



MEDICAL STUDENTS' BELIEFS TOWARDS SCREENING FOR INTIMATE  
PARTNER VIOLENCE: A QUALITATIVE STUDY

by

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## CHAPTER I

### INTRODUCTION

#### **Problem Statement**

Statistics indicate that one in three women has experienced rape, physical violence, and/or stalking by an intimate partner in her lifetime (Black et al., 2011), and that women are significantly more likely than men to report being victims of rape, physical assault, or stalking (National Resource Center on Domestic Violence, 2002). While researchers utilize different definitions of intimate partner violence (IPV), IPV for the purpose of this research was defined as the physical, psychological, or sexual abuse of a woman by an intimate male partner, including a former or current boyfriend, husband, date, or companion (Jewkes, 2002). This is not to say that men cannot be IPV victims and that women cannot be perpetrators of IPV. However, women are more likely to report being victims of rape, sexual assault, or stalking at the hands of a male partner than are men at the hands of a female partner (Tjaden & Thoennes, 2000). Furthermore, IPV in same-sex relationships is thought to be as prevalent as in heterosexual relationships, and researchers believe that similar IPV dynamics exist in same-sex relationships as they do in heterosexual relationships (Murray, Mobley, Buford, & Seaman-DeJohn, 2006/2007).

That Healthy People 2020 has retained from Healthy People 2010 the objectives of reducing violence by current or former partners, and reducing sexual violence, indicates that IPV is a priority public health issue (US Department of Health and Human Services, n.d.). According to the Intimate Partner Violence and Healthy People 2010 fact Sheet (Family Violence Prevention Fund, 2004a), there is a link between IPV and overweight and obesity, tobacco use, substance abuse, responsible sexual behavior,

mental health, injury and violence, immunization and access to health care, eight of the ten Healthy People 2010 Leading Health Indicators (LHIs). These connections are evidence that IPV is a serious risk factor for adverse health outcomes and health behaviors for victims.

Victims of IPV experience lower health status ratings than their non-abused counterparts and are at risk for health problems, such as chest pains, headaches, depression, and gastrointestinal problems as a result of the abuse (Campbell et al., 2002; Kramer, Lorenzon, & Mueller, 2004). Victims of sexual abuse may present more gynecological problems, including sexually transmitted infections, pelvic pain, or vaginal bleeding (Campbell et al., 2002). These findings are indications that IPV can be a precursor to serious medical issues.

Despite the negative impact of IPV on victims, screening rates for IPV are low among health care providers, with anywhere from 3 to 41% of physicians reporting routine screening for intimate partner abuse (Stayton & Duncan, 2005). In addition, although the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) has mandated since 1992 that all hospitals have policies and procedures for identifying and referring victims of abuse (as cited in Daugherty & Houry, 2008), many are not compliant. This has dire implications, as health care providers are often the first and only point of contact for IPV victims (Short, Johnson, & Ottatin, 1998) and failure to ask questions to elicit information regarding abuse may represent missed opportunities for identification, and in some cases, to save a victim's life.

Researchers seeking to gain insight into the IPV screening habits of physicians have found that physicians report numerous perceived barriers to screening. Perceived

barriers have included lack of time to evaluate or screen patients, fear of offending patients, frustration with inability to help the patient, discomfort working with victims, and negative attitudes towards IPV victims (Elliot, Nerney, Jones, Friedmann, 2002; Garimella, Plichta, Houseman, & Garzon, 2002; Lapidus et al., 2002; Sormanti & Smith, 2010). Additional barriers have included low levels of IPV knowledge and inadequate training on how to manage victims of IPV (Dowd, Kennedy, Knapp, Stallbaumer-Rouyer, 2002; Lapidus et al., 2002). While researchers have examined the physician population to examine their beliefs about IPV screening, less is known about medical students' beliefs about IPV screening. Assessing medical students' perceptions are important because their beliefs during their medical school years may impact their IPV screening behaviors once they begin interacting with patients during clinical rotations, and later as physicians. In addition, taking these beliefs into account when designing or modifying educational curriculum is necessary to ensure the content targets relevant belief systems.

### **Definition of Terms**

Attitudes: The perception an individual has about the positive or negative aspects of performing a behavior (Ajzen, 1991).

Behavioral intention: The motivation influence one has to perform a behavior. This can be predicted from attitudes towards the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991).

Intimate partner violence: A pattern of physical, psychological, or sexual abuse of a woman by an intimate male partner, including a former or current boyfriend, husband, date, or companion (Jewkes, 2002). It may include progressive social isolation, stalking, deprivation, intimidation and threats with the intention of establishing control by one partner over the other (Family Violence Prevention Fund, 2004b).

Leading health indicators (LHIs): Healthy People 2010's set of objectives that represent the overall progress toward improving the health of the Nation and high priority health issues in the United States (The Centers for Disease Control and Prevention, 2007). The 10 LHIs for Healthy People 2010 included Access to Health Care, Environmental Quality, Immunization, Injury and Violence, Mental Health, Overweight and Obesity, Physical Activity Responsible Sexual Behavior, Substance Abuse, and Tobacco Use. The 12 LHIs for Healthy People 2020 are Access to Health Services, Clinical Preventive Services, Environmental Quality, Injury and Violence, Maternal, Infant, and Child Health, Mental Health, Nutrition, Physical Activity, and Obesity, Oral Health, Reproductive and Sexual Health, Social Determinants, Substance Abuse, and Tobacco (Office of Disease Prevention and Health Promotion, n.d.).

Perceived control: A person's perception of control over behavioral performance, which is determined by the perceived presence or absence of facilitators and barriers to behavioral performance (Montaño & Kasprzyk, 2008).

Rape: Forced sexual intercourse including both psychological coercion as well as physical force. Forced sexual intercourse means vaginal, anal or oral penetration by the offender (s). Attempted rape includes verbal threats of rape (Office of Justice Programs, US Department of Justice, 2010).

Self-efficacy: An individual's belief in his capacity to perform a given behavior when faced with a variety of challenges (Viswanath, 2008).

Sexual assault: A wide range of victimizations separate from rape or attempted rape. Included are attacks or attempted attacks of unwanted sexual contact between the victim and the offender that may or may not involve force; includes grabbing or fondling. Verbal threats also are included (Office of Justice Programs, US Department of Justice, 2010).

Standardized patients: Individuals with or without a disease who are coached to realistically portray patients (primarily used for teaching) (Feddock, 2008).

Stalking: A course of action directed at a person that would cause a reasonable person to fear. May include following or spying on a victim, waiting at places for a victim, or sending unwanted or unsolicited letters or emails (Baum, Catalano, Rand & Rose, 2009).

Subjective norms: The social pressure one feels to engage in a behavior (Ajzen, 1991); determined by one's normative beliefs; that is, whether a person of importance to them

(the referent) will approve or disapprove of their behavior, multiplied by their motivation to comply with the referent (Montaño & Kasprzyk, 2008).

### **Research Questions**

Research question 1: What are medical students' attitudes towards screening female patients for IPV during their clinical clerkship as medical students?

Research question 2: What are medical students' subjective norms towards screening female patients for IPV during their clinical clerkship as medical students?

Research question 3: What are medical students' perceived self-efficacy beliefs towards screening female patients for IPV during their clinical clerkship as medical students?

Research question 4: What are medical students' perceived control beliefs towards screening female patients for IPV during their clinical clerkship as medical students?

Research question 5: What are medical students' behavioral intentions (BI) with regards to screening female patients for IPV during their clinical clerkship as medical students?

### **Significance of the Research**

Researchers studying medical students have examined the effect of lectures and standardized patient encounters (SPEs) on medical students' rape myth acceptance and attitudes towards screening for sexual assault (Milone, Burg, Duerson, Hagen, & Pauly,

2010), IPV interview skill-building (Edwardsen, Morse, & Frankel, 2008), and the incidence and predictors of domestic violence screening during the clerkship years (Hoffstetter, Blaskiewicz, Furman, & McCabe, 2005). Frank et al. (2006) assessed a national cohort of medical students (N=2,316) three times during their medical education years (freshmen orientation, entrance to wards, and in senior year) regarding IPV training, and practices. They found that only about one-fifth of seniors reported extensive training, and 48% reported sometimes talking to patients about domestic violence. They also evaluated the characteristics that influenced whether the students viewed discussion of IPV as relevant to their intended specialty, and found that women, underrepresented minorities, and those with a personal or family history of domestic violence were more likely to report IPV as relevant to their specialty.

However, there is a need to assess medical students' attitudes, subjective norms, perceived control, and perceived self-efficacy beliefs qualitatively with regards to IPV screening using theoretical foundations. Many medical students may encounter IPV-related incidents when they begin interacting with patients during their clinical rotations and later as physicians. Therefore, gaining qualitative insight into their beliefs towards screening female patients for IPV during their medical education years can be a valuable first step in understanding how and whether these beliefs affect their intention to screen, which may ultimately impact their subsequent screening behaviors.

Qualitative assessment of these beliefs can help guide the development or modification of educational curriculum incorporating these belief systems. Furthermore, the beliefs can then be used to develop quantitative instruments to measure changes in medical students' beliefs and behavioral intentions before and after an educational

intervention to determine whether the intervention was effective (Middlestadt, Battacharyya, Rosenbaum, Fishbein, & Shepherd, 1996). Attitudes, subjective norms, and perceived control are constructs of the Theory of Planned Behavior (TPB). The TPB assumes that behavioral intention is the best predictor of subsequent behavior (Montaño & Kasprzyk, 2008). Self-efficacy is a construct of the Social Cognitive Theory (SCT). Together, these constructs form the basis of an integrated behavioral model (IBM), named as such because of its incorporation of multiple influential theories (Montaño & Kasprzyk, 2008). The purpose of this study was to qualitatively assess attitudes, subjective norms, perceived control, and perceived self-efficacy beliefs of medical students regarding screening female patients for IPV during their clerkship rotations using a semi-structured, open-ended elicitation interview format. Conducting elicitation interviews is important in the application of the TPB, and is necessary for the development of salient quantitative measures of attitude, subjective norms, perceived control, and perceived self-efficacy (Fishbein, 2000). A semi-structured interview allows the interviewer to probe and explore within pre-determined inquiry areas (Hoepfl, 1997). The responses can then be used to create a quantitative instrument to verify differentiating determinants and to evaluate the effectiveness of an intervention (Middlestadt et al., 1996).

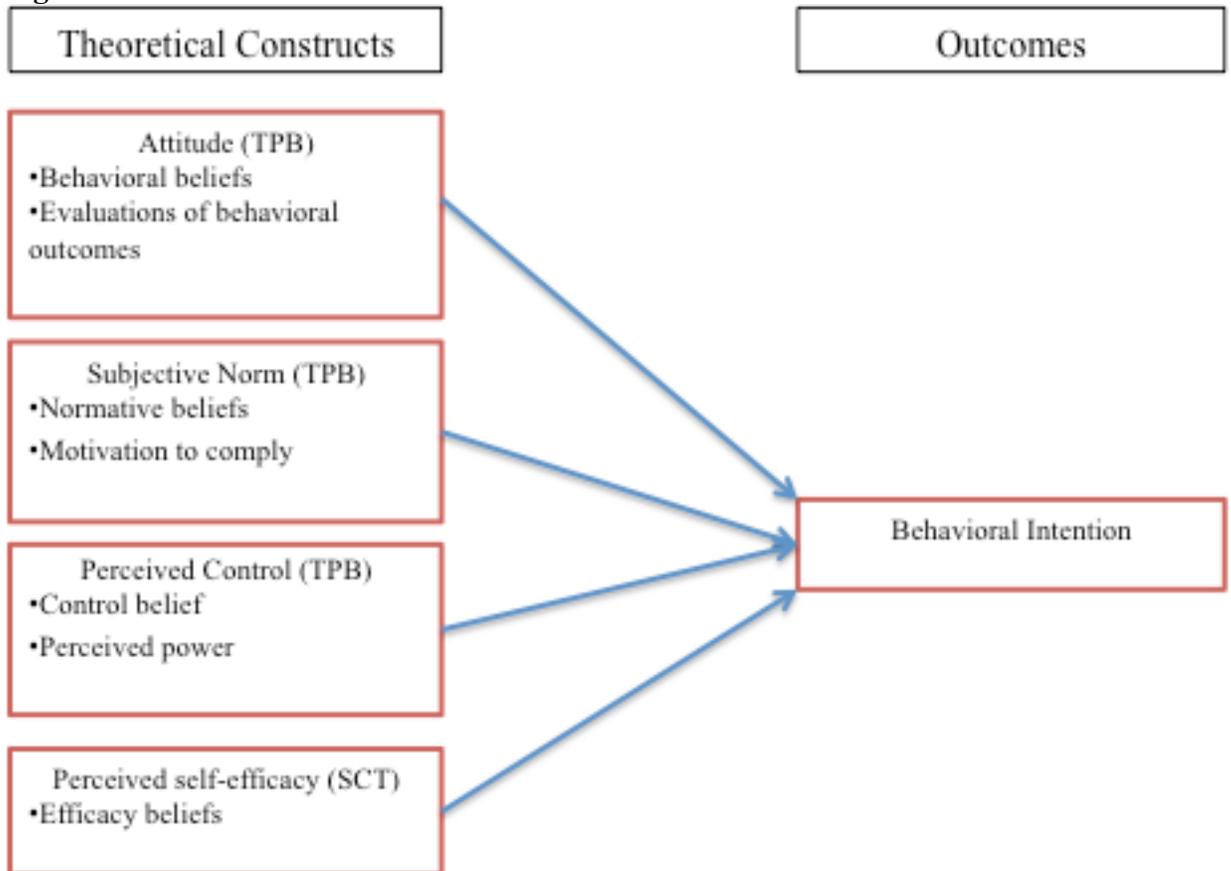
## CHAPTER II

### LITERATURE REVIEW

#### Theoretical Framework

According to Fishbein (1967), the Theory of Reasoned (TRA) was developed to understand the interaction between attitudes towards behavior, subjective norms, behavioral intention, and subsequent behavior (as cited in Montaña & Kasprzyk, 2008). The Theory of Planned Behavior (TPB) is an extension of the TRA, and adds the additional construct of perceived control over performance of the behavior (Montaña & Kasprzyk, 2008) (Figure 1).

**Figure 1.** Theoretical framework: TPB and SCT



Attitudes towards the behavior refers to the perception one has about the positive or negative aspects of the behavior (Ajzen, 1991). An individual's attitude towards a behavior is determined by their beliefs about the positive or negative outcomes of a behavior multiplied by the evaluation of those outcomes (Montaño & Kasprzyk, 2008). For example, physicians' attitudes towards screening for IPV could be evaluated by using a using a 5- or 7-point, bipolar "unlikely-likely" or "disagree-agree" scale to determine their beliefs regarding the likelihood that screening female patients for IPV will lead to detection of IPV victims. Their evaluation of this outcome would then be measured by having them rate the degree to which they feel this outcome is good or bad (Montaño & Kasprzyk, 2008). Therefore an individual who believes that there will be a positive outcome as a result of performing a behavior will hold a positive attitude toward the behavior and vice-versa (Montaño & Kasprzyk, 2008).

Subjective norm refers to the social pressure one feels to engage in a behavior (Ajzen, 1991). A person's subjective norm is determined by their normative beliefs; that is, whether a person of importance to them (the referent) will approve or disapprove of their behavior, multiplied by their motivation to comply with the referent (Montaño & Kasprzyk, 2008). A person who believes that a particular referent would approve of their performing a behavior and who is motivated to comply with this referent will have a positive subjective norm, while a person who believes that a particular referent would not approve of their performing a behavior will have a negative subjective norm.

Perceived control is determined by control beliefs, which are the perceived presence or absence of facilitators and barriers to behavioral performance multiplied by the perceived power of each control factor to either positively or negatively impact the

behavior of interest (Montaño & Kasprzyk, 2008). For example, a physician may identify “time constraints” as a factor that affects his or her ability to screen female patients for IPV. The physician’s control belief would then be measured by having them rate the likelihood that they will not have time to screen, while perceived power will be measured by having the physician rate their perception of the effect that “lack of time” has in making it easier or harder to screen.

Finally, behavioral intention captures the motivational influence one has to perform a behavior with the general rule that the more favorable one’s attitude and subjective norms are towards a behavior, and the greater the perceived control, the stronger one’s intention and likelihood to execute the behavior will be (Ajzen, 1991). Therefore, TPB assumes that the best predictor of behavior is behavioral intention, which is impacted by one’s perceived control over performing the behavior, as well as attitude towards the behavior and the social normative perceptions regarding the behavior (Montaño & Kasprzyk, 2008).

The Social Cognitive Theory (SCT) posits that human behavior results from the interaction of personal, behavioral, and environmental influences (McAlister, Perry, & Parcel, 2008). A central concept of SCT is self-efficacy, which Bandura (1998) defines as “beliefs in one's capabilities to organize and execute the courses of action required to produce given levels of attainments.” (p. 3). Consequently, an individual’s judgment of their self-efficacy affects their “choice of activities and behavioral settings, how much effort they expend, and how long they will persist in the face of obstacles and aversive experiences” (Bandura & Adams, 1977, p. 288). Self-efficacy is a precursor to action because unless a person believes in their ability to produce a desired outcome based on their action, they

will have little incentive to act or persevere if faced with a challenge (Bandura, 1998). An individual's self-efficacy can be increased through performance mastery (successfully performing the desired behavior), vicarious experiences (observing another person successfully performing the behavior), verbal persuasion (encouraging individuals that they are capable of performing the desired behavior), and improving physical and emotional states (ensuring that a person is properly relaxed and rested before attempting the behavior) (Bandura & Adams, 1977; McAlister, Perry, & Parcel, 2008). For the purpose of this study, self-efficacy was defined as an individual's perceived ability to perform the behavior and overcome facilitators and barriers to the behavior (Montaño & Kasprzyk, 2008). To distinguish between self-efficacy and perceived control, self-efficacy can be thought of as one's personal level of confidence in the ability to perform a behavior in the face of challenges or barriers, while perceived control is one's perception of the degree to which various environmental factors make it easy or difficult to perform a behavior (Montaño & Kasprzyk, 2008).

The definition of any behavior should have at least four components: the action, the target, the context, and the time period in which the behavior is observed (Fishbein, 2000). However, one or more elements can be left unspecified, and the level of specificity for any behavior should be determined by the nature of the problem one is investigating (Fishbein, 2009). Therefore, the behavior for this study was defined according to: the action (*screening*), the target (*female patients*) and the context (*as a medical student*). The researcher instructed students to imagine that they were performing their clerkship rotations as they were answering the questions. This was to give the students a consistent time period since clerkships begin during the third year of medical

school and all medical student are required to perform clerkship rotations as part of their medical training. This is also generally when medical students are spending more time with patients than in the classroom setting.

Assessing underlying determinants of behavioral intentions is essential for developing quantitative instruments to measure changes in behavioral intentions prior to and after an intervention to determine its effectiveness (Middlestadt et al., 1996) and for deciding the nature of interventions to address behavior change (Légaré et al., 2007). Therefore, the first step in this process involved conducting open-ended elicitation interviews to gather salient attitudes, subjective norms, perceived control, and perceived self-efficacy beliefs from the target population.

### **IPV as a Public Health Issue**

IPV is viewed as an “iceberg phenomenon” meaning danger exists below the surface of what is revealed (Mitchell & Anglin, 2008, p. 372). As a stigmatized topic, it is often under-recognized, under-reported, and under-appreciated as a public health issue (Mitchell & Anglin, 2008). However, statistics indicate otherwise regarding its importance as a public health issue. According to the 2010 National Intimate Partner and Sexual Violence Survey (NISVS), 9.4% of women interviewed (N=9,086) reported having been raped by an intimate partner in her lifetime, and 24.3% reported having experienced physical violence by an intimate partner. Furthermore, one in three women reported experiencing multiple forms of rape, stalking, or physical violence by an intimate partner (Black et al., 2011). According to findings from the 2005 Behavioral Risk Factor Surveillance System (BRFSS) survey, which included the first ever IPV-module administered to approximately 70,000 people in 18 US States/Territories, 26%

(N=11,552) of female survey respondents reported overall lifetime IPV (Breiding, Black & Ryan, 2008). These statistics indicate that intimate partner violence is the most prevalent form of violence against women.

It is necessary to bring to light non-physical types of IPV which can be just as harmful as the abuse that occurs physically. In the 2000 National Violence Against Women Survey (NVAWS), Tjaden & Thoennes (2000) found that in addition to reporting physical violence, respondents reported emotional and psychological abuse, characterized by controlling behavior, jealousy, and verbal abuse. The presence of these types of abuse can impact the health status of victims as much as the physical or sexual abuse experienced. Therefore, it is clear that there are many layers and complexities to IPV. These complexities mean that the impact of IPV is felt throughout many areas of the victim's life, particularly in relation to the health outcomes and health care utilization practices of the victim.

### **IPV and Health Outcomes**

Victims of IPV often present both acute and chronic health-related conditions, with studies indicating that IPV victims are at an increased risk for stomach pain, gastrointestinal symptoms, headaches, gynecological symptoms, depression and anxiety, as well as acute and chronic injuries (McNutt, Carlson, Persaud, & Postmus, 2002; Rivara et al., 2007).

In examining the prevalence of IPV among women utilizing emergency departments and primary care clinics (N=1,268), Kramer, Lorenzon, & Mueller (2004) found that women experiencing abuse reported significantly lower health status ratings

than non-abused women and that many of the women experienced multiple types of abuse. Additionally, the researchers found that emotional abuse was as strongly associated with adverse health symptoms as physical abuse.

Furthermore, victims of IPV are more likely to engage in unhealthy coping behaviors, which can negatively impact their health status. In a study examining the association between lifetime abuse, physical health, and health behaviors of 557 women, McNutt, Carlson, Persaud, and Postmus (2002) found that women reporting high levels of past and/or present IPV were more likely to be smokers and have poorer dietary habits than women reporting no or lower levels of IPV. However, it should be noted that this was a cross-sectional study, so the cause-effect relationship between IPV and health behaviors could not be determined. Similarly, Wingood, DiClemente, & Raj (2000) conducted interviews with 203 women residing in domestic shelters. They compared women experiencing sexual and physical abuse (n=106) to women experiencing physical abuse, but not sexual abuse (n=97) and found that women reporting sexual and physical abuse were 2.8 times as likely to use marijuana and 3 times more likely to drink alcohol as a way to cope with the abuse.

Engaging in these behaviors as a means of coping may have even graver consequences for victims who are pregnant, with research showing that partner violence during pregnancy can adversely affect the mother and the baby (Coker, Sanderson, & Dong, 2004). Abuse during pregnancy has been associated with induced or spontaneous abortions, and increased risk for perinatal death, preterm delivery, and low birthweight. Negative maternal coping behaviors, such as smoking, inadequate nutrition, alcohol and

illicit drug use may serve as the mechanisms through which these adverse health outcomes occur (Coker, Sanderson, & Dong, 2004).

### **IPV and Health Care Utilization Practices**

Women who are victims of IPV are more likely to utilize mental health and substance abuse services, hospital outpatient services, and emergency departments (EDs) for care during and after incidents of IPV than non-abused women. They also tend to have more visits to health care providers compared to their non-abused counterparts (Rivara et al., 2007). These rates may remain elevated compared to their non-abused counterparts years after the abuse has ceased (Rivara et al., 2007). In a study comparing number of visits, and costs of medical-record confirmed domestic violence (DV) patients (N=62), with those without recorded DV (n=2287), Ulrich et al. (2003) found that the average number of health care visits was 17.26 per year for women experiencing DV compared with 10.07 per year for their non-abused counterparts. Moreover, DV patients had 3.74 more primary care visits, 1.75 more mental health visits, and 7.2 more total visits than their non-abused counterparts.

These findings make it clear that women experiencing IPV are in the health care system and utilizing services. Yet, IPV victims are more likely to have unmet needs for care than other women. This stems not only from refusal of victims to seek or accept care, but failure of physicians to detect that IPV is the underlying cause of their symptoms (Plichta, 2007), a shortcoming which has been attributed to low rates of physician screening for IPV.

## **Physician Screening for IPV**

Despite recommendations from professional organizations such as the American Medical Association (AMA) and American College of Obstetrics and Gynecology (ACOG) that clinicians screen all female patients for domestic violence (Elliot, Nerney, Jones, & Friedmann, 2002), rates of screening for IPV among health care providers are low. Lapidus et al. (2002) found that only 12% of physicians reported routinely screening patients for IPV. Similarly, Gerbert et al. (2002), found that only 13% of physicians asked regular or returning patients about DV. This is highly problematic considering the fact that health care providers are often the first and only point of contact for victims of IPV, and that each contact with the health care system represents an opportunity for health care providers to provide support and resources for victims (Sharps et al., 2001). Failure to screen may result in physicians searching for explanations for unrecognized IPV-conditions, or prescribing treatments that abused women cannot follow (Campbell et al., 2002). Furthermore, physicians are in the position to be leaders in preventing and researching the causes and consequences of IPV (Short, Johnson, & Osattin, 1998), which further emphasizes the importance of screening for IPV.

Researchers have found that screening is effective in detecting IPV victims, increasing an IPV-positive victims' intention to disclose abuse, and facilitating the subsequent provision of support and services (Coker, Bethea, Smith, Fadden, & Brandt, 2002; McCloskey et al., 2005; McCloskey, et al., 2006). In a study aimed at increasing screening rates through implementation of a large-scale, routine DV screening intervention in a general pediatric clinic, Holtrop et al. (2004) found that staff identified 17 times more domestic violence cases after the intervention than in the previous year in

which there was no routine screening. This resulted in an increase in the number of women referred to the social work department for follow-up care. Similarly, Krasnoff & Moscati (2002) found that an emergency department intervention to implement universal IPV screening of female patients resulted in the identification of 528 (7%) cases of IPV out of 6,939 women screened. Of those 528 cases, 475 (84%) agreed to see a crisis services advocate, and more than half of these women were connected with a community agency for follow-up.

Whether or not a woman is screened for IPV is likely to be associated with physician attributes such as training, competence, and comfort with the issue of IPV (Jonassen & Mazor, 2003). A survey of 438 pediatricians and family physicians found that those with previous IPV training comprised approximately two-thirds of those reporting routine screening, and were five times more likely to screen for domestic violence than those physicians without previous training in IPV (Lapidus et al., 2002). The findings from these studies are consistent with the research conducted by Sitterding, Adera, & Shields-Fobbs (2003) in which they found that physicians reporting receipt of spouse/partner violence education during their residency training were three times more likely to screen than those without this training, indications that prior IPV education is a strong indicator of screening behaviors during practice.

### **Barriers to Physician Screening for IPV**

While researchers have assessed the characteristics of those physicians who screen for IPV, they have also examined the barriers to physician screening for IPV. In their 1990 landmark study exploring primary care providers' (N=38) experiences with domestic violence victims, Sugg and Inui (1992) found that physicians viewed addressing

domestic violence with their patients as opening “Pandora’s Box” or a “can of worms” (p. 3158). Sugg and Inui took these statements to mean that physicians were fearful of “unleashing a myriad of evils” which upon looking qualitatively at responses began to take the shape of “too close for comfort”, “fear of offending”, “powerlessness”, “loss of control”, and “tyranny of the time” (p. 3158).

In regards to the “tyranny of time”, Sugg and Inui (1992) found that 71% of the physicians in their study viewed time as a deterrent from asking about domestic violence. Physicians may feel that screening for a condition that may not exist, or that patients may not disclose about, takes away from other tasks (Rhodes & Levinson, 2003). A study identifying barriers and opportunities for screening in a pediatric ED found that health care providers often felt that they did not have adequate time to address the issue of IPV, and questioned the use of emergency department time for screening when there were bigger issues at hand (Dowd, Kennedy, Knapp, & Stallbaumer-Rouyer, 2002). Similar sentiments were expressed in a study by Lapidus et al. (2002) in which physicians felt that there was not enough time to ask a woman about domestic violence or counsel her if she disclosed abuse.

Additional reported barriers to IPV screening related to discomfort with dealing with the issue of IPV and negative attitudes toward working with victims. Physicians often cite fear of offending the patient (Dowd, Kennedy, Knapp, & Stallbaumer-Rouyer, 2002; Elliot, Nerney, Jones, & Friedmann, 2002; Hamberger et al., 2004), and feeling that patients may take offense to the implications of the question or the physician’s inquiry about the topic of IPV, which traditionally has been viewed as a private, behind closed doors matter (Sormanti & Smith, 2010; Sugg & Inui, 1992). In their study

assessing physicians' attitudes towards assisting IPV victims, Garimella, Plichta, Houseman, & Garzon (2002) found that only 11% of the 76 physicians surveyed held positive feelings about working with IPV victims and that a majority of them described the work as "low paying, stressful, difficult, boring, risky, and angry" (p.1263). Physicians may find screening "inefficient and purposeless" if women choose not to disclose abuse (Sormanti & Smith, 2010), and may view the potential of having to deal with an emotional encounter in the middle of the day as a disincentive to screening (Chang et al., 2009). These attitudes may lead to physicians' minimizing the time they spend providing resources and services (Garimella, Plichta, Houseman, & Garzon, 2002), which may further create a barrier to patients receiving the support that they need.

A final barrier often mentioned in the literature involves inadequate IPV knowledge. Providers often have low levels of knowledge about IPV (Dowd, Kennedy, Knapp, & Stallbaumer-Rouyer, 2002) and many do not know how to ask about IPV, how to identify a victim, or the specific steps to take if they encountered a patient experiencing IPV (Sormanti & Smith, 2010). For example, physicians may be more likely to screen only after the patient presents with an obvious injury and less so when there is no visible injury (Chamberlain & Persham-Hester, 2002; Jonassen & Mazor, 2003). In light of the fact that psychosocial factors, such as fear, stress, or anxiety, may negatively impact health outcomes, screening only when an injury is present could result in missed opportunities for identification and support of victims.

In a study aimed at identifying factors associated with physicians' low screening rates, Elliot, Nerney, Jones and Friedmann (2002) found that although a majority (81%) of the 1,103 physicians respondents believed they had as much of a responsibility to

address domestic violence as other problems, only 27% felt very confident in their ability to recognize victims. In addition, physician respondents reported screening a median of 10% of their female patients for IPV. Factors associated with less screening included emergency medicine specialty, agreement that patients would self-disclose abuse voluntarily, concern that asking about IPV would offend the patient, and forgetting to ask routinely about IPV. Factors associated with screening more than 10% of female patients for IPV were obstetrics/gynecology (OB/GYN) specialty, female physician gender, higher estimated prevalence of DV in their adult women patient population, greater confidence in the physicians' ability to recognize and/or assist victims of DV, and more agreement that DV should be part of the annual health exam.

Eliminating barriers such as perceived lack of time, discomfort in managing IPV, negative attitudes towards victims, and low levels of IPV knowledge are essential for facilitating physicians' commitment to screening for and effectively managing IPV, and studies have shown that providers are open to learning more (Dowd, Kennedy, Knapp, & Stallbaumer-Rouyer, 2002; Sugg & Inui, 1992). Health professionals feel that IPV-specific training is important and contributes to comfort, willingness, and ability to help victims (Chang et al., 2009) and that education should address topics such as effects of IPV on victim, high-risk factors, strategies for managing IPV, and appropriate response to disclosure (Chang et al., 2009; Sugg & Inui, 1992). While efforts to create more positive feelings towards IPV and increase comfort and IPV knowledge levels are not futile once physicians are practicing, they should ideally begin during the medical school years since inadequate educational preparation is likely to translate into low rates of

screening (Jonassen & Mazor, 2003), and ineffective management of IPV once medical students become physicians.

### **IPV Training for Medical Students**

In order for physicians to screen appropriately for IPV in their practice, they must first be educated about IPV (Miller, Coonrod, Brady, Moffitt, & Bay, 2004). Education should be comprehensive and an integral part of the educational program throughout the entire four years of medical school (Dickstein, 1997; Freedy, Monnier, & Shaw, 2001), and must impart students with the knowledge, skills, and compassionate attitudes necessary to effectively evaluate victims (Alpert, 1995).

A major push for the training of health professionals in violence education first came from the 1985 Surgeon General's Workshop on Violence and Public Health, a report which provided guidelines for how health professionals could prevent violence and meet the care needs of victims of violence (US Department of Health and Human Services & US Department of Justice, 1985). Acknowledging the pervasiveness of spousal abuse and its impact on the health status of victims and their families, the report recommended that basic education and training about spousal abuse be included in the curriculum of all health professionals. Additional recommendations were that identification of victims and abusers, knowledge about interventions, and intervention strategies be part of the standards of care of health professionals (US Department of Health and Human Services & US Department of Justice, 1985).

Current medical education objectives set forth by the Liaison Committee on Medical Education (2011), parallel the sentiments of this report. According to the Committee, medical school curricula "must prepare students for their role in addressing

medical consequences of common societal problems, for example, providing instruction in the diagnosis, prevention, appropriate reporting, and treatment of violence and abuse.” (p.10). Consequently, most medical schools report having some type of family violence education in the curriculum (Frank et al., 2006) with education about intimate partner violence included as part of the family violence curricula encompassing topics such as child abuse, neglect and elder maltreatment (Cohn, Salmon, & Stobo, 2002).

IPV education has been shown to have a positive impact on knowledge levels of medical students. In a two-year follow up of 104 students receiving formal domestic violence instruction as first-year medical students, Ernst, Houry, Weiss, & Szerlip (2000) found that students retained good levels of knowledge regarding prevalence of domestic violence among racial groups and socioeconomic groups, victim’s responsibility for domestic violence, incidence of domestic violence among men, and physicians’ responsibility in reporting. Haist et al. (2003) found similar increased knowledge levels among third-year medical students (N=44) participating in a 4-hour domestic violence workshop during an internal medicine clerkship. Participants in the workshop scored higher on the domestic violence items on the written exam than non-participants and received better scores on the standardized patient examination which contained a checklist of seventeen domestic violence specific items. Participants also received better scores on a writing exercise in which they were required to recommend a plan for managing a domestic violence patient (Haist et al., 2003). Implications for these outcomes are that improvement of knowledge levels is essential in the detection and treatment of IPV victims (Ernst et al., 2000).

Skill levels of students to manage IPV have also been found to be impacted by IPV training. Edwardsen, Morse, & Frankel (2008) conducted a study with 100 first-year medical students to determine whether a teaching module containing a mnemonic, “SCRAPED” for identifying and treating IPV victims, improved students’ interviewing skills (Table 1).

**Table 1.** Mnemonic “SCRAPED”

Mnemonic—Identification of Intimate Partner Violence		
S	Suspicion/screen	Is the patient history suspicious for violence? Is universal screening indicated?
C	Central	Are central injuries present?
R	Repetitive	Is there a history of repetitive injuries?
A	Abuse stated	Does the patient state abuse exists?
P	Possessive partner	Is there evidence of a possessive partner?
E	Explanation inconsistent	Is the explanation of the symptoms inconsistent with the evaluation?
D	Direct questions	Ask direct behavior-related question.
Mnemonic—Management of Intimate Partner Violence		
S	Safety	Ensure the patient’s safety.
C	Crime/consent	Inform the patient of the criminal nature of IPV. Obtain consent for reporting to authorities per state regulations.
R	Referral	Refer the patient to an IPV advocacy agency.
A	Acknowledge	Acknowledge the violence and provide empathy.
P	Protocols	Incorporate IPV protocols into the clinical setting.
E	Evidence collection	Collect evidence for potential legal proceedings.
D	Documentation	Document details of the visit and potential IPV.

*Note.* Mnemonic for “SCRAPED”. Reprinted from “Structured Practice Opportunities With a Mnemonic Affect Medical Student Interviewing Skills for Intimate Partner Violence,” by E.A. Edwardsen, D.S. Morse, and R.M. Frankel, 2008, *Teaching and Learning in Medicine*, 18, p. 63. Copyright 2006 by Lawrence Erlbaum Associates, Inc. Reprinted with permission.

Students assigned to the intervention group received the mnemonic as a guide for use during standardized patient interviews, and also participated in faculty-facilitated discussion about how the mnemonic device could be utilized during clinical interviews. Students in the control group were given general discussion about IPV, and use of a standardized patient for interviewing, but no formal instruction on how to utilize the mnemonic device during clinical interviews. The researchers found that students receiving the intervention versus the control group had a higher frequency of asking direct questions about partner violence (68% vs. 45%), addressing safety issues (50% vs. 38%), providing a referral for the victim (45% vs. 19%), eliciting a history of prior abuse (55% vs. 19%), and responding with empathatic statements after patient disclosure of abuse (82% vs. 45%). Statistically significant group differences were found for eliciting history of prior abuse, and responding with empathatic statements after disclosure of violence.

By the time medical students graduate medical school, they should have sufficient competency, adequate IPV knowledge levels, and appropriate attitudes necessary to identify patients with health issues related to intentional injuries such as IPV (Alpert, 1995). However, studies have found that as little as one-fifth of senior medical students report extensive training in discussing IPV with their patients, and only about one third of these students report feeling confident in having these discussions with patients (Frank et al., 2006). These factors may contribute to deficiencies in screening, identification, and delivery of care for IPV victims.

Therefore the purpose of this study was two fold: to qualitatively assess medical students attitudes, subjective norms, perceived control, and perceived self-efficacy beliefs

with regards to screening female patients for IPV during their clerkship rotations, and to assess their intention to screen female patients for IPV as medical students.

## CHAPTER III

### METHODS

#### **Description of Study Population**

The study sample consisted of eighteen second through fourth year medical students attending or performing visiting clerkships at George Washington University School of Medicine and Health Sciences (GWSMHS), Howard University College of Medicine (HUCM), and University of Maryland School of Medicine (UMSM).

Located in the District of Columbia, GWSMHS had total enrollment of 750 students in 2010 (Association of American Medical Colleges, 2010). Approximately 58% of the enrollments were female, and approximately 18% reported belonging to a group underrepresented in medicine relative to their numbers in the general population (i.e. Black or African-American, Hispanic/Latino, American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, or foreign-born).

As part of a historically black college and university (HBCU) in the District of Columbia, HUCM produces a significant number of the nation's minority physicians, and has a history of "training students to become competent and compassionate physicians who provide health care in medically underserved communities" (Howard University, 2011, About HUCM: Overview section, para. 1). According to the Association of American Colleges (2010), the total enrollment for HUCM in 2010 was 488 medical students. Approximately half (53%) of the students were female and over 83% self-identified as being part of a group underrepresented in medicine.

The UMSM, located on the University of Maryland, Baltimore campus, is the nation's "first public and fifth oldest medical school in the United States", and is an "integral part of the 11-campus University System of Maryland" (University of Maryland School of Medicine, 2011, About Us section, para. 1). In 2010, the total enrollment for UMSM was 676 students, of which approximately 58% were female, and 14% self-identified as belonging to a traditionally underrepresented minority group (Association of American Medical Colleges, 2010).

### **Sampling Procedures**

The study population consisted of a convenience sample of medical students self-selecting to participate in the study. There were two phases of recruitment. Phase one consisted of recruiting three (n=3) medical students to cognitive test the interview questions and behavioral intention scale items. Cognitive testing enables researchers to establish whether research participants can understand the question, concept, or task in a consistent way and in a way the researcher intended (Collins, 2003). Due to the small sample size needed for this portion of the exam, medical students were recruited by word of mouth via pre-existing connections the researcher had through medical students (friends, and friends of friends).

The researcher emailed each student an overview of the study and a flier (Appendix A) prior to scheduling an interview to ensure they were aware of what the cognitive testing would entail, and to provide an opportunity for clarification about the study if needed. Once they agreed to participate, students were emailed the informed consent form (Appendix B). Two of the interviews were conducted via telephone for

convenience for the medical student, and one of the interviews was conducted in a student's residence.

Phase two involved recruiting fifteen medical students for the interviews to elicit the attitudes, subjective norms, perceived control, and perceived self-efficacy beliefs regarding screening female patients for IPV. Montaña & Kasprzyk (2008) suggested conducting elicitation interviews with at least 15-20 individuals in the target group to elicit salient beliefs. Therefore, fifteen students was the target sample size for the study. Students were recruited through researcher's pre-existing contacts (friends and acquaintances) in the medical schools, and recruitment messages posted in medical school group pages on Facebook ([www.facebook.com](http://www.facebook.com)). Contact via Facebook resulted in two medical students agreeing to participate in the study. However, one medical student was unavailable until mid-November, and was not interviewed because the target recruitment sample size had been reached at this point. One medical student agreed to participate, and recruited a fellow medical student. This student was contacted with information about the study via email, and was also interviewed for the study.

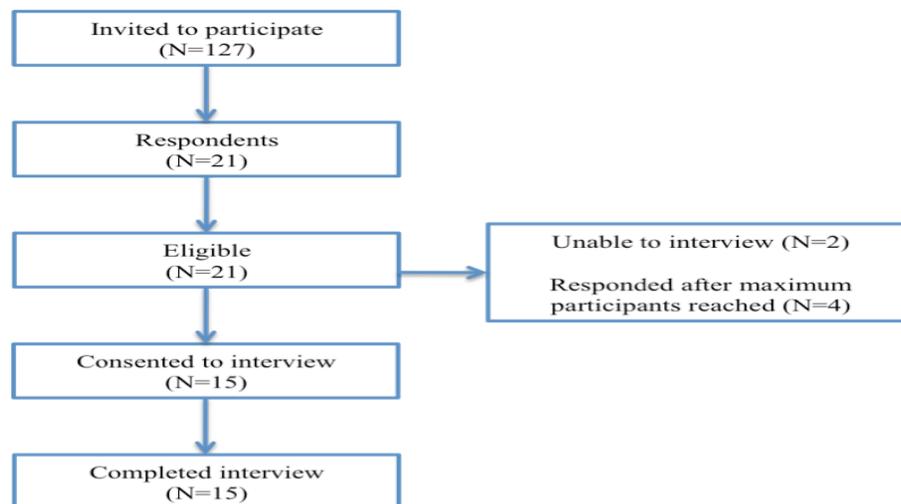
The remaining participants were recruited via email blasts to student email addresses obtained from online medical student organization, and class websites found on medical school websites. Students were sent an initial email (Appendix C) in early October 2011 with information about the study, and the researcher's email and phone number for students to contact if interested in participating. In total, 127 medical students were invited to participate in the study. The first email resulted in six medical students expressing their interest in participating in the study. Interviews were scheduled with five of the six students over the course of the following two-week period. The researcher was

unable to schedule an interview with one student because the student was traveling out of the state until the end of the year.

A final reminder email was sent to students (Appendix D) three weeks after the initial email during the first week of November. This email resulted in an additional twelve medical students contacting the researcher expressing their interest in participating in the study. At that point of the recruitment process, only eight medical students were needed to meet the target sample size of fifteen participants. Therefore, four participants were informed that the quota had been met, and that the researcher would be in contact with them if any additional medical students were needed. Interviews with the last eight participants were conducted over the following two-week period, with the last interview occurring in mid-November 2011 (Figure 2).

To be eligible to participate in either phases one and two of the study, medical students had to have been in their first, second, third, or fourth year (i.e. no residents) and must have been either attending a US medical school, or performing visit clerkship rotations through a US medical school.

**Figure 2.** Recruitment and participant flow chart



## **Procedures**

### **Cognitive Testing**

Prior to conducting the cognitive testing portion of the study (phase one), students were asked to read and sign (electronically or in person) the informed consent form, and fill out the demographic questionnaire (Appendix E) prior to giving their feedback about the interview questions and scale items. Questions on the demographic questionnaire asked students about intended specialty, IPV training prior to, and in medical school, relevance of IPV screening to intended specialty, and personal experience with IPV. Students were provided a hard copy or electronic version of the informed consent form for their records, as well as a list of local and national IPV resources (Appendix F). The two students interviewed by telephone received an electronic version of the demographic questionnaire, and either emailed it back to the researcher, or returned it via postal mail. The researcher performed cognitive testing on the items on the behavioral intention scale first by asking students to read aloud each of the items on the scale. After reading each item aloud, the researcher asked the student to provide their feedback about the clarity of the items, how easy or difficult it was to answer the questions, and any suggestions for modification of the items using a list of cognitive testing questions (Appendix G).

The interview questions were then cognitive tested. Rather than having the students read the questions aloud, the researcher read the questions aloud to the study participants to simulate actual interview conditions. The medical students were again asked to provide their feedback regarding the questions, as well as suggestions for modifying the questions for clarity. All interviews were audio-recorded and then summarized by the researcher. Participants received a unique identifier based on the

order of their cognitive testing. For example, the first participant was designated “CogTest1,” and so forth. Each medical student received \$20 for his or her participation. The behavioral intention scale and interview instrument were revised based on the feedback before full administration to the main study participants and re-submitted to the University of Maryland, College Park IRB as an addendum for approval (Appendix H).

### **Main Study Interviews**

Interviews for the main study (phase two) were conducted at medical students’ place of residence, student lounges in the medical school, or at Starbucks. Prior to the start of the interview, students read and signed the informed consent document, and were provided hard copies to keep for themselves. Students were also given a list of local and national IPV resources for their reference. Participants then filled out the demographic questionnaire and the behavioral intention scale.

No identifying information (names, email addresses) other than name of the student’s medical school was collected. Participants were assigned a unique identifier based on the order of their interview. For example, the first medical student interviewed was designated MS1 (“MS” for medical student, “1” to signify that they were the first to be interviewed), the second medical student interviewed was designated MS2, and so forth. This identifier was placed on the demographic questionnaire, and the researcher verbally announced the identifier at the beginning of the recorded portion of the interview. All interviews were recorded with software on the researcher’s computer. The length of interviews varied from six minutes to fifteen minutes in length. For their participation, participants were given \$20 cash.

## Designation of Validity and Reliability

### Interview Instrument

The researcher structured the elicitation questions to model those found in the Middlestadt et al. (1996) study. For example, to identify underlying determinants of consistent condom usage among young adults, Middlestadt and colleagues (1996) asked, “What makes it easier for you and your partner to use a condom every time you have vaginal intercourse?” (p. 21). This question falls under the perceived control construct of facilitators; therefore, modifications were made to reflect the behavior of interest for this study (screening female patients for IPV) rather than condom use. The format of the elicitation questions in Middlestadt (1996) and colleagues’ study is also consistent with the suggested elicitation question format provided by Montaña & Kasprzyk (2008) (e.g. “What things make it easier for you to do *behavior X*”) (p.83) thereby establishing that the format of the elicitation questions in this study were appropriate for collecting data to address the TPB constructs.

Data triangulation was used to establish validity of the responses collected. In qualitative research, one method to triangulate data is to collect data from a diverse range of individuals and settings using diverse methods to reduce the risk of chance associations and allow a better assessment of the generalizability of the findings (Maxwell, 2008). This was achieved by interviewing students attending different medical schools which allowed the researcher to compare responses under each theoretical construct and analyze responses for similarities or differences.

In addition, the researcher employed mixed-methods triangulation by combining qualitative interviews with the use of a participant questionnaire. Using both qualitative

and quantitative methods can help to strengthen research results (Thurmond, 2001). In this current study, it was important to assess medical student characteristics (e.g. IPV training, year in medical school, personal IPV experience) in an attempt to better understand why students may have expressed certain beliefs, or recorded a particular score on the behavioral intention scale.

### **Behavioral Intention Scale**

Behavioral intention scale items were written based on guidelines provided by the Family Violence Prevention Fund (1999; 2004b) for screening for intimate partner violence in clinical settings. The researcher reviewed each document extensively, and extracted relevant guidelines for which patients to screen for IPV, when to screen for IPV, and how to screen for IPV. For example, both documents suggested that inquiry about IPV be included as part of the standard health questionnaire. Therefore, the researcher included an item in the scale about the likelihood that medical students would ask all female patients about IPV as part of the history and physical. Similar procedures were followed with other provided guidelines (e.g. screening female patients that are pregnant, asking patients about current and past abuse, etc.), and compiled to create the behavioral intention scale. The scale was assessed for face and content validity by reviewing the guidelines once an initial list of questions was created, and ensuring that they were clear in reflecting the behavior of screening for IPV.

To test the reliability of the behavioral intention scale, the researcher ran separate Cronbach's alpha on the two distinct sections of the scale. Cronbach's alpha ( $\alpha$ ) is a measure of the internal consistency of the items on a scale, with possible scores ranging

from 0 to 1. Both sections of the scale had acceptable alpha scores (Table 2). Cronbach's alpha for the first section of the scale (4 items), which measured medical students' likelihood to screen different groups of female patients, was .73. Cronbach's alpha for the second set section of the scale (7 items), which measured medical students' likelihood to screen female patients under different circumstances, was .92.

**Table 2.** Cronbach's alpha for behavioral intention scale

Imagine that you are in your clerkship rotations. How likely are you to screen the following groups of female patients for IPV?  <b>Statements:</b>	$\alpha$
a. Female patients with visible marks or bruises.	.73
b. Female patients without any visible marks or bruises.	
c. Female patients experiencing mental health symptoms such as depression, anxiety, stress, or suicidal ideation.	
d. Female patients that are pregnant.	
Imagine that you are in your clerkship rotations. How likely are you to do the following?  <b>Statements:</b>	$\alpha$
e. Ask all female patients if they have ever been hit, threatened with abuse, or physically hurt by a <u>current</u> partner.	.92
f. Ask all female patients if they have ever been hit, threatened with abuse, or physically hurt by a <u>past</u> partner.	
g. Ask all female patients about IPV as part of the history and physical.	
h. Ask all female patients if they have ever experienced:	
i. Emotional/psychological abuse	
ii. Physical abuse	
iii. Sexual abuse	
i. Use IPV screening questionnaires to assess female patients for abuse.	

## Data Analysis

### Data Analysis Software

Descriptive statistics was used to present the demographic data of the medical students in

regards to age, sex, race/ethnicity, year in medical school, intended specialty, prior IPV training and personal IPV experience. Data analysis was performed using Dedoose, a web-based, mixed methods research software (Dedoose, 2011).

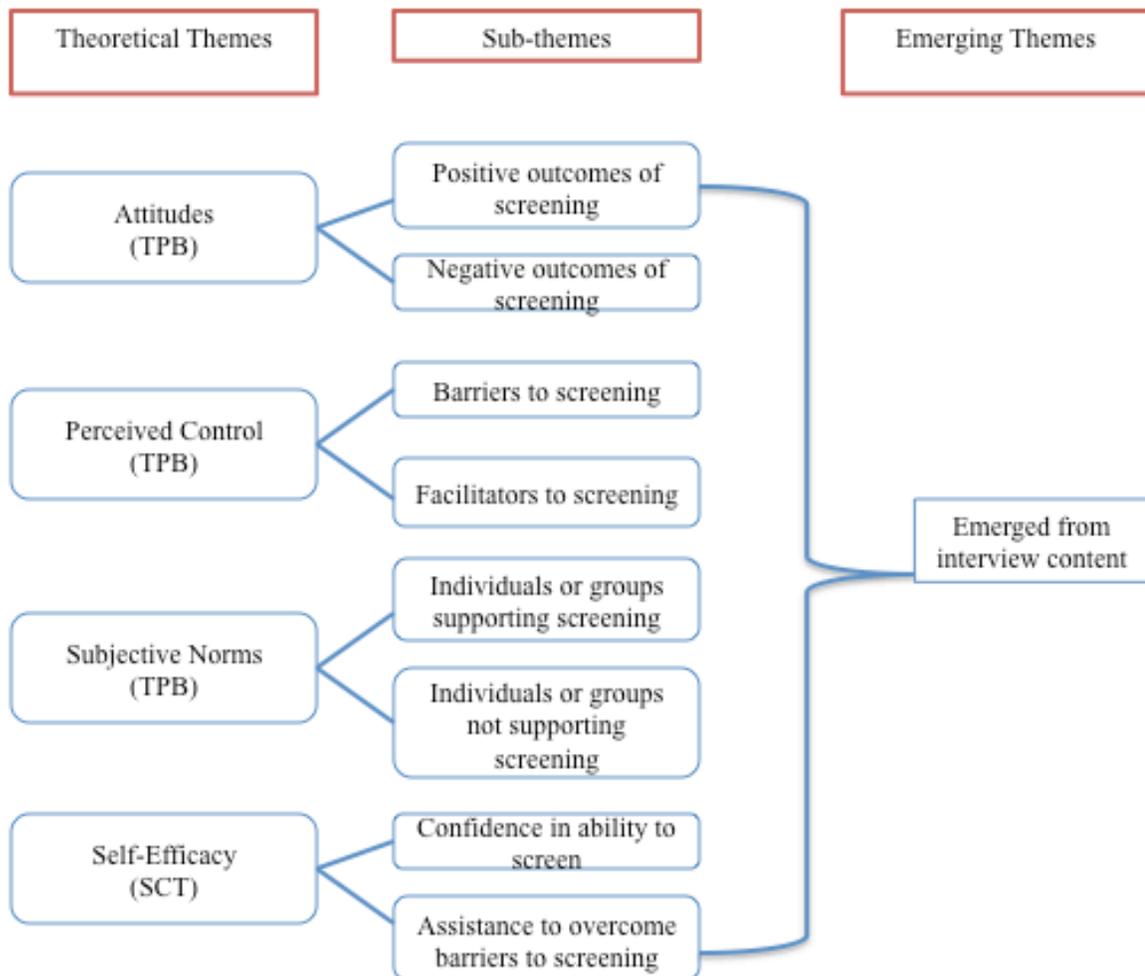
Dedoose provides a platform for researchers to analyze both qualitative and quantitative data. Dedoose contains resource and descriptor data managers to bring together qualitative data with descriptors such as demographics, quantitative variables, and other unique identifiers, and allows researchers to create code trees and import data from external applications. Dedoose also allows for the filtering of results into various subgroups to facilitate data examination, and provides a function for teams of researchers to establish and maintain inter-rater reliability (Dedoose, 2011).

### **Data Analysis Procedures**

Qualitative data analysis involves condensing raw data into categories or themes based on inferences and interpretation of the data (Zhang & Wildemuth, 2009). This may be achieved through either grounded theory development, in which themes and categories emerge from the data through the researcher's examination or comparison, or by deductive analysis which involves generating concepts or themes from previous theories or studies (Zhang & Wildemuth, 2009). This research was based on an existing theoretical framework; therefore, the researcher used deductive analysis approach to analyze the data. Deductive analysis can be used to gather together responses to a particular question and consequently examine what all respondents said to the same question (Harrell & Bradley, 2009). Following the suggestions of Zhang & Wildemuth (2009) and Elo & Kyngas (2007), data was analyzed as follows:

- 1) Interviews were recorded, and transcribed. Transcriptions included participants' responses as well as researcher's interview questions and probing questions.
- 2) Categorization matrices were created using the four theoretical constructs (attitudes, perceived control, subjective norms, and self-efficacy) to assist in data analysis and organization (Elo & Kyngas, 2007) (Figure 3). Under each construct, sub-themes based on the construct were created. Therefore, under the construct of attitude, "positive outcomes of screening", and "negative outcomes of screening" were created, which later become populated with text from the interviews.

**Figure 3.** Categorization matrix for data analysis



- 3) Interview texts were imported into the program and responses for each interview question were analyzed and coded. Emerging themes were created under each sub-theme based on the medical students' response. According to Ryan & Bernard (2003), repetition is one of the easiest ways to identify a theme, and the more the same concept occurs in a text, the more likely it is a theme. Therefore, emerging themes were created based on repetition of words, phrases, and ideas. For example, if a medical student responded that he or she felt that asking about IPV could result in identifying cases of abuse, this text was coded as, "identification", and any subsequent text related to this idea of identification was coded similarly. Since themes may be expressed in a single word, a phrase, a sentence, or a paragraph (Elo & Kyngas, 2007), some themes were expressed as single words ("identification") and others as phrases ("Disrupt patient-physician relationship). These steps were repeated for each interview transcript, and new emerging themes were created as necessary.
- 4) An initial codebook (Appendix I) was created which contained definitions of emerging themes. All interview text was then re-visited using this new codebook to assess agreement with the code definitions. Following the suggestions of MacQueen, McLellan, Kay, & Milstein (1998), code definitions that were too specific, or unclear were reworked, and text was recoded as necessary based on any modified definitions.
- 5) Coding consistency of the data was assessed. Since text analysis occurs while data is still being collected, it is possible that new themes may emerge later in the coding process, or that parts of the text may not be coded appropriately.

Furthermore, human coders are subject to fatigue and may make coding mistakes as the process proceeds (Zhang & Wildemuth, 2009). To address these potential inconsistencies, the researcher assessed the coding consistency by reviewing the entire data set once it had been completely coded. The researcher assessed: a) whether texts were coded under the appropriate constructs, sub-themes, and emerging themes, b) whether any non-coded text belonged under a theme, and c) whether any text was coded twice.

- 6) Frequency tables of responses were created to examine the number of responses under a particular code. These tables also included interview quotations, and the respective emerging themes under which they were found.
- 7) The researcher completed a segment analysis of the responses based on medical students' year in school, IPV training before and after medical school, and IPV experience.

In order to analyze data using Dedoose, the researcher imported the transcribed interviews of each participant from Microsoft Word. Each participant's file was then tagged with descriptor data (e.g. gender, year in medical school, IPV training, etc). Each interview was coded in entirety by question for data organization purposes. For example, the first question the researcher asked students was about the good things that would happen if they screened female patients for IPV. This question received the sub-theme code of "Attitudes: Positive outcomes of screening." The text under each question was then coded for emerging themes before moving to the following question, which was coded under its appropriate sub-theme, and analyzed for emerging themes. This pattern of analysis continued until each question and participants' responses were completely

coded. Table 3 provides a complete illustration of theoretical constructs, sub-themes, and corresponding interview questions.

**Table 3.** Theoretical themes, sub-themes, and corresponding interview questions

Theoretical Themes	Sub-themes	Interview Questions
Attitudes	Positive outcomes of screening	What do you think are the <b>good things</b> that would happen if you screened female patients for IPV as a medical student?
	Negative outcomes of screening	What do you think are the <b>negative or bad things</b> that would happen if you screened female patients for IPV as a medical student?
Perceived control	Barriers to screening	What would be <b>barriers</b> to you screening female patients for IPV as a medical student?
	Facilitators to screening	What do you think would make it <b>easier</b> for you to screen female patients for IPV as a medical student?
Subjective norms	Individuals or groups supporting screening	Which individuals, or group of individuals, do you think would <b>support you</b> if you screened female patients for IPV as a medical student?
	Individuals or groups not supporting screening	Which individuals, or groups of individuals, do you think would <b>be opposed</b> to you screening female patients for IPV as a medical student.
Perceived Self-efficacy	Confidence in ability to screen	If you wanted to screen female patients for IPV, how confident are you that you <b>can ask the right screening questions</b> as a medical student?
	Assistance to overcome barriers to screening	What do you think would help you overcome any <b>barriers</b> to screening female patients for IPV as a medical student?

## CHAPTER IV

### RESULTS

#### **Sample Characteristics**

A total of 18 medical students participated in this qualitative study. Three medical students participated in the cognitive testing portion of the study (phase one), while fifteen participated in the interview portion of the study (phase two).

#### **Cognitive Testing Sample**

Two female second-year medical students, and one male third-year medical student participated in the cognitive testing of the instrument (Table 4). The mean age was 25.3 years old (SD=1.5), and all three students self-identified as Black/African-American. Two students reported having received no training about IPV in the form of videos, lectures, skill based training, educational workshops, classroom training, or clinical training during, or prior to medical school. The three students reported intended specialties of internal medicine (IM), emergency medicine (EM), and OB/GYN. Two of the students reported feeling IPV screening would be somewhat relevant to their intended specialties (IM and OB/GYN), while one student reported feeling it would be highly relevant to his intended specialty of EM. Although no student disclosed personal IPV in the form of physical violence, sexual abuse, emotional abuse, intimidation, economic deprivation, or threats of violence, two of the three students (one male and one female) reported having witnessed IPV directed towards a friend or family member in the form of physical violence, sexual abuse, or psychological abuse.

**Table 4.** Demographic characteristics of cognitive testing study sample (N=3)

<b>Characteristics</b>	<b>N</b>
<b>Race/Ethnicity</b>	
Black/African-American	3
<b>Gender</b>	
Female	2
Male	1
<b>Age (years)</b>	
23	1
26	1
27	1
<b>Mean Age: 25.3</b>	
<b>Year in medical school</b>	
2 <sup>nd</sup>	2
3 <sup>rd</sup>	1
<b>Intended specialty</b>	
Internal medicine	1
Emergency Medicine	1
Obstetrics/Gynecology	1
<b>IPV Training prior to medical school</b>	
Yes	1
No	2
<b>IPV Training in medical school</b>	
Yes	1
No	2
<b>Personal IPV experience</b>	
Yes	0
No	3
<b>Witness to IPV experience</b>	
Yes	2
No	1
<b>Interested in additional IPV training</b>	
Yes	3
No	0
<b>Relevancy of IPV to intended specialty</b>	
Highly	1
Somewhat	2

Elicitation questions and scale items were revised based on feedback before full administration to the main study participants. Table 5 provides an overview of the cognitive testing results for the behavioral intention scale. Table 6 provides an overview of the cognitive testing results for the elicitation questions.

**Table 5.** Cognitive testing results for behavioral intention scale

<b>Question/Statement</b>	<b>Feedback</b>	<b>Modification</b>
Female patients with visible marks or bruises on their bodies	Just say “with visible marks or bruises.” Doctors like to use as few words as possible.	Removed “on their bodies” and left questions as “with visible marks or bruises.”
Female patients experiencing mental health symptoms such as depression, stress, or thoughts about suicide	Change “thoughts of suicide” to “suicidal ideation”; more encompassing	Changed “thoughts of suicide” to suicidal ideation.
Ask female patients about IPV as part of the standard health assessment	Change “standard health assessment” to “history and physical”; triggers thought of clinical setting	Changed “standard health assessment” to “history and physical”.
Ask female patients about different types of abuse (emotional/psychological abuse, sexual abuse, physical abuse)	Separate each type of abuse out.	Revised to: “Ask all female patients if they have ever experienced: i. Emotional/psychological abuse ii. Physical abuse iii. Sexual abuse”
Use IPV screening instruments to assess female patients for abuse	The use of “instruments” brought to mind pap and pelvic exam tools; use “questionnaire” instead	Changed “screening instruments” to “screening questionnaires”
Scale item sequence	Group similar questions together.	Question about screening female patients with/without marks and bruises, and question about abuse by current and past partners were asked sequentially rather than separately.

**Table 6.** Cognitive testing results for elicitation questions

<b>Question/Statement</b>	<b>Feedback</b>	<b>Modification</b>
What do you see as the benefits or positive things that would happen if you screened female patients for IPV during your clerkship as part of the medical history taking?	Question too long; use “good things” to simplify wording.	Revised to “...good or bad things if you screened female patients for IPV as a medical student”; subsequently prefaced questions by telling students to imagine that they are in their clerkship rotations as medical students.
What do you see as the problems or negative things that would happen if you screened female patients for IPV during your clerkship as part of the medical history taking?	Simplify to “bad things” to parallel “good things” questions	Modified to read, “What do you see as the bad things...”, and modified remaining question as above.
What do you think would make it difficult to screen female patients for IPV during your clerkship as part of the medical history taking? That is, what do you think would be barriers to screening?	Simplify to just, “barriers”; barriers is like med school 101	Revised, “What do you think would be barriers to you screening...”
What do you think would make it easier or help you to screen female patients for IPV during your clerkship as part of the medical history taking?	Question needs to be simplified and shortened to just “make it easier”	Revised, “What do you think would make it easier for you to screen...”
Who (individuals or groups) do you think would be in support of you screening your female patients for IPV during your clerkship as part of the medical history taking?	Question was confusing and too long	Revised to “Which individuals, or group of individuals, do you think would support you if you screened female patients for IPV”

Who (individuals or groups) do you think would not support you screening female patients for IPV during your clerkship as part of the medical history taking?	Question is too long.	Revised to “Which individuals, or group of individuals, do you think would support you if you screened female patients for IPV”
If you wanted to screen female patients for IPV during your clerkship as part of the medical history taking, how confident are you that you can ask the right screening questions?	Question is too long.	Modified to, “If you wanted to screen female patients for IPV as a medical student, how confident are you that you can ask the right screening questions?”
What kinds of things would help you overcome any barriers to screening your female patients for IPV during your clerkship as part of the medical history taking?	Question is too wordy.	Revised to, “What do you think would help you overcome any barriers to screening female patients for IPV?”

### **Main Study Sample**

Of the fifteen students who participated in the main study, eleven were female. The mean age was 25.2 (SD=2.4). With regards to IPV training prior to medical school, nine students reported receiving at least one hour of IPV training, while six students reported not having received any IPV training prior to medical school. Similarly, nine participants reported having received at least one hour of IPV training while in medical school, while six reported not having received any IPV training in medical school. Three students had not received any IPV training in medical school nor prior to medical school.

Three students reported having personally experienced IPV, while four students reported having witnessed IPV towards a friend or family member. Of these students, one had both experienced and witnessed IPV.

Although initially, the researcher planned to group first and second year medical students together, and third and fourth year medical students together to form two separate groups for data analysis purposes, no first year students participated in the study. Therefore, second year students were one group (N=8) and third and fourth year medical students were the other (N=7) (Table 7).

**Table 7.** Demographic characteristics of main study sample (N=15)

<b>Characteristics</b>	<b>N (%)</b>	<b>%</b>
<b>Race/Ethnicity</b>		
Black/African-American	4	27%
White	6	40%
Asian	3	20%
Native Hawaiian or other Pacific Islander	1	6%
Multiracial	1	6%
<b>Gender</b>		
Female	11	73%
Male	4	27%
<b>Age (years)</b>		
23	3	20%
24	5	33%
25	2	13%
26	2	13%
27	1	7%
28	1	7%
32	1	7%
<b>Mean Age: 25.2</b>		
<b>Year in medical school</b>		
2 <sup>nd</sup>	8	53%
3 <sup>rd</sup>	5	33%
4 <sup>th</sup>	2	13%
<b>Intended specialty</b>		
Family practice	2	13%
Internal medicine	3	20%
Emergency Medicine	1	6%
Psychiatry	1	6%
Pediatrics	2	13%
Surgery	3	20%
Obstetrics/Gynecology	1	6%
No answer	1	6%
Other/Undecided	1	6%

<b>IPV Training prior to medical school</b>		
Yes	9	60%
No	6	40%
<b>IPV Training in medical school</b>		
Yes	9	60%
No	6	40%
<b>Personal IPV experience</b>		
Yes	3	20%
No	12	80%
<b>Witness to IPV experience</b>		
Yes	4	27%
No	11	73%
<b>Interested in additional IPV training</b>		
Yes	13	87%
No	2	13%
<b>Relevancy of IPV to intended specialty</b>		
Highly	12	80%
Somewhat	2	13%
No answer	1	6%

### **Interview Findings**

This section provides a descriptive summary of the responses to the one-on-one, semi-structured interview with the medical students about their attitudes, subjective norms, perceived control, and self-efficacy beliefs with regards to screening female patients for IPV. While the sub-themes under the theoretical themes were established prior to the interviews, several emerging themes developed from the responses. As previously mentioned, the codebook utilized to define the emerging themes can be found in Appendix I. Response frequency totals do not equal 100% due to medical students providing multiple responses to each question.

#### **Attitudes: Positive outcomes of screening female patients for IPV**

Students were asked to discuss what they thought were the good things that would happen if they screened female patients for IPV as medical students. Four emerging

themes (Table 8) developed from student responses, and were coded as follows: 1) identification, 2) intervention, 3) reduced health care costs, 4) future practice as a physician.

**Table 8.** Attitudes: Positive outcomes of screening response frequency

<b>Positives outcomes</b>	<b>Total N=15 N(%)</b>
Identification	12(80)
Intervention	9(60)
Reduced health care costs	1(7)
Future practice as a physician	1(7)

**Identification.**

Most medical students (N=12) felt that screening for IPV could lead to identification of patients experiencing IPV. The general feeling was that IPV was a sensitive issue, and patients would probably be less likely to bring it up if they were not asked. As one student stated,

I think that it could uncover things that haven't really come up with them with other people...I feel like those sort of subjects are not things that people will typically just bring up with other people. And sometimes people can be ashamed about things like that. So I mean, in the role of being like someone's physician, or like taking care of their health, if you were maybe to directly ask those questions, it would be more likely to come up...(Female, 3<sup>rd</sup> year, 23 y.o.)

A few felt that identifying patients of abuse was important because of the impact that IPV could have on the health of a patient:

I think that if, um, we were to screen people for IPV during our rotations, I mean, the benefits are pretty obvious, you would obviously pick up on people, hopefully pick up on people who are, uh, being currently abused, or um, have been abused recently and might be contributing to their current health problems. Um, it could also be contributing to, you know some underlying depression, stress that they might be going through, and I think that it will get the ball rolling in getting them the help that they need to address those (Male, 3<sup>rd</sup> year, 25 y.o.)

Medical students acknowledged that IPV could be psychological, as well as physical, and have a negative impact on the patient outcome by contributing to health problems that the patients might be experiencing. In addition, although IPV may not be a comfortable subject for patients to discuss, medical students felt that identifying patients experiencing abuse could be the first step in getting them the help they need.

### **Intervention.**

Most medical students also felt that a positive outcome of screening for IPV was the potential to intervene in the situation. Students felt that screening for IPV provided opportunities to support the victim and let her know that she is not alone in the process. When asked for examples of such resources, one medical student mentioned mental health professionals, and legal assistance.

So I mean help can be in the many forms. I mean it can be in the form of getting therapists, it can be in the form of giving them the encouragement to pursue legal prosecution for certain issues, or it can be the catalyst for, you know, getting them to get out of the situation that they're in. (Male, 3<sup>rd</sup> year, 25 y.o.)

Medical students also felt that screening could lead to getting a patient out of the abusive relationship. One medical student expressed this sentiment in relation to the death of her mom's friend as a result of violence perpetrated by the boyfriend.

I definitely think one of the good things that would happen is maybe definitely getting them the help they need to either get out of that relationship...because I know, for like my mom, my mom's best friend was murdered by her boyfriend...and we found out after she died that he was abusing her all the time...I feel like there's so many of those incidents in which women are getting abused but they're just holding it inside. (Female, 2<sup>nd</sup> year, 24 y.o.)

One student also felt that screening provides an opportunity to intervene in the potentially negative outcomes of IPV, and possibly "[decrease] mortality, and very bad events that are associated with it." (Female, 3<sup>rd</sup> year, 26 y.o.) A third year medical

student, who was on his OB/GYN clerkship rotations at the time of the interview, expressed a similar perspective in the context of IPV and pregnancy.

IPV is something that can be very damaging, possibly fatal to the patient, so [screening], it's extremely important...especially for patients who have, you know, a fetus that's developing. IPV can be something that can compromise the health of both the fetus and the mother...it's something that could easily slip under the radar, and it's something that it's not socially acceptable and people are, afraid to talk about it...and by screening for it, and trying to elicit these answers, you can possibly prevent more damage from happening...(Male, 3<sup>rd</sup> year, 25 y.o.)

While identification and intervention were mentioned by a majority of the students as positive outcomes of screening for IPV, two students mentioned additional benefits. One second year student (Female, 3<sup>rd</sup> year, 26 y.o.) felt that screening could help with health care costs since early detection could mean identifying victims before the incurrence of additional "health related costs" due to the violence. Another medical student felt screening during clerkship rotations would be good practice for the future as a physician "who uses screening as a standard for all their patients." (Female, 2<sup>nd</sup> year, 26 y.o.)

#### **Attitudes: Negative outcomes of screening female patients for IPV**

Students were asked to discuss any negative or bad things that could happen as a result of screening female patients for IPV as medical students. Three emerging themes (Table 9) developed from student responses, and were coded as follows: 1) Negative reactions from patients, 2) Time constraint 3) Harm to the patient.

**Table 9.** Attitudes: Negative outcomes of screening response frequency

<b>Negative outcomes</b>	<b>Total N=15 N(%)</b>
Negative patient reactions	14(93)
Time constraints	3(13)
Harm to patient	2(13)

**Negative patient reactions.**

Most medical students felt screening for IPV could cause negative reactions from patients. As one student noted,

I think people can get defensive or emotional and maybe think it's inappropriate that you're asking them questions about that...some people might not think that it's really your place to ask that. (Female, 3<sup>rd</sup> year, 24 y.o.)

Medical students used words and phrases such as “clam up” “defensive” “emotional” “offended” and “distrust” to describe the potential negative reactions of patients to being asked about IPV. In discussing the reasons behind these responses, they expressed feeling that IPV is a sensitive subject that patients might want to keep private rather than discussing with their health care provider, and that asking patients about it could potentially “close off a patient to telling you more.” Additionally, students felt patients could react negatively if they felt that they were being singled out in the screening process.

Depending on how you ask the screening questions, if you don't normalize it or make it seem like it's really part of your routine screening it could make people feel singled out or like you're stereotyping them. (Male, 3<sup>rd</sup> year, 28 y.o.)

As one student stated, “ they might think that you're judging them and they may withhold information and become more...secretive about it because they don't want to disclose it.” (Female, 2<sup>nd</sup> year, 26 y.o.)

A few medical students also expressed that emotional responses could occur with patients who have had personal experiences with abuse due to the re-traumatization of being asked about abuse:

Women might be coming for one certain thing, you know for a certain problem health wise, and bringing up these questions can be traumatic. It can, you know...they're important questions to ask, but some people are not ready to deal with what's going on. And this can further lead them into a state of like mental instability, and it can end up causing issues. (Male, 3<sup>rd</sup> year, 25 y.o.)

Overall, the shared consensus among medical students was that the negative reactions resulting from asking about abuse could become barriers to getting the patient the help they need, finding out more about the patient's situation and could also potentially disrupt the patient-physician relationship.

### **Time.**

In addition to the possibility of negative reactions from patients, a few medical students expressed feeling that screening for IPV could create a situation in which there is a potential sequence of events following a disclosure of abuse which would require additional time and attention. This possibility was problematic considering the fact that medical students are already facing time constraints when working with patients. As one medical student noted,

Once [a patient] say[s] 'yes, I have been', you can't just leave that alone, and that takes some time. And if that's the right time for the patient, you want to give them that time. So I can see how that could definitely spill over into your other timeslots and stuff. (Female, 2<sup>nd</sup> year, 27 y.o.)

This was a sentiment expressed by other medical students who felt the need to determine whether it was "worth it to go down that path" once a patient disclosed abuse, especially since medical students already have so many responsibilities, and screening for IPV becomes "one more thing to have to deal with." (Male, 3<sup>rd</sup> year, 28 y.o.)

### **Harm to the patient.**

Two medical students mentioned that asking about IPV could result in further harm patient in the form of death, or retaliation by their partner for disclosing abuse.

Say the person does decide to leave their partner after talking to their physician, or about the issues, and their partner decides to retaliate on them, and cause harm to them. I mean...that's always the possibility. (Male, 4<sup>th</sup> year, 25 y.o.)

### **Subjective Norms: Supporters of screening female patients for IPV**

Students were asked what groups or individuals they felt would support them if they wanted to screen female patients for IPV. Students mentioned 1) physicians, 2) medical students, 3) women's interest groups, 4) patients, 5) medical school staff, 6) health professionals, 7) family members, 8) law enforcement, and 9) victims of IPV as potential supporters (Table 10).

**Table 10.** Subjective norms (supporters) response frequency

<b>Supporters</b>	<b>Total N=15 n(%)</b>
Physicians (EM, OB/GYN, females, pediatricians, primary care, psychiatrists)	8(53)
Medical students	3(20)
Women's interest groups	3(20)
Patients	2(13)
Medical school staff	2(13)
Health professionals	2(13)
Family members	1(7)
Law enforcement	1(7)
Victims of IPV	1(7)

The majority of medical students were in agreement that physicians would be supportive of them if they screened female patients for IPV. Several students went further to discuss the particular subset of physicians who would be supportive of this screening,

which included female physicians, and physicians in the specialties of primary care, psychiatry, and OB/GYN.

I would say probably the OB/GYN specialty because they are focused on female patients, and typically I think when you think about IPV, although there are so many relationship types, I think that's the one you think of first. (Female, 2<sup>nd</sup> year, 27 y.o.)

Three other medical students also mentioned OB/GYN physicians as likely to support screening for IPV because of how relevant it seemed to their practice, and one student felt that female doctors would be in support of screening.

Maybe I would think that more female, more of the female doctor population would support it more. I think particularly like OB/GYNs and pediatrics, doctors and residents, who are like more apt to finding that among their patient population. (Female, 2<sup>nd</sup> year, 23 y.o.)

Medical students also brought up physicians in other primary care fields, such as family medicine and pediatrics.

I think in also specialties like family medicine, I feel like those attendings really want you to make sure that you're treating the whole patient, that you're seeing other factors that can be causing these issues. Pediatrics especially. That's not necessarily romantic relationships, but you know, those kind of things. (Male, 3<sup>rd</sup> year, 25 y.o.)

### **Subjective Norms: Non-supporters of screening female patients for IPV**

Medical students were also asked which individuals, or groups of individuals, would not be supportive of them screening female patients for IPV. Students mentioned 1) physicians, 2) males, 3) perpetrators, 4) medical school faculty, 5) professional organizations, and 6) hospital administration as possible non-supporters of screening for IPV (Table 11).

**Table 11.** Subjective norms (non-supporters) response frequency

<b>Non-supporters</b>	<b>Total N=15 n(%)</b>
Physicians	10(67)
Males	1(7)
Perpetrators	1(7)
Medical school faculty	1(7)
Professional organizations	1(7)
Hospital administration	1(7)

Again, physicians were mentioned a majority of the time by medical students, particularly a subset of physicians, including specialists, such as cardiologists or surgeons, who medical students felt might not view screening as relevant to their specialty. As one student noted,

I think a lot of physicians who are extreme specialists and only see patients, whether it be for a specific kind of surgery, would think that it's outside of their realm. Anybody who just doesn't think that they're going to have follow-up with the patient and so it's not something that would be beneficial. I think like an ophthalmologist wouldn't ask about that. I don't know, just, I mean, medicine is so specialized right now, I think somebody thinks that someone else is always asking those questions. (Female, 2<sup>nd</sup> year, 24 y.o.)

Another student used orthopedic surgeons as an example of how surgeons may be less concerned with how an injury occurred, and more focused on addressing the injury itself.

Like, an orthopedic surgeon, if someone is being abused and has broken bones, they don't really care how the person breaks their bones, they just want to fix it and be done with it. Um...that's kind of how we see a lot of the like ortho surgeons and those kind of people. They're, I guess, less interested in that kind of stuff than primary care, OB/GYN and pediatrics. (Female, 2<sup>nd</sup> year, 24 y.o.)

In addition to specialists, one student mentioned feeling that “maybe older doctors, male doctors” would “brush off” screening for IPV (Female, 2<sup>nd</sup> year, 26 y.o.), indicating that she felt these groups of physicians were less likely to view IPV screening as an important issue.

Although physicians were mentioned most often as groups that would not support medical students in screening for IPV, medical students also mentioned perpetrators, professional organizations such as the AMA, hospital administration, and medical school faculty. A fourth year, female medical student (32 y.o.) commented that perpetrators would certainly be “less than enthusiastic” when victims are screened, most likely due to the possibility that victims would get the help they need for their situation. A second year, female student (24 y.o.) felt that a “old school thinking” conservative, professional organization, such as the AMA, would likely not support screening for IPV, because she perceived the AMA to be “against a lot of changes in anything.” In addition hospital administration was mentioned by a second year, female student (23 y.o.) who felt that screening would be problematic depending on whether there was “a cost to it.”

One student mentioned medical faculty, and felt that although they would not necessarily be opposed to screening, they would see implementing curriculum about screening for IPV as a challenge.

I don't think the [curriculum office] or [deans of the social sciences departments of medical schools are] opposed to [screening for IPV], I think they're just trying to figure out how to integrate it more into the curriculum and into the physical exam. So, yeah, I don't think anyone would hinder that process, but just trying to address all those challenges. (Female, 3<sup>rd</sup> year, 26 y.o.)

The last group mentioned by a medical student was males.

A lot of guys in general would think it's not important...I also feel like guys, you know, since rape isn't on the back of their mind when they're walking at night, or not even like rape, but just like domestic abuse, because men, I mean even though domestic abuse with men happen, I feel like it's not as common as an occurrence as women, so I feel like guys, you know, they would say it's tragic, but it wouldn't be something that they think about. (Female, 2<sup>nd</sup> year, 24 y.o.)

This medical student felt that because IPV was an issue that affected women more so than men, that males would be less likely to view screening as a priority.

### **Perceived control: Facilitators to screening female patients for IPV**

Students were asked to discuss what they felt would make it easier for them to screen female patients for IPV as medical students. Six emerging themes (Table 12) developed from the responses, and were coded as follows: 1) IPV training, 2) IPV screening questionnaires, 3) Support from key individuals, 4) Good rapport with patient, 5) Social factors, and 6) Standardization of inquiry.

**Table 12.** Perceived control: Facilitators to screening response frequency

<b>Facilitators</b>	<b>Total N=15 n(%)</b>
IPV training	14(93)
IPV screening questionnaires	6(40)
Support from key individuals	2(13)
Good rapport with patient	2(13)
Social factors	1(7)
Standardization of inquiry	1(7)

#### **IPV training.**

The majority of medical students felt that receiving IPV training as part of the medical school curriculum would make it easier for them to screen patients for IPV because it would familiarize them with the topic, and provide them the educational foundation they need to address the issue if it comes up with patients. Students particularly thought it would be useful to receive this education in the form of clinical skills training, or standardized patient encounters (SPEs), which simulate clinical settings and give medical students opportunities to practice.

We work with standardized patients here, so having more patients presenting with those type of things, you can...learn how to approach it comfortably without feeling like you're pressuring yourself or the patient, and sort of just learning how to retrieve that information from someone who may not necessarily want to tell you right off the bat. (Male, 2<sup>nd</sup> year, 23 y.o.)

Another medical student offered a similar perspective.

I think the more practice the better. I think there are going to be barriers that exist outside of myself and those I can't really do anything about, but um, the more practice that we're exposed to, the better. And we've had one session where we looked at sexual violence, and learned how to interview those patients...so we had a standardized patient who came in, and I actually was the one who interviewed her, and she was a young female, there was some violence at home. So just kind of trying to get the story out and figure out what's going...so just more standardized patients. (Female, 2<sup>nd</sup> year, 24 y.o.)

Several medical students were in agreement that practicing how to have the conversation and role-playing would be helpful in making them feel more comfortable talking to patients about IPV, and retrieving the information they need to support the patient and respond with compassion.

In addition to skills training using standardized patients, students also felt that receiving more information in the forms of in-class lectures, guest speakers, and out of classroom experiences such as volunteering at domestic violence shelters would be helpful. Medical students felt that these training opportunities could teach them about signs and symptoms of abuse, what questions to ask, how to ask about abuse in a sensitive way, and basic facts and statistics about IPV.

#### **IPV screening questionnaires.**

Most medical students also felt having IPV screening questionnaires on hand would be vital in facilitating the screening process. A sentiment expressed by several of

the respondents was that incorporating these questions into the standard history and physical would make it easier to ask about abuse.

First year in medical school, they teach us...well we need to get the chief complaint, we need to get the history, present illness and past history, social history...I think that screening for violence should be a component of the social history. If they can just make us feel comfortable, like hey, add these questions in too...have you experienced abuse, are you currently experiencing some violence....if they could just make us feel comfortable by incorporating it into what we learn from the beginning, I think that would like go a long way because it would be like, ok, any other question that we're asking in the history, it would just like asking, like ok, what medical conditions do you have, what surgeries have you had. (Male, 3<sup>rd</sup> year, 25 y.o.)

Students felt that having these questions on hand could serve as somewhat of a roadmap for guiding them in the conversation with the patient, even if there were only a few questions.

I think the easiest thing is screening tools that are just available as part of the practice for a hospital, um actual physical paper that you can look at and then reference, and it's a good starting point for further conversation. (Female, 2<sup>nd</sup> year, 24 y.o.)

If I had kind of a set, one, two, three questions, these are things that are good to ask, that are good screening questions, that will get you where you need to go. (Male, 3<sup>rd</sup> year, 28 y.o.)

### **Support from key individuals.**

One medical student felt having support from her supervising physicians would make it easier for her to screen their female patients for IPV.

Talking to whoever is my...whoever is above me, um like talking to them beforehand, you know, is this something that you do with all of your patients, should I be doing it, is it appropriate, um, can you like maybe briefly talk to me about how to do it or how you go about doing it so I can emulate that with my patients. (Female, 2<sup>nd</sup> year, 26 y.o.)

An additional factor mentioned by another medical student was that having support from physicians across specialties would facilitate the screening process.

**Good rapport with patient.**

Additionally, medical students felt that having already established a level of trust and confidence with the patient could make screening for IPV easier due to the sensitive nature of the topic.

I think also what makes it easier is to already have established kind of a good patient and physician relationship so that trust is already there. I don't know if its something you could just jump right in the first time you're meeting a patient and you're asking those type of questions. (Female, 3<sup>rd</sup> year, 24 y.o.)

This sentiment was echoed by a second year, female medical student (27 y.o.) who felt that asking about IPV after having met the patient at least once would make the process more comfortable because the patient is more familiar with them

[Asking about IPV the first time you see a patient] I think that depends on the patient. If you can see they're kind of reserved, [then] maybe you would ask the second time you see them. Say, you know, we've completed the first part, and I want to continue the second part at our next visit...it could be more comfortable, you have a little bit of a rapport, they kind of know you a little bit better.

**Social factors.**

One medical student expressed feeling that screening for IPV would be easier if there was a paradigm shift in how society regards IPV and victims of IPV. He felt that this shift could make discussing IPV less stigmatized, which would in turn make it easier for medical students to bring up the issue of IPV with their patients.

I think our current society has a little bit of like taboo of when it comes to talking about stuff like [IPV]. I think that like in recent years, you know, domestic partner violence in general is sort of coming to the forefront in terms of trying to get people to recognize it and get help with it...but I think that there still is a large taboo about it, and especially as a medical student, we get extensive training on how to ask people questions...but about any possible problems or violence with their sexual partners is definitely something that's kind of intimidating to a lot of medical students. So I think that if we can...if we as a society can get to a point where we're not afraid to talk about these issues, I think that it will become easier. (Male, 3<sup>rd</sup> year, 25 y.o.)

According to the student, this openly talking about issues such as IPV would “make it sort of more mainstream in terms of the questioning that we do with our patients,” and facilitate the process of asking about IPV.

#### **Standardization of inquiry.**

Finally, one medical student felt that if screening became a routine action, patients would be less likely to feel stereotyped, which consequently could facilitate the screening process.

If you're taught to ask it to every person, not just you know, female, but any person who could have a history of abuse. I think that if it becomes a standard, then patients won't feel like you're selecting them out. (Female, 2<sup>nd</sup> year, 23 y.o.)

#### **Perceived control: Barriers to screening female patients for IPV**

Students were asked to discuss barriers to their screening female patients for IPV as medical students. Seven themes (Table 13) emerged from the responses, and were coded as follows: 1) Lack of IPV-specific training 2) Time, 3) Discomfort with topic of IPV, 4) Lack of rapport with patient, 5) Culture and Language, 6) Rotation-specific, and 7) Limitations as medical students.

**Table 13.** Perceived control: Barriers to screening response frequency

<b>Barriers</b>	<b>Total N=15 n(%)</b>
Lack of IPV-specific training	7(47)
Time	6(40)
Discomfort with topic of IPV	5(33)
Lack of rapport with patient	4(27)
Culture and Language	3(20)
Rotation-specific	2(13)
Limitations as medical student	2(13)

**Lack of IPV-specific training.**

Medical students noted that as part of their medical training, they are taught to do a focused history and physical, and did not feel that had sufficient knowledge about indications of abuse, and the type of questions to ask if abuse was suspected. Students admitted that unless there were overt, physical signs of violence, they would probably not ask about IPV.

If I don't see any bruising or marking in places that are exposed, then I might not be prompted to ask about past or current partner violence. So that is one thing that I think might be hindering me from asking. Also, if they come presenting, or, if they come with a presentation that's not related to any sort of trauma...we're taught to do a focused history and physical so that might exclude things that are on the general history and physical, like um romantic life, sexual history. (Female, 3<sup>rd</sup> year, 26 y.o.)

A second year, male medical student (23 y.o.) echoed a similar sentiment.

I don't think that I would particularly notice, like if there was no physical signs, and if there was no emotional signs if they seemed like a normal patient, they don't teach us to bring that up. It's sort of if, if the patient brings it up themselves, then, you know, they're not happy, then they want us to sort of go deeper.

A few students also mentioned not knowing the appropriate questions to ask when screening for IPV, and moreover, not having the screening questions as a part of what they ask (i.e. the history and physical).

I feel like in medical school we hear about you know, violence in relationships, but I don't always feel like we get the best training when it comes to how to handle it, how to deal with it... So just being unfamiliar with what to do, how to ask it, I think it just makes it hard, it can be really uncomfortable for us. So I feel like, you know, lack of training, lack of talking about it. I don't think it's taken as seriously, I mean, it's a huge issue. So I think just a big barrier is just not really being taught how to ask these questions, or even like having it as part of what we ask. (Male, 3<sup>rd</sup> year, 25 y.o.)

Other barriers related to lack of IPV-specific training expressed by medical students included not knowing how to properly and correctly communicate about IPV, what to look for specifically (aside from the physical signs of abuse), and not seeing IPV as part of the clinical scenarios in their training.

#### **Time.**

Many medical students felt there was not enough time to address the issue of IPV due to scheduling demands or pressure to get through the patient interviews in the allotted time frames. As noted by one medical student,

There's too much to get through, so if it's really something that you think needs to be addressed, then you address it. Otherwise you just really can't. You have fifteen minutes with a patient. (Female, 2<sup>nd</sup> year, 24 y.o.)

Because of this time constraint, students expressed having to assess those issues not posing an immediate threat or problem, and address them later if there was time.

As a medical student a lot of times we are told that we have to do the interviews very quickly, um, or when we're doing the history and physical on a patient, a lot of times, you try to put things you don't view as threat or an immediate problem, you try to put those on the back burner, and if you have time, you can kind of address those things. Um, so I think that time is the biggest factor that's a barrier. (Male, 4<sup>th</sup> year, 25 y.o.)

This factor of time was echoed across several other medical students, with one additional student offering the perspective that patients have so much to talk about that attempting to screen all of them for IPV would be "hard to do" (Female, 2<sup>nd</sup> year, 24 y.o.) Similar to

the fourth year male student above, this student felt that screening would probably happen only if there was a clear reason why a medical student felt they should screen.

### **Discomfort with topic of IPV.**

Medical students expressed general discomfort with the topic of IPV as a barrier to screening female patients for IPV, and fear of not knowing how to respond if a patient disclosed abuse.

[As a medical student], I could see how some people would be maybe uncomfortable asking the questions, and even uncomfortable hearing what the patient would say, just because maybe you wouldn't know what to do, how to handle that information, who to report it to, sort of giving advice if you don't know what advice to give. (Male, 2<sup>nd</sup> year, 23 y.o.)

Medical students felt it was a “tough conversation” to have, and similar to talking about other sensitive subjects, such as patient’s sexual history, it could be awkward and uncomfortable to start the dialogue. When asked about barriers to screening for IPV, a second year, female medical student (23 y.o.) stated,

The uncomfortable feeling of bringing that up. We actually just talked about it in one of our classes, just the fear of being like awkward, and not knowing what to say.

### **Lack of rapport with patient.**

Another factor that students identified as a barrier to screening female patients for IPV was not having a relationship with the patient, and therefore not having earned the trust or confidence of a patient. Medical students felt not having a relationship with a patient could be challenging when asking about a sensitive issue such as IPV. As one student commented,

As medical students we rarely see patients on a continuous basis. So, when I walk into a room, generally speaking, as a medical student, I don't have a relationship with that patient so it can be sometimes awkward I think to broach topics like [IPV] kind of out of the blue, or in situations where there isn't continuity.  
(Female, 4<sup>th</sup> year, 32 y.o.)

Another medical student felt that because she was a student, patients do not necessarily view her or fellow medical students in the same light, or with the same respect that they view physicians.

I think what I'm seeing as a medical student is that people often times won't take you seriously. Like they'll say, okay this person is asking me questions about like what medications I'm on, or what allergies I have, but you're not the doctor, let me talk to the doctor. There might be a privacy issue, there might be a "you're just a student, why should I disclose any sort of personal information" issue.  
(Female, 3<sup>rd</sup> year, 24 y.o.)

One student acknowledged that although IPV was a private issue and asking about it could be "overstepping boundaries", it was important to ask anyway.

Maybe asking questions that the patient may not feeling comfortable with answering, or be kind of overstepping your boundaries with that patient-physician relationship and getting too much into their personal life. But if there are signs, that's not necessarily something you want to ignore either.  
(Female, 3<sup>rd</sup> year, 24 y.o.)

In a similar light, a second year, female medical student (24 y.o.) discussed the patient-physician relationship, and felt that because she looked young, patients might not be willing to discuss abuse because of their perception that she would not understand their situation.

### **Culture and Language.**

Three medical students mentioned either culture or language as additional barriers. Two students felt that being from a different background than the patient could be problematic.

I think another barrier would be culture. Cultural, maybe you know, they might not feel comfortable talking to me because I'm not of the same ethnic background as them, and so maybe they might think or assume, that I might not understand. (Female, 2<sup>nd</sup> year, 26 y.o.)

The other medical student echoing this sentiment felt that patients of different backgrounds might feel that she “just can't relate” to what they are going through. A third year, male medical student (28 y.o.) mentioned the possibility that language could serve as a barrier to screening for IPV.

**Rotation-specific.**

Two medical students expressed that barriers they would face to screening for IPV would depend on which rotation they were in.

I feel like if you have a rotation in emergency medicine, generally you're not focused on oh, what's going on, XYZ. You're like, oh okay, you're coming in, with like, you need stitches, I'm just going to stitch you, and let you go you know? It's like only unless they display like really bad symptoms like you know neurological disorders, and you maybe find a psychiatrist so then maybe you can find out. (Female, 2<sup>nd</sup> year, 24 y.o.)

Another student felt that this would be similar in surgical clerkships.

Surgery for example, as a clerkship that's some of the situations where I don't know that that information is something that attendings would prioritize...and so I don't know that that information would be well received or used in the presentation of a patient. (Female, 4<sup>th</sup> year, 32 y.o.)

In both perspectives, medical students beliefs are that in these particular rotations, screening for IPV is not viewed as priority. Consequently, asking about IPV while rotating in these specific specialties may not occur because of this factor.

### **Limitations as medical students.**

Two participants shared the viewpoint that being a medical student hindered their ability to screen female patients for IPV because they were still in a position where they are working under supervising physicians.

One bad thing about asking patients as a medical student is you still are working underneath somebody else, and so if they ultimately don't do anything about it, it could be a really negative situation for the patient...if the patient clearly comes and says I need help, and you know, is willing to talk about this, and the attending, or whoever the doctor is, doesn't want to deal with it, then that's a problem. (Female, 2<sup>nd</sup> year, 24 y.o.)

This sentiment was also shared by a third year, male medical student (25 y.o.), who felt that medical students had very little power when it comes to make decisions about patients.

As a medical student, I think sometimes we feel like our roles are limited and there's not much we can do to really change the patient outcome...we're kind of on the bottom of the totem pole as far as power and what we can do...it's like, you know, do I have the power to change something that I've heard...if I hear that there's abuse, what can I do?

In these cases, medical students did not feel that it was entirely in their control to screen or address IPV with patients.

### **Perceived self-efficacy**

Participants were asked to gauge their confidence to screen female patients for IPV as medical students. Most students reported feeling "somewhat confident", while the remaining felt either "confident" or "not confident" (Table 14).

**Table 14.** Confidence to ask the right screening questions response frequency

<b>Responses</b>	<b>Total N=15 n(%)</b>
Confident	4(27)
Somewhat confident	8(53)
Not confident	3(20)

### **Perceived self-efficacy: Help to overcome barriers to screening female patients for IPV**

Students were asked what they think would help them to overcome any barriers to screening female patients for IPV. After analyzing the responses, the researcher found that the responses given for this question did not differ from those given by the medical students when asked about what would make it easier for them to screen patients for IPV (facilitators). Therefore, the responses from this category were combined with those from the perceived control category of facilitators.

### **Behavioral Intention Findings**

As part of the demographic survey, medical students completed an 11-item behavioral intention scale using a 5-point Likert scale response format (ranging from 1-Very Unlikely, to 5-Very Likely) (Appendix E) to assess their intention to screen female patients for IPV under different circumstances. The means and the standard deviations were calculated for each item (Table 15).

The two scale items with the highest means asked medical students about the likelihood of screening female patients with bruises, and experiencing mental health symptoms such as depression and anxiety. The means were 4.60 and 4.20, respectively, and fell in the “Likely” range. The scale item with the lowest mean (2.33) asked medical

students how likely they were to ask female patients if they had ever been hit, threatened with abuse, or physically hurt by a past partner, and fell into the “Unlikely” range. The remaining items had means that ranged from 3.00-3.73, which fell in the “Don’t Know” range of the scale.

**Table 15.** Behavioral intention scale item averages

Statements:	Mean	Standard Deviation
<b>Imagine that you are in your clerkship rotations. How likely are you as a medical student to screen the following groups of female patients for IPV?</b>		
a. Female patients with visible marks or bruises.	4.60	.51
b. Female patients without any visible marks or bruises.	3.36	1.4
c. Female patients experiencing mental health symptoms such as depression, anxiety, stress, or suicidal ideation.	4.20	.77
d. Female patients that are pregnant.	3.73	1.2

Statements:	Mean	Standard Deviation
<b>Imagine that you are in your clerkship rotations. How likely are you as a medical student to do the following?</b>		
e. Ask all female patients if they have ever been hit, threatened with abuse, or physically hurt by a <u>current</u> partner.	3.00	1.18
f. Ask all female patients if they have ever been hit, threatened with abuse, or physically hurt by a <u>past</u> partner.	2.33	1.1
g. Ask all female patients about IPV as part of the history and physical.	3.42	1.3
h. Ask all female patients if they have ever experienced:		
i. Emotional/psychological abuse	3.00	1.2
ii. Physical abuse	3.20	1.3
iii. Sexual abuse	3.50	1.2
i. Use IPV screening questionnaires to assess female patients for abuse.	3.44	1.4

Total scores could range from 11 to 55. Scores for this sample ranged from 17 to 50, with the mean score being 37.1 (SD=8.1). Based on their scores, students were either classified as low-medium intenders, or high intenders.

To be classified as high intenders, students must have answered “Likely” or “Very likely” to at least nine of the eleven questions, and could not have answered “Unlikely” or “Very Unlikely” to any of the questions. They also could not have answered “Don’t Know” to more than two questions. Students were classified as low-medium intenders if they answered “Likely” or “Very Likely” to less than seven questions, “Unlikely” or “Very Unlikely” to any of the questions, and/or responded “Don’t Know” to more than two of the questions. Using this algorithm, students scoring 44 or higher were classified as high intenders, and students scoring under 44 were classified as low-medium intenders. In total, three students were classified as high intenders, and the remaining twelve were classified as low-medium intenders (Table 9).

**Table 16.** Behavioral intention categories

<b>Behavioral Intention Scores</b>	<b>Total N=15 n(%)</b>
High (44+)	3 (20%)
Low-Medium (<44)	12 (80%)

**High Intenders.**

All three medical students classified as high intenders were second year, female students. All three reported having received at least one hour of IPV training in medical school, and two of the three reported having received at least one hour of IPV training prior to medical school. Two of the high intenders reported having experienced IPV personally, and of these two, one of the students also reported having witnessed IPV directed towards a friend or family member. The mean behavioral intention score for high intenders was 46.3 (SD=3.2)

**Low/Medium Intenders.**

Of the twelve medical students classified as low-medium intenders, eight were female and four were male. Four students reported receiving at least one hour of IPV training prior to, and during medical school, two students reported receiving at least one hour of IPV training in medical school, but none prior to medical school, three reported having received at least one hour of IPV training prior to medical school, but none in medical school, and three students reported not having received IPV training either in medical school, nor prior to medical school. Table 17 provides an overview of behavioral intention scores by gender, year in medical school, IPV training, and IPV experience.

**Table 17.** Behavioral intention scores by gender, year in medical school, IPV training and IPV experience

<b>Intention Category</b>		
<b>Demographics</b>	Low-Medium (11-43) N=12	High (44-55) N=3
<b>Gender</b>		
Male	4	-
Female	8	3
<b>Year in medical school</b>		
2 <sup>nd</sup>	5	3
3 <sup>rd</sup>	5	-
4 <sup>th</sup>	2	
<b>IPV training in medical school</b>		
Yes	6	3
No	6	-
<b>IPV training prior to medical school</b>		
Yes	7	2
No	5	1
<b>Personal IPV</b>		
Yes	1	2
No	11	1
<b>Witness to IPV</b>		
Yes	3	1
No	9	2
<b>Mean behavioral intention score</b>	34.8 (SD=7.3)	46.3 (SD=3.2)

Of the low-medium intenders, three medical students reported witnessing IPV directed towards a friend or family member only, and one student reported having personally experienced IPV, but not witnessing it directed towards a friend or family member. The mean behavioral intention score for low-medium intenders was 34.8 (SD=7.3).

## CHAPTER V

### DISCUSSION, RECOMMENDATIONS, and CONCLUSIONS

#### **Discussion**

This qualitative research study sought to assess medical students' beliefs towards screening female patients for IPV, which has not been explored qualitatively in the literature. Therefore, this study sought to begin to explore an area of inquiry using a theoretically grounded methodology to uncover medical students beliefs regarding screening female patients for IPV. Discovering these beliefs is a critical first step to understanding medical students' perceptions of screening for IPV, and ultimately, their screening behaviors.

#### **Attitudinal Beliefs**

*Research question 1: What are medical students' attitudes towards screening female patients for IPV during their clerkship rotations as medical students?*

Most medical students felt screening female patients for IPV would help to identify victims, especially in cases where there are no physical indications of violence. In addition, students felt screening could help them uncover issues victims would not likely disclose voluntarily. Indeed, researchers have found there is a strong association between clinician inquiry about partner abuse and disclosure (Rodriquez, Sheldon, Bauer, & Pérez-Stable, 2001). Students also felt that asking may help patients become more comfortable talking about their situation, create a safe space for the victim to discuss the issue, and segue into providing the patient with resources and support if necessary. According to Chang, et al. (2005), female survivors of abuse view a health care provider

asking about abuse as an opportunity to receive support and resources. Therefore, it is important that medical students are knowledgeable about both how to appropriately ask about abuse, and what resources are available for patients experiencing abuse (i.e. social workers, law enforcement, safe houses).

Conversely, students also discussed potentially negative outcomes of screening female patients for IPV. The most common response was that screening could evoke negative emotions from patients as a result of the patients feeling judged, or suspicious of the medical students' intentions for asking. Students used the words "fear," "negative emotions," "defensive," "singled out," and "traumatic," to express how a patient might feel or react to being screened for IPV. Additionally, some students felt screening would take up more time in their already busy schedule. Not surprisingly, these sentiments echoed those expressed in the study by Sugg & Inui (1992) where researchers interviewed thirty-eight physicians regarding their perceptions about addressing domestic violence in clinical settings. They found that over half of the physicians feared offending the patient if they asked about abuse, and that most of the physicians identified the "tyranny of time" (p. 3159) as a major barrier to asking. If medical students are expressing these feelings during their medical school years, there is a high likelihood that these sentiments will persist once they become physicians, which may create barriers to screening patients for IPV.

A few students responded that screening for IPV could potentially disrupt the physician-patient relationship and create an environment of distrust of the physician by the patient. Due to the sensitive nature of the topic of IPV, it is important that medical students and other health care professionals provide patients with reasons for asking

about abuse, and create an environment of safety and support (Chang et al., 2005). This may put a patient at ease and promote an atmosphere of openness and trust, rather than suspicion.

### **Subjective Norms**

*Research question 2: What are medical students' subjective norms towards screening female patients for IPV during their clerkship rotations as medical students?*

Most medical students felt physicians, particularly those practicing in the fields of obstetrics/gynecology, pediatrics, and psychiatry, would support them in screening for IPV because these specialties focused on either the mental health of the patient, “treating the whole patient,” (primary care), or women’s health. Conversely, students felt physicians, especially those who were “extreme specialists,” such as cardiologists, or surgeons, might feel screening is “outside of their realm,” and not view it as priority when treating a patient.

Students felt specialists held this attitude because they do not have the same follow-up with patients as primary care physicians do, who are likely to see their patients on a more consistent basis. Therefore, they felt specialists would not view screening as beneficial if they were not going to see an immediate outcome.

While primary care physicians are in a unique situation to provide continuity of care, which can undoubtedly translate into increased patient trust and provision of resources (Black, 2011), IPV is not solely a primary care physician’s responsibility. Researchers Bhandari, Dosanjh, Tornetta, & Matthews (2006) found that head, neck, and musculoskeletal injuries, such as fractures or dislocations, are common in incidents of

physical abuse. Therefore, physicians, such as surgeons, who may have to treat these injuries, must be aware of implications of abuse, and that IPV does indeed fall “within their realm.” Failure to recognize symptoms or injuries that occur as a result of abuse may lead to oversight of IPV cases, and inevitably delay the necessary response to support or intervene on behalf of a patient.

In addition, some specialists, such as EM physicians, may encounter high rates of IPV among their patient populations. The emergency department often represents a primary point of contact for victims of IPV (Datner, Wiebe, Brensinger, & Nelson, 2007). Kramer, Lorenzon, & Mueller (2004) surveyed 1,268 women utilizing urban, suburban, and rural emergency departments and found that 34.8% of women presenting to the emergency department had experienced severe physical abuse or forced sexual activity in their lifetime, and that 13.7% reported physical abuse in the past year.

Similarly, in a study examining IPV screening across patient specialties, McCloskey and colleagues (2005) found that after the hospital-based addiction recovery unit, the highest rate of recent (12-month) IPV disclosure was among patients visiting the emergency room (17%). In addition, the lifetime prevalence of IPV was 41% among these respondents (N=908). Moreover, the odds of reporting 12-month IPV were 50% more likely in patients utilizing the emergency department, than those patients surveyed in OB/GYN, pediatric, and primary care waiting rooms. These research findings indicate that IPV is not just a primary care issue, but can cross over into specialties, such as emergency medicine. Identifying patients in these settings may provide the opportunity for physicians to support victims of abuse by referring them to appropriate support services.

Medical students also felt that older physicians, medical school faculty, professional organizations, and hospital administration would be less likely to support them in screening for IPV. Although there is not an abundant amount of information regarding the relationship between physician age, and screening for IPV, and whether medical school faculty, and hospital administration would support IPV screening, professional organizations, such as the ACOG and AMA have recommended that clinicians screen all female patients for IPV (Elliot, Nerney, Jones, & Friedmann, 2002). Therefore, it is likely that organizations similar in nature would view screening for IPV as an important behavior.

### **Self-Efficacy Beliefs**

*Research question 3: What are medical students' perceived self-efficacy beliefs towards screening all female patients for IPV during their clerkship rotations as medical students?*

Most medical students (N=8) reported feeling somewhat confident when asked about their ability to ask female patients the right screening questions, and felt that they could ask a few questions, but would want to receive additional training in order to become more confident. Three medical students responded feeling confident that they could ask the right questions, while the remainder (N=4) admitted to not feeling confident to screen.

Receiving educational training on IPV screening has been shown to improve self-efficacy. Knapp, Dowd, Kennedy, Stallbaumer-Rouyer & Henderson (2006) assessed the changes in attitudes, self-efficacy, and behaviors on pediatric health care providers

(physicians, nurses, and social workers) after completion of a 2-hour training which focused on identifying and intervening in IPV in pediatric emergency departments. The curriculum included basic definitions and concepts of IPV in pediatric health care settings, addressed attitudes, beliefs, and behaviors identified as barriers to screening for IPV, and presented a protocol for use in acute pediatric settings. Participants completed baseline, post-training, and 6-month follow-up questionnaires. The researchers found significant increases in self-efficacy from baseline to post-training and 6-month follow up, with health care providers feeling more confident in their ability to make appropriate referrals for victims of IPV and ask parents and caregivers about IPV. Because self-efficacy is a precursor to action, medical students can undoubtedly benefit from educational interventions that are designed to increase their self-efficacy in screening patients for IPV, which could ultimately impact their screening behaviors.

To assess medical students' self-efficacy further, the researcher asked medical students what could help them overcome any barriers to screening patients for IPV. Upon textual analysis, the researcher found that responses were similar to those that the medical students provided when asked what would make it easier for them to screen for IPV (perceived control: facilitators). Therefore, responses were combined under the "facilitators" question.

It is not a surprise these two seemingly distinct constructs generated similar responses. According to Ajzen (2002), perceived behavioral control and self-efficacy are similar in that both "are concerned with perceived ability to perform a behavior (or sequence of behaviors)." (p. 668). While the distinction between self-efficacy and perceived behavioral control is that self-efficacy deals with outcome expectations, while

perceived behavioral control deals with perceived control over the performance of a behavior, it is possible that the questions under each domain were not worded in a manner that medical students could make this distinction, and consequently, the responses to the questions were similar.

### **Perceived Control Beliefs**

*Research question 4: What are medical students' perceived control beliefs towards screening all female patients IPV during their clerkship rotations as medical students?*

When asked about what would make it easier to them to screen for IPV, most medical students felt that IPV training in medical school, particularly in the format of standardized patient encounters (SPEs) would be useful. SPEs can highlight training gaps and educational needs (Varjavand, Cohen, & Novack, 2002), and can thus serve as important learning experiences for medical students. Furthermore, SPEs can be used to train and assess medical students clinical skills, particularly with sensitive topics in which communication may be difficult (Heron, Hassani, Houry, Quest, & Ander, 2010), and provide opportunities for them to receive feedback from preceptors and the standardized patients themselves. For example, Duggan, Bradshaw, Carroll, & Rattigan (2009) conducted a study examining medical students' communication about disability with standardized patients. As a result of conducting and observing interviews and receiving feedback from the standardized patients, medical students expressed having a better understanding of how to ask about disability and how to recognize their own reactions to disability disclosure. Obtaining these skills with patients experiencing IPV is equally

important, and will likely help medical students better manage cases of IPV as students, and later as practicing physicians.

The second most commonly mentioned facilitator by medical students was provision of screening questionnaires. There are numerous validated IPV screening tools that can be used to assess abuse, such as the Hurt, Insult, Threat, and Screen (HITS), the Woman Abuse Screening Tool/Woman Abuse Screening Tool-Short Form (WAST/WAST-SF), the Partner Violence Screen (PVS), and the Abuse Assessment Screen (AAS). The HITS is a four-item questionnaire which asks respondents if their partner has ever physically hurt, insulted/talked down to them, threatened them with harm, or screamed/cursed at them. The WAST is an eight-item questionnaire which asks respondents about their relationship, including the outcomes of arguments, and whether their partner has ever physically, emotionally, or sexually abused them. The PVS is a three-item questionnaire that asks respondents whether they have ever been physically hurt by someone in the past year, and assesses safety in their current and past relationships. Finally, the AAS is a five-item questionnaire that assesses emotional, physical, and sexual abuse, and abuse during pregnancy (Rabin, Jennings, Campbell, & Bair-Merritt, 2009).

Familiarizing students with these tools during their training, or providing these questionnaires as part of the history and physical component of patient visits may make starting the conversation about IPV easier for medical students. In addition, these questionnaires are brief, which is important considering the fact that medical students mentioned time as a barrier to screening patients for IPV.

In addition to the barrier of time, students also expressed feel uncomfortable bringing IPV up for “fear of being like awkward.” The expressed that IPV was a “tough conversation”, and they might be uncomfortable hearing what the patient had to say due to not knowing “what to do, how to handle that information, who to report it to, and what advice to give.” Additionally, students felt that they did not have sufficient training with regards to IPV, which ultimately could have contributed to the fact that they lacked knowledge of non-physical indications of violence and appropriate screening questions. These barriers mirrored those identified in a study conducted by Sprague et al. (2011), in which researchers assessed the knowledge, attitudes, and perceptions of medical students and surgical residents (N=200) towards IPV in a survey format. The majority of respondents in this study reported lack of time (89.5%) as a barrier to IPV assessment, 73.4% reported lack of knowledge of what to say, 72.5% reported lack of knowledge of what to do if a patient is being abused, 62.1% reported personal discomfort with IPV, and 42% reported lack of IPV training as barriers. Therefore, it is likely that these barriers are consistent across medical students, and need to be addressed in their training if any progress is to be made towards overcoming these challenges.

IPV training can come in various forms, such as lectures, videos, or skills workshops. However, based on medical student responses from this study, it seems important that IPV training involves the use of standardized patient encounters, since these provide medical students the opportunity to role-play and receive feedback about their interviewing skills. In addition, practicing can also normalize IPV screening for students. Edwardsen, Morse, & Frankel (2008) found that utilization of SPs, in conjunction with the provision of a structured IPV screening guide and general

information about IPV resulted in improved interview skills in medical students. Therefore, medical training that incorporates a variation of these components may be important learning formats for teaching medical students about IPV.

### **Behavioral Intention**

*Research question 5: What are medical students' behavioral intentions towards screening female patients for IPV during their clinical clerkship as medical students?*

In assessing the characteristics of students falling under each category (low-medium intenders, high intenders), it was found that the male medical students had four of the bottom five lowest BI scores of the sample. According to a study assessing physician attributes that influence the likelihood of screening for IPV, male residents were less likely than female residents to report screening patients for IPV (Jonassen & Mazor, 2003). While there is not clear and consistent evidence as to why this may be the case, it can be speculated that because IPV is reported more prevalently among women than men, that male medical students may view screening for IPV as less important than female medical students, and may consequently have a lower intention to screen for IPV. In addition, while one of the male medical students reported an intended specialty of internal medicine, three of the four male medical students reported intended specialties of surgery (N=2), and emergency medicine (N=1), which may indicate that their beliefs about screening for IPV are similar to physicians already practicing in this field. This may help in explaining the low intention score, although care must be taken to interpret this data due to the small sample size, and lack of statistical testing of the data.

In examining the remaining characteristics, there were no noticeable consistent patterns. With regards to IPV training during and prior to medical school, there were individuals who had received training about IPV, but still were classified as low-medium intenders. Therefore, receiving IPV training may not necessarily mean that there is a greater intention to screen, especially because the quality, duration, and nature of IPV training may be different across the participants.

In addition, there were low-medium intenders who had personally experienced IPV and/or witnessed IPV directly towards a family member or friend, but still fell into the low-medium intender category. This implies that personally experiencing IPV may not necessarily correlate with intention to screen for IPV. Again, it is important to note that due to the small sample size, and lack of psychometric testing of the behavioral intention scale, this data should be interpreted with care, and no generalizations should be made regarding these findings. However, these findings can serve as a cross-sectional snapshot of the characteristics of a subset of medical students within the intention categories.

#### **Computation of scale item averages.**

Mean scores for each scale item were computed. Means were computed including the center value of “3” (Don’t Know), and then computed by excluding this value. Since the averages did not differ greatly, the final means were calculated by excluding the central value. In examining the mean scores across the scale items, the statement regarding how likely medical students are to screen “female patients with visible marks or bruises”, had the highest mean score of 4.60, which falls under the classifications of “likely”. Jonassen & Mazor (2003) found that the presence of bruising increased the

likelihood that first year residents would screen for IPV, which is an indication that bruises or marks may serve as triggers to alert medical students and residents to ask about abuse. However, bruises may not always be present, or overtly apparent in cases of abuse; therefore, medical students must be taught to recognize IPV even when physical indications of abuse cannot be seen. Failing to do so may result in missed opportunities to identify abuse.

The statement regarding how likely medical students are to screen “female patients experiencing mental health symptoms such as depression, anxiety, stress, or suicidal ideation” had a mean score above four as well (4.20). This has important implications considering in light of the fact that symptoms such as anxiety, depression, and emotional distress have been identified as outcomes of IPV (Carolson, 2011), and can cascade into physiological symptoms, such as headaches, and gastrointestinal problems (Kramer, Lorenzon, & Mueller, 2004). Therefore, medical students should not overlook the possibility of IPV as a root cause when patients are presenting with these health issues.

The scale item with the lowest mean score asked medical students how likely they were to ask female patients if they have ever been “hit, threatened with abuse, or physically hurt by a past partner.” The mean score for this statement was 2.33, which fell into the “unlikely” category. While there is no way to know why medical students scored this low on this particular item, it is nonetheless important that they are taught to ask patients about past or lifetime abuse. Patients experiencing past or lifetime abuse may still experience negative health outcomes as a result of engaging in unhealthy coping behaviors (McNutt, Carlson, Persaud & Postmus, 2002), and still utilize health services

after the abuse has ended. Therefore, medical students should be aware that a patient may be presenting with health symptoms from abuse that occurred in the past.

Finally, the remaining responses generated means ranging from 3.00 to 3.73, which fell within the “Don’t Know” category. It is possible that for these questions, medical students were unsure of their position regarding the specific action (e.g. asking female patients about IPV as part of the history and physical), the question was unclear, or students did not feel they had enough information or experience to take a definitive stand on the question.

### **Practical Implications for Medical Training**

Medical students are in a unique position to address IPV in clinical settings with the proper training, support of key individuals, such as attendings, fellow medical students, professional organizations, and hospital administration. Receiving a thorough and comprehensive medical education on how to identify victims of abuse, and intervene in situations of abuse by providing emotional support and referrals to appropriate support services can undoubtedly increase medical students’ capacity to respond to cases of IPV with compassion and competency.

Although most medical schools report having some form of family violence education in the medical curriculum, it is important to evaluate whether these curricula contain information about managing adult IPV. Without knowing the actual content of IPV medical education curriculum, it is not possible to make suggestions on how current content can be modified. However, there are practical suggestions for what should be included as part of IPV curricula. First, it is important that medical educators and curriculum offices evaluate whether the content of their curricula provides students with

general knowledge about IPV, such as definitions, prevalence rates, how to identify and manage cases of IPV, and physical and non-physical indicators of abuse. Second, these educational interventions should target medical students' belief systems by addressing their attitudes, subjective norms, and perceived behavioral control beliefs. For example, lessons could focus on addressing barriers to IPV screening, correcting misconceptions students may have about how patients will react to being screened, and communicating empathetically with patients about IPV. Lastly, regardless of the formats of these lessons, standardized patient encounters utilizing IPV scenarios should be incorporated within the lesson plans. Practicing these interviewing skills can help strengthen medical students' confidence, and increase their competence to ask about, and manage IPV in clinical settings.

### **Limitations**

There are several limitations about this study.

### **Sampling**

This study population consisted of a self-selected sample of medical students. Therefore, there is the potential that the students who participated had more of a vested interest in the topic of IPV screening, were more knowledgeable about IPV screening in general. Therefore, they might not have been representative of the medical students in their respective medical schools. In addition, due to funding limits, only eighteen medical students in total (three for the cognitive testing portion, and fifteen medical for the main study) were recruited and participated in the main study out of the possible 127 medical students invited to participate in the study. Therefore, it is likely that the full range of responses were not elicited from the interviews.

Furthermore, although the sample was racially/ethnically diverse, and the age of the participants ranged from 22-32, eleven women participated in the study, while only four men participated. Because IPV is experienced by more women than men, it is possible that male medical students were less interested in participating in the study, or did not view the study as relevant to them. However, garnering male responses for a study such as this is important since men comprise more than half of all medical students nationally (Association of American Medical Colleges, 2010). In addition, there were no first year medical school participants. First year medical students may offer completely different insight into IPV screening since they have not interacted with patients, and are just getting adjusted to the medical school environment. Therefore, interviewing more male medical students, and first year medical students could result in a more robust range of responses. In addition, nine of the medical students participants attended one medical school, which could mean that these medical students had similar IPV screening experiences since they are training in the same environment.

### **Instrumentation**

With regards to instrumentation, there was no prior behavioral intention scale in the literature designed to measure intention to screen female patients for IPV. Consequently, the researcher created an interview instrument based on TPB elicitation question in the literature (Middlestadt et al., 1996; Montaña & Kasprzyk, 2008), with content derived from guidelines given by national organizations about screening for domestic violence in clinical settings (Family Violence Prevention Fund, 1999; Family Violence Prevention Fund, 2004b). Although the reliability of the scale was ascertained by performing Cronbach's alpha on the two dimensions of the scale, it is possible that the

full behavioral intention domain of screening for IPV was not fully reflected in the scale items. In addition, the scale was only assessed for face and content validity, and no group of experts were consulted to determine whether the scale reflected the entire domain of IPV screening.

### **Data Collection**

Due to the sensitive nature of IPV, it is possible that there were confidentiality issues related to participants' disclosure of information, especially because all of the interviews were conducted in public locations. Consequently, medical student participants may have chosen to censure themselves while answering the questions, or may have answered the questions in a socially biased manner based on what they felt the researcher would want to hear, and what they would feel comfortable saying out loud in the interview environment.

In addition, there are interviewer characteristics, which may have served as limitations to the data collected. Five of the interviewees were friends or acquaintances of the interviewer, which may have hindered the medical student from answering the questions honestly. Additionally, there was only one interviewer for a sample of students who ranged in age, race/ethnicity, and gender. Therefore, there is the potential that the not all of the participants may have felt fully comfortable with the interviewer due to differences in gender, age, and/or race/ethnicity.

A final limitation related to data collection involves the skill of the interviewer. The length of the interviews only ranged from six to fifteen minutes, which is relatively short for semi-structured in-depth interviews. While this could be attributed to the

medical student participants, who have tight schedules, and are accustomed to brevity in interview settings with patients, this could also be attributed to the interviewer failing to probe, or ask the medical students to expand upon unclear statements.

### **Data Analysis**

With regards to the data analysis, there was only one researcher who performed data analysis. Therefore, coding of text, and creation of emerging themes was based solely on one interpretation. Consequently, research bias may have been introduced into the analysis of the data.

### **Recommendations for Future Research**

There are several recommendations for future research based on the findings of this study. First, interviews should be conducted with a larger sample size of medical students to ensure saturation of responses, and that all salient beliefs are elicited. This will allow for richer, more comprehensive data. As Middlestadt and colleagues (1996) demonstrated, eliciting these beliefs do not always have to be in the format of in-person interviews. Middlestadt and colleagues (1996) had participants answer open-ended questions in a survey format, and found that the quality and nature of the responses did not differ greatly from those received from semi-structure elicitation interviews. Consequently, this may be a better method for collecting data from a larger sample of respondents without undertaking the laborious task of conducting and transcribing interviews. In addition, this may result in higher response rates and be more convenient for medical students, who would be able to complete the survey in a classroom setting, or electronically without having to disrupt their tight schedules to interview. Regardless of

the method used to collect data, it is important that male, and first year medical students are targeted in recruitment. Furthermore, inquiring about current IPV screening behaviors among 3<sup>rd</sup> and 4<sup>th</sup> year medical students who are on their clerkship rotations could provide valuable insight into understanding the characteristics of students who screen, and those who do not screen for IPV.

Additionally, the IPV screening behavioral intention scale created for this study should be developed further using additional input from both clinical and non-clinical experts in the field of IPV screening, prevention and education. The scale should undergo further psychometric testing to ensure its validity and reliability, after which point, it could be used pre- and post- IPV educational intervention to assess changes in intention to screen.

Findings from this study can be used to create IPV workshops or lesson plans for medical students that target and seek to address the beliefs presented in this study. For example, medical students expressed feeling that they lacked the proper screening questions to ask patients. Therefore, as part of their training, medical students could be provided a set of questions, or actual screening questionnaires to reference when performing the standard history and physical with patients. As found in Edwardsen, Morse, & Frankel (2008), 68% medical students (N=22) who were assigned to the intervention group, and were given guided instruction on how to use a mnemonic for assessing abuse in patients asked a direct question about abuse compared to 45% of students in the control group (N=21). Therefore, provision of this type of guide could result in students feeling more confident to start the conversation about IPV with their patients. Additionally, students felt that screening would likely offend the patient, and

cause the patient to have an emotional response to being asked about abuse. However, research has found that survivors of IPV view physician asking about IPV as an opportunity for the victims to receive support and resources. Therefore, they have suggested that health care providers provide a reason for asking about abuse, create an environment of safety, and provide resources regardless of whether IPV is disclosed (Chang et al., 2005). Keeping this in mind, it is important for medical students to realize that it is not solely about what they ask, but how they ask, and that they must be equipped with the proper knowledge of IPV and resources if they do decide to ask about abuse.

Finally, the responses elicited during the interviews can be used to create a quantitative instrument to measure screening. For example, to measure the strength of medical students' attitudes that screening female patients for IPV would help identify victims of abuse, and then to assess how positive or negative this outcome is perceived to be (Middlestadt et al., 1996), two items using a semantic differential format would be:

*Screening female patients about IPV will allow me to identify more victims*

Likely \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ Unlikely

*Identifying victims is*

Good \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ Bad

To measure normative beliefs and motivation to comply with identified referents (e.g. attendings/supervising physicians), two items using a similar format as the aforementioned question could be written as follows:

*My attending thinks*

I should \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ I should not screen female patients for IPV

*When it comes to screening female patients for IPV*

I do \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ | \_\_\_ I do not want to do what my attendings think I should do.

There is currently no quantitative instrument designed to specifically measure medical students attitudinal, subjective norms, and perceived control beliefs with regards to screening female patients for IPV. Therefore, the development of this instrument using the beliefs elicited in the elicitation phase of the research can be helpful in creating this instrument.

### **Conclusion**

Overall, this study provided unique insight into medical students' beliefs regarding screening female patients for IPV. When asked what role they felt physicians play when it comes to addressing IPV in clinical settings, the majority of medical students agreed that physicians are in a position of power and privilege to earn patients' trust, and connect patients to information and resources. Although medical students identified positive aspects of screening, there were also numerous perceived barriers mentioned by medical students, particularly with regards to IPV training. Therefore, this

study helped to identify several areas of need, and can serve as a starting point for educators and medical school curriculum departments seeking to incorporate or modify existing IPV curriculum based on theoretically grounded beliefs. Eliciting the salient beliefs of medical students with regards to screening female patients for IPV is just the first step in ensuring that medical curriculum designed to educate students about IPV screening is theoretically grounded, and targets the relevant belief systems.

## **Appendix A**

### **Recruitment Email for Phase 1: Cognitive Testing**

Email subject: Research opportunity: Seeking medical students to give feedback!

Dear medical student,

My name is Toni Aluko and I am an MPH student at the University of Maryland, College Park. I would like to invite you to participate in a research study to provide your feedback on nine intimate partner violence (IPV)-related survey questions. You are eligible to participate in the study if you are a first, second, third, or fourth year medical student at [Name of Medical School].

If you decide to participate, you will be asked to provide your verbal feedback to interview questions about length, and clarity. You will meet one-on-one with the researcher to provide your feedback. The session should take no more than 1 hour. Participants who complete the session in entirety will receive \$20 cash.

There is a risk that the sensitive nature of the questions being asked may trigger an emotional response. Therefore, you may choose not to answer questions or withdraw your participation at any time. A list of IPV resources will be offered to you even if you do not finish participating. Your participation has the potential to impact future IPV medical education and training.

If you are interested in participating in the study, or have any questions or concerns, please contact Toni Aluko at [otealuko@umd.edu](mailto:otealuko@umd.edu) to schedule a time and location for the interview or with your concerns. You may also contact the principal investigator Dr. Kenneth Beck at [kbeck1@umd.edu](mailto:kbeck1@umd.edu). Thank you for your time!

Warmly,

Toni Aluko

#### **Recruitment Flier: Cognitive Testing**

### **MEDICAL STUDENTS**

#### **Research Opportunity**

**Medical students needed  
to provide their feedback!**

*The purpose of this research is to get medical students' feedback about a set of  
interview questions!*

**You are eligible to participate in the research if you are**  
a first, second, third or fourth year medical student at  
[Name of Medical School]

You will be asked a series of questions in a one-on-one interview with the  
researcher. Your session should take no longer than 1 hour. All interviews will take  
place at [Medical School name] at a pre-arranged location.

## Appendix B Informed Consent Forms

### University of Maryland College Park

Page 1 of 3

Initials: OA Date: 6/29/11

#### Informed Consent form for Cognitive Testing

##### Informed Consent Form

<b>Project Title</b>	Medical students' beliefs towards screening for intimate partner violence: A qualitative study.
<b>Purpose of the Study</b>	<i>This research is being conducted by <b>Toni Aluko</b> under the guidance of Dr. Kenneth Beck at the University of Maryland, College Park. We are inviting you to participate in this research project because you are a first, second, third, or fourth year medical student. The purpose of this research project is collect data to assess your perceptions regarding screening for IPV during your clerkship years.</i>
<b>Procedures</b>	<p><i>The procedures involve you providing your feedback in a one-on-one in person interview with the researcher regarding the clarity, understandability, and ease of answering 16 questions. The researcher will ask you each question and then request your feedback on these components. All interviews will take place one-on-one with the researcher in a private classroom setting in your medical school or in another pre-arranged, private location. The session should last no longer than 1 hour. For your participation, you will receive \$20 cash.</i></p> <p><i>Prior to giving your feedback, you will be asked to complete a demographic questionnaire. This is for data collection purposes, and will contain no information that could personally identify you. You will be assigned a unique identifier based on your gender, medical school, year in medical school. All sessions will be audio recorded in their entirety and then transcribed into a summary format. Although you will not receive a copy of the transcription, you may ask to withdraw your responses at any time during the interview, or after the interview by contacting the researcher.</i></p>
<b>Potential Risks and Discomforts</b>	<i>There may be some risks from participating in this research study. The sensitive nature of the questions being asked may trigger emotional responses. Therefore, you may skip questions or withdraw your participation at any time. A list of resources will be provided for you at the end of the interview. If you decide to withdraw before the end of the interview, you will still receive the IPV resources, but will not receive the \$20 cash incentive.</i>
<b>Potential Benefits</b>	<i>Although you might not benefit directly from participation in this research, your responses will contribute greatly to existing IPV research and understanding medical students' beliefs regarding screening for IPV. We hope that in the future, other students might benefit from this study as findings could potentially be used to modify or develop educational interventions which address these belief systems.</i>

<p><b>Confidentiality</b></p>	<p><i>We will do our best to keep your personal information confidential. Confidentiality will be maintained to the degree permitted by the technology used. Any potential loss of confidentiality will be minimized by providing you a unique identifier based on your gender, medical school, year in medical school, and the order of your interview.</i></p> <p><i>You will be asked to fill out a demographic questionnaire, which will be collected and then placed in a sealed envelope and only accessible by the researchers at the University of Maryland, College Park. The questionnaires will be stored in a locked file cabinet in the student researcher's home office for a period of 3 years as required by federal regulations. After 3 years, the questionnaires will be destroyed by shredding. The transcribed text of your interview will be stored in password protected data file on the researcher's home computer. Only the student researcher will have access to this data. All audio recordings will also be password protected.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p>
<p><b>Medical Treatment</b></p>	<p><i>The University of Maryland, College Park does not provide any medical, hospitalization or other insurance for participants in this research study, nor will the University of Maryland, College Park provide any medical treatment or compensation for any injury sustained as a result of participation in this research study, except as required by law.</i></p>
<p><b>Right to Withdraw and Questions</b></p>	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the student investigator, Toni Aluko at 240-462-0620 or <a href="mailto:otealuko@umd.edu">otealuko@umd.edu</a> or Principal Investigator Dr. Kenneth Beck at <a href="mailto:kbeck1@umd.edu">kbeck1@umd.edu</a>, 301-405-2527.</i></p>
<p><b>Participant Rights</b></p>	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p align="center"> <b>University of Maryland College Park                  Institutional Review Board Office                  1204 Marie Mount                  College Park, Maryland, 20742                  E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a>                  Telephone: 301-405-0678</b> </p>

**University of Maryland College Park**

	<i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i>	
<b>Statement of Consent</b>	<i>Your signature below indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You can print out this consent form for your records, or request a copy to from the researcher.</i>	
	<i>If you agree to participate, please sign your name below.</i>	
<b>Signature and Date</b>	<b>NAME OF SUBJECT</b> [Please Print]	
	<b>SIGNATURE OF SUBJECT</b>	
	<b>DATE</b>	

**University of Maryland College Park**

**Informed Consent Form**

<b>Project Title</b>	Medical students' beliefs towards screening for intimate partner violence: A qualitative study.
<b>Purpose of the Study</b>	<i>This research is being conducted by <b>Toni Aluko</b> under the guidance of Dr. Kenneth Beck at the University of Maryland, College Park. We are inviting you to participate in this research project because you are a first, second, third, or fourth year medical student. The purpose of this research project is collect data to assess your perceptions regarding screening for IPV during your clerkship years.</i>
<b>Procedures</b>	<p><i>The procedures involve completing a demographic questionnaire and then verbally responding to 12 questions addressing your beliefs regarding IPV screening. The researcher will ask you each question which you will then be given time to respond to. All interviews will take place one-on-one with the researcher in a private classroom setting in your medical school or in another pre-arranged, private location. The session should last no longer than 1-hour. For your participation, you will receive \$20 cash.</i></p> <p><i>Prior to giving your feedback, you will be asked to complete a demographic questionnaire. This is for data collection purposes, and will contain no information that could personally identify you. You will be assigned a unique identifier based on your gender, medical school, year in school, and order of your interview that will be written on the demographic questionnaire and verbally announced at the beginning and closing of the interview session. All sessions will be audio recorded in their entirety and then transcribed verbatim for analysis purposes by the researcher. Although you will not receive a copy of the transcription, you may choose to withdraw your responses at any time during the interview, or after the interview by contacting the researcher.</i></p>
<b>Potential Risks and Discomforts</b>	<p><i>There may be some risks from participating in this research study. The sensitive nature of the questions being asked may trigger emotional responses. Therefore, you may skip questions or withdraw your participation at any time. A list of resources will be provided for you at the end of the interview. If you decide to withdraw before the end of the interview, you will still receive the IPV resources, but will not receive the \$20 cash incentive.</i></p>
<b>Potential Benefits</b>	<p><i>Although you might not benefit directly from participation in this research, your responses will contribute greatly to existing IPV research and understanding medical students' beliefs regarding screening for IPV. We hope that in the future, other students might benefit from this study as findings could potentially be used to modify or develop educational interventions which address these belief systems.</i></p>

**University of Maryland College Park**

<b>Confidentiality</b>	<p><i>We will do our best to keep your personal information confidential. Confidentiality will be maintained to the degree permitted by the technology used. Any potential loss of confidentiality will be minimized by providing you a unique identifier based on your gender, medical school, year in medical school, and the order of your interview.</i></p> <p><i>You will be asked to fill out a demographic questionnaire, which will be collected and then placed in a sealed envelope and only accessible by the researchers at the University of Maryland, College Park. The questionnaire will be stored in a locked file cabinet in the student researcher's home office for a period of 3 years as required by federal regulations. After 3 years, the questionnaire will be destroyed by shredding. The transcribed text of your interview will be stored in password protected data file on the researcher's home computer. Only the student researcher will have access to this data. All audio recordings will also be password protected.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p>
<b>Medical Treatment</b>	<p><i>The University of Maryland, College Park does not provide any medical, hospitalization or other insurance for participants in this research study, nor will the University of Maryland, College Park provide any medical treatment or compensation for any injury sustained as a result of participation in this research study, except as required by law.</i></p>
<b>Right to Withdraw and Questions</b>	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the student investigator, Toni Aluko at 240-462-0620 or <a href="mailto:otealuko@umd.edu">otealuko@umd.edu</a> or Principal Investigator Dr. Kenneth Beck at <a href="mailto:kbeck1@umd.edu">kbeck1@umd.edu</a>, 301-405-2527.</i></p>
<b>Participant Rights</b>	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;"><b>University of Maryland College Park Institutional Review Board Office 1204 Marie Mount College Park, Maryland, 20742 E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a> Telephone: 301-405-0678</b></p>

**University of Maryland College Park**

Initials: OA Date: 6/29/11

	<i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i>	
<b>Statement of Consent</b>	<i>Your signature below indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You can print out this consent form for your records, or request a copy to from the researcher.</i>	
	<i>If you agree to participate, please sign your name below.</i>	
<b>Signature and Date</b>	<b>NAME OF SUBJECT</b> [Please Print]	
	<b>SIGNATURE OF SUBJECT</b>	
	<b>DATE</b>	

## Appendix C

### Recruitment Email and Flier for Phase 2: Semi-Structured Interview

Email subject: Research participation opportunity for medical students!

Dear medical student,

My name is Toni Aluko and I am a graduate student in the School of Public Health at the University of Maryland, College Park. I would like to invite you to participate in a research study assessing medical students' thoughts about screening patients for intimate partner violence (IPV). You are eligible to participate in the study if you are a first, second, third, or fourth year medical student at [Name of Medical School].

You will be asked to fill out a brief demographic survey. I will then conduct a one-on-one interview with you to find out your thoughts on screening for IPV during clerkship rotations. The interviews should take no longer than one hour (1 hour) to complete. All interviews will be audio recorded and then transcribed by the researcher. To protect your confidentiality and privacy, you will be assigned a unique identifier by the researcher. No private information (name, telephone number, email address, etc) will be written on the survey or recorded. For your time, you will receive \$20.

There is a risk that the sensitive nature of the questions being asked may trigger an emotional response. Therefore, you may skip questions or withdraw your participation at any time. A list of IPV resources will be offered to you even if you withdraw your participation early. Your responses have the potential to impact future IPV medical education and training.

If you are interested in participating in the study, or have any other questions about the research, please email the student researcher Toni Aluko at [otealuko@umd.edu](mailto:otealuko@umd.edu) or the principal investigator Dr. Kenneth Beck at [kbeck1@umd.edu](mailto:kbeck1@umd.edu). Thank you for your time!

Warmly,

Toni Aluko



# Research Opportunity for Medical Students

## **Medical students needed to share their thoughts on screening for intimate partner violence (IPV)**

*The purpose of this research is to examine medical students' perceptions regarding screening patients for IPV.*

### **You are eligible to participate in the study if you are:**

- A first, second, third or fourth year medical student
- Currently enrolled as a medical student at [Name of Medical School]

You will be asked a series of questions in a one-on-one interview session with the researcher that should take no longer than 1 hour. All interviews will be conducted at a pre-arranged location at the [Medical School].

**All participants will receive \$20 cash.**

**IF YOU ARE INTERESTED IN PARTICIPATING, PLEASE EMAIL  
Toni Aluko at [otealuko@umd.edu](mailto:otealuko@umd.edu)**

*This research is being conducted at the University of Maryland, College Park*

*This research is supported by the University of Maryland, College Park (UMCP), UMCP's School of Public Health, and an award from the Society of Public Health Education and Centers for Disease Control and Prevention.*



SCHOOL OF  
PUBLIC HEALTH



**Appendix D**  
Final Reminder Email

Email subject: **\*\*Reminder\*\*** Research participation opportunity for medical students

Dear medical student,

This is a friendly reminder there is still time to provide your thoughts regarding screening patients for intimate partner violence (IPV)! If you have already contacted me to schedule an interview, or do not wish to participate, please disregard this email.

Each participant will receive \$20 cash and interviews should last no longer than 1 hour.

If you are interested in participating in the study, or have any other questions about the research, please email the student researcher Toni Aluko at [otealuko@umd.edu](mailto:otealuko@umd.edu) or the principal investigator Dr. Kenneth Beck at [kbeck1@umd.edu](mailto:kbeck1@umd.edu). Thank you for your time!

Warmly,

Toni Aluko

**Appendix E**  
Demographic Questionnaire and Behavioral Intention Scale

**Screening for Intimate Partner Violence\* (IPV) Medical Student Questionnaire**

*\*Intimate partner violence (IPV) is also called domestic violence, partner violence, or family violence. It is typically violence between intimate partners including spouses or boy/girlfriend and may encompass physical, emotional/psychological, and/or sexual abuse.*

**I. Demographics**

1. What is your age:

2. Year in medical school

- 1<sup>st</sup> year  
 2<sup>nd</sup> year  
 3<sup>rd</sup> year  
 4<sup>th</sup> year

3. Name of your medical school: \_\_\_\_\_

*For third and fourth year students only:*

Are you currently performing a visiting clerkship? Yes  No

If yes, at what medical school? \_\_\_\_\_

4. Your gender: \_\_\_\_\_

5. What is your intended specialty:

- Internal Medicine  
 Family Practice  
 Pediatrics  
 Psychiatry

- Emergency Medicine  
 Surgery  
 Obstetrics/Gynecology  
 Other (*specify*): \_\_\_\_\_

6. Race/Ethnicity:

- Black/African-American       Hispanic/Latino       American Indian or Alaska Native  
 Asian       Native Hawaiian or Other Pacific Islander  
 White       Foreign       Other (*specify*): \_\_\_\_\_

**II. Intimate Partner Violence (IPV) Training**

IPV training is defined as videos, lectures, skill-based training, educational workshops, classroom training, or clinical training about IPV

7. How much training about IPV have you had **in medical school**?

- None  
 1-5 hours  
 6-15 hours  
 More than 15 hours

8. How much training about intimate partner violence (IPV/DV) issues have you had **prior** to medical school?

- None  
 1-5 hours  
 6-15 hours  
 More than 15 hours

9. How relevant do you think IPV screening will be to your intended specialty?

Not at all                       Somewhat                       Highly

10. Would you be interested in receiving additional IPV training in medical school?  Yes                       No

**Personal Experience**

---

11. Have you ever experienced physical violence, sexual abuse, emotional abuse, intimidation, economic deprivation, or threats of violence in an intimate partner relationship?

Yes  No  Decline to Answer

12. Have you ever witnessed physical violence, sexual abuse, or psychological abuse directed towards a friend or family member?

Yes  No  Decline to Answer

**II. Intention to Screen for IPV Items**

---

Imagine that you are in your clerkship rotations. How likely are you to screen the following groups of female patients for IPV?

Statements:	Very Unlikely (1)	Unlikely (2)	Don't Know (3)	Likely (4)	Very Likely (5)
a. Female patients with visible marks or bruises on their bodies					
b. Female patients experiencing mental health symptoms such as depression, stress, or thoughts about suicide					
c. Female patients without visible marks or bruises on their bodies					
d. Female patients that are pregnant.					

Imagine that you are in your clerkship rotations. How likely are you to do the following?

Statements:	Very Unlikely (1)	Unlikely (2)	Don't Know (3)	Likely (4)	Very Likely (5)
e. Ask female patients about whether they have ever been hit, threatened, or hurt by a <u>current</u> partner					
f. Ask female patients about IPV as part of the standard health assessment					
g. Ask female patients about different types of abuse (emotional/psychological abuse, sexual abuse, physical abuse)					
h. Use IPV screening tools to assess female patients for abuse					
i. Ask all female patients about whether they have ever been hit, threatened, or hurt by a <u>past</u> partner.					

## **Appendix F**

### Local and National Intimate Partner Violence/Domestic Violence Resources

Abuse of any kind is NEVER okay and is never the victim's fault. Everyone deserves to be safe and healthy. For help and information anytime, contact:

#### Local Resources

##### **DC Coalition Against Domestic Violence**

Information, resources, and referrals

5 Thomas Circle, NW  
Washington, DC 20005  
(202) 299-1181  
[www.dccadv.org](http://www.dccadv.org)

##### **House of Ruth**

24-hour hotline, shelter, and counseling for battered women and their children  
DC: (202) 667-7001  
MD: (410) 889-7884  
[www.hruth.org/](http://www.hruth.org/)

##### **La Clinica del Pueblo**

Counseling and support for battered immigrant and Hispanic women  
2831 15<sup>th</sup> St., NW  
Washington, DC 20009  
(202) 462-4788  
[www.lcdp.org](http://www.lcdp.org)

##### **Maryland Domestic Violence Hotline/Resources** (800) 634-3577

##### **Whitman-Walker Clinic**

Health and mental health services for gay, lesbian, bisexual, and transgender people  
1701 14th St., NW (14th & R Streets)  
Washington, DC 20009  
(202) 745-7000  
[www.wwc.org/](http://www.wwc.org/)

#### National Resources

##### **National Domestic Violence Hotline**

[www.ndvh.org](http://www.ndvh.org)  
1-800-799-SAFE (7233)  
TTY 1-800-787-3224

##### **National Sexual Assault Hotline**

[www.rainn.org](http://www.rainn.org)  
1-800-656-HOPE (4673)

**Appendix G**  
Cognitive Testing Questions

- 1) How easy or difficult do you find this question to answer? Is there anything unclear about the question?
- 2) How did you feel about answering this question?
- 3) Are there any words that are unfamiliar or confusing?
- 4) Are there any questions that are worded poorly? If so, how would you suggest rewording them?
- 5) Is there another term that you would use besides medical history taking?
- 6) What do you think about the length of the questions?

## Appendix H IRB Approval and Addendum



1204 Marie Mount Hall  
College Park, MD 20742-5125  
TEL 301.405.4212  
FAX 301.314.1475  
irb@umd.edu  
<http://www.umresearch.umd.edu/IRB>

### Initial Application Approval

DO NOT REPLY TO THIS EMAIL ADDRESS AS IT IS UNMONITORED

---

To: Principal Investigator, Dr. Kenneth Beck, Behavioral and Community Health  
Student, Oluwatoni Aluko, Behavioral and Community Health

From: James M. Hagberg  
IRB Co-Chair  
University of Maryland College Park

Re: IRB Protocol: 11-0409 - Medical students' beliefs towards screening for intimate partner  
violence: A qualitative study

Approval  
Date: July 08, 2011

Expiration  
Date: July 08, 2012

Application: Initial

Review Path: Expedited

---

The University of Maryland, College Park Institutional Review Board (IRB) Office approved your Initial IRB Application. This transaction was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB Protocol number in any future communications with our office regarding this research.

**Recruitment/Consent:** For research requiring written informed consent, the IRB-approved and stamped informed consent document will be sent via mail. The IRB approval expiration date has been stamped on the informed consent document. Please note that research participants must sign a stamped version of the informed consent form and receive a copy.

**Continuing Review:** If you intend to continue to collect data from human subjects or to analyze private, identifiable data collected from human subjects, beyond the expiration date of this protocol, you must submit a Renewal Application (<http://www.umresearch.umd.edu/IRB/renewal.html>) to the IRB Office 45 days prior to the expiration date. If IRB Approval of your protocol expires, all human subject research activities including enrollment of new subjects, data collection and analysis of identifiable, private information must cease until the Renewal Application is approved. If work on the human subject portion of your project is complete and you wish to close the protocol, please submit a Closure Report (<http://www.umresearch.umd.edu/IRB/closure.html>) to [irb@umd.edu](mailto:irb@umd.edu).

**Modifications:** Any changes to the approved protocol must be approved by the IRB before the change is implemented, except when a change is necessary to eliminate an apparent immediate hazard to the subjects. If

you would like to modify an approved protocol, please submit an Addendum request (<http://www.umresearch.umd.edu/IRB/addendum.html>) to the IRB Office.

**Unanticipated Problems Involving Risks:** You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or [jsmith@umresearch.umd.edu](mailto:jsmith@umresearch.umd.edu)

**Additional Information:** Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns. Email: [irb@umd.edu](mailto:irb@umd.edu)

The UMCP IRB is organized and operated according to guidelines of the United States Office for Human Research Protections and the United States Code of Federal Regulations and operates under Federal Wide Assurance No. FWA00005856.

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## Addendum Application Approval

DO NOT REPLY TO THIS EMAIL ADDRESS AS IT IS UNMONITORED

---

To: Principal Investigator, Dr. Kenneth Beck, Behavioral and Community Health  
Student, Oluwatoni Aluko, Behavioral and Community Health

From: James M. Hagberg  
IRB Co-Chair  
University of Maryland College Park

Re: IRB Protocol: 11-0409 - Medical students' beliefs towards screening for intimate  
partner violence: A qualitative study

Approval  
Date: October 06, 2011

Expiration  
Date: July 08, 2012

Application: Addendum

Review Path: Expedited

---

The University of Maryland, College Park Institutional Review Board (IRB) Office approved your Addendum IRB Application. This transaction was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB Protocol number in any future communications with our office regarding this research.

**Recruitment/Consent:** For research requiring written informed consent, the IRB-approved and stamped informed consent document will be sent via mail. The IRB approval expiration date has been stamped on the informed consent document. Please note that research participants must sign a stamped version of the informed consent form and receive a copy.

**Continuing Review:** If you intend to continue to collect data from human subjects or to analyze private, identifiable data collected from human subjects, beyond the expiration date of this protocol, you must submit a Renewal Application to the IRB Office 45 days prior to the expiration date. If IRB Approval of your protocol expires, all human subject research activities including enrollment of new subjects, data collection and analysis of identifiable, private information must cease until the Renewal Application is approved. If work on the human subject portion of your project is complete and you wish to close the protocol, please submit a Closure Report to [irb@umd.edu](mailto:irb@umd.edu).

**Modifications:** Any changes to the approved protocol must be approved by the IRB before the change is implemented, except when a change is necessary to eliminate an apparent immediate hazard to the subjects. If you would like to modify an approved protocol, please submit an Addendum request to the IRB Office.

[http://irbdatabase.umresearch.umd.edu/human/protocols/3744/addendum\\_events/10727/let...](http://irbdatabase.umresearch.umd.edu/human/protocols/3744/addendum_events/10727/let...) 10/6/2011

**Unanticipated Problems Involving Risks:** You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or [jsmith@umresearch.umd.edu](mailto:jsmith@umresearch.umd.edu)

**Additional Information:** Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns. Email: [irb@umd.edu](mailto:irb@umd.edu)

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**Appendix I**  
Codebook

<b>Attitudes: Benefits to screening</b>	
Future practice as physician	Preparation for future practice as a physician
Identification	Mention of finding out about abuse, identifying victims of IPV
Intervention	Providing resources (e.g. legal, social work), emotional support, or information
Reduce health care costs	Decrease health care costs associated with violence
<b>Attitudes: Negatives of screening</b>	
Time	Time constraints, "sequence of events"
Harm to the patient	Further harm to patient (injury, death) as a result of asking about abuse
Negative patient reactions	Use of negative words, such as defensiveness, distrust, stereotyped
<b>Perceived control: Barriers to screening</b>	
Culture, Language	Barriers due to cultural differences, language barriers
Discomfort with topic	Discomfort asking patient about abuse, feeling awkward about discussing IPV
Lack of IPV-specific training	Not having IPV training in medical school, lacking knowledge of indications of abuse, screening questions
Limitations as medical student	Medical students as subordinates, feeling of not having power to affect change for patients
Lack of rapport with patient	Not having previous relationship, feeling of distrust towards clinician
Rotation-specific	Barriers due to nature of specific rotation
Time	Mention of time factors, scheduling constraints
<b>Perceived control: Facilitators to screening</b>	
Screening instruments, questions	Having IPV screening guidelines or questionnaires to reference
IPV training	Receiving IPV training (standardized patients, lectures) during medical school
Support from key individuals	Support from supervisors, physicians across specialties
Good rapport with patient	Establishment of relationship with patient, trust
Social factors	Shift in societal norms, normalization of discussion IPV in society
Standardization of inquiry	Routine screening so everyone is asked, patients do not feel singled out
<b>Subjective norms: Positive</b>	
Family	Mention of family members (parents, siblings)

Friends	Friends
Health professionals	Non-medical professionals (health educators, HIV counselors)
Law enforcement	Law enforcement agencies (police)
Medical school staff	Mention of professors, deans, other staff/faculty in medical school
Medical students	Fellow medical students
Patients	Mention of patients
Physicians	Mention of any type of physician (attendings, residents, etc)
Victims of IPV	Patients who are experiencing IPV
Women's Interest groups	Groups at medical and national level with interest in women's health (i.e. American Medical Women's Association)
<b>Subjective norms: Negative</b>	
Hospital administration	Mention of hospital administrators
Males	Mention of males, men
Medical school faculty	Mention of professors, deans, other staff/faculty in medical school
Perpetrators	Perpetrators of violence
Physicians	Mention of any type of physician (attendings, residents, etc)
Professional organizations	Professional organizations at national level

## Appendix J

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HomeAccount InfoHelp



**Title:** Structured Practice Opportunities With a Mnemonic Affect Medical Student Interviewing Skills for Intimate Partner Violence

**Author:** Elizabeth A. Edwardsen, Diane S. Morse, Richard M. Frankel

**Publication:** Teaching and Learning in Medicine

**Publisher:** Taylor & Francis

**Date:** Jan 1, 2006

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## Appendix K Program Competencies

The mission of the Master of Public Health program with concentration in Community Health Education is to “promote the development of professional community health educators who understand the science, theory and practice of public health and can apply this knowledge toward the enhancement of health status in communities” (University of Maryland, College Park, School of Public Health, 2008). Furthermore, the thesis is a capstone experience and therefore, must demonstrate MPH degree competencies. This research study will meet the following competencies as outlined in the MPH Competencies and Assessments’ Public Health Core Competencies and Community Health Education Cognate Competencies

<b>Competency</b>	<b>Description</b>	<b>Method for Competency Fulfillment</b>
Core 2c.	Recognize how theory can be used to address health problems	Use of “Theory of Planned Behavior” and “Self-Efficacy Theory” as theoretical framework in study
Core 7	Describe and apply appropriate descriptive statistical methods for summarizing public health data.	Analysis of data from survey
Core 8	Apply descriptive and inferential statistical methods that are appropriate to the different study designs used in public health research.	Analysis of data from survey
Core 10	Draw appropriate inferences based on statistical analyses used in public health research.	Presentation of survey results post-analysis
Core 12	Describe a public health problem in terms of magnitude, person, time and place.	Introduction, rationale for research and literature review
Cognate 4a.	Conduct a thorough and scientific literature review	Literature review
Cognate 4c.	Demonstrate an understanding of concepts and methods related to design, sampling, data collection, statistical analysis, and hypothesis testing	Sampling procedure, procedural outline, data analysis
Cognate 6g.	Use ethical approaches with human subject in research	Seek IRB approval for research at home and visiting institutions

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