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Despite the consistent findings on the rates of sexual assault among young women—with nearly 50% experiencing at least one unwanted sexual experience in their lifetime—there are a small number of supportive sources where sexual assault survivors can go to receive nonjudgmental aid. Thus, almost one-third of women wait more than a year to talk to someone about their assault experiences. Little research has addressed factors believed to influence disclosure directly; therefore, this study was designed to examine factors that affect women's first disclosures about sexual assault. Participants were 144 women who completed an online survey that included measures hypothesized to play a role in the timing of sexual assault disclosure. Models including variables related to world beliefs, social norms, assault characteristics, and interpersonal variables were fit to the data. Results of path analyses indicate that a model including world beliefs, certain social norms, individual characteristics, assault characteristics, and assault impact fit the data best. These findings represent the initial attempt to elucidate the process of first disclosures of sexual assault and highlight the importance of focusing future research on this area of inquiry.

SOMETHING TO TALK ABOUT: AN EXAMINATION OF  
PREDICTORS OF IMMEDIATE VERSUS  
DELAYED SEXUAL ASSAULT  
DISCLOSURE

by

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Approved by

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To my husband, Kevin: we both know this wouldn't have happened  
without your unfailing encouragement. Thank you.

APPROVAL PAGE

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## CHAPTER I

### INTRODUCTION

Given our current social and cultural norms, there are few safe places for sexual assault survivors. There are a small number of unfailingly supportive outlets where sexual assault survivors can go to vent their concerns or receive unquestioning, nonjudgmental aid. It is no wonder, then, that many sexual assault victims are hesitant to talk about their experiences. With the ultimate goal of facilitating a more supportive, open, and safe cultural environment, this study was designed to examine the factors that work together to delay some assault survivors in talking about their experiences. After a brief discussion of the current literature on sexual assault disclosure, I will describe two factors that may play a role in the delay of disclosure: social norms and world beliefs. I will then describe a study designed to contribute to our understanding of the timing from a sexual assault experience to the first time a woman talks to someone about it.

Women refrain from disclosing sexual assault experiences for a variety of reasons. In the rape-supportive culture of the United States, very few women feel comfortable enough talking about victimization to seek support from the available resources. They fear being blamed, shamed, or having others find out about such a private event (Ullman, 2010). Many women are also aware of the extremely low likelihood that their case would ever make it through the criminal justice system (Campbell, Wasco, Ahrens, Sefl, & Barnes, 2001). These and other reasons contribute to the relatively low rates of sexual

assault disclosure. While nearly one in four women will be the victim of a rape or attempted rape by the age of 25 (Koss, Gidycz, & Wisniewski, 1987), only about two-thirds of those women will tell someone about their experience within a year of its occurrence (Golding, Seigel, Sorenson, Burnam, & Stein, 1989). Nearly one-third of sexual assault survivors spend a year or more in silence before telling anyone what happened to them.

### **What do we know about sexual assault disclosure?**

Several researchers have begun to examine the phenomenon of sexual assault disclosure, and their descriptive research offers a strong foundation upon which to explore the process and timing of sexual assault disclosure. Much of the research on sexual assault disclosure has focused on those factors that affect recovery, while almost no research to date has focused specifically on the time period between an assault and a disclosure of that assault. Below, I will describe the current knowledge on sexual assault disclosure, followed by a section addressing variables found to be related specifically to the timing of disclosure.

Qualitative research on disclosure indicates that it is often not a one-time, all-or-nothing event for women (Ahrens, 2006). Many women indicate that they disclose information about their experiences over a period of time, sharing information differentially with members of their support groups. Nonetheless, in the quantitative literature on disclosure, researchers tend to measure disclosures—at least *first* disclosures—as one-shot affairs. Women are asked to indicate how long they waited to tell someone after the assault occurred. The most common scales divide the timing of

first disclosures into categories of time: immediately, days later, weeks later, a year later, and more than a year later (Ullman, 1996a, 1996b; Filipas & Ullman, 2001). Disclosures are typically assessed in the literature by simply asking women if they have told anyone about their experience or have shared their story with anyone prior to participating in the research project (Ullman, 1996a); between 80 and 95% of women who participate in research on disclosure have shared their experience with someone prior to their participation (Starzynski, Ullman, Filipas, & Townsend, 2005; Ullman, 1996a).

A great deal of the research on sexual assault disclosure focuses on those to whom women disclose and the reactions the women receive. This research describes what are generally termed *formal* and *informal* support sources (Filipas & Ullman, 2001; Starzynski et al., 2005). Formal support resources are comprised of medical personnel, law enforcement, and trained rape crisis personnel. Informal support networks are generally comprised of friends and family. Of those who had disclosed to someone prior to participation in research studies, approximately 97% disclosed to informal support sources and 60% disclosed to formal support sources (Starzynski et al., 2005; Ullman, 1996a). Disclosure to both types of sources is most common (59-62%; Filipas & Ullman, 2001; Starzynski et al, 2005), while disclosure to only informal support sources is the next most common experience (39%; Filipas & Ullman, 2001); only about 3% of women disclose only to formal support sources (Starzynski et al., 2005).

Reactions to disclosures have also received a great deal of attention in this literature. Most women report positive responses to their disclosures, but a notable percentage report being treated negatively (e.g., being blamed or discouraged; Ullman, 1996b).

Positive social reactions have been associated with less physical injury, less self-blame, and less post-assault upset, and reporting that friends, relatives, or a rape crisis center helped them after the assault. Negative social reactions have been associated with avoidance coping and are more common when disclosing to formal sources, specifically medical and legal personnel (Golding et al., 1989; Ullman, 1996b, 1996c). Interestingly though, these sources also contribute the most tangible aid (e.g., information, services, resources) to sexual assault survivors. Rape crisis centers are consulted least frequently of all formal sources, but women report generally positive reactions when they disclose there (Golding et al., 1989).

A number of variables have been related to women's disclosures. Interpersonal, situational, and cultural variables have all been examined in relation to sexual assault disclosure in general (yes/no). At the interpersonal level, childhood experiences with victimization seem to affect women's likelihood of disclosure as well as their coping. Starzynski and colleagues (2005) found that childhood sexual abuse was related to disclosure in general—women who had been sexually abused as children were more likely to tell someone about any subsequent victimization. Additionally, experiences of psychological distress related to the assault are associated with a greater likelihood to seek support (Ullman, 1999), particularly if women felt that the incident was life-threatening. Interestingly, however, self-blame has been negatively related to disclosure. Women sometimes expect to be blamed and often blame themselves for their assault experiences—even though self-blame does not aid in recovery in any way (Janoff-Bulman, 1979; Ullman, 1996c). Ullman found that 32% of survivors of sexual assault

blamed their own *character* “at least somewhat” for the attack and 55% of women blamed their own *behavior* “at least somewhat.” This finding is unfortunate because behavioral self-blame has been associated with a decreased likelihood to disclose to anyone about an assault experience (Starzynski et al., 2005). The interpersonal context of the assault is also important to disclosure. Being assaulted by a stranger, the use of force or weapons during the assault, or experiencing physical injury from the assault have all been associated with disclosure to multiple support sources (Starzynski et al., 2005).

Ethnicity and social class have both been examined as cultural factors related to disclosure. Historic images of Black women work against the likelihood of disclosure—Black women were portrayed during slavery as promiscuous, immoral beings who tried to seduce their masters (West, 2006). Stereotypes linger from these images, leading some people to think of Black women as less credible or more justified victims of sexual assault (George & Martinez, 2002). West (2006) describes the way in which Black female slaves created a “culture of secrecy” to preserve their dignity and privacy following sexual assaults by white males. This notion of secrecy and shame associated with victimization may still influence minority women’s disclosures today. For a number of reasons, White females are more likely to seek help following a sexual assault experience than are women of other ethnicities. Non-white women are more likely to report fear of shame or blame from authorities, to cite loyalty to the males of their ethnic group, or to cite cultural prohibitions against involving authorities in personal affairs as factors influencing their decisions against disclosure (Sue, 1994; Thompson, Sitterle, Clay, & Kingree, 2007; Washington, 2001; Wyatt, 1992). Additionally, it seems that

cultural and religious views about sex—especially those that describe sex as something that should be preserved for marriage, something that is shameful or dirty, or something that should not be talked about with others—may make women uncomfortable when talking about their sexual experiences, particularly those that happened against their will.

Although not a great deal of research has focused specifically on social class as a factor in disclosure, there is reason to believe that social class may interact with ethnicity to create situations in which women are especially unlikely to disclose. For example, in the well-known description of a young, black mother who feels that she cannot afford to pursue criminal charges against her multiple rapists, Fine (1983, 1989) argues that women who fall into ethnic, racial, and economic minorities do not think of support and control in the same way as women of majority groups. She notes that it is especially important to pay attention to the combinations of cultural factors that shape the availability of resources and feasibility of disclosure, particularly for low-income, minority women.

### **Factors related to the timing of disclosure**

While the timing of sexual assault disclosure has not been the primary focus of much research, a number of studies have included it as a variable and have described their findings in relation to the timing of disclosure. Factors such as victim demographics and assault characteristics have been related to disclosure timing and are briefly described below.

**Demographics and interpersonal characteristics.** Relatively few demographic characteristics are related to the timing of disclosure. Age and ethnicity are two that have

fairly consistent findings, however: older women are more likely than younger women to immediately disclose their assaults to police, and white women are more likely than women of racial minorities to immediately report their assaults (Chen & Ullman, 2010).

Another interpersonal variable—psychological distress—has been clearly linked to the timing of disclosure. Suicide attempts and current PTSD symptomology are both associated with an increased likelihood of disclosure (Starzynski, et al., 2005), while avoidance coping behaviors (i.e., withdrawal from interaction with others, alcohol and drug use, quitting job/school) have been associated with a delay in disclosure timing. The association of delayed disclosure with such dire psychological outcomes indicates that women who wait to disclose are likely experiencing serious mental and physical health consequences following their assaults.

**Assault characteristics.** Variables such as alcohol use, physical injury, and degree of relationship between the victim and perpetrator are all related to the timing of disclosure. Offender alcohol use and the requirement of post-assault medical attention to the victim have both been associated with earlier disclosure (Fisher, Daigle, Cullen, & Turner, 2003; Golding et al., 1989; Ullman, 1996a), while victim alcohol use before the assault has been associated with delayed disclosure (Tjaden & Thoennes, 1998).

Although some research has found that the relationship between the perpetrator and victim does not affect disclosure (Ullman, 1996a), other work has found that knowing the offender in at least some way (i.e., at least an acquaintance) is associated with a delay in disclosure and treatment-seeking (Stewart et al., 1987). Ullman (1996c) also found that women who knew their offenders in at least some way—as a boyfriend, friend, or

acquaintance—reported more psychological symptoms and poorer recovery. Victims of acquaintance rape are more likely to delay disclosure than are victims of stranger rape (Golding et al., 1989; Stewart et al., 1987), perhaps because they struggle with the notion that someone they are close to perpetrated such a violent act against them. This finding is especially disturbing in light of the fact that approximately 74-87% of victims have some sort of relationship with their perpetrator prior to the assault (Basile, Chen, Black & Saltzman, 2007; Ullman, 1996c).

Severity of sexual assault has also been related to the timing of disclosure. Women who experience completed rapes (as opposed to less severe sexual assaults) are more likely to delay telling anyone about their assault experience (Ullman, 1996a). This finding is not intuitive. It would seem that less severe forms of sexual assault would be associated with delayed disclosure and that completed rape would be easier to identify as clearly inappropriate and wrong. Victims of completed rape, however, may be more likely to experience the negative psychological reactions described above (e.g., self-blame, avoidance coping). They may delay their disclosure as a result of their symptoms, not necessarily the severity of the assault.

**Labeling and acknowledgment of severity.** Many women who are the victims of rape do not ascribe the label “rape” to their experience. Recent work by Fisher and colleagues (2003) found that almost two thirds of the college-aged women in their sample who experienced an assault that met the legal definition of rape did not label their experience “rape.” The literature on rape acknowledgment and timing of disclosure is clear—failure to define an assault as rape is associated with delayed disclosure



(Bachman, 1998; Stewart et al., 1987). We know from research on sexual assault scripts that women who do not label their experiences as rape are more likely to possess stereotypical rape scripts—the attacker is a stranger who uses physical force and the victim is left injured (Kahn, Mathie, & Torgler, 1994). It seems, then, that when an assault experience does not conform to the stereotypical idea of rape, women are less likely to define it as something illegal and wrong, and thus are less likely to talk to anyone about it. This is especially true of disclosures to formal support sources such as police (Menard, 2005).

The notion of labeling an unwanted sexual experience as wrong and harmful draws attention to an important question in the research on sexual assault disclosure: does disclosure offer any benefits over non-disclosure? The ultimate goal of a line of research examining disclosure is to eventually determine a way in which we can facilitate women's disclosures. If disclosure offers no discernable benefits over keeping an assault experience to oneself, though, then the value of examining the process of disclosure is null. Numerous researchers have explored the physical and mental health benefits of sharing traumatic experiences (Brouwers, Sorrentino, Roney, & Hanna, 2004; Niederhoffer & Pennebaker, 2002; Pennebaker, 1988; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Sloan, Marx, & Epstein, 2005). In general, the research on disclosure of traumatic events indicates that those who disclose their experiences enjoy significant benefits in both their mental and physical health functioning. One shortcoming of much of this research is that most of the studies ask participants to disclose anonymously—either verbally into a tape-recorder or written on paper. Most women who disclose about

their sexual assault experiences do not do so anonymously; most sexual assault disclosures take place in face-to-face interactions in which women receive a variety of responses, ranging from support to disbelief and blame (Campbell, 2005; Ullman, 1996b). Thus, while anonymous disclosure in laboratories may prove to be beneficial to understanding this process, it remains to be seen whether—in our current rape-myth supportive culture—the benefits are as positive for face-to-face sexual assault disclosure. We do know, however, that delayed disclosure is associated with increased avoidance coping and psychological distress (Ullman, 1996a), both factors that have been associated with more negative health outcomes over time (Pennebaker, 1988).

### **Current theoretical understanding of sexual assault disclosure**

Only within the last year has a theoretical model of women's sexual assault disclosure been proposed. In her recently published book on the broad, social implications of the lack of conversations about sexual assault in our culture, Ullman (2010) adapted a model of domestic violence help-seeking (Liang, Goodman, Tummala-Narra, & Weintraub, 2005) as a way to explain the variety of factors that contribute to women's disclosure and mental health outcomes. Although it has not yet been empirically tested, the model uses a social-ecological framework to include influences at both the individual and contextual levels. Ullman argues that conceptualizing sexual assault disclosure from an ecological framework—taking into account the unique and interactive effects of variables at both the contextual and individual levels of analyses—will help us begin to understand the actual process of disclosure. In her application of this model, the individual level addresses not only background variables such as demographics and prior victimization, but also

components of definition (e.g., labeling and acknowledgment), decision (e.g., the actual act of disclosure and the response received), and outcomes (e.g., self-blame, revictimization, post-traumatic symptoms). At the contextual level she includes socio-cultural variables such as rape myths and social norms.

Ullman's application of a theoretical interpretation to sexual assault disclosure is one of the first attempts in this field. Her model offers a valuable framework for drawing together seemingly disparate factors into one cohesive, yet individualistic, explanation of sexual assault disclosure. While the scope of the current project is such that all the factors in Ullman's model cannot be addressed, several of the constructs she hypothesizes as being important to disclosure are included in the current study. One of those constructs is social norms; another is world beliefs. Although Ullman does not specifically cite world beliefs as a component in her model, she does cite self-blame, perceived control, and post-traumatic growth as all being important to the process of disclosure. These factors, broadly construed, can be understood as features of world beliefs. Discussion of these two factors—social norms and world beliefs—as they relate to sexual assault disclosure follows.

### **Social norms**

Social norms are standards and beliefs that are established by a group and serve to guide our behaviors in a variety of situations (Franzoi, 2009). These norms can be absorbed into one's own behaviors in a variety of ways, both formally and informally. Either way, social norms serve to increase conformity and decrease deviance within the group. Most often, people learn the norms of their social groups through regular

interaction and conversation with other group members (Miller & Prentice, 1996).

Though there are many specific types of norms, there is one particular type of norm that may be important to the timing of sexual assault disclosure: injunctive norms. Injunctive norms refer to people's general understanding about what is commonly approved and disapproved of in their particular cultural environment (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). Ajzen and Fishbein (1980; Ajzen, 1991) drew particular attention to the value of injunctive norms—terming them *subjective norms*—in their Theory of Planned Behavior, arguing that one of the key components driving people's intention to engage in a behavior is how they think important others around them feel about it.

The most interesting facet of injunctive norms, and indeed of all social norms, is that although some may be common to everyone within a society, they may also be specific to a smaller subset of a culture. This means that the value of social norms will influence women differently depending on their membership in a variety of cultural groups, particularly those associated with ethnicity and socio-economic class. Although many researchers have drawn attention to the need to explore the influence of these cultural values and norms as a way to contextualize rape and disclosure (Koss & Cleveland, 1997; Neville & Heppner, 1999; White & Sorenson, 1992; Wyatt, 1992), variables at this level of analysis have not typically been considered in studies of sexual assault disclosure.

Very little attention has been paid to the ethnic-specific cultural norms and values that can undermine disclosure. Within ethnic-minority communities, there are often specific values and norms that govern sexual behavior and prohibit the disclosure of anything that

is sexual in nature (West, 2006). Wyatt (1992) has drawn attention to the historical context of African-American women's sexuality, including the way in which their sexuality was treated as the property of white men and the laws that ensured that these women could never be considered victims of rape. She argues that this historical context complicates the study of African-American women's disclosure and help-seeking behaviors; she believes that these women will be more hesitant to engage in disclosure because they will be less confident that their stories will be accepted as true, that they will receive help or support. Due to the effects of a rape-myth supportive culture, as well as specific group and ethnic norms that are more likely to shun victims of sexual violence, black women are especially less likely to label their experiences as rape. They may also hesitate to disclose their assault experiences—especially those that occur within established relationships—for fear of exposing their partners to racist treatment from police and legal services or of exposing their ethnic group to more criticism and stereotyping (Sokoloff & Dupont, 2005).

Additionally, parental comfort in discussing topics of sexuality and sexual behavior likely affects young women's willingness to discuss unwanted sexual experiences (Jaccard & Dittus, 1991). Findings from studies with young women show that unless parents have already established an open line of communication about sex and sexual behaviors with their daughters—which is not very common—young girls are not likely to share assault experiences with their parents (Washington, 2001). Although disclosing to peers is more common, knowledge about the role of previously established social norms

for talking about sexuality and sexual behavior with family has yet to be studied in the context of disclosure.

Although the assessment of friends' and families' social norms—at the group level—is beyond the scope of this project, the assessment of women's perceptions of those norms is possible. Women's perceptions of how easily they can talk about sex and trauma may be especially important to our understanding of women's sexual assault disclosures. Although it is possible that these norms may be related, they may exert differential effects on the timing of women's disclosures.

### **World beliefs**

In the late 1980s, Koss and Burkhardt (1989) acknowledged the role of cognitions in the aftereffects of a sexual assault experience. They addressed, in a piecemeal fashion, many of the cognitive factors that are impacted or changed following a sexual assault. Their work built upon a rather long history of the application of stress, trauma, and coping theories to the explanation of women's experiences of sexual assault (Burgess & Holmstrom, 1974; Lazarus & Folkman, 1984)—theories that, while useful at the individual level, do not always acknowledge the interaction of cultural-level influences in the trauma process. While Koss and Burkhardt's (1989) research was not focused on the behavior of disclosure specifically, their attempt to explain the changes in a woman's psyche after an assault is one of the only applications of psychological theory to this research. In fact, they focus intensely on the finding that many women do not seek professional assistance in dealing with their trauma for long periods of time following assault. The authors argue that treatment immediately following an assault may be very

different, and use different methods, than treatment that takes place sometimes years after an assault experience. They note that few women—only about 5%— seek professional assistance immediately following assaults. In their discussion of the psychological impact of sexual assault, Koss and Burkhardt (1989) focus heavily on models of cognitive-appraisal and on the worldview assumptions proposed by Janoff-Bulman (1985).

In 1983, Janoff-Bulman and Frieze wrote a theoretical piece addressing the current understanding of victimization and coping. In this work, they proposed a conceptual framework for understanding victimization experiences. They argued there were common psychological phenomena that people are confronted with when they experience a traumatic event. They included many types of “victims” in their application, defining victims as those “whose lives change as a result of a particular negative event” (p. 2). Although they applied their theoretical framework to such far-ranging traumas as natural disasters and cancer, they also included interpersonal interactions such as sexual assault.

Building on seminal research on belief systems and the self (Bowlby, 1969; Epstein, 1973; Parkes, 1975), Janoff-Bulman and Frieze described the way in which people’s assumptions about the world and how they function within it are changed after a victimization experience. These general notions, within which we operate on a daily basis, are so pervasive in our experiences that we are not aware of them. They help us make sense of a great deal of new information each day, and allow us an easy way to maintain psychological balance within a constantly changing world. Janoff-Bulman and Frieze (1983) argued that these assumptions underlie our basic day-to-day functioning in such a way that we do not even realize they exist—that is, until they are affected by a

traumatic experience. Sexual victimization experiences, among other traumatic experiences, are so sudden and startling that they force people to evaluate the content and basis of their basic assumptions about the world. The period immediately following a sexual assault has been characterized as consisting of negative outcomes ranging from increased fear and anxiety to decreased self-esteem and sexual dysfunction (Hanson, 1990; Resick, 1993). Without the evaluation period following a traumatic experience, Janoff-Bulman and Frieze argue that victims cannot make sense of their experiences because they do not fit within the essentially positive frameworks within which people normally operate. While they noted the actual number of assumptions affected would vary by person and victimization experience, they argued that there were three overarching *types* of assumptions that were especially affected: 1) the belief that the self is invulnerable; 2) the belief that the world is understandable and meaningful; and 3) the belief that the self is worthy.

In a parallel approach, information processing models of coping and trauma (e.g., Hollon & Garber, 1988) argue that when people experience events that do not fit with their previous conceptions of how the world works, they must integrate the new information they have learned to fully make sense of the event. For example, when a woman is raped by her boyfriend—someone she loves and thought she could trust—she has to incorporate this new knowledge into her understanding of herself in the relationship, either by re-construing the event (he didn't really rape me) or changing her cognitions (sometimes people you love do things to hurt you). This theoretical approach argues that the way in which traumatic events influence existing schemas is important to



the development or maintenance of traumatic symptomology and, ultimately, the ability to move on from the trauma. Resick and colleagues (Mechanic & Resick, 1993; Vogt, Shipherd, & Resick, 2010) have used this theoretical approach to focus on three specific areas of maladaptive personal beliefs and reactions following exposure to the trauma of sexual assault. Similar to the concepts address by Janoff-Bulman and Frieze (1983), Resick and colleagues' work focuses on 1) threat of harm; 2) self-worth and judgment; and 3) reliability and trustworthiness of others.

Although these theories of coping and trauma were not included in Ullman's (2010) ecological model of sexual assault disclosure and recovery, they may help us understand the timing of women's sexual assault disclosure. Both Janoff-Bulman's and Resick's theoretical approaches regarding women's world beliefs allow for individual variance in women's standing on these variables; before a traumatic experience, one woman may be in a completely positive place, while another—based on both her individual and cultural experiences—may begin with different feelings of threat, trust, or self-worth. Both theoretical approaches argue that a woman's view of herself is intrinsically altered when she is violated. One woman's thoughts may be plagued by negative self-images—she may begin to feel helpless and ineffectual. These negative self-thoughts may then hamper her, leading her to delay telling anyone about her assault. By assessing individual perceptions of harm and worth along with women's social norms, perhaps we can learn more about circumstances that facilitate disclosure.

### **Other variables of interest**

Although I am arguing that assault characteristics, social norms, and world beliefs are working in tandem to affect the timing of women's disclosure, there are certainly other variables that may affect the process of disclosure. For example, researchers have found that prior victimizations are especially important to the timing of disclosure; Ullman (1996a) found that women who had experienced childhood sexual abuse were more likely to delay disclosure. Taken together with research on childhood abuse by Starzynski and colleagues (2005)—which found that women who had been sexually abused as children were *more* likely to tell someone about any subsequent victimization they experienced—it appears that although women who have experienced prior victimizations will eventually come forward about those experiences, they may take longer to do so than women who did not have a history of childhood abuse.

Additionally, it is possible that the tendency to disclose sexual assault earlier or later is simply a function of one's general tendency to disclose life events. Similarly, perhaps the timing of disclosure is a simple function of distress associated with the assault: that is, perhaps those women who were especially distressed by the assault disclose earlier and those who did not interpret the assault as very distressing are the ones who are waiting weeks or months to talk about their experience. Measures of childhood assault and disclosure as well as general disclosure and distress will be included to address these possibilities.

## **The present study**

Despite a large amount of research on sexual assault disclosure, a relatively small amount has focused on the period of time between a woman's assault experience and her initial disclosure of that experience to another person. The current theoretical understanding of sexual assault disclosure has drawn attention to the importance of examining both interpersonal and contextual factors in relation to disclosure (Ullman, 2010). With that approach in mind, a number of hypotheses combining individual-level variables—including previous victimization experiences, world beliefs, and labeling of the assault—with more contextual factors such as assault characteristics and perceived social norms will be examined in an effort to discover the factors that affect the timing of women's initial disclosures.

**Hypotheses derived from the disclosure literature.** Based on the current findings in the literatures focused on sexual assault disclosure, several hypotheses were made about both women's likelihood of disclosure (i.e., dichotomous disclosure) as well as the timing of their first disclosures. Specifically, in regard to dichotomous disclosure:

- 1) It was expected that those women who had a history of childhood sexual abuse would be more likely that have disclosed prior to participation in this study compared to women without a history of abuse.
- 2) Assault characteristics were expected to be related to disclosure in that those women who were assaulted by strangers were expected to be more likely to have disclosed compared to women who knew their perpetrator in some way.

- 3) Disclosure was expected to be more common in those women who reported greater levels of physical injury.

Several additional hypotheses were made in relation to the intersections of ethnicity, socio-economic status, and dichotomous disclosure.

- 4) Specifically, it was expected that white women would be more likely to have disclosed their assaults in comparison to racial minorities.
- 5) Women of higher socio-economic status were also expected to be more likely to have disclosed about their assault to someone.
- 6) Minority women who reported lower socio-economic status were expected to be least likely to have disclosed.

In a parallel fashion, a number of hypotheses were made about both assault characteristics and demographics in relation to the timing of women's first disclosures.

- 7) It was expected that those assaults involving only offender alcohol use would occur earlier than assaults in which victims were using alcohol.
- 8) It was expected that closer relationships and more severe assaults would be associated with delayed disclosure.
- 9) Ethnicity was expected to be related to the timing of disclosure only in that white women were expected to have earlier first disclosures than minority women.

Finally, one hypothesis was made specifically in relation to those women who were raped:

- 10) Labeling of the assault as rape was expected to be related to earlier disclosure.

**Hypotheses about structural effects on the timing of women’s sexual assault disclosure.** The proposed model concerning the timing of sexual assault disclosure is presented in Figure 1. Specifically, it was expected that the assault characteristics—including severity, substance use, relationship to perpetrator, and injury would covary and affect time to first disclosure through their impact on women’s perceptions of the gravity of the assault. Additionally, assault injury was expected to be directly related to assault severity. Social norms for family and social norms for friends were expected to covary and would both impact the timing of first disclosure. In addition, positive world beliefs and overall tendency to disclose were expected to directly impact first disclosure. No specific hypotheses were made about the relationships among social norms, positive world beliefs, and tendency to disclose. In addition, no specific hypotheses were made about how the model may vary in relation to childhood sexual abuse, ethnicity, or socio-economic status.

## CHAPTER II

### METHOD

#### **Participants and data**

Participants included 476 women who were recruited for participation in two primary ways: 1) through their enrollment in psychology courses at UNCG; 2) through their participation in an online forum designed for girlfriends and spouses of military members. Those women who participated based on their enrollment in psychology courses at UNCG received course credit for their participation. Upon completion of the questionnaires, those women who participated based on their membership in the online forum were entered into a drawing to win one of ten \$20 gift cards to a major retailer.<sup>1</sup>

Due to the sensitive nature of the questions, confidentiality of participants' responses was of primary concern. Data were collected using the online data collection tool Qualtrics. This website is specifically designed to facilitate online data collection, and participants' data are protected through multiple encryption processes. Additionally, completed survey answer pages are not stored directly on participants' computers; they are encrypted as participants move from page to page through the survey. Completed answers cannot be accessed by simply clicking the "back" button on a participants'

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<sup>1</sup> The two groups of women did not differ significantly on any of the variables of interest included in the analyses, so data from the two groups were combined. They did differ on three demographics, however: ethnicity, age, and marital status. Women from the online forum were significantly more likely than would be expected to be white and less likely than would be expected to be black,  $\chi^2(5) = 22.72, p < .001$ . Women at UNCG were slightly younger ( $M = 19.81; SD = 4.15$ ) than women from the online forum ( $M = 24.05; SD = 3.38$ );  $t(137) = -3.252, p < .01$ , and women from the online forum were more likely to be engaged or married and less likely to be single, while women from the psychology sample were more likely to be single and less likely to be married,  $\chi^2(4) = 200.06, p < .001$ .

browser. Data can only be accessed and downloaded from the secure site by the researcher with the specific username and password associated with the account.

In addition to the overall confidentiality of data, participants' names and contact information (for assigning course credit to UNCG students or entering forum users in the random drawing) are stored separately from their answers. The two files are not linked in any way. Qualtrics offers the unique ability to present two completely separate surveys to a participant. In this way, the actual questionnaires and data of interest are included in one survey, while a page requesting participants' contact information for credit or entry into the drawing are included in another survey. Qualtrics allows administrators to link the two surveys seamlessly; from the participants' point-of-view, they completed the survey questions and then entered their contact information for credit or entry into the drawing. From the administrator's point-of-view, two separate tab-delimited data files were downloaded from the Qualtrics site: one containing data of interest, the other containing contact information. No identifying information was included in the former file.

### **Procedure**

All women completed a series of questionnaires; they accessed the questionnaires through a link that was automatically provided after their registration through an online experiment sign-up (psychology students) or posted in a message on the online forum. Women were first presented with an informed consent page. They gave their consent by clicking a button at the bottom of the page marked "Continue." They then began the survey by providing demographic information. All women then completed a series of

questionnaires, which included measures of their perceived social norms for talking about sex and trauma with family and friends, childhood victimization and disclosure, world beliefs, and overall propensity to disclose personal information. These measures were counter-balanced to prevent order effects. Finally, all women completed the Sexual Experiences Survey (SES; described below). “Skip logic” was incorporated into the online survey so that those women who endorsed none of the items on the SES were routed to the end of the survey and the debriefing form. Only those women who endorsed an unwanted sexual experience were asked to complete questions about assault characteristics, distress, labeling, disclosure, and timing of disclosure. Each measure is described in more detail below.

## **Measures**

**Demographics.** A total of 476 women were included in data collection, 417 through the psychology student pool and 59 through the online forum. The women in this sample had a mean age of 20.34 years. Ethnicity was assessed by presenting women with six options—White (non-Hispanic), Black (non-Hispanic), Asian, Hispanic or Latino, American Indian or Alaskan Native, and Hawaiian or other Pacific Islander—and asking them to categorize their own ethnic identity; they could check more than one box. Sexual orientation was assessed with two questions. The first question asked women to indicate with whom they engage in sexual behaviors on a seven-point scale ranging from “males only” to “females only” with an anchor at the midpoint indicating “males and females equally”; a similar question asked them to indicate on the same scale to whom their sexual feelings were directed. Religion was assessed with one question asking women to



indicate how much of an influence they say religion has on the way they choose to spend their time on a regular basis; this item was assessed on a 4-point scale ranging from “no influence” to “a great deal of influence.” Socio-economic status was assessed with two questions. Women were asked to indicate their family’s socio-economic status when they were growing up on a five-point scale ranging from “low” to “upper;” they were also asked to indicate their current socio-economic status using the same scale.

The majority of this sample experienced no unwanted sexual experiences (69.7%;  $n = 332$ ). The most severe unwanted sexual experiences endorsed by the remainder of the sample was 4.6% unwanted contact ( $n = 22$ ), 9% verbal coercion ( $n = 43$ ), 4.4% attempted rape ( $n = 21$ ), and 12.2% rape ( $n = 58$ ). The rates of unwanted sexual experiences were lower in this dataset than in others gathered to study sexual assault (Humphrey & White, 2000; Koss et al., 1987).

Because the emphasis of this project is the disclosure of unwanted sexual experiences, only the 144 women who indicated they had had an unwanted experience were included in subsequent analyses. The mean age of the subsample was 20.98 years; ethnicity and other demographic characteristics for both the entire sample and the subsample can be found in Table 1. Approximately 85% of this subsample were psychology students ( $n = 123$ ); the majority of these students were first year or sophomore students (76.4%). The remainder of the subsample was from the online forum ( $n = 21$ ); a majority of these women had at least some college experience (66.9%) with the remainder having either graduated college or completed post-baccalaureate work. The subsample did not differ from the overall sample on any of the variables of interest, aside

from the obvious sexual assault endorsement criteria and follow-up questions. Thus, from this point forward, all findings reported will be based on the subsample of 144 women who experienced at least one unwanted sexual experience.

**Social norms.** All women were asked to complete a series of six questions that asked about their social norms for engaging in conversations about sex and trauma with their families and peers (three questions about each group). Questions were loosely based on an outline provided by researchers who have gauged subjective norms in assessing the Theory of Planned Behavior (Madden, Ellen, & Ajzen, 1992), by asking about how much participants agree or disagree with statements concerning important others supporting their behaviors. Sample questions are, “I feel that I can talk openly about sexual matters with my family” and “I feel that I can talk openly about sexual matters with my friends.” Similar questions were used to gauge women’s subjective norms for talking about traumatic events and sexually traumatic events with their family and friends (for a total of six questions). Participants were asked to rate their agreement with each statement on a seven-point scale ranging from “strongly disagree” to “strongly agree.” Two separate indicators were formed by summing the items for friends (*SNfriends*; scale 0-18,  $\alpha = .83$ ) and family (*SNfamily*; scale 0-18,  $\alpha = .82$ ).

**World beliefs.** Women completed two measures that were used as indicators of their overall world beliefs: the short version of the World Assumptions Scale (Janoff-Bulman, 1989) and the Posttraumatic Maladaptive Beliefs Scale (Vogt, Shipherd, & Resick, 2010). These two measures are described in more detail below.

*World Assumptions Scale (WAS)*. The WAS is a 32-item scale designed to assess women's general assumptions about the world and the way in which it functions (Janoff-Bulman, 1989). This scale is intended to yield three main subscales—benevolence of the world, meaningfulness of the world, and self-worth—each with adequate reliability ( $\alpha = .88, .74, \& .87$ , respectively) and validity in the literature. This measure has been used in many samples, both clinical and community-based, and has been found generally reliable and valid (Elklit, Shevlin, Solomon, & Dekel, 2007; Wagner, McFee, & Martin, 2009). Sample items are “People are naturally unfriendly and unkind” and “Bad events are distributed to people at random.” Women were asked to indicate their agreement with each item on a six-point scale ranging from “strongly disagree” to “strongly agree.”

In the current sample, the three subscales did not emerge as clearly as in past literature. A factor analysis was conducted, which allowed the number of factors to be freely determined. A nine-factor solution emerged from the data (all factors with eigenvalues greater than 1). Upon examination, however, the nine-factor solution was not clearly interpretable. Because the scale was intended to measure three factors, an alternative solution was implemented forcing the items to load on only three factors. The resulting solution was clear, more easily interpretable, and resulted in acceptable to good reliability in the proposed factors ( $\alpha = .82, .63, \& .83$ ). Unfortunately, however, individual items did not load on the three subscales in the way they were intended in the original development of the scale. Because the reliability of one of the subscales was questionable, the items did not load in the way they were intended, and the focus of this paper is not on the methodological merits of this particular scale, a sum score of all items

was used for analyses. When examined together, the items on this scale exhibited good reliability ( $\alpha = .82$ ).

***Posttraumatic Maladaptive Beliefs Scale (PMBS)***. The PMBS is a 15-item measure that is used to gauge maladaptive beliefs about current life circumstances following a traumatic event (Vogt, Shipherd, & Resick, 2010). It is designed to assess beliefs in three main domains: threat of harm, self-worth and judgment, and reliability and trustworthiness of others. Items for this scale were drawn from the longer and well-validated Personal Beliefs and Reactions Scale (Mechanic & Resick, 1993). Sample items include “I avoid other people because they might hurt me” and “The world is very dangerous.” Participants answer items on seven-point scales ranging from “not at all true for you” to “completely true for you.” Although only recently published, the PMBS has been validated using a sample of over 250 women with histories of interpersonal violence and has been found reliable ( $\alpha = .82$ ). Reliability in the current sample is adequate ( $\alpha = .78$ ); the overall sum score was used in all analyses.

**Childhood sexual victimization.** All women were asked to complete a measure of unwanted sexual experiences prior to age 14. These experiences were assessed through the Child Sexual Victimization Questionnaire, a self-report measure adapted from Finkelhor (1979). Participants answered “yes” or “no” indicating whether they had experienced any of 10 unwanted sexual experiences in childhood; they also indicated their age and the other person’s age at the time of the incident. Anyone who endorsed an item on this measure was asked about the disclosure of this experience, including a question about whether they had ever told anyone about the experience, how long after

the experience they waited before telling someone, who they first told, and the general nature of the reaction received from that disclosure (positive, negative, no reaction). For the purposes of analyses, this scale was used to create a dichotomous variable indicating whether or not women had a history of sexual victimization.

**Tendency to disclose.** Women's propensity to discuss intimate, personal information with others was assessed with the Distress Disclosure Index (Kahn & Hessling, 2001). This measure asked participants to respond to items such as "When something unpleasant happens to me, I often look for someone to talk to," on a five-point scale ranging from "strongly disagree" to "strongly agree." Higher scores indicate a higher tendency to disclose stressful events. This scale has demonstrated good reliability and validity in the literature ( $\alpha = .93$ ; Kahn and Hessling, 2001). In the current sample, the measure showed good reliability ( $\alpha = .93$ ). A scale average was used for all analyses (*general disclosure*; range 0 – 4).

**Sexual victimization.** All women were asked to complete the Sexual Experiences Survey, Short Form (Koss et al., 2007). The Sexual Experiences Survey (SES; Koss & Gidycz, 1985) has been considered the gold-standard for research on women's sexual victimization experiences for almost 30 years. It is a behaviorally-based measure that asks women about a series of unwanted sexual experiences, ranging from unwanted sexual contact to rape. The SES also assesses varying sexually coercive tactics used on women: verbal pressure, coercion, threat, and force. For the current study, the gender-neutral, short form of the victimization scale was used (Koss et al., 2007). Although this specific version of the SES has not been widely used in the literature—due to its

relatively recent revision—it is closely modeled after the original SES. The original SES has been used extensively in the field of sexual assault research and has both high validity and reliability (Koss & Gidycz, 1985). The majority of research on sexual assault disclosure has focused on disclosure of rape experiences. The reliability of this measure in the current sample was good ( $\alpha = .90$ ). For the purposes of this study, women were categorized into one of four categories—unwanted contact, verbal coercion, attempted rape, or rape—based on the most severe experience they endorsed.

*Assault characteristics.* Women who endorsed a sexual assault item on the SES were asked to complete a series of follow-up questions addressing various aspects of the most severe assault and its associated disclosure or non-disclosure. Women who did not endorse any items on the SES were routed around the following questions. The specific measures and questions are described in detail below.

*Situational characteristics.* Because certain situational characteristics have been associated with the timing of disclosure in the literature, women were asked to indicate 1) their relationship to the perpetrator; 2) alcohol and drug use at the time of the assault by both the perpetrator and the victim; 3) the degree of physical injury that resulted from the assault. Relationship to the perpetrator was measured on a six-point scale increasing in intimacy; response options included stranger, casual acquaintance, friend, date, boyfriend or romantic partner, and family member. Alcohol and drug use by both the perpetrator and victim was assessed with four similarly worded questions; an example item is “Were you drinking at the time?” Women could answer on a four-point scale ranging from “No” to “Yes, I was very intoxicated.” For the path models, these four items were summed to

create an indicator of substance use at the time of the assault (*subuse*; range 0-12)—in any combination of use by the perpetrator or victim.<sup>2</sup>

*Seriousness of assault.* Three questions were used to assess how serious participants felt the specific event was. A sample question was “How serious did you consider this event to be?” They answered using a seven-point scale ranging from “Not a serious event in my life” to “A very serious event in my life.” They were asked to indicate how upset they were by the assault and how well they felt they handled the assault (reverse coded) on similar scales.

*Mental distress following assault.* To assess general distress related to the assault, women completed the Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997). This is a 22-item scale designed to measure the level of symptomatic response to a traumatic event in the previous seven days. It is designed to address the criteria for post-traumatic symptomology, including intrusion, avoidance, and hyperarousal. The reliability of the scale is very good ( $\alpha$ s ranging from .85 to .92). Sample items include “I had trouble falling asleep” and “I avoided letting myself get upset when I thought about it or was reminded of it.” Items are assessed on a five-point scale ranging from “not at all” to “often.” The instructions for this scale were slightly altered to instruct women to think about the items in relation to the seven days following their assault experience (instead of simply the last seven days). The scale had very good reliability in this sample ( $\alpha = .96$ ); all items were averaged to create one scale score.

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<sup>2</sup> These items were also examined separately and the effects were similar; for the sake of simplicity of model trimming, they are presented here as one substance use variable.

*Disclosure.* Across a series of questions, women were asked to indicate whether they had ever disclosed about the assault experience to a variety of formal and informal support sources, including their friends, family members, law enforcement, medical providers, clergy, therapists, rape crisis counselors or others. They were also asked to indicate how long after the assault they told each support source, in days, months, and years. All reported disclosures were recoded into total days. Women had an option to indicate that they disclosed immediately (i.e., in less than one day); immediate disclosures were recoded as .5 days for the purposes of analyses. Only the time to the first disclosure (*first disclosure*)—as well as a dichotomous variable created from this information, indicating disclosure or non-disclosure—was used for the current analyses.

**Inattention.** Because participants completed the survey at a time and location of their choice, there was no direct way to monitor the level of attention they devoted to the previously described measures. To check for carelessness in completion, 13 items from the Infrequency Scale (Chapman & Chapman, 1986) were dispersed throughout the survey, with one or two questions from the scale included at the end of each measure. The Infrequency Scale is a series of true/false questions and contains items such as “I cannot remember a time when I talked with someone who wore glasses.” These items tend to evoke a certain response from most people if they are paying attention to the item (in this case, “false”); thus, the Infrequency Scale served as a measure of inattention or carelessness in survey completion. Scores on the Infrequency Scale ranged from 0-7, with over 96% of the sample scoring below a two ( $n = 139$ ). Analyses indicated that scores over two on this measure were outliers. Comparisons of the models both excluding and



including those participants who scored greater than two ( $n = 5$ ) revealed better, cleaner model fit when excluding those cases. Thus, all reported models include only those women who scored below two on the Infrequency Scale.

## CHAPTER III

### RESULTS

#### **Data Analysis Strategy**

A combination of chi-square analyses, correlations, and means comparisons were used to examine the hypotheses derived directly from the existing disclosure literature. Path analysis was then used to evaluate the fit of the hypothesized model (Figure 1). AMOS 7.0 (Analysis of Moment Structures; Arbuckle, 2006) was used to evaluate a series of path models including all the variables of interest. A full structural equation model was not evaluated because the sample of women who had experienced an unwanted sexual experience and who indicated they had disclosed to at least one support source was too small to garner stable estimates. The recommended sample size for structural equation modeling is 200 participants (Kline, 2005); the sample size in the current project was 95. Therefore, the models were instead evaluated using path analysis in a structural equation modeling framework.

Many constructs in the model—including *severity*, *injury*, relationship to perpetrator (*relationship*), and propensity to disclose (*general disclosure*)—were represented using either item or scale scores. For the other variables in the model, constructs were created using one of two strategies: summing together related items or transforming existing variables. Sum scores were created for the variables representing positive world beliefs, social norms for family, social norms for friends, substance use, and gravity of the

assault. The positive world beliefs score was created by adding women's scale scores from the WAS and PMBS measures ( $r = .57, p < .001$ ). The original scaling of the PMBS measure resulted in higher scores indicating more maladaptive beliefs; the scale of this measure was reversed so that upon summing with the WAS, a higher score on the composite variable of *positive world beliefs* indicated a stronger belief that the world is a good, just, fair place. The social norms for family (*SNfamily*), social norms for friends (*SNfriends*), and substance use (*subuse*) variables were created by summing the relevant items for each construct (see Measures section above). A construct representing gravity of the assault (*gravity*) was formed by summing women's average on the IES-R measure and their answers on the items assessing how upset they were by the assault and how serious an event they believed the assault to be in their lives.<sup>3</sup>

The main exogenous variable of interest in the model—time to first disclosure—was initially highly positively skewed (min/max .5 – 1825 days;  $M = 230.40$ ;  $SD = 451.00$ ). Maximum likelihood estimation assumes that all variables included in models are normally distributed. To that end, the variable was transformed by taking the log<sub>10</sub> of each time to first disclosure. The resulting variable was much more normally distributed; see Table 3 for the descriptives of both the original and transformed versions of the *first disclosure* variable. For analysis purposes, the transformed version of the variable was

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<sup>3</sup> The item asking women how well they handled the assault in their lives (reverse scored), at face value, should have been related to these gravity items. Upon examination of inter-item correlations, however, the correlations of this item with the other three scale items were relatively small (see Table 2). As an additional preliminary measure before excluding the *handle* item from this construct, reliability was assessed on all four variables. The reliability of all four variables together was acceptable ( $\alpha = .76$ ), but was improved substantially by removing the *handle* variable from the construct ( $\alpha = .83$ ). Thus, the *gravity* construct was created using only the IES-R average, the *serious* item, and the *upset* item.

used in all models; for interpretation, the variable has been back-transformed into days until first disclosure.

Model fit was evaluated using multiple fit criteria. Chi-square, Root Mean Square Error of Approximation (RMSEA), and Comparative Fit Index (CFI) were all used to make the most comprehensive decision about model fit (Bentler, 1990; Browne & Cudeck, 1992; Kline, 2005). Chi-square, in a model testing application, tests the null hypothesis that the hypothesized model is correct. Contrary to conventional hypothesis testing, it is most desirable in this circumstance to accept the null hypothesis; thus, smaller, nonsignificant chi-square values are indicative of better model fit. RMSEA is a model fit statistic in that takes into account both degree of error in relation to sample size. It is also a parsimony-adjusted index, in that RMSEA is usually more favorable toward less complex models. The general guidelines for interpretation of RMSEA are that values  $< .05$  indicate a close fit to the data, values between  $.05$  and  $.08$  indicate reasonable fit, and values  $> .10$  indicate poor model fit. Kline (2005) also recommends the additional examination of the 90% confidence interval around the RMSEA value, suggesting that good model fit occurs when both the upper and lower bounds of this interval fall within acceptable RMSEA range (i.e.,  $< .10$ ). CFI is a fit statistic that assesses the relative improvement in fit of the hypothesized model to a baseline model that assumes zero population covariances among observed variables; this fit statistic was chosen over other similar measures—such as the Normed Fit Index or the Non-normed Fit Index—because it is relatively unaffected by small sample sizes (Bentler, 1990); values greater than  $.90$  indicate reasonably good fit.

Model building commenced by fitting the hypothesized model with all variables of interest, as well as measurement errors and covariances among related exogenous variables (see Figure 1). Model fit was assessed, and model trimming proceeded by using a combination of theoretical and empirical rationale to prune pathways. The final model, including path coefficients, is presented in Figure 3; see Table 4 for correlations among all variables used in path models.

### **Descriptive Statistics and Correlations Between Independent and Dependent Variables**

Of the 144 women who endorsed at least one unwanted sexual experience, 15.3% reported unwanted contact, 29.9% reported verbal coercion, 14.6% reported attempted rape, and 40.3% reported rape as their most severe experience. The vast majority of women (93%) reported knowing their perpetrator in at least some way—as at least a casual acquaintance, with approximately 38% reporting that he was a date, boyfriend, or romantic partner. Approximately 38% of the sample reported consuming alcohol at the time of the assault, and 40% reported that the perpetrator was consuming alcohol; in approximately 45% of the assaults, either the victim or the perpetrator were drinking. Drug use was far less common, with only 10% of victims and 20% of perpetrators using drugs at the time of the assault. More than half of the women indicated that they were not physically injured by the assault. Similar to much of the research on sexual assault disclosure, approximately 33% of the women in this sample had never told anyone about their unwanted sexual experience. Examination of dichotomous disclosure by severity

revealed that nondisclosure was not dependent on the severity of the assault,  $\chi^2(3) = 3.46$ , *ns*.

Regarding the details of disclosure, approximately 66% of women told someone about the assault before participating in this project ( $n = 95$ ; see Table 5 for means comparisons of those women who disclosed and those who did not); of those women, approximately 27% reported disclosing to multiple support sources. For those who disclosed, 65% of first disclosures were made to friends and 14% were made to multiple sources at the same time. Importantly, of those who disclosed to multiple sources, 95% of the time a friend was one of the sources they consulted. Only 9% of first disclosures were to family members, with the remaining 7% of first disclosures almost equally distributed across law enforcement, clergy, medical personnel, therapists, and rape crisis counselors. Only 5 women reported first disclosing to a source other than the ones listed above—almost all being boyfriends or current partners. See Table 6 for a summary of all endorsed disclosures—not only first disclosures—including the percentage of women who reported disclosing to each source, as well as the average time to disclosure for each source.

### **Hypotheses derived from the disclosure literature**

A series of chi-square analyses were conducted to examine the relationship between several variables—including childhood sexual assault, ethnicity, and socio-economic status—and dichotomous disclosure. These results revealed that there was no significant relationship in this sample between women's status as survivors of childhood sexual assault (yes/no) and their disclosure of an unwanted sexual experience as an adult ( $\chi^2 [1]$

= .094, *ns*), nor was disclosure significantly related to ethnicity (white vs. non-white;  $\chi^2 [1] = .182, ns$ ) or socio-economic status ( $\chi^2 [1] = 2.905, ns$ ). An additional analysis revealed that although it was not related to current socio-economic status, ethnicity was significantly related to socio-economic status during childhood in that minority women were less likely than would be expected to indicate that they grew up in a middle to upper class home,  $\chi^2 (4) = 10.924, p < .05$ . The examination of ethnicity and disclosure together in relation to early socio-economic status revealed that likelihood to disclose did not vary over the combination of women's ethnicity and early life socio-economic status,  $\chi^2 (4) = 4.488, ns$ .

Two t-tests were conducted to examine the hypotheses that dichotomous disclosure would be significantly related to two assault characteristics: physical injury and relationship to the perpetrator. The goal of these analyses was to compare the means of the injury and relationship variables across the two levels of disclosure. Results revealed that neither of the assault variables were significantly related to disclosure, although there was a trend in physical injury such that those women who had disclosed prior to participating in this study reported sustaining more injury during the assault experience,  $t(135) = -1.898, p = .06$ .

The next set of analyses focused on the timing of first sexual assault disclosures. Although ethnicity was not significantly related to dichotomous disclosure, a t-test was conducted to determine whether timing of first disclosure differed by ethnicity (white vs. non-white). Results revealed that the timing of first disclosure did not vary by ethnicity,  $t(88) = -1.375, ns$ . There is some evidence in the disclosure literature that alcohol use

within the assault situation may differentially affect the timing of disclosure; specifically, it was expected that women who indicated that only the perpetrator used alcohol would disclose more quickly than women who were using alcohol themselves when the assault occurred. Thus, an ANOVA was conducted to compare the timing of first disclosure across the alcohol use status of the assault: no alcohol use by either the perpetrator or victim, alcohol use by the perpetrator only, alcohol use by both the perpetrator and the victim. Results revealed that the timing of disclosure did not significantly vary across these three levels of alcohol use,  $F(2) = .960$ , *ns*. It is possible that this result was suppressed, however, because only nine women in the subsample reported that only the perpetrator was using alcohol during the unwanted experience. A final ANOVA was used to compare the timing of disclosure over the four levels of assault severity: unwanted contact, verbal coercion, attempted rape, and rape. Results revealed that timing of disclosure was significantly related to severity of assault,  $F(3) = 2.902$ ,  $p < .05$ . Tukey post-hoc analyses comparing the levels of severity revealed that the difference between the timing of disclosure for those women who reported attempted rape and those who reported completed rape was marginally significant ( $p = .07$ ).

Two final analyses were conducted to examine the hypotheses put forth from the disclosure literature. First, it was hypothesized that the relationship to the perpetrator would have a positive relationship with timing of disclosure, such that the better women knew their perpetrator the longer they would wait to disclose. The correlation between these two variables was marginally significant ( $r = .197$ ,  $p = .06$ ), displaying a trend of women who knew their perpetrators better delaying disclosure longer. Second, it was



hypothesized, for women who indicated they were victims of rape, that not labeling their experience as rape would be associated with delayed disclosure. A t-test comparing those rape survivors who did and did not label their experience as rape revealed that this was not the case,  $t(37) = -.901$ , *ns*; timing of disclosure did not significantly differ by labeling status among victims of rape.

### **Fitting a Model of the Timing of Sexual Assault Disclosure**

**A priori model.** In an initial step, the proposed model (Figure 1) was fit to the data. Because the sample included missing data on some variables, modification indices—which, along with providing information about model trimming, are also useful for suggestions about the addition of paths—were not available. Thus, erring on the side of caution, covariances among the assault characteristic constructs (*relationship*, *subsuse*, *severity*) and among the other proposed exogenous variables (*propensity to disclose*, *SNfriends*, *SNfamily*, *positive world beliefs*) were included in the initial estimation of the a priori model. The resulting model fit the data adequately,  $\chi^2(26) = 41.21$ ,  $p < .05$ , RMSEA = .065 (90% CI: .021, .101), CFI = .917. Many of the hypothesized paths, however, were not significant: see paths from *relationship* and *subsuse* to *gravity* and *positive world beliefs* and *SNfamily* to *first disclosure* in Figure 1. In addition, two of the hypothesized covariances were not statistically significant: the covariance of *severity* with both *relationship* and *subsuse*. See Table 7 for standardized and unstandardized coefficients and significance values for this model.

Working from these initial structural relations, modifications were made to the model. First, the nonsignificant covariances were removed one at a time from the model,

beginning with the smallest. While the resulting model fit was slightly improved with the removal of one nonsignificant covariance, there were still multiple nonsignificant path coefficients. With both nonsignificant covariances removed, the model was refit to the data. Resulting model fit was better,  $\chi^2(28) = 41.50$ ,  $p < .05$ , RMSEA = .059 (90% CI: .005, .059), CFI = .927, but there were still numerous nonsignificant path coefficients—namely the four mentioned above. Substantive pruning of pathways and model respecification began at this point.

**Alternative model.** Contrary to the hypotheses, *subsuse* and *relationship* did not significantly covary with one another or the other assault characteristic, *severity*. Also contrary to the hypotheses, these variables did not significantly impact women's perceptions of the *gravity* of their assault experiences. These variables have been consistently related to general disclosure in the literature (Fisher et al., 2003; Golding et al., 1989; Ullman, 1996a, 1996b). Thus, before completely removing them from the model, model variations were tested in which these two variables were allowed to freely predict time to *first disclosure*, without indirect effects through *gravity*. Even when allowed to freely predict time to *first disclosure*, the path coefficient for *subsuse* was not significant. The direct effect of *relationship* on time to *first disclosure*, however, was significant. Thus, this variable was retained in the model and attention was focused on further model respecification.

In the initial test of the hypothesized model, neither *positive world beliefs* nor *SNfamily* significantly predicted time to *first disclosure*. Both variables covaried significantly with another variable in the model, however—*propensity to disclose*.

Although not hypothesized in the a priori model, an alternative hypothesis of the relationship among these variables is that one's propensity to disclose about stressful life events could be affected by one's beliefs about how benevolent and safe the world is as well as the social norms of one's close others. Thus, four substantive changes were made to the model to test this alternative relationship structure: 1) the covariance between *positive world beliefs* and *propensity to disclose* was changed to a directional path, with world beliefs predicting general disclosure; 2) the covariance between *SNfamily* and *propensity to disclose* was changed to a directional path, with family norms predicting general disclosure; 3) the covariance between *SNfriends* and *propensity to disclose* was changed to a directional path, with friend norms predicting general disclosure; 4) the direct paths from both *positive world beliefs* and *SNfamily* to *first disclosure* were removed from the model (see Figure 2 for this alternative model). The data were fit to this alternative model, and model fit was better than earlier models,  $\chi^2(23) = 34.15$ ,  $p > .05$ , RMSEA = .059 (90% CI: .00, .099), CFI = .934. Examination of path coefficients revealed that two pathways remained nonsignificant: the path from *SNfamily* to *propensity to disclose*, and the path from *relationship* to *first disclosure*.

**Final model.** A final model was fit to data after the removal of the two nonsignificant paths (see Figure 3). The data fit this final model moderately well,  $\chi^2(12) = 26.18$ ,  $p < .05$ , RMSEA = .093 (90% CI: .043, .141), CFI = .893, and all path coefficients and covariances were significant. Although the fit statistics for this final model are not ideal, they are within acceptable limits for model fit. Additionally, the Akaike Information Criteria (AIC)—a fit comparison statistic that can be used to compare nonhierarchical

models that have been estimated using the same data—was used to compare the final model to the hypothesized model. Since the hypothesized model and the final model were not hierarchically related to one another, the traditional chi-square difference test could not be used to directly compare the two models (Kline, 2005). When making model comparisons using AIC, models with lower AIC values are preferred over models with higher AIC values (Kline, 2005). As can be seen in Table 8, the AIC value for the final model (AIC = 72.175) was substantially smaller than the AIC value for the independent main effects model (AIC = 119.214). Accordingly, the hypothesized model was rejected in favor of the better-fitting final model.

The model was not fit separately for victims and nonvictims of childhood sexual abuse, nor across ethnicity or socio-economic status due to the limited sample size. Although dichotomous disclosure was not significantly related to whether or not women had experienced childhood sexual abuse, the timing of women's first disclosures did vary across victims and nonvictims of sexual abuse, with nonvictims disclosing significantly earlier ( $M = 4.12$  days) than victims ( $M = 24.54$  days),  $t(88) = -2.852, p < .01$ . Additionally, within the subsample of women who had experienced childhood sexual abuse ( $n = 63$ ), childhood disclosure and adult disclosure were related,  $\chi^2(1) = 5.962, p < .05$ . The pattern between these two dichotomous disclosure variables was such that those women who had not disclosed in childhood were more likely than would be expected to indicate that they had also not disclosed their adult victimization and less likely to indicate that they had disclosed in adulthood. The pattern was reversed for those women who did disclose in childhood; they were less likely than expected to indicate that they

had not disclosed as an adult and more likely than expected to indicate that they had disclosed.

*Parameter estimates for the final model.* Both unstandardized and standardized path coefficients, covariances, and variances of this final model can be seen in Table 9. As can be seen in this table, path coefficients for all direct and indirect relationships in the model are small to moderate (i.e.,  $\beta$ s ranging from .176 – .450). With respect to the structural relationships between the variables, severity of the assault had a significant positive, direct effect on injury ( $\beta = .176, p < .05$ ), explaining 3.1% of the variance in assault injury. Severity also had a direct, positive effect on women's perceived gravity of the assault ( $\beta = .275, p < .001$ ), as well as an indirect positive effect on gravity through injury (indirect effect,  $\beta = .079$ ), for a combined total effect of  $\beta = .354$ . The positive, direct effect of injury on gravity was the largest effect in the model ( $\beta = .450, p < .001$ ). Together, severity and injury explained 32.1% of the variance in women's perceived gravity of the assault. Positive world beliefs ( $\beta = .308, p < .001$ ) and social norms of friends ( $\beta = .219, p < .01$ ) both positively and directly affected women's general propensity to disclose; the two variables combined to explain 19.4% of the variance in general disclosure. Social norms of friends ( $\beta = -.204, p < .05$ ), propensity to disclose ( $\beta = -.344, p < .001$ ), and gravity ( $\beta = .290, p < .01$ ) all exerted direct effects on time to first disclosure but in differing directions: friend norms and general propensity to disclose had positive effects, and gravity had a negative effect. Friend norms also exhibited an indirect negative effect on first disclosure through general disclosure ( $\beta = -.075$ ), for a total negative effect of  $\beta = -.279$ . Working through gravity, severity ( $\beta = .103$ ) and injury ( $\beta =$

.131) also both exhibited positive indirect effects on first disclosure. The final model explained 29.1% of the variance in the main variable of interest—time to first disclosure.

## CHAPTER IV

### DISCUSSION

The primary purpose of this study was to test a theoretical model of the timing of women's first disclosures. The image that emerged was a two-part model, which accounted for 29% of the variance in the timing of disclosure and consisted of a primary set of variables related to impact of the assault and another set of variables related to inter- and intra-personal factors. Contrary to hypotheses, many assault characteristics were not related to women's perceptions of the seriousness of the assault; specifically, the relationship between the victim and perpetrator and substance use during the assault did not predict women's perceptions of the gravity of the assault. In contrast, the severity of the assault and associated injury were both positively related to gravity—women who suffered more severe, more injurious assaults were more likely to indicate that they were significantly affected by the event. In turn, women's perceptions of the gravity of the assault were positively associated with the timing of their first disclosure; that is, the more grave women considered the event to be, the longer they waited to first disclose.

In regard to the other portion of the final model—the role of inter- and intrapersonal factors—contrary to the hypothesis, the social norms of women's families were not significantly related to the timing of their first disclosures. In contrast, the social norms of women's friends played an important role in their first disclosures, affecting the timing both directly and through women's general propensity to share about stressful life events.

While the direct effect of friend norms on the timing of disclosure was negative—indicating that being able to talk to friends about sex and trauma was associated with faster first disclosure—the association between friend norms and general tendency to disclose was positive. Thus, being able to talk to friends about sex and trauma was associated with a higher likelihood to disclose about life stresses in general. Positive world beliefs played an unexpected role in the model. Instead of having a direct effect on the timing of women’s first disclosures—as was hypothesized—the effect instead worked through women’s general tendency to disclose. Women who believed in a more positive, safe, and just world tended to also be more likely to disclose to others about stressful life events. Thus, the more likely women were to talk to others about stressful life events, the quicker they tended to disclose.

In addition to the model-based contribution of these results, the results of the current study are also highlighted by a number of univariate relationships among assault characteristics, personal variables, and disclosure. While many of the variables were not related to dichotomous disclosure, a number were related to the timing of disclosure. For example, contrary to a number of hypotheses, women’s relationship to the perpetrator, physical injury, ethnicity, and socio-economic status were not significantly related to their overall decision to disclose their unwanted experiences. Additionally, women in the racial minority, women who were drinking during the assault experience, and women who knew their perpetrators more intimately were not more likely to delay the timing of their first disclosures than women in the racial majority, women who were not drinking during the assault, or women who did not know their perpetrators. As predicted, however,



the severity of the assault and women's histories of childhood sexual abuse were both significantly related to the timing of disclosure. Those women who were victimized in childhood and those women who were victims of the most severe assaults were both more likely to delay their disclosures.

### **Research implications**

Taken together, the results of this modeling approach to the timing of women's first disclosures point to the important role of not only the actual assault experience itself, but also women's social environments. This conclusion fits well with the current theoretical model of sexual assault disclosure (Ullman, 2010). Although Ullman did not propose a specific structural model of disclosure, she highlighted many of the factors in this model—assault characteristics, social norms, and personal tendency to disclose—as factors that likely affect women's disclosures and help-seeking behaviors following assault. The scope of this project was such that it offers a more nuanced picture of the factors that affect disclosure. For instance, although Ullman proposes the importance of both *norms* and women's *social networks* in women's sexual assault disclosures, the current study offers evidence that not just any norms and social networks are relevant—at least to first disclosures. Friends with whom they can talk about private, intimate topics, specifically, seem to play a vital role in facilitating women's disclosures. Additionally, Ullman proposes assault characteristics as being important to disclosure and coping; the current study offers evidence that specific assault characteristics may be more important than others in the delay of disclosure—severity and injury of the assault seem to play the most important role in women's first disclosures.

The role of two other primary exogenous constructs in the final model are also reflected in Ullman's (2010) theoretical model of help-seeking following sexual assault. The construct of gravity was comprised of a number of items assessing the psychological impact of the assault experience. Ullman specifically asserts the importance of psychological symptoms and coping, and the disclosure literature has consistently drawn attention to the critical role of psychological health and impact of the assault in the process of sexual assault recovery (Starzynski et al., 2005; Ullman, 1999). The role of gravity in the current path model underscores the importance of the psychological impact on women's disclosure decisions. Further, the concept of positive world beliefs, while not directly described in Ullman's (2010) theoretical model, could be reasonably comparable to a number of constructs she posits as important to disclosure and help-seeking, including self-blame, post-traumatic growth, and perceived control. Thus, it is worth noting that the current study is the primary test of a portion of the first theoretical model of sexual assault disclosure (Ullman, 2010). The conclusions of this initial examination should certainly be replicated before moving forward, but they are a firm step in the right direction in our understanding of sexual assault disclosure.

A number of novel relationships emerged from final path model. First, although sexual assault severity and injury were positively related to women's perceptions of the gravity of the assault, gravity itself was negatively related to the timing of first disclosure. That is, the more harmful, serious, and traumatic women considered the assault, the longer they waited to first disclose about it. This relationship is not intuitive. It would seem that the more serious and traumatic women found an assault, the more quickly they

would tell someone and seek help. This finding, however, lines up well with previous research on disclosure. Ullman (1996a) reported that women in her sample who experienced more severe assaults were actually more likely to delay disclosure than women who experienced less severe—and presumably less serious—assaults. In addition, avoidance coping behaviors and behavioral self-blame following assault have been associated with delayed disclosure (Resick, 1993; Starzynski et al., 2005). Although there are no data in the current study to support these relationships directly, it is possible that avoidance coping and self-blame may act as moderators of the relationship between gravity and the timing of first disclosure, such that the negative relationship is more pronounced in women who are coping in negative ways or who hold themselves especially to blame for the event.

Another unexpected finding from the final path model was the absence of the role of the social norms of the family. The importance of close others' expectations to our own behaviors and decisions has been well-established in the psychology literature (Ajzen, 1991; Miller & Prentice, 1996; Schultz et al., 2007). While the social norms of women's friends for talking about sex and trauma played an important role in the timing of disclosure—affecting it both directly and indirectly—the social norms of family members for talking about these topics did not. It was not surprising that the social norms of friends were so important to disclosure in this sample—almost 60% of those who disclosed reported disclosing to a friend, and over 65% of first disclosures were made to friends. This is in sharp contrast to disclosures to family—only 23.7% of those who disclosed reported disclosing to family members, and only 9% of first disclosures were

made to family. Indeed, a number of researchers have drawn attention to the importance of established, open lines of communication about sex within the family for the importance of young women's sexual assault disclosures (Jaccard & Dittus, 1991; Washington, 2001). It is possible, in this relatively young sample, that talking about sex with parents was simply not comfortable, creating an environment in which young women were not likely to choose family members for first disclosures.

Additionally, the intersection of ethnicity and family norms for talking about sexual behaviors may also be pertinent to the absence of family norms from the final model. There is some evidence that women of ethnic-minorities are less likely to seek help from formal support sources following sexual assaults (Sokoloff & Dupont, 2005; Wyatt, 1992). There are also often ethnic-specific norms for talking about sex and trauma within ethnic-minority subpopulations (West, 2006). It is possible, then, that the value of family norms may play a different role in the timing of disclosure for women of ethnic minorities in comparison to Caucasian women. The current sample was not large enough to test this hypothesis, but future examinations of social norms may take this possibility into consideration.

Another novel finding in the final model of first disclosure was the role of positive world beliefs. This sum score was a combination of two scale scores, that of the World Assumptions Scale (Janoff-Bulman, 1985) and that of the Post-traumatic Maladaptive Beliefs Scale (Vogt, Shipherd, & Resick, 2010). The two scales measure similar constructs and have been correlated in the literature (Vogt, Shipherd, & Resick, 2010); together, the sum score of the two scales was used to represent women's feelings about

how fair and predictable the world seems to be. It was thought that this construct would directly impact disclosure, although no directional hypotheses were proposed. Instead, it appears that women's feelings about the meaningfulness and trustworthiness of the world affect disclosure only through their impact on women's general propensity to disclose about stressful events in their lives. Thus, the more women felt that the world was a meaningful and fair place, the more likely they were to tell others about stressful things that happened to them. In turn, the more likely women were to talk to others about stressful life events, the earlier they tended to first disclose about their unwanted sexual experiences. Although this was not the expected role of positive world beliefs in the model of disclosure, this path makes intuitive sense when considering the basic level at which these beliefs are proposed to operate (Hollon & Garber, 1988; Janoff-Bulman, 1985; Mechanic & Resick, 1993; Vogt, Shipherd, & Resick, 2010). The world beliefs encompassed in the two scales used to create this variable are proposed to operate at the most basic level of human interaction—framing all other perceptions and social interactions. One caveat about the variable of positive world beliefs is that it is a construct that is proposed to change over time, in response to traumatic life events. It is possible, then, that the relationship between world beliefs and both general propensity to disclose as well as the timing of disclosure may look different in a longitudinal framework. Replication is needed before additional hypotheses about the process of these effects are explored.

The last unexpected quality of the final model was the absence of the roles of two assault characteristics. In addition to the rates of unwanted sexual experiences being

lower in this dataset than in others gathered to study sexual assault (Humphrey & White, 2000; Koss et al., 1987), substance use and relationship to the perpetrator were not related to sexual assault disclosure. Although alcohol use during the assault has been related to the timing of disclosure in the literature (Fisher et al., 2003, Golding et al., 1989; Ullman, 1996a; Tjaden & Thonnes, 1998), it was not significantly related in the current sample. In fact, neither perpetrator or victim alcohol use showed differential effects in relation to disclosure. Additionally, although relationship to the perpetrator correlated marginally with the timing of disclosure, this variable was not significantly related to either women's perceptions of the gravity of the assault or the actual timing of first disclosure in the final model. This finding was a bit less surprising than the alcohol finding, however, because there have been mixed findings in the disclosure literature with regard to the relationship between the perpetrator and victim, with some studies finding it important to disclosure (Stewart et al., 1987) and others finding no relationship (Ullman, 1996a).

Although there are many interesting conclusions and new hypotheses that emerge from the findings of the current study, the results of this model should be interpreted with caution. There were a number of inconsistencies in both the collected sample as well as the overall model that should be acknowledged. First, the fit of the final model was not the most ideal. Although the hypothesized and alternative models both exhibited better fit, the final model was the only one in which all paths and covariances were clearly interpretable. One possible limitation to stronger model fit was sample size. According to recommendations by Kline (2005), path analyses are most ideally carried out in samples

with 10 – 20 times more participants than constructs, but no less than 100 participants. Unfortunately, data for model fitting was limited to the 95 women who reported at least one disclosure. Additionally, the sample collected for this study differed fairly widely from many of the other samples that have been used to study disclosure and sexual assault recovery. For example, in other disclosure samples, between 80 and 95% of the participants report having disclosed to someone before participating in the study (Starzynski et al., 2005; Ullman, 1996a). In the current sample, only 66% of victimized women reported a disclosure. In addition, in other samples, between 74 and 87% of victims reported knowing their perpetrator in at least some way (Basile et al., 2007; Ullman, 1996c); in the current sample, however, more than 93% of women reported knowing their perpetrator, with only 7% of women reporting being assaulted by a stranger. While it is impossible to know precisely why the current sample differed from previously collected disclosure samples, one possibility includes the primarily college-aged, convenience sample used; many studies in the disclosure literature have used slightly older, more ethnically diverse samples than the one collected here (e.g., Basile et al., 2007; Siegel et al., 1990; Starzynski et al., 2005; Ullman, 1996a).

### **Limitations and future directions**

**Limitations.** The current study had a number of limitations that should be acknowledged. First, this study was correlational in nature. Information on all constructs was collected at one time; thus, causal conclusions cannot be made from these data. A study of sexual assault disclosure—and especially the timing of first disclosure—would be most ideally conducted longitudinally, following women over time to assess possible

changes in world beliefs, social norms, and other possible causes of disclosure. Additionally, this sample was primarily drawn from a college student population. Although efforts were made to collect data from an additional data source, the resulting sample size from the online forum was small, with only 21 women from the online forum included in analyses. In general, a larger sample size would allow more confidence in stability of estimates and fit of model, and thus in the generalizability of these results. While the results of this study represent a valuable contribution to the sexual assault disclosure literature, replication of these findings is needed before they are widely applied.

**Future research and directions.** The current findings point to a number of important directions for future research. First, given the novelty of the current findings, future studies are needed to replicate these results using different samples and different methodologies. In particular, it is recommended that data collection be focused primarily on those women who have experienced an unwanted sexual assault. Some of the research on sexual assault disclosure has focused primarily on victims of attempted rape and rape (Ullman 1996a, 1996b, 1996c), so future research may also consider limiting the sample to only those women with more severe sexual assault experiences to be able to draw clearer conclusions about the process of disclosure. Alternatively, one could argue that the disclosure of all types of unwanted sexual experiences is crucial to the facilitation of a more open, safer, supportive cultural environment for victims of the most severe forms of



sexual assault. Future research may consider the possibility that the factors that affect disclosure differ depending on the severity of the assault.<sup>4</sup>

In addition, data should be collected to predict the timing of not only women's disclosures, but also their non-disclosures. In fact, it could be argued that the question of why women do *not* disclose their assaults may be an even more valuable starting point from which to approach this topic. Unfortunately, data on the timing of women's non-disclosures was not collected in the current sample. Without this information, it was impossible to know if those women who indicated that they had not yet disclosed were assaulted a week ago or a year ago. Having no information on the timing of the assault experience precluded a number of possibly interesting analyses. Women who indicated that they had not told anyone about their unwanted experience were asked why, however, and were given a text box in which to answer. A total of 46 women indicated that they had not disclosed to anyone about their unwanted experience. Forty-five of those women provided a qualitative response when asked why. These qualitative responses about nondisclosure are were enlightening: ranging from "it was none of their business" and "I didn't need to" to complicated reasons such as "...I didn't want to get him into trouble. It wasn't super bad but he hasn't done it since" and "I figure that most girls will experience something like I did at some point in their life, so my experience wasn't that big of a deal I guess." These qualitative responses provide insight into the process of non-disclosure—a logical extension in the study of disclosure.

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<sup>4</sup> The current sample was not large enough to conduct these analyses; a total of 79 women were victims of rape or attempted rape, and only 54 of them reported disclosing to at least one support source.

Future studies should also consider collecting data on the timing of disclosure longitudinally. Although this study offers many interesting and important contributions to the disclosure literature, a true study of first disclosure—and of the factors that are most important to the facilitation of disclosure—would follow women over time. In fact, the contribution of the concept of positive world beliefs could be most properly examined only in a longitudinal context. The essential nature of world beliefs is that they are changeable and malleable in response to life events, especially traumas (Janoff-Bulman, 1985; Mechanic & Resick, 1993). In this light, only a longitudinal design—in which world beliefs were measured both before and after an assault experience—could truly capture the effect these beliefs have on women’s decisions of when to disclose.

Additionally, the various effects in the final model that emerged from the data underscore the importance of moving beyond the analyses of main effects and direct relationships in the study of sexual assault disclosure. Much of the disclosure literature has focused on these direct relationships, but it appears that potential pathways of effects may shed more light on the process of disclosure and eventually, coping. Specifically, women’s perceptions of the seriousness of an assault appear to be important to disclosure, with severity and injury playing indirect roles in the process. Also, the role of women’s perceptions for talking with friends about very private information seems to influence not only their sexual assault disclosures, but also their general propensity to talk about stressful events. Although replication is certainly needed, future studies should focus on further exploration of these pathways and other possible indirect effects on disclosure.

The ultimate goal of research on sexual assault disclosure is to help create a safer, more supportive cultural environment for victims of sexual assault—an environment in which women would feel more comfortable seeking resources and assistance free from doubts and blame. Although the conclusions of this research represent a small step in that direction, a question lingers about what more can be done at a practical level to facilitate support for survivors. Although women report receiving overwhelmingly positive support and resources when disclosing to rape crisis centers, they also tend to be the support source that is utilized least often (Golding et al., 1989). Indeed, in the current sample, only three women reported disclosing to a rape crisis center at all—surpassed as the least-utilized support source only by the one disclosure to a member of the clergy. Future research would do well to focus efforts on determining how those women who disclose to rape crisis centers learn about them, and how this helpful support system may be made more widely utilized. Figuring out what factors may facilitate disclosure to this underused resource could move research on disclosure and its effects forward.

Alternatively, future research should examine the factors that facilitate supportive, helpful reactions from informal support sources. In the current study, the overwhelming majority of women disclosed to their friends and family. These types of support sources are the most accessible to many women, but unfortunately—despite the best efforts of women’s loved ones—disclosures to these types of support providers are sometimes more harmful than helpful. Women often report being judged, questioned, or blamed by friends and family—an experience that has been termed secondary victimization (Ahrens, 2006). In tandem, efforts to guide women to the most supportive formal resources and to

create more positive, nonjudgmental interactions with informal support sources would go a long way in creating a more accepting, supportive social environment for sexual assault victims.

## **Conclusion**

In sum, the results from the current study represent one of the first attempts to test a model of first disclosures of sexual assault. A hypothesized model including both friend and family norms, world beliefs, individual propensity to disclose, and a variety of assault characteristics was fit to the data. After assessing fit and respecifying the model, a final model that included two primary sets of variables—one including the assault characteristics of severity, injury, and gravity and another encompassing friend norms, world beliefs, and general disclosure—fit the data best. Taken together, these findings highlight the importance of focusing future research efforts on this area of inquiry.

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APPENDIX A

TABLES

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APPENDIX A-1

Table 1.

*Demographic characteristics across entire sample and subsample*

Variable	Classification	Entire sample ( $N = 476$ )	Subsample ( $n = 144$ )
Ethnicity	White (non-Hispanic)	59.2%	62.6%
	Black (non-Hispanic)	23.7%	22.3%
	Asian	5.0%	1.4%
	Hispanic	4.6%	5.0%
	Hawaiian or other	.2%	.7%
	Pacific Islander		
	Multi-racial	7.1%	7.9%
Socio-economic status in childhood	Low	5.3%	5.0%
	Low to middle	20.4%	25.9%
	Middle	47.9%	41.7%
	Middle to upper	23.7%	23.0%
	Upper	2.7%	4.3%
Socio-economic status currently	Low	12.6%	14.4%
	Low to middle	26.7%	32.4%
	Middle	44.3%	38.8%
	Middle to upper	15.3%	12.2%
	Upper	1.1%	2.2%
Religion	No influence	31.9%	34.5%
	Some influence	35.1%	42.4%
	A fair amount of influence	21.2%	16.5%
	A great deal of influence	11.8%	6.5%
Marital status	Single, never married	62.0%	59.7%
	Steady relationship/ living together	24.6%	21.6%
	Engaged	3.8%	5.8%
	Married	9.0%	10.8%
	Separated/Divorced	.6%	2.2%
Sexual feelings	Males only	81.5%	76.3%
	Some degree of both	17.5%	23.7%
	Females only	1.1%	0%
Sexual behaviors	Males only	87%	89.2%
	Some degree of both	9.5%	10%
	Females only	1.5%	.7%



APPENDIX A-2

Table 2.

*Correlations among variables examined for creation of the construct of gravity*

Variable	Mean (SD)	1	2	3	4
1. IES-R average	1.63 (.96)	--			
2. Serious	3.19 (1.94)	-.042	--		
3. Upset	4.06 (1.87)	-.065	.040	--	
4. Handle	2.43 (1.88)	-.250**	.011	.216*	--

APPENDIX A-3

Table 3.

*Descriptive statistics of original and transformed first disclosure variable*

Statistic	Original time to <i>first disclosure variable</i>	Log10 transformed time to <i>first disclosure variable</i>
Mean	235.50	.98
Standard deviation	454.71	1.34
Minimum	.50	-.30
Maximum	1825.00	3.26
Skewness (Standard error)	2.12 (.25)	.45 (.25)
Kurtosis (Standard error)	3.52 (.50)	-1.45 (.50)

APPENDIX A-4

Table 4.

*Means and correlations of all variables used in the path models*

Variable	Mean (SD)	1	2	3	4	5	6	7	8	9	10
1. General disclosure	2.23 (.85)	--									
2. Relationship	3.57 (1.56)	-.042	--								
3. Severity	2.80 (1.13)	-.065	.040	--							
4. Injury	.99 (1.14)	-.250**	.011	.216*	--						
5. Positive world beliefs	148.63 (22.36)	.419**	.013	-.053	-.247**	--					
6. SNfamily	8.01 (5.22)	.281**	.062	-.008	-.088	.404**	--				
7. SNfriends	12.53 (4.34)	.340**	-.067	.176*	-.081	.353**	.380**	--			
8. Subsume	2.33 (2.87)	.118	-.355**	-.049	.013	.072	.136	.078	--		
9. Gravity	8.89 (4.17)	-.046	.080	.379**	.518**	-.206*	-.056	-.031	-.076	--	
10. First disclosure	230.00 (451.00)	-.305**	.123	.241*	.374**	-.138*	-.111	-.269**	.029	.210*	--

\* $p < .05$ , \*\* $p < .01$

APPENDIX A-5

Table 5.

*Means and mean comparisons for those women who disclosed and those who did not disclose on all variables of interest*

Construct	Non-disclosure means (SD)	Disclosure means (SD)	<i>t</i> -value	df	<i>p</i> -value
General disclosure	2.05 (.91)	2.37 (.78)	-2.176	137	.031
Relationship	3.75 (1.48)	3.46 (1.58)	1.016	135	.312
Severity	2.76 (1.04)	2.82 (1.16)	-.279	137	.781
Injury	.61 (.95)	1.09 (1.51)	-1.898	135	.060
Positive world beliefs	145.52 (21.41)	151.11 (20.91)	-1.47	137	.144
SNfamily	7.65 (5.07)	8.17 (5.29)	-.522	137	.582
SNfriends	11.43 (5.24)	13.12 (3.68)	-2.194	137	.030
Subsuse	1.50 (2.57)	2.77 (2.97)	-2.445	135	.016
Gravity	8.44 (4.05)	9.06 (4.17)	-.811	134	.419

APPENDIX A-6

Table 6.

*Summary of general disclosures and mean time to each type of disclosure*

Support source	Percentage of women endorsing source ( <i>n</i> )	Mean time to disclosure (SD)
Friend	59% (82)	269.09 (673.48)
Family	23.7% (33)	469.10 (642.32)
Law enforcement	2.2% (3)	120.00 (60.00)
Medical provider	4.3% (6)	463.88 (539.17)
Clergy	.7% (1)	1460
Therapist	12.2% (17)	1175.66 (1766.54)
Rape crisis counselor	2.2% (3)	551.00 (769.54)
Other	7.9% (11)	883.36 (914.75)

*Note.* Women could endorse disclosing to more than one source. Mean time to disclosure reported in days.

APPENDIX A-7

Table 7.

*Summary of parameter estimates for hypothesized path model*

Parameter	Unstandardized	Standard error	Standardized	p-value
<u>Direct effects</u>				
Severity→Injury	.216	.104	.176	.037
Injury→Gravity	1.361	.215	.452	***
Severity→Gravity	1.007	.264	.272	***
Subsuse→Gravity	-.088	.107	-.062	.412
Relationship→Gravity	.121	.201	.045	.547
Gen disc→First disc	-.580	.162	-.351	***
Gravity→First disc	.101	.029	.305	***
SNfriends→First disc	-.063	.032	-.197	.047
Pos WBs→First disc	.007	.007	.103	.323
SNfamily→First disc	-.033	.027	-.125	.217
<u>Covariances</u>				
Severity←→Subsuse	-.132	.276	-.041	.634
Severity←→Relationship	-.008	.147	-.005	.955
Relationship←→Subsuse	-1.575	.405	-.353	***
SNfriends←→SNfamily	8.237	2.025	.369	***
SNfriends←→Gen disc	1.195	.320	.335	***
Pos WBs←→SNfriends	34.178	8.249	.377	***
SNfamily←→Gen disc	1.300	.383	.302	***
Pos WBs←→SNfamily	49.532	10.223	.453	***
Pos WBs←→Gen disc	6.834	1.598	.391	***

*Note.* \*\*\*  $p < .001$ ; Gen disc = general disclosure; First disc = first disclosure; Pos WBs = Positive world beliefs

APPENDIX A-8

Table 8.

*Fit statistics for hypothesized, alternative, and final models*

Fit statistic	Hypothesized model	Alternative model	Final model
Chi-square	41.21	34.15	26.18
Degrees of freedom	26	23	12
RMSEA	.065	.059	.093
Low 90%	.021	.000	.043
High 90%	.101	.099	.141
CFI	.917	.934	.893
AIC	119.214	96.149	72.175

*Note.* RMSEA = Root Mean Square Error of Approximation; Low 90% = Lower confidence interval for RMSEA; High 90% = Higher confidence interval for RMSEA; CFI = Comparative Fit Index; AIC = Akaike Information Criterion.

APPENDIX A-9

Table 9.

*Summary of parameter estimates for final path model*

Parameter	Unstandardized	Standard error	Standardized	p-value
<u>Direct effects</u>				
Severity→Injury	.216	.104	.176	.037
Injury→Gravity	1.351	.216	.450	***
Severity→Gravity	1.015	.266	.275	***
SNfriends→Gen disc	.042	.016	.219	.008
Pos WBs→Gen disc	.012	.003	.308	***
Gen disc→First disc	-.563	.155	-.344	***
Gravity→First disc	.096	.029	.290	.001
SNfriends→First disc	-.064	.030	-.204	.031
<u>Indirect effects</u>				
Severity→First disc	.125	--	.103	--
Injury→First disc	.130	--	.131	--
Pos WBs→First disc	-.007	--	-.106	--
SNfriends→First disc	-.024	--	-.075	--
<u>Covariances</u>				
SNfriends←→Pos WBs	34.178	8.249	.377	***
<u>Variances</u>				
Severity	1.240	.149	--	***
SNfriends	18.491	2.226	--	***
PosWBs	444.642	53.526	--	***
e1	1.814	.220	--	***
e2	11.457	1.394	--	***
e3	.554	.067	--	***
e4	1.306	.195	--	***

*Note.* \*\*\*  $p < .001$ ; Gen disc = general disclosure; First disc = first disclosure; Pos WBs = Positive world beliefs; e1 – e4 = error terms 1 – 4.



APPENDIX B

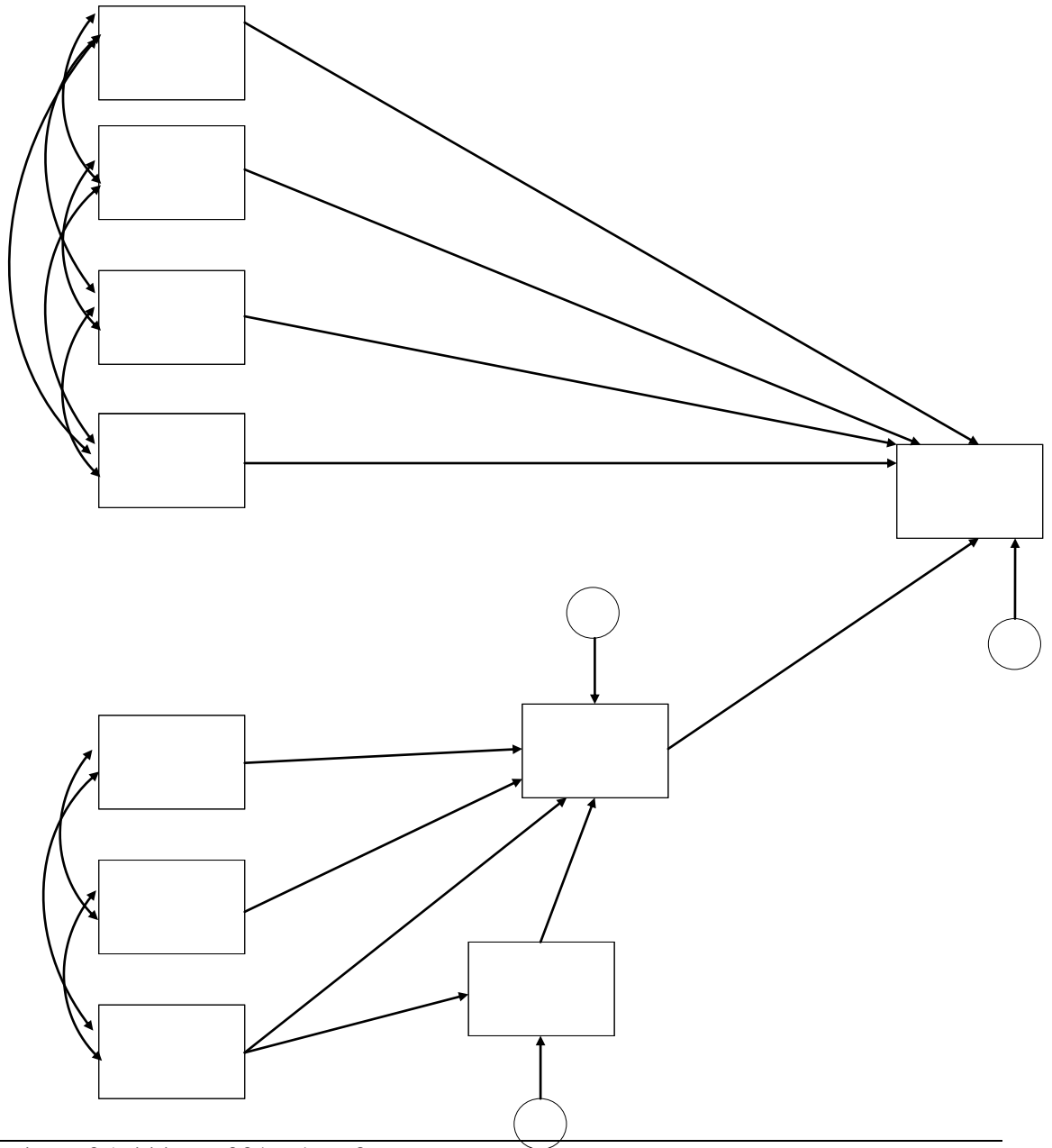
FIGURES

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APPENDIX B-1

Figure 1.

*Hypothesized model, including standardized regression coefficients*



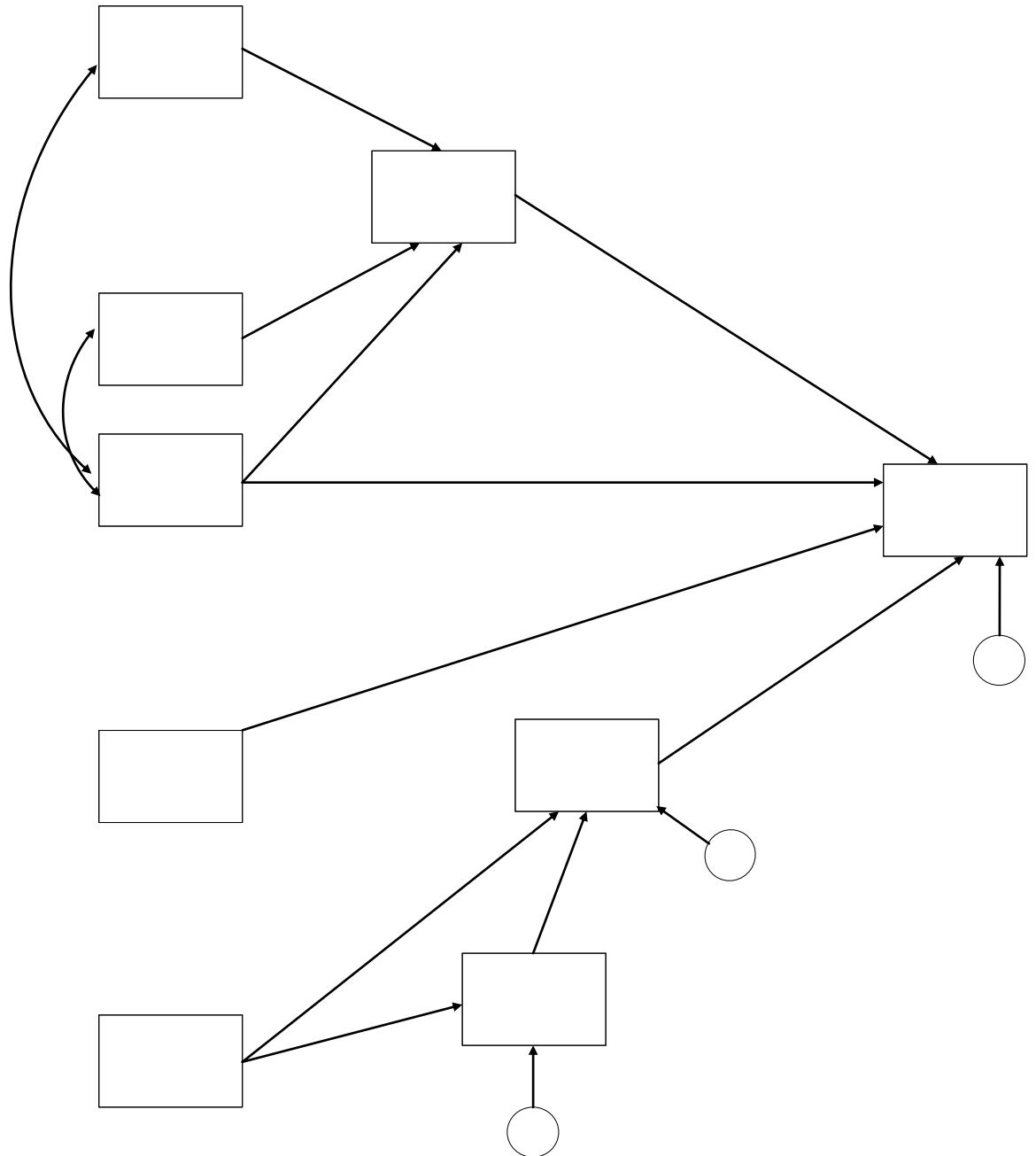
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*Note.* \* $p < .05$ , \*\*\* $p < .001$ ; e1 – e3 = error terms

APPENDIX B-2

Figure 2.

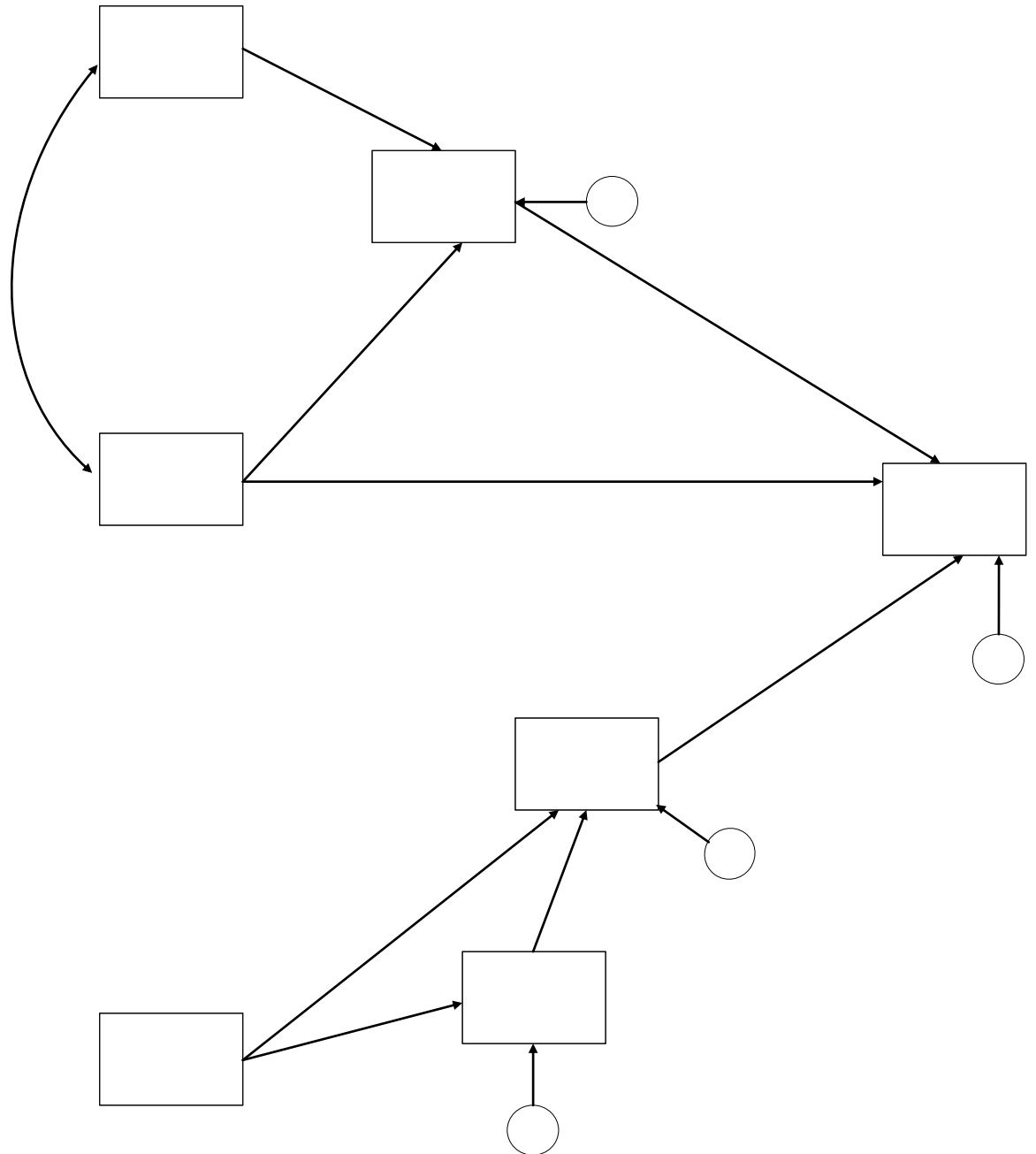
*Structure of alternative path model following respecification*



APPENDIX B-3

Figure 3.

*Final path model, including standardized regression coefficients*



---

*Note.* \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; e1 – e4 = error terms