of the Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008) with the Perceived Behavioral Control factor, Subjective Norms to Intervene factor, and Attitudes Toward Intervening factor, with $r \geq .30$.

This hypothesis was fully supported, as correlations of the Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008) with Perceived Behavioral Control ($r = .43$), Subjective Norms to Intervene ($r = .34$), and Attitudes Toward Intervening ($r = .49$) factor of the BAS demonstrated moderate to strong levels of convergent validity which were significant at the $p = .001$ level. See Table 9 below.

Convergent validity of the Bystander Behaviors Scale (Hypothesis Six). It was predicted that there would be a moderate to strong convergent validity of the Bystander Behaviors Scale-Revised (BBS-R; McMahon et al., 2011) with the Perceived Behavioral Control factor, Subjective Norms to Intervene factor, and Attitudes Toward Intervening factor, with $r \geq .30$.

This hypothesis was fully supported, as correlations of the BBS-R (McMahon et al., 2011) with Perceived Behavioral Control ($r = .48$), Subjective Norms to Intervene ($r = .42$), and Attitudes Toward Intervening ($r = .46$) factor of the BAS demonstrated moderate to strong levels of convergent validity which were significant at the $p < .001$ level. See Table 9 below.

Convergent validity of the Bystander Efficacy Scale (Hypothesis Seven). It was predicted that there would be a moderate to strong convergent validity of the Bystander Efficacy Scale (Banyard et al., 2005) with the Perceived Behavioral Control factor, Subjective Norms to Intervene factor, and Attitudes Toward Intervening factor, with $r \geq .30$.

This hypothesis was fully supported, as correlations of the Bystander Efficacy Scale (Banyard et al., 2005) with Perceived Behavioral Control ($r = .53$), Subjective Norms to Intervene ($r = .46$), and Attitudes Toward Intervening ($r = .41$) factor of the BAS demonstrated moderate to strong levels of convergent validity which were significant at the $p < .001$ level. See Table 9 below.

Hypothesis eight. It is predicted that there will be no significant correlations between any of the factors of the three BAS (Perceived Behavioral Control factor and Subjective Norms to Intervene factor; Perceived Behavioral Control and Attitudes Toward Intervening factor; and Subjective Norms to Intervene factor and Attitudes Toward Intervening factor), $-.30 < r < .30$.

This hypothesis was not supported, as correlations for Perceived Behavioral Control factor were significant, with Subjective Norms (r = .52) and Attitudes Towards Intervening (r = .56) factors. Correlations for the Subjective Norms and Attitudes toward intervening factor were significant (r = .39). All correlations were significant at the p = .001 level. However, because the three subscales of the BAS shared no more than 31% of the variance between them, the subscales where still considered orthogonal in nature.

Table 8 Correlation of BAS Factors

Scale/ Factor Name	**M**	**SD**	**1**	**2**	**3**
BAS					
1. Perceived Behavioral Control	39.59	7.80	1		
2.Subjective Norms to Intervene	36.21	4.98	0.517**	1	
3. Attitudes Toward Intervening	42.69	5.87	0.564**	0.399**	1

Note. **Correlation is significant at the 0.01 level
BAS = Bystander Antecedent Scale

Convergent Validity Hypothesis nine. It is predicted that there will be a moderate to strong negative convergent validity of the Acceptance of Modern Myths of Sexual Aggression (Gerger et al., 2007) with the Perceived Behavioral Control factor, Subjective Norms to Intervene factor, and Attitudes Toward Intervening factor, with $r \geq .30$. and with the perceived behavioral control to intervene scale ($r \geq$ -.30).

Correlations of the Acceptance of Modern Myths of Sexual Aggression (Gerger et al., 2007) with Perceived Behavioral Control (r = -.12), Subjective Norms to Intervene (r = -.16),

and Attitudes Toward Intervening (r = -.12) factor of the BAS demonstrated moderate levels of convergent validity which were significant at the $p < .001$ level. Factors were all below the hypothesized $r \geq$ -.30 and therefore demonstrated a low level of convergent validity. Correlations were significant for the Subjective Norms to Intervene factor at the $p = .05$ level. See Table 9 below. Hypothesis nine was not supported.

Divergent validity with Social Desirability (Hypothesis Ten). The Social Desirability Scale-17 (Stöber, 2001) aims to assess the tendency that a person responds in a socially desirable manner. The construct that The Social Desirability-17 Scale measures (social desirability) is unrelated or does not fully overlap, with bystander intervention, and is therefore utilized for discriminant validity purposes.

It was predicted that there would be a low correlation between the Social Desirability Scale-17 (Stöber, 2001) and with the Perceived Behavioral Control factor, Subjective Norms to Intervene factor, and Attitudes Toward Intervening factor, $-.20 < r < .20$.

This hypothesis was fully supported, as correlations of the with Perceived Behavioral Control (r = -.12), Subjective Norms to Intervene (r = -.02), and Attitudes Toward Intervening (r = -.11) factors of the BAS indicated little to no significant overlap. See Table 9 below.

Table 9 Table 9 Correlations of BAS with Construct Validity Scales

Scale/ Factor Name	M	SD	1	2	3	4	5	6	7	8
BAS										
1. Perceived Behavioral Control	39.59	7.80	1							
2. Subjective Norms to Intervene	36.21	4.98	.517**	1						
3. Attitudes Toward Intervening	42.69	5.87	.564**	.399**	1					
4. Bystander Behavior Scale	76.18	9.26	.479**	.422**	.462**	1				

Revised										
5. Bystander Efficacy Scale	1140.59	178.86	.532**	.459**	.409**	.633**	1			
6. Bystander Intent to Help-SF	62.61	7.82	.426**	.341**	.493**	.777**	.641**	1		
7. Social Desirability Scale-17	25.33	2.14	-.115	-.023	-.113	-.108	-.067	.008	1	
8. Acceptance Modern Myths	70.07	25.01	-.116	-.164*	-.119	-.321**	-.288*	-.418**	-.352**	1

Note. **Correlation is significant at the 0.01 level.
* Correlation is significant at the 0.05 level.

DISCUSSION

This concluding chapter of the dissertation reviews the interpretation, implications, and limitations of the Bystander Antecedents Scale (BAS) development. The present study explored the development and initial validation of a measure that assesses the attitudes, social norms, and behavioral control participants experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault, in doing so is organized (by subscale) around the Theory of Planned Behavior (TPB; Ajzen, 2002). There is a gap in the literature regarding existing bystander scales that are grounded in theory (Banyard et al., 2005; Banyard, 2008; Banyard & Moynihan, 2008; Banyard et al., 2011). The research, frameworks, and scales currently used have provided significant contributions to the field and helped better understand bystander intervention engagement, as well as influences of prosocial action as bystanders (Latané &Darley, 1970; Reynolds-Tylus et al., 2019; Banyard et al., 2014; Berkowitz, 2016). However, the gap in literature includes scales that encapsulate a theoretical framework regarding intent to behave, especially in assessing the attitudes, social norms, and behavioral control outlined by the Theory of Planned Behavior (Ajzen, 2002) as applied to bystander behaviors and intent to intervene.

Factor Structure

It was originally hypothesized that the Bystander Antecedents Scale (BAS) would demonstrate a three-factor structure, representative of the three predictive components of the Theory of Planned Behavior (TPB): Perceived Behavioral Control to Intervene, Subjective Norms to Intervene, and Attitudes Toward Intervening (Ajzen, 2002). Maximum Likelihood analysis with a Varimax rotation was utilized, as the analysis utilized in other scale development projects based in the TPB (Ghazanfari, Niknami, Ghofranipour, Hajizadeh, & Montazeri, 2010), and is appropriate for non-normally distributed data.

However, exploratory factor analysis indicated the emergence of a four-factor structure in the revised, 20-item BAS. Upon further analysis, it was apparent that items were loading onto factors not only in correlation with the three predictive components of the TPB, but further delineated in terms of peer-to-peer aid (which loaded as hypothesized on the three factors related to TPB) and accessing authorities and professionals for support (which was a stand-alone fourth factor). Bystanders' responses can range from ignoring the situation, preventing the violence from escalating, supporting the victim, or calling upon outside resources for help. In the context of sexual violence, research shows that nearly one-third of situations involving sexual violence occurs in the presence of bystanders (Planty, 2002). The fourth factor, seeking outside professional help, might have developed for several reasons. First, as the risk of the situation increases, bystanders might feel the urgency to access help. Research has found that the context of the situation also has an essential influence on bystander behavior. Past research suggested that bystanders are more likely to intervene as the severity of the situation increases (Fischer et al., 2011). Additionally, bystander intervention training does not encourage individuals to subject themselves to high-risk situations but instead encourages them to intervene or diffuse in lower-

risk situations. In situations of higher risk, the bystander is encouraged to seek out support; thus, the fourth factor might have developed due to the reaction to a peer being "at risk" of being sexually assaulted and the individual perceiving their safety is at risk (Rozee & Koss, 2001). If this factor were to be expanded upon, it might be beneficial to include additional tertiary (post-assault) items and access other supports. One study found that college students worry about contacting campus resources due to a lack of confidence in their ability to support their concerns. Thus, it would be important to include a variety of resources to assess the willingness and confidence to access support (Marques et al., 2020).

With the exception of the seeking outside support fourth factor, the current study largely supports the three factors associated with TPB. Researchers using TPB to predict health-related behaviors tend to find that attitudes, subjective norms, and perceived behavioral control account for a relatively large portion of the variance (40–49%) in behavioral intentions (McEachan et al., 2011). While only a few studies have applied the TPB specifically to predicting bystander intentions, there are many examples of researchers using theoretical constructs like those found in the TPB. For example, although they are operationalized differently, several studies have examined perceived social norms and found that people are more willing to intervene against sexual violence when they perceive positive peer norms regarding intervention (Brown et al., 2014; Murphy Austin et al., 2016). Similarly, researchers have examined self-efficacy and bystander confidence, concepts that are similar in nature to behavioral control, and found these factors to predict bystander intentions (Banyard, 2008; Banyard & Moynihan, 2011; McMahon et al., 2015).

The limited use of health-behavior theory in the bystander literature makes the BAS a promising measure as a useful outcome assessment for behavior change. Our data suggests that

the BAS does indeed appear to assess the attitudes, social norms , and behavioral control people experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault. The exploratory factor analysis indicated the strong presence of these three factors that are aligned with the TPB (Ajzen, 2002). However, the scale loaded a fourth factor that looks at accessing additional support instead of peer-to-peer support. Previous research on the TPB has supported the use of intention as a proxy for behavior in relation to behaviors related to the cessation of smoking, exercising, and eating healthy (Fishbein & Ajzen, 2010). Research examining bystander intervention in relation to sexual violence has found that while social norms significantly predicted intention to intervene, they did not significantly predict engagement in bystander behavior (Brown et al., 2014). Similarly, the present study suggests that people report that they would engage in intervention behaviors, but what they would actually do is unknown.

Finally, in regard to the relationship between the three TBP BAS subscales, the subscales moderately correlated with each other. One could presume this is due to the shared variance and similar terminology among the items. The anchors changed between the subscales; however, the wording of the items stayed relatively similar, which perhaps is the reason for the moderate correlation. Previous studies have also found that these three TPB subscales correlate (Yiu et al., 2009; Knabe, 2012).

Item Analysis

The original BAS started with 23 items; however, after item analysis, it was determined that three items needed to be dropped. The three items included an item on the subscale Perceived Behavioral Control, *"If a peer says they had an unwanted sexual experience, helping them access support services (e.g., therapy, medical help) would be,"* one item on the subscale

Subjective Norms to Intervene, *"My friends would support a peer who has sex with a person who was passed out drunk or did not give consent." One* item from the subscale, Attitudes Towards Intervening, *"If a peer says they had an unwanted sexual experience, helping them access support services (e.g., therapy, medical help) would be."* Two of these items have shared variance and the exact wording but had different anchors. The second item was different but had the lowest item loading (.19).

Factor loadings on the 20-item version of the BAS included the vast majority above .47. Additionally, the total variance accounted for across the four factors was approximately fifty-eight percent. Despite the overall BAS not holding up to its originally hypothesized three-factor structure, once revised the four-factor structure of the BAS demonstrated strong construct validity. Future directions for the present study would include confirmatory data collection and analysis with a larger and more diverse sample. On the first subscale, Perceived Behavioral Control, item seven loaded the lowest at .36 (*If a peer says they would have sex with a person who is passed out, educating them on consent would be*). The item was poorly performing, and one could presume the item loaded poorly because people have not encountered situations where their friends openly disclosed this information. Another reason could be the lack of confidence in educating someone on consent. Perhaps another reason could be a person's lack of understanding of what consent is, and if someone does not learn what consent is, they may be unable to recognize sexual assault in certain situations and may consequently not act as a prosocial bystander in those situations (Demming et al., 2013; Hoxmeier et al., 2016). However, in the Attitudes Toward Intervening subscale, this item loaded at .62, which indicates that people believe the act of intervening and educating others on consent is important. However, they perceive that their interventions are unlikely to make an impact or that they have not encountered

the situations, meaning they might not believe their friends would engage in perpetrating sexual assault. Future research should explore people's comprehension of consent.

A critique of the items is necessary as the BAS had its limitations. Three items that were dropped appeared to be consequences instead of antecedents to a sexual assault. The wording may be altered to provide a scale that is all pre-assault, during assault, or post-assault to provide participants with clear distinction while completing the questionnaire. Additionally, one the items were about supporting perpetrators and the others were about supporting victims. Creating a scale for either perpetrators or victims instead of both may help clarify what is being assessed.

Internal Consistency

Internal consistency reliability includes the homogeneity of the items within a scale (DeVillis, 2012). It was hypothesized that the Cronbach's alpha level of the overall BAS, as well as each individual subscale of the Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening, would fall between .80-.99. When analyzed as a three-factor structure (Perceived Behavioral Control, Subjective Norms to Intervene, and Attitudes Toward Intervening), with all original 23 items, as originally hypothesized, actual alpha levels ranged from .61 to .83 across the full scale and subscales, with one outlier on the factor which includes Subjective Norms to Intervene, in which $\alpha = .68$. Despite the underperforming factor, the overall internal consistency of the 23-item BAS was relatively strong.

The overall Cronbach's alpha level of the revised, 20-item BAS four-factor structure demonstrated alpha levels between .83 and .87. which indicates a strong internal consistency for the 20-item, 4-factor structure of the BAS. In comparison, for the Bystander Efficacy Scale (Banyard, 2008) Cronbach's alpha has ranged from .87 to .93, The Bystander Behavior Scale Revised (McMahon et al., 2011) demonstrated $\alpha = .89$, and the Bystander Intent to Help Scale-

SF (Banyard & Cross, 2008), demonstrates internal consistency ranging from .82 to .92. However, as noted previously these scales are lacking a theoretically basis which the BAS was derived from, and the revised BAS scale proves a strong internal consistency demonstrating α = .91.

Convergent and Divergent Validity

Convergent validity includes similarities between measures of related constructs and divergent validity includes dissimilarities between measures decidedly different constructs (DeVillis, 2017). To assess convergent validity, the examination of the BAS at the factor level was compared to existing measures of bystander attitudes, bystander behaviors, and perceived ability to help, including Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008), the Bystander Behaviors Scale-Revised (McMahon et al., 2011), and the Bystander Efficacy Scale (Banyard, 2008). The measures and related constructs utilized have been used in bystander intervention trainings and research for years; however, they lack the theoretical framework that the BAS provides. All the convergent validity hypotheses were fully supported, which provides support for the measure that the BAS assesses the attitudes, social norms, and behavioral control people experience related to bystander's behaviors when confronted with hypothetical situations involving sexual assault or potential sexual assault. The Bystander Behavior Scale-Revised (McMahon et al., 2011) and Bystander Intent to Help Scale-Short Form (Banyard & Cross, 2008) correlated more with the Perceived Behavioral Control and Attitudes Toward Intervening subscales and less with the Subjective Norms subscale. One reason could be that people perceived their own bystander behaviors as more valuable and aligned more with the usefulness of bystander interventions and less with how they viewed other peoples' reactions to bystander intervention. The Bystander Efficacy Scale (Banyard, 2008) correlated more with Perceived

Behavioral Control and Subjective Norms and less with Attitudes Toward Intervening. One might conclude this is because of the perceived ability to intervene and how individuals believe their friends would react in bystander intervention situations is more related to the idea of self-efficacy expressed in Banyard's scale. Measuring attitudes of how helpful they feel the intervention would be had a lower correlation with Banyard's scale, which could suggest that people are not confident in their ability to intervene, or more likely there was a ceiling effect on the attitudes scale (and with it a lack of variability).

Bystander intervention training programs aim to prepare bystanders to intervene by building behavioral skills (e.g., using distraction) and increasing the confidence necessary to intervene (Potter et al., 2008). In the present study, the BAS did not correlate with the Acceptance of Modern Myths of Sexual Aggression scale (AMMSA; Gerger et al., 2007) or the Social Desirability Scale-17 (Stöber, 2001) as hypothesized. Jozkowski and colleagues (2019) found that people who endorse rape myths blame victims more and perpetrators less; consequently, rape myth acceptance (RMA) can impede helping behaviors toward sexual assault victims. Future research might incorporate items inquiring about actual bystander intervention actions taken to gather additional insight into social desirability and prosocial behaviors. Only a few studies have examined whether bystander training leads to increases in self-reported prosocial bystander behavior (Coker et al., 2015; Moynihan et al., 2015).

Limitations

As with any study, there are notable limitations that should be recognized and discussed. First, it is important to note that our sample included participants across the lifespan. While it is important to know who is intervening in situations of sexual assault, bystander intervention

programs focus primarily on college populations who are emerging adults therefore it would be helpful to study this sample alone.

A majority of the bystander literature published to date has been conducted with samples that were mostly White, including this study (Banyard et al., 2005; Banyard et al., 2011; Banyard et al., 2014; Bennett et al., 2014; Brown & Messman-Moore, 2010; Coker et al., 2015; Rojas-Ashe et al., 2019). Future research should explore the acceptability of different bystander behaviors to different groups, and work towards sexual assault prevention programs that are inclusive and accessible to all members of a university community. Further, this study was 79% women, and the current literature notes that self-reported women are more likely to report to intervene in situations that may lead to sexual assault. Thus, future research should attempt to get a larger more diverse sample.

Currently most bystander behavior measures rely on self-report, which have several limitations, including our scale. One possible reason could be that positive self-attribution plays a role, meaning people see themselves in a more positive light than they act in the situation Further, biased reporting may be especially common among individuals who underwent bystander training and therefore know the "right" answers to bystander questions (Mercer Kollar et al., 2020). However, in our study only a small sample of participants engaged in bystander training. Future research should be mindful of the participants who have engaged in training and who might know the "right" answers.

Therefore, the field needs to explore different ways to assess actual bystander behaviors, such as lab analogues or peer report. For example, Parrott and colleagues (2012) developed a lab procedure they believe can model bystander behavior related to sexual violence. Also, in recent research in the field of bystander behavior in the context of bullying, researchers have begun to

ask peers to report about the bystander behavior of other peers (Pozzoli & Gini, 2013). These methods could be important ways to increase the validity of self-report.

The data reflected a negative skew, particularly with the items that were dropped from the 23-item scale. However, the data had a slight negatively skew, which presents another limitation as reflected in the data as high means and standard deviations. Future research should continue to try to develop items that might more accurately differentiate what participants want to do from what they would actually do (Parrott et al., 2012).

Implications

The BAS is theory-grounded in the Theory of Planned Behavior (TPB; Ajzen, 2002). The TPB has been applied extensively in research on human behavior, and it is a useful theoretical model for predicting both behavioral intentions and actual behaviors (Armitage & Conner, 2001; McEachan, Conner, Taylor, & Lawton, 2011). The TPB also has applications to sexual assault prevention efforts. The TBP was one of the theoretical models used to develop the CDC's Rape Prevention and Education (RPE) Program's theory model, Creating Safer Communities: The Rape Prevention and Education Model of Community Change (Cox, Lang, Townsend, & Campbell, 2010).

In the context of sexual violence and bystander intervention, the TPB model would suggest that intention to engage in bystander behaviors aimed at preventing or responding to sexual violence would be predicted by attitudes, subjective norms, and perceived behavioral control. In other words, an individual's attitudes towards bystander intervention, perception of social norms about bystander interventions, and the degree to which one believes they can act to prevent sexual violence would all impact the intention to perform the bystander intervention behavior. Together, all these components ultimately impact actual behaviors aimed at preventing

or responding to sexual violence. The BAS intended to measure the attitudes, social norms, and behavioral control people experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault; in doing so is organized (by subscale) around the Theory of Planned Behavior (TPB; Ajzen, 2002).

Previously developed scales assessing bystander intervention behaviors are well intended; however, they lack a theoretical basis. The Bystander Antecedents Scale (BAS) extends this understudied area by grounding the scale in a well-studied theoretical framework, the Theory of Planned Behavior (Ajzen, 2002), and by norming the scale on a large sample.

Research Implications

There is a strong emphasis on promoting bystander intervention programs to reduce sexual violence. The Bystander Antecedent Scale (BAS) is one tool that could help further the literature base on the development of successful bystander intervention programs. Future studies should include actual intervention behaviors to the items. In doing this, participants may better conceptualize the bystander interventions and be able to perceive themselves in the scenarios. Additionally, assessing pre-assault versus post-assault scenarios may be useful in addition to the level of risk in each scenario may help with the complexity of scenarios the participants are asked to envision.

Future studies should include a confirmatory analysis of the BAS. A confirmatory factor analysis would aid in determining whether the psychometric properties of the BAS, particularly the scale structure, will remain constant across a new sample (Costello & Osborne, 2005). The confirmatory study would re-examine internal consistency, construct and content validity, convergent and discriminant validity, and test-retest reliability.

Few evaluations include measurement of actual bystander behaviors, which is essential to further understanding whether bystander intervention is an effective strategy for creating change (Potter & Banyard, 2011). Someone may have the right attitude about bystander intervention but may be unwilling to engage as a helpful bystander in the press of the moment. Latané and Darley (1970) indicate that attitudes toward intervention are just one piece of a complex behavioral decision process. Hence, measuring actual behaviors and attitudes gives providers a fuller understanding of those who have intervened as a bystander.

Having a different opportunity or actual behaviors performed scale will be valuable in providing additional information about witnessing or awareness of different risk related. incidents. This is important because awareness of risk, or perception of a problem, is the first step in bystander intervention (Burn, 2009), which assessment of bystander behavior independent of opportunity would not allow us to assess. By asking participants to report whether they witnessed each incident included in bystander behavior items, we can account for opportunities specific to each existing item rather than broadly speaking. This information will help provide information on characteristics of situations where individuals have the opportunity to intervene yet are hesitant to do so. Focusing efforts on such situations and better understanding the barriers to engaging in bystander behaviors in such contexts may increase the effectiveness of bystander intervention training. Furthermore, an individual's perceptions of bystander opportunities may vary based on their attitudes and beliefs about what constitutes an "intervention-appropriate" situation. Failure to recognize opportunities is a crucial barrier to intervention (Burn, 2009; Exner & Cummings, 2011; McMahon & Banyard, 2012). Therefore. Future work on bystander behavior measurement needs to include an assessment of not only

opportunity and behavior but also the individual's ability to recognize situations as opportunities to intervene.

As previously noted, the BAS was normed on a sample of primarily heterosexual, female, and white participants. Future studies should include a more extensive and diverse sample. Additionally, the population was taken from across the lifespan as opposed to the college sample, which is the primary group in that bystander intervention programs are taught. As such, sampling this population may help better inform future bystander programs to increase the development of skills that allow bystanders to be successful.

Clinical Implications

Clinically, the BAS is a useful instrument as a brief measure of the attitudes, social norms, and behavioral control people experience related to bystander's behaviors when confronted with situations involving sexual assault or potential sexual assault; in doing so is organized (by subscale) around the Theory of Planned Behavior (TPB; Ajzen, 2002). Once the BAS psychometric properties are solidified in a future confirmatory study, this tool could likely provide clinicians with valuable information into factors impacting sexual violence by being knowledgeable about it and by being actively involved in prevention efforts at various levels.

More specifically, the BAS can be used to assess the effectiveness of Bystander training, and to provide a broader assessment of the level of Bystander intent to intervene within specific communities that may be at risk (i.e., college campuses). There are many opportunities for bystander intervention and various ways people can intervene. With the added advantage of bystander intervention and a theoretical framework that the BAS can provide, the evaluation of people's ability to engage in bystander behaviors, how they perceive friends' acceptance of

bystander behaviors, and how helpful they view the intervention can help educators better adapt their training programs to fit the context of the individuals taking the training program.

Practitioners that work in campus health centers need to be comfortable addressing issues related to sexual violence and actively work with students to prevent violence (Dills et al., 2016). Additionally, clinicians should be aware and well-informed about sexual violence from an ecological perspective to effectively address the problem. They can help implement evidence-based sexual violence prevention strategies (Hoshmand, 2007). For example, campus-based providers can directly implement or support the implementation of bystander intervention programs. They can also advocate for violence prevention resources for their campus and encourage violence prevention education for all students, faculty, and staff (Hoshmand, 2007).

Conclusion

Sexual assault is a devastating but common form of interpersonal violence. Recent efforts to address this form of violence through a community-wide approach has led to the popularity of bystander intervention programs to prevent sexual assault (Reid & Dundes, 2017). The development of the Bystander Antecedents Scale, utilizing the Theory of Planned Behavior (TPB; Ajzen, 2002), resulted from the desire to improve our understanding of people's perceptions and beliefs about bystander interventions and sexual assault, as well as from the lack of theory-driven, empirically valid scales measuring bystander intervention skills. An exploratory study largely confirmed hypotheses related to factor structure, various facets of validity, and internal consistency of the Bystander Antecedent Scale (BAS). The results of this study preliminarily establishes that the BAS as a potentially valid and reliable measure with a theoretically supported factor structure. The next step is to conduct a confirmatory study to determine if these properties hold within a new sample.

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APPENDIX A

23-ITEM BAS - BYSTANDER ANTECEDENTS SCALE

For purposes of our scale, *Bystander intervention* is defined generally as any action taken by a third-party observer with the intention to alleviate harm (Burn, 2009). We are specifically interested in actions related to sexual assault.

The Perceived Behavioral Control to Intervene scale measures participants' perceived ease or difficulty to perform each of the bystander behaviors, using a 7-point, bipolar rating scale (from 1=*very difficult* to 7=*very easy*). Participants are asked, for each of the intervention behaviors,

"If you were to encounter this situation, how difficult or easy would it be for you to take each of these actions? On a scale of *1 = very difficult, 2 = somewhat difficult, 3 = difficulty, 4 = neither difficult nor easy, 5 = easy, 6 = somewhat easy, 7 = very easy*

1. 1. If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be,
2. If I see someone is passed out from drinking alcohol and is being touched by a peer, stopping the peer would be,
3. If someone who looks intoxicated and is being taken to a private room by a peer, stopping the peer would be,
4. If a peer is taking a drunk person back to their bedroom, stopping the peer would be,
5. If I walked into a situation where a peer appears to be forcing someone to have sex with them, stopping the peer would be,
6. If a peer says they had an unwanted sexual experience, helping them access support services (e.g., therapy, medical help) would be,
7. If a peer says they would have sex with a person who is passed out, educating them on consent would be,
8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be,

The Subjective Norms to Intervene scale measures whether participants perceive that their closes friends and family would approve of them if they were to perform each of the intervention behaviors, using a 7-point, bipolar rating scale (from 1 = *totally disapprove* to 7 = *totally approve*). Participants are asked,

"Think about your closest friend or friends. What would the friend or friends you are closest to, or someone who is very important to you, do in the following situations? On a scale ranging from *1 = Totally unlikely, 2 = unlikely, 3 = slightly unlikely, 4 = neither unlikely nor likely, 5 = slightly likely, 6 = likely, 7 = Totally likely"*

1. My friends would stop a peer who is touching someone who is passed out from drinking alcohol,

2. If my friends see someone passed out from drinking alcohol and are being touched by a peer, they will stop them,
3. My friend would stop a peer taking a drunk person back to their private room,
4. My friends would stop a peer that appears to be forcing someone to have sex with them.
5. My friends would help a peer access support services (e.g., therapy, medical help, etc.) if they tell them about an unwanted sexual experience.
6. My friends would support a peer who has sex with a person who was passed out drunk or did not give consent.
7. My friends would get authorities (e.g., police, Residential Authority [RA], etc.) involved if it seems like a peer was in danger of being sexually assaulted.

The Attitudes Toward Intervening scale measures participants' attitudes and the extent to which individuals perceive intervention behaviors as being helpful using a 7-point, bipolar rating scale (from 1= *totally unhelpful* to 7=*totally helpful*).

"To prevent situations of sexual assault, helpful do you think each of the actions would be?" on a scale of *1 = totally unhelpful, 2 = unhelpful, 3 = somewhat unhelpful, 4 = neither helpful nor unhelpful, 5 = somewhat helpful, 6 = helpful, 7 = totally helpful.*

1. If I hear a peer saying they are planning to give a person alcohol to get sex, telling the peer not to would be,
2. If I see someone is passed out from drinking alcohol and is being touched by a peer, stopping the peer would be,
3. If someone who looks intoxicated and is being taken to a private room by a peer, stopping the peer would be,
4. If a peer is taking a drunk person back to their bedroom, stopping the peer would be,
5. If I walked into a situation where a peer appears to be forcing someone to have sex with them, stopping the peer would be,
6. If a peer says they had an unwanted sexual experience, helping them access support services (e.g., therapy, medical help) would be,
7. If a peer says they would have sex with a person who is passed out, educating them on consent would be,
8. If a peer seems like they in danger of being sexually assault, getting authorities involved (e.g., police, Residential Authority [RA], etc.) would be.

APPENDIX B

DEMOGRAPHICS ITEMS

Question Code	**Demographic Question**	Options (*What type of question if it is not a clicked response*)
D1-Race	**What is your Race?**	White LatinX or Hispanic Black or African American Asian American or of Asian descent Arab American American Indian Native American Alaska Native Native Hawaiian Pacific Islander Bi-racial Multiracial Other Race not previously listed *(fill in the blank)*
D2-Gender	**What is your Gender?**	Female Male Non-binary Transgender woman Transgender man Gender non-conforming/variant Other (*fill in the blank*)
D3-Age	**How old are you? (Enter number of years)**	*(Fill in the blank)*
D4-Relationship status	**What is your current relationship status?**	Single Married Partnered Divorced Widowed Separated Other (*fill in the blank*)
D5-Sexual orientation		Heterosexual/straight Gay Lesbian

	With which sexual orientation do you identify with?	Bi-sexual Pan-sexual Asexual Queer Other (*fill in the blank*)
D6-Spirtual Religious affiliation	**What is your spiritual or religious identity?**	Agnostic Atheist Buddhist Catholic Christian Confucianism Hindu Jewish Muslim Spiritual Traditional Native American/First Nations Spirituality Other (*fill in the blank*)
D7-Residence	**What is your country of residence?**	Canada United States
D8-Education	**What is your highest level of education completed?**	Some middle school Middle school Some high school High school Some college Associate/technical degree Bachelor's degree Some graduate school Master's degree PhD/MD degree
D9-Community	**Where do you live?**	A small town- less then 10,000 people A town – between 10,000 and 50,000 people A large town – between 50,000 and 200,000 people A city – more than 200,000 people
D10- Region		

D22-Bystander training	**What region of the United States do you live?**	Midwest Northeast South West Puerto Rico or other U.S. territories I do not live in the United States
	Have you attended any sort of bystander intervention training?	Yes No
D23-Bystander Training attended	**If you selected yes to question 14 (attended a bystander intervention training), please choose from the list below which training(s) you attended.**	Green Dot etc. Step Up! The Red Flag Campaign Mentors in Violence Prevention Hollaback! Bringing in the Bystander Other (please specify)

APPENDIX C

BYSTANDER BEHAVIOR SCALE-REVISED ITEMS

(BBS-R; McMahon et al., 2011)

Please read the following list of behaviors and check how likely you are to engage in these behaviors using the following scale: 1 = extremely unlikely to 6 = extremely likely

1. Ask for verbal consent when I am intimate with my partner, even if we are in a long-term relationship.
2. Stop sexual activity when asked to, even if I am already sexually aroused.
3. Check in with my friend who looks drunk when s/he goes to a room with someone else at a party.
4. Say something to my friend who is taking a drunk person back to his/her room at a party.
5. Challenge a friend who made a sexist joke.
6. Express my concern if a family member makes a sexist joke.
7. Use the word “ho,” “bitch,” or “slut” to describe girls when I was with my friends.
8. Challenge a friend who uses “ho,” “bitch,” or “slut” to describe girls.
9. Confront a friend who plans to give someone alcohol to get sex.
10. Refuse to participate in activities where girls’ appearances are ranked/rated.
11. Listen to music that includes “ho,” “bitch,” or “slut”.
12. Confront a friend who is hooking up with someone who was passed out.
13. Confront a friend if I hear rumors that they forced sex on someone.
14. Report a friend that committed a rape.
15. Stop having sex with a partner if they say to stop, even if it started consensually.
16. Decide not to have sex with a partner if they are drunk.

APPENDIX D

BYSTANDER INTENTION TO HELP-SHORT FORM ITEMS

(Banyard & Cross, 2008)

Please read the following behaviors and rate how likely **YOU ARE** to engage in these behaviors using the following scale: *1 = extremely unlikely* to *6 = extremely likely*.

1. Think through the pros and cons of different ways I might help if I see an instance of sexual violence.
2. Speak up if I hear someone say, "She deserved to be raped."
3. Ask for verbal consent when I am inti- mate with my partner, even if we are in a long-term relationship.
4. I talk with my friends about sexual and intimate partner violence as an issue for our community.
5. I express concern to a friend if I see their partner exhibiting very jealous behavior and trying to control my friend.
6. I tell a friend if I think their drink may have been spiked with a drug.
7. Talk with friends about what makes a relationship abusive and what warning signs might be.
8. I see a man talking to a female friend. He is sitting very close to her and by the look on her face, I can see she is uncomfortable. I ask her if she is ok or try to start a conversation with her.
9. I stop and check in with my friend who looks very intoxicated when they are being taken upstairs at a party.
10. Approach a friend if I thought they were in an abusive relationship and let them know that I'm here to help.
11. Express disagreement with a friend who says having sex with someone who is passed out or very intoxicated is okay.
12. Go with my friend to talk with someone (e.g., police, counselor, crisis center, resident advisor) about an unwanted sexual experience or physical violence in their relationship).

APPENDIX E

SOCIAL DESIRABILITY SCALE-17 ITEMS (Stöber, 2001).

Below you will find a list of statements. Please read each statement carefully and decide if that statement describes you or not. If it describes you, check the word "true"; if not, check the word "false".

1. I sometimes litter.
2. I always admit my mistakes openly and face the potential negative consequences.
3. In traffic I am always polite and considerate of others.
4. I have tried illegal drugs (for example, marijuana, cocaine, etc.).
5. I always accept others' opinions, even when they don't agree with my own.
6. I take out my bad moods on others now and then.
7. There has been an occasion when I took advantage of someone else.
8. In conversations I always listen attentively and let others finish their sentences.
9. I never hesitate to help someone in case of emergency.
10. When I have made a promise, I keep it--no ifs, ands or buts.
11. I occasionally speak badly of others behind their back.
12. I would never live off other people.
13. I always stay friendly and courteous with other people, even when I am stressed out.
14. During arguments I always stay objective and matter of fact.
15. There has been at least one occasion when I failed to return an item that I borrowed.
16. I always eat a healthy diet.
17. Sometimes I only help because I expect something in return.

Answer categories are *"true" (1) and "false" (0)*. Items 1, 4, 6, 7, 11, 15, and 17 are reverse keyed.

APPENDIX F

BYSTANDER EFFICACY SCALE ITEMS (Banyard, 2008)

Please read each of the following behaviors. Indicate how confident you are that you could do them. Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

1. Express my discomfort if someone makes a joke about a woman's body.
2. Express my discomfort if someone says that rape victims are to blame for being raped.
3. Call for help (i.e., call 911) if I hear someone in my dorm yelling "help".
4. Talk to a friend who I suspect is in an abusive relationship.
5. Get help and resources for a friend who tells me they have been raped.
6. Able to ask a stranger who looks very upset at a party if they are okay or need help.
7. Ask a friend if they need to be walked home from a party.
8. Ask a stranger if they need to be walked home from a party.
9. Speak up in class if a professor is providing misinformation about sexual assault.
10. Criticize a friend who tells me that they had sex with someone who was passed out or who didn't give consent.
11. Do something to help a very drunk person who is being brought upstairs to a bedroom by a group of people at a party.
12. Do something if I see a woman surrounded by a group of men at a party who looks very uncomfortable.
13. Get help if I hear of an abusive relationship in my dorm or apartment.
14. Tell an RA or other campus authority about information I have that might help in a sexual assault case even if pressured by my peers to stay silent.

APPENDIX G

ACCEPTANCE OF MODERN MYTHS OF SEXUAL AGGRESSION

(Gerger et al., 2007)

You will be presented with a set of statements and asked to indicate the extent to which you agree or disagree with each. There are no right or wrong answers – we are only interested in your personal opinion. Please read each statement carefully and then circle that number from 1 to 7 that you feel best represents your opinion. The points on the scale have the following meaning: *1 = completely disagree, 2 = disagree, 3 = disagree somewhat, 4 = neutral, 5 = agree somewhat, 6 = agree, 7= completely agree*

1. When it comes to sexual contacts, women expect men to take the lead.
2. Once a man and a woman have started "making out", a woman's misgivings against sex will automatically disappear.
3. A lot of women strongly complain about sexual infringements for no real reason, just to appear emancipated.
4. To get custody for their children, women often falsely accuse their ex-husband of a tendency towards sexual violence.
5. Interpreting harmless gestures as "sexual harassment" is a popular weapon in the battle of the sexes.
6. It is a biological necessity for men to release sexual pressure from time to time.
7. After a rape, women nowadays receive ample support.
8. Nowadays, a large proportion of rapes is partly caused by the depiction of sexuality in the media as this raises the sex drive of potential perpetrators.
9. If a woman invites a man to her home for a cup of coffee after a night out this means that she wants to have sex.
10. As long as they don't go too far, suggestive remarks and allusions simply tell a woman that she is attractive.
11. Any woman who is careless enough to walk through "dark alleys" at night is partly to be blamed if she is raped.
12. When a woman starts a relationship with a man, she must be aware that the man will assert his right to have sex.
13. Most women prefer to be praised for their looks rather than their intelligence.
14. Because the fascination caused by sex is disproportionately large, our society's sensitivity to crimes in this area is disproportionate as well.
15. Women like to play coy. This does not mean that they do not want sex.
16. Many women tend to exaggerate the problem of male violence.
17. When a man urges his female partner to have sex, this cannot be called rape.
18. When a single woman invites a single man to her flat, she signals that she is not averse to having sex.
19. When politicians deal with the topic of rape, they do so mainly because this topic is likely to attract the attention of the media.
20. When defining "marital rape", there is no clear-cut distinction between normal conjugal intercourse and rape.

21. A man’s sexuality functions like a steam boiler – when the pressure gets too high, he has to "let off steam".
22. Women often accuse their husbands of marital rape just to retaliate for a failed relationship.
23. The discussion about sexual harassment on the job has mainly resulted in many a harmless behavior being misinterpreted as harassment.
24. In dating situations, the general expectation is that the woman "hits the brakes" and the man "pushes ahead".
25. Although the victims of armed robbery have to fear for their lives, they receive far less psychological support than do rape victims.
26. Alcohol is often the culprit when a man rapes a woman.
27. Many women tend to misinterpret a well-meant gesture as a "sexual assault".
28. Nowadays, the victims of sexual violence receive sufficient help in the form of women’s shelters, therapy offers, and support groups.
29. Instead of worrying about alleged victims of sexual violence society should rather attend to more urgent problems, such as environmental destruction.
30. Nowadays, men who really sexually assault women are punished justly.

APPENDIX H

SURVEY DEBRIEF

We thank you for your time spent taking this survey.

Your response has been recorded.

If you or a loved one has been impacted by sexual assault, call the National Sexual Assault Hotline at 1-800-656-4673 or visit the National Sexual Assault Hotlines website listed below. If you have questions or concerns or would like more information, please contact Kara Wettersten at kara.wettersten@und.edu or Ashley Friesen-Janochoski at Ashley.j.friesen@und.edu.

National Sexual Assault Hotline