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Laura M. Widman

University of Tennessee - Knoxville

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To the Graduate Council:

I am submitting herewith a dissertation written by Laura M. Widman entitled "Inside the Minds of Sex Offenders: Illuminating the Role of Implicit Rape Attitudes in Sexual Offending." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Michael Olson, Major Professor

We have read this dissertation and recommend its acceptance:

Deborah Welsh, Todd Moore, Rebecca Bolen

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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INSIDE THE MIND OF SEX OFFENDERS:
ILLUMINATING THE ROLE OF IMPLICIT RAPE ATTITUDES IN SEXUAL OFFENDING

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Laura M. Widman
December 2010

DEDICATION

This dissertation is dedicated to my family, friends, and tremendous academic mentors who have offered me their support and guidance over the many years it has taken to reach this milestone. I would specifically like to thank my parents, Don and Elaine Widman, my sisters, Jennifer Junkin and Elizabeth Massey, my undergraduate mentor, Kathy Lustyk, and my graduate mentors, Deborah Welsh and Michael Olson. Thank you for always believing in me.

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I also wish to thank Dr. Mike Adler and the staff at Counseling and Consultation, Inc. who helped me recruit participants and graciously allowed me to use office space to collect data for this study. Further, I am thankful to the 95 men who participated in this study and shared important information about their attitudes and behaviors. Finally, I wish to thank my doctoral committee, Drs. Michael Olson, Deborah Welsh, Todd Moore, and Rebecca Bolen for their enthusiastic support of this project.

ABSTRACT

Rape supportive attitudes may be important predictors of sexual assault perpetration; yet, past research has assessed rape supportive attitudes almost exclusively through self-report measures that are methodologically and theoretically limited. To address these limitations, the purpose of the current project was to extend a novel implicit rape attitude assessment procedure (Widman & Olson, 2009) by examining the implicit rape attitudes of convicted sex offenders and a matched community control sample while situating implicit rape attitudes within a broader theoretical framework of sexual assault. Participants were 36 convicted sex offenders (M age = 39, 86% Caucasian) and 48 demographically matched, low-income community men (29 with a history of sexual assault perpetration, 19 without a history of sexual assault perpetration; M age = 36, 83% Caucasian). Between group comparisons revealed that sex offenders who committed an offense against an adult woman ($n = 3$) held significantly more pro-rape implicit attitudes than non-offending community men; yet these same convicted offenders reported *less* self-reported rape-supportive attitudes. Additionally, within the community sample, implicit attitudes predicted the frequency of sexual assault perpetration and accounted for significant variance in sexual offending above and beyond traditional self-reported rape-supportive attitudes (i.e., rape myth acceptance, hostility toward women, and sexual dominance). Further, implicit rape attitudes accounted for sexual assault perpetration when situated within the comprehensive confluence model of sexual assault (Malamuth, 2003). Finally, results revealed extremely high rates of sexual assault in this low-income community sample (60%) and provide unique descriptive data on the self-reported sexual assaults of convicted sex offenders. Findings from this study suggest valuable avenues for future research and have important implications for rape prevention and treatment aimed at reducing the burden of sexual assault. These implications are thoroughly discussed.

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CHAPTER I

INTRODUCTION

Male perpetrated sexual assault is a social problem of epidemic proportions. Empirical work suggests as many as one in five women will be raped in her lifetime, and the vast majority of women are burdened by the *fear* of rape (Koss et al., 1994a). Such statistics beg the question, “Why do some men rape?”

Rape-supportive attitudes, the attitudes that deny and justify sexually aggressive behavior, are arguably one important antecedent of sexual assault perpetration. Indeed, rape-supportive attitudes have been empirically linked with sexual assault perpetration (e.g., Burt, 1980; Lonsway & Fitzgerald, 1994; Payne, Lonsway, & Fitzgerald, 1999), are central to theories of sexual offending (e.g., Knight & Sims-Knight, 2002, 2003; Malamuth, 1998, 2003; White & Frabutt, 2006), and are the focus of many rape prevention efforts (for reviews, see Anderson & Whiston, 2005; Brecklin & Forde, 2001). Yet, there is some inconsistency in the rape attitude literature in that several studies report non-significant relationships between rape-supportive attitudes and sexually aggressive behavior (e.g., Demare, Briere, & Lips, 1988; Forbes & Adams-Curtis, 2001; Forbes, Adams-Curtis, & White, 2004; Loh, Gidycz, Lobo, & Luthra, 2005; Overholser & Beck, 1986). One likely reason for these inconsistencies is that to date, rape-supportive attitudes have been assessed exclusively through self-report questionnaires. Self-reports pose significant limitations to both methodologies and theories of sexual assault due to problems such as socially desirable response bias, experimental demand characteristics, and the inability to capture the automaticity of attitudes via self-reports (Marlowe & Crowne, 1961; Olson, 2009; Orne, 1962). These limitations may restrict a clear understanding of the impact of rape-supportive attitudes on behavior and impede effective prevention work in this area.

Toward the aim of addressing the problems inherent in the rape attitude literature and more effectively identifying the antecedents of sexual assault perpetration, the purpose of the current project is to validate and extend a novel *implicit* rape-supportive attitude measure (Widman & Olson, 2008, 2009). The implicit attitude measure captures automatic reactions to sexually aggressive stimuli without relying on self-reports. It is based on contemporary social cognitive attitude theory (e.g., Fazio & Towles-Schwen, 1999; Petty, Fazio, & Briñol, 2009), and offers advantages over self-report attitude surveys in that it captures the automaticity of rape attitudes and bypasses concerns with socially desirable responding. Although Widman and Olson (2008) demonstrated initial reliability and validity for the implicit rape attitude measure in an undergraduate population, the current project will examine the predictive validity of the measure and extend current theories of sexual assault by comparing the implicit rape attitudes of convicted sexual offenders to a demographically-matched control group of low-income community men.

The next five chapters will provide background information on sexual assault and explain the rationale for the current project. First, I will define important terms, such as rape, sexual coercion, and sexual assault. Second, I will briefly summarize literature indicating the scope of sexually aggressive behavior and rape-supportive attitudes in the United States. Third, I will provide a description of the current self-report strategies for assessing rape-supportive attitudes and expand upon the limitations of these assessment techniques. In this section, I will also illuminate the theory preceding, and indeed justifying, investigating rape-supportive attitudes at a more implicit level. Fourth, I will describe the development and initial validity testing of the implicit rape attitude measure (Widman & Olson, 2009). Finally, I will propose the aims and hypotheses of the current project.

CHAPTER II

DEFINITION OF TERMS

In the research literature, there are currently no clear and unified definitions for such terms as *rape*, *sexual coercion*, *sexual assault*, and *sexual aggression*. Instead, definitions of these terms vary widely across studies depending on the measurement technique that is used, and even legal definitions of the terms continue to vary between states. The following section will review these terms as they are commonly used in both legal settings and research settings, noting some of the problems and controversies in this area.

Legal Definitions

On a national level, the Federal Bureau of Investigation (FBI) uses a very narrow definition of rape that includes only acts of physically forced sexual intercourse against a female that are reported to the police (FBI, 2002). More specifically, the definition of rape used by the FBI includes “the carnal knowledge of a female forcibly and against her will. Assaults or attempts to commit rape by force or threat of force are also included; however, statutory rape (without force) and other sex offenses are excluded” (FBI, 2002). Due to a significant underreporting of this crime to the police (Russell, 1982; Tjaden & Thonnes, 2006), federal rape statistics tend to greatly underestimate rape on a national level. For example, a report by the U.S. Department of Justice and the Centers for Disease Control and Prevention reported as few as 19% of women who have been raped reported this crime to the police (Tjaden & Thonnes, 2006).

Though the federal rape statute is quite restrictive, rape laws vary by state such that a broader range of behaviors meets the legal definition of rape in most states. For example, in many states, rape is defined as “nonconsensual sexual penetration of an adolescent or adult obtained by physical force, by threat of bodily harm, or at such time as when the victim is

incapable of giving consent by virtue of mental illness, mental retardation, or intoxication” (Koss et al., 1994a; p. 159; cf. Searles & Berger, 1987). In the state of Tennessee, rape is defined as, “The unlawful sexual penetration of a victim by the defendant or of the defendant by a victim accompanied by any of the following circumstances: 1) Force or coercion is used to accomplish the act; 2) The sexual penetration is accomplished without the consent of the victim and the defendant knows or has reason to know at the time of the penetration that the victim did not consent; 3) The defendant knows or has reason to know that the victim is mentally defective, mentally incapacitated or physically helpless; or 4) The sexual penetration is accomplished by fraud” (T.C.A. § 39-13-503). In addition to rape, there are several other categories of sexual offenses defined by state and national laws, such as statutory rape, sexual battery, sexual abuse, coercion and enticement, indecent exposure, and several others (an overview of U.S. laws related to sexual offenses are maintained by the Legal Information Institute at Cornell Law School: <http://www.geocities.com/capitolhill/2269/USC.html>).

Research Definitions

In the research literature, the definition of rape often parallels the more broad legal definition, such that rape refers to “vaginal, anal, or oral sexual intercourse obtained through force or threat of force; a lack of consent; or inability to give consent due to age, intoxication, or mental status” (Abbey, Zawacki, Buck, & McAuslan, 2004, p. 272; see also Abbey & McAuslan, 2004; Koss, Gidycz, & Wisniewski, 1987). Other penetrative sexual acts, such as insertion of objects against a person’s will or when a person is unable to consent have also been included in more recent definitions of rape (e.g., Abbey, Parkhill, & Koss, 2005; Koss et al., 2007). It is important to note that many researchers include *attempted* rape in their definitions of rape, with attempted rape defined as penetrative sexual acts attempted *but not completed* through force,

threat of force, or when the victim is incapable of consent (e.g., Koss et al., 1987). Not surprisingly, rape prevalence estimates differ markedly between studies that include attempted rape in the definition of rape and those studies that report only completed rape statistics. In an effort to be as clear and accurate as possible in the current project, attempted rape and completed rape will be discussed separately whenever possible.

Sexual coercion is a broader term used in the research literature that may include completed rape experiences but also refers to other penetrative sexual experiences (oral, anal, or vaginal sex) that are obtained through verbal pressure or coercion, but do not meet the more rigid requirements for rape (e.g., force or inability to consent; see Koss et al., 1987). Not all researchers clearly distinguish between rape, sexual coercion, and sexual assault, making it difficult to accurately document the prevalence of sexual coercion across studies.

Finally, sexual assault and sexual aggression are often used interchangeably in the research literature and are the most inclusive terms. These terms include a range of unwanted sexual acts that also include sexual coercion, attempted rape, and completed rape. Recently Abbey et al. (2004) summarized a common definition of sexual assault used in the literature, writing, “Sexual assault is a more inclusive term used to describe the full range of forced sexual acts including physically forced kissing or touching, verbally coerced sexual intercourse, and physically forced vaginal, oral, and anal penetration” (p. 272). In general, sexual assault has been viewed along a continuum of severity, ranging from the least intrusive of unwanted sexual acts, such as unwanted kissing or unwanted sexual contact, up to the most intrusive and severe of acts, such as forcible rape (Koss et al., 1987; Koss et al., 2007).

Further, sexual assault is a crime primarily perpetrated by men against women (Bureau of Justice Statistics, 1995; O’Sullivan, Byers, & Finkelstein, 1998; Struckman-Johnson, Struckman-

Johnson, & Anderson, 2003; Tjaden & Thoennes, 2000; Zweig & Barber, 1997). National studies suggest men are the perpetrators in over 99% of the rapes against women and over 85% of the rapes against men (Tjaden & Thoennes, 2006). Thus, sexual aggression has largely been considered a gender-based crime that occurs in a socio-cultural context that enables and even promotes violence against women (Koss et al., 1994a; White & Frabutt, 2006). Male perpetrated sexual assault is the form of assault considered in the following project, although the intention is not to minimize the detrimental effects of female perpetrated sexual assault or male victimization.

Further, the focus of this project is on sexual assault perpetrated against adolescents and adults and not children. Notably, sexual assault differs from child sexual abuse primarily because of the age at which the act occurs, although there is some overlap of terms in the adolescent time period. Specifically, child sexual abuse typically refers to sexually aggressive acts occurring when the victim is younger than the age of 18 (e.g., Russell, 1983; Wyatt, 1985; Wyatt, Loeb, Solis, Carmona, & Romero, 1999), although some studies use a more narrow definition that limits child sexual abuse to acts occurring before the age of 15 (e.g. Finkelhor, 1994) or 14 (e.g., Drossman, Talley, Leserman, Olden, & Barreiro, 1995; for discussion of the definitional issues in child sexual abuse, see Bolen, 2001; Russell & Bolen, 2000). However, definitions of sexual assault almost always include acts occurring in adolescence or later, typically when the victims is over the age of 14 (e.g., Abbey et al., 2005; Koss & Oros, 1982; Koss et al., 1987; Koss et al., 2007). Some differences have been noted in the victimization experience and outcomes of child sexual abuse versus adolescent or adult sexual assault among women. For example, women sexually abused in childhood reported poorer body image than women sexually assaulted as adolescents or adults (Widman, Lustyk, & Paschane, 2005). For the purposes of the current

project, the remaining literature review will focus primarily on adolescent and adult sexual assault.

CHAPTER III

DEFINING THE SCOPE OF THE PROBLEM

Sexual assault impacts the lives of women in a variety of ways, from the physical and psychological consequences of an assault (e.g., Golding, Taylor, Menard, & King, 2000; Goodman, Koss, & Russo, 1993; Koss, 1993a; Koss, Heise, & Russo, 1994b; Kilpatrick, Acierno, Resnick, Saunders, & Best, 2000) to the fear of rape that plagues the majority of women (for discussion, see Koss et al., 1994). In fact, women fear rape more than robbery, murder, and assault (Warr, 1985). In discussing the congressional response to violence against women, then Senator and now Vice President Joseph Biden (1993) poignantly noted, “America as a nation has for too long failed to grasp either the scope or the seriousness of violence against women...If the leading newspapers were to announce tomorrow a new disease that, over the past year, had afflicted from 3 to 4 million citizens, few would fail to appreciate the seriousness of the illness. Yet, when it comes to the 3 to 4 million women who are victimized by violence each year, the alarm bells ring softly” (pg. 1059). Indeed, violence against women is a serious social problem that jeopardizes the health and safety of women worldwide (for reviews, see Campbell, 2002; Koss et al., 1994a).

Negative Implications of Sexual Assault

Sexual assault is associated with a spectrum of negative psychological and physical outcomes for victims. For example, women with a history of rape and other forms of sexual assault are more likely than non-assaulted women to suffer psychological problems, such as mood and anxiety disorders (Carlson, McNutt, & Choi, 2003; Farley & Patsalides, 2001; Golding et al., 2000) including post-traumatic stress disorder (Faravelli, Giugni, Salvatori, & Ricca, 2004; Kilpatrick et al., 2003). Sexually assaulted women also have higher rates of

substance use problems than non-assaulted women (Kilpatrick et al., 2000), and heightened problems in their interpersonal relationships, including communication difficulties and sexual issues (Connop & Petrak, 2004). Further, numerous physical health complications have been associated with sexual aggression, such as increased risk of sexually transmitted diseases and unwanted pregnancies (Beebe, 1991; Koss, Woodruff, & Koss, 1991; Lacey, 1990; Murphy, 1990), elevated premenstrual symptomatology (Golding, 1994; Leserman, 2005; Runtz, 2002; Lustyk, Widman, & de Laveaga, 2007), gastrointestinal troubles (Leserman & Drossman, 1995), and pelvic pain (Reiter, Sharkerin, Gambone, & Milburn, 1991).

Prevalence of Sexual Assault

How common is male perpetrated sexual assault in the United States? There is currently no definitive way answer this question due to a convergence of factors. For example, the definitions, sampling techniques, and measurement of sexual assault vary widely across studies (for discussions, see Fisher, Diagle, Cullen, & Turner, 2003; Koss, 1993b; Koss et al., 1994a; Porter & Critelli, 1992). Further, there is a relative scarcity of nationally representative samples. There are also problems with the accuracy of self-report assessments that raise doubts about prevalence rates, particularly when men's reports are used. Additionally, to address the prevalence question, one must consult two extensive and rather disparate prevalence literatures – the literature that focuses on women's reports of sexual assault victimization and the literature that focuses on men's reports of sexual assault perpetration. As will be noted in the abbreviated review of these literatures that follows, great variability in prevalence estimates exists across samples and the literature on men generally lags behind that of women.

Women's Reports. Kirkpatrick and Kanin (1957) were among the first to publish a study on women's sexual assault victimization experiences – a study now conducted over a half

century ago. In this study of almost 300 university women, sexual assault was assessed with several very vague items about “offensive intercourse on a date” due to the researcher’s concerns that such personal questions might embarrass participants. In this study, 28% of women reported at least one act of offensive intercourse and as many as 6% experienced “menacing threats or coercive infliction of physical pain” (p. 53) during these incidents that may meet current standards of rape.

Although this early study clearly indicated sexual assault was a pervasive problem, the first rigorous prevalence study among a representative sample of women was not conducted for another two and a half decades after this first work was published (Russell, 1983). In Russell’s random sample of 930 adult women in the San Francisco area, she found that 28% of women had experienced an act of contact child sexual abuse before the age of 14, and an additional 10% of women had experienced an act of completed or attempted forcible rape between the ages of 14 and 18, and a full 44% of women had experienced an act of attempted or completed rape in her lifetime (Russell, 1982, 1983). Such statistics highlighted the pervasiveness of sexual assault and brought national media attention to the issue.

Following the groundbreaking work of Russell (1983), sexual assault research exploded in the 1980s (e.g., Aizenman & Kelley, 1988; Calam & Slade, 1989; Christopher, 1988; Kilpatrick et al., 1985; Koss, 1985; Koss & Gidycz, 1985; Koss, Leonard, Beezley, & Oros, 1985; Koss & Oros, 1982). Importantly, by the late 1980s, Koss et al. (1987) published the first large scale, nationally representative study specifically focused on adolescent and adult sexual assault experiences. In this impressive survey of 3,187 women and 2,972 men from 32 universities across the country, Koss et al. used a 10-item behaviorally specific questionnaire to capture sexual assault (i.e., Sexual Experiences Scale) and found that 15% of women had

experienced a completed rape and an additional 12% had experienced an attempted rape since the age of 14. Further, over half of the women (54%) had experienced at least one form of sexual assault, including unwanted sexual contact (14%), sexual coercion (12%), attempted rape (12%), or completed rape (15%)¹. Among victimized women, 84% reported knowing their perpetrators, highlighting the prevalence of date and acquaintance rape in the United States.

Since the Russell (1983) and Koss et al. (1987) findings were published, researchers have replicated and extended these prevalence statistics in hundreds of studies with college and community samples of women across the country. When the 10-item Sexual Experience Scale (Koss et al., 1987) or a similar scale is used to assess sexual assault, the majority of studies find self-reports of sexual assault around 50% (e.g., Abbey, Ross, McDuffie, & McAuslan, 1996; Breitenbecher & Gidycz, 1998; Calam & Slade, 1989; Forbes & Adams-Curtis, 2001; Humphrey & White, 2000; Koss, Figueredo, Bell, Tharan, & Tromp, 1996; Synovitz & Byrne, 1998; Tjaden & Thoennes, 2000). However, the rates of sexual assault victimization also range widely between studies. Specifically, victimization rates have been reported as low as 26% in one sample of 126 college women (Combs-Lane & Smith, 2002) to rates near 70% in three independent studies of college women (Alksnis, Desmarais, Senn, & Hunter, 2000; Christopher, 1988; Humphrey & White, 2000). Further, numerous studies have documented the prevalence of combined attempted rape and/or completed rape to be around 25% for U.S. women (e.g., Abbey et al., 1996, 31%; Alksnis et al., 2000, 30%; Burt, 1979, 24%; Brener, McMahon, Warren, & Douglas, 1999, 15%; Kilpatrick, Saunders, Veronen, Best, & Von, 1987, 23%; National Victims

¹ In the Koss et al. (1987) study, participants were classified according to the most severe form of sexual assault they had experienced, so the victimization groups were mutually exclusive.

Center, 1992, 14%; Testa, Van-Zile-Tamsen, Livingston, & Koss, 2004, 22%; Wyatt, 1992, 25%; Zweig & Barber, 1997, 13%).

In recent years, extensive debates over the proper definitions and methodologies for assessing sexual assault prevalence have been published in scholarly and popular press outlets (e.g., Bolen & Scannapieco, 1999; Gilbert, 2005; Hoff-Sommers, 1994; Kolivas & Gross, 2007; Koss, 1993b; Koss et al., 1994a; Russell & Bolen, 2000; Schwartz, 1997). Such debates suggest that research methodology can account for a significant portion of the observed discrepancy in prevalence estimates. For example, more rigorous studies that include ample screening questions and clearly defined definitions of sexual assault generally find higher prevalence of sexual assault and sexual abuse (see Bolen & Scannapieco, 1999; Russell & Bolen, 2000). A thorough analysis of such controversy is beyond the scope of the current project. It is sufficient to say, with few exceptions, the empirical evidence among samples of women suggests sexual assault is a social problem of epidemic proportions.

Men's Reports. The literature on women's reports of sexual assault victimization is in no way perfect, complete, or free of controversy; yet, still it remains superior to the literature on men's reports of sexual assault perpetration in several respects. For example, research on sexual assault perpetration did not emerge until over a decade after the start of sexual assault victimization research, with the first known studies of women's victimization conducted in the 1950s (Kirkpatrick & Kanin, 1957) and the first known studies of men's perpetration conducted in the late 1960s (Kanin, 1967, 1969). Additionally, the sheer number of studies has been skewed toward assessing women's victimization instead of men's perpetration in this research area. A review of 120 studies of sexual assault from the 1960s thru the 1990s found four times as many articles providing rape victimization statistics for women than rape perpetration statistics for men

(Spitzberg, 1999). Further, whereas there are more than 20 published studies with samples of U.S. community women on sexual assault victimization issues (e.g., Brener, McMahon, Warren, & Douglas, 1999; Golding, 1994; Koss et al., 1996; Russell, 1983; Testa et al., 2004; Tjaden & Thoennes; 1998), the majority of research on adolescent and adult sexual assault perpetration has been conducted with college men, and only four studies could be located with independent samples of U.S. community men that specifically investigated sexual assault perpetrated against an adolescent or adult woman (Abbey, Parkhill, BeShears, Clinton-Sherrod, & Zawacki, 2006; Calhoun, Bernat, Clum, & Frame, 1997; Lanier, 2001; Merrill, Thomsen, Clum, & Slade, 2001)². Finally, whereas there are several large scale, nationally representative samples documenting sexual assault victimization rates among women in community and university settings (Brener et al., 1999; Fisher et al., 2003; Koss et al., 1987; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Tjaden & Thoennes, 1998), I am aware of no nationally representative samples of community men and only one nationally representative sample of university men (Koss et al., 1987). Importantly, a recent U.S. census report determined that more than half of the U.S. population never attends college (U.S. Bureau of the Census, 2006), suggesting research on sexual assault to date has neglected studying a very large percentage of men. Community samples are absolutely necessary at this time to ensure that we understand the full extent of sexual aggression.

There are several possible reasons for the relative paucity of research among men compared to women. One likely methodological reason is a concern that men will underestimate sexual assault perpetration, as sexual assault is not a socially appropriate behavior to admit in

² Additional studies have been published with samples of community men that focus on child sexual abuse perpetration, though these are beyond the scope of the current project.

research settings. Indeed, there is a significant rate discrepancy in women's reports of sexual assault victimization and men's reports of sexual assault perpetration that may provide initial support for the concern that men underreport sexual aggression and the attitudes that support it (cf. Kolivas & Gross, 2007; Spitzberg, 1999). In one large-scale review, Spitzberg (1999) aggregated rape perpetration and victimization prevalence statistics across 120 samples and over 100,000 participants and found that 4.7% of men admitted perpetrating an act of rape in contrast to 12.9% of women who acknowledged being a victim of rape. Although it is possible that a small minority of men are committing the large majority of sexual assaults, it is equally plausible that some men do not acknowledge their own undesirable behavior. A third possibility is that women over-report their sexual assault experiences, although the continued stigma associated with rape makes it likely women actually *underestimate* sexual assault, not overestimate it (for discussions, see Koss, 1985; Koss et al., 1994a; Russell & Bolen, 2000).

In addition to the aforementioned methodological rationale for a heavier research emphasis on women instead of men, there is also a possible cultural explanation for the research imbalance. Specifically, one cultural explanation for the research focus on victims instead of perpetrators is that we currently live in a patriarchal cultural climate that legitimizes sexual assault, places the onus on women to prevent sexual assault, and then blames the victim if she is not able to prevent her own misfortune (cf. Anderson & Doherty, 2008; Brownmiller, 1975; Burt, 1980). Only very sporadically is complete fault placed on the perpetrator of a sexual assault instead of the victim (Anderson & Doherty, 2008). Due to this patriarchal, victim-blaming climate, it may be easier for researchers to focus on sexual assault victims and understand victimization experiences than to consider and change the root of the problem – the perpetration of sexual aggression by men against women (for discussion, see Anderson & Doherty, 2008;

Donat & D'Emilio, 1997). Regardless of the reasons for the paucity of research with men, a review and analysis of this limited literature is presented next.

Empirical research on sexual assault perpetration with samples of men got its start in the 1960s. In the first study of men of which I am aware, Kanin (1967) found that 25% of the 341 college men sampled had attempted or completed forced intercourse with a woman since they entered college. Like the first studies with women (Kirkpatrick & Kanin, 1957), Kanin used vague terminology and did not stringently define sexually aggressive behavior because of participant concerns. After the Kanin study, a handful of studies documenting self-reported perpetration were published in the early 1980s with small, convenience samples of college men (e.g., Check & Malamuth, 1983; Kanin, 1985; Rapaport & Burkhart, 1984). For example, Rapaport and Burkhart (1984) sampled 201 university men using their 19-item Coercive Sexuality Scale and found 70% of the men had attempted to verbally convince a woman to engage in sexual activities against her will, 11% of the sample acknowledged physically restraining a woman to engage in sexual intercourse, and 6% of the sample admitted using verbal threats to obtain sexual activity.

As mentioned previously, in the mid 1980s Koss et al. (1987) conducted the first, and only, nationally representative study of college men. In this survey of 2,972 university men, researchers found that since the age of 14, 25% of men acknowledged they had engaged in at least one form of sexually aggressive behavior. These sexual assaults included completed rape (4%), attempted rape (3%), sexual coercion (7%), and sexual contact (10%) experiences. Koss et al. also noted significant differences in perpetration by region of the country, with men in the Southeast admitting to rape (6%) twice as often as men in the Plain States (3%) and three times as often as men in the West (2%).

Over the past two decades, follow-up research with college men at universities around the nation has documented prevalence rates that are similar to or higher than the Koss et al. study, though there is a considerable range in prevalence reports across samples. Specifically, across studies between 4-18% of men admit to forcing a woman into sexual activity that meets the definition of completed rape and/or attempted rape (e.g., Abbey, McAuslan, & Ross, 1998, 10%; Abbey, McAuslan, Zwacki, Clinton, & Buck, 2001, 8%; Koss & Gaines, 1993, 6%; Kosson, Kelly, & White, 1997, 6%; Loh et al., 2005, 4%; Rubenzahl & Corcoran, 1998, 10%; Zawacki, Abbey, Buck, McAuslan, & Clinton-Sherrod, 2003, 18%). Further, between one quarter and one half of men admit to verbally or physically coercing a woman into unwanted sexual acts, such as unwanted sexual contact and sexual coercion (e.g., Abbey et al., 1998, 26%; Abbey et al., 2001, 33%; Koss & Gaines, 1993, 59%; Loh et al., 2005, 31%; Muehlenhard & Linton, 1987, 57%; White, Donat, & Humphry, 1996, 33%; Zawacki et al., 2003, 58%). Adding to these findings, one recent study with college men found a self-reported rate of sexual aggression as high as 69% using a newly expanded 35-item survey to assess perpetration incidents (Abbey et al., 2005).

In the few studies of community men (i.e., non-college samples) in the U.S., rates of adolescent and adult sexual assault perpetration vary considerably. In the first known study with a sample of community men, Calhoun et al. (1997) surveyed 65 men (*M* age = 20; 37% high school graduates, 10% college graduates) from a rural area in Georgia. Using a 12-item version of the Sexual Experiences Scale (Koss et al., 1987), Calhoun et al. found 22% of the sample had perpetrated an act of sexual assault, including completed rape by 6% of the sample. In a second community sample, Lanier (2001) surveyed 851 adolescent males (age range 11-17) involved in a larger longitudinal study. Lanier asked two questions about forced sex and forced sexual activity and found 3% of the sample admitted to forcing a date to have sex and 30% admitted to

forcing a date into some sort of unwanted sexual activity. In a third community study, Merrill et al. (2001) surveyed a unique sample of 7,850 U.S. Navy recruits (M age = 20). Using the 10-item Sexual Experiences Scale (Koss et al., 1987), Merrill et al. found 11% had perpetrated an act of rape or attempted rape. The prevalence of other forms of sexual assault was not reported in this study. Finally, a more recent community study with a racially diverse group of 163 community men from Detroit (median age = 29, median household income \$35,000-39,999), Abbey et al. (2006) used a modified 17-item Sexual Experiences Scale (Koss et al., 1987) and found 63% of men had committed at least one form of sexual assault, and 24% had committed rape or attempted rape. Of the men who reported perpetrating sexual assault in this study, 60% acknowledged they had committed more than one offense.

Extending these findings on the prevalence of sexually aggressive behavior, when college men are asked if they would rape a woman *in the future* if assured they would not be punished, nearly 30% of men indicate some likelihood of raping a woman (e.g., Briere & Malamuth, 1983; Dean & Malamuth, 1997; Greendlinger & Byrne, 1987; Malamuth, 1989; Malamuth & Check, 1983; Osland, Fitch, & Willis, 1996; Smith, Martin, & Kerwin, 2001). Further, between 30% and 50% of men indicate some likelihood of forcing sexual activities on a woman if assured they would not be caught (e.g., Briere & Malamuth, 1983; Osland et al., 1996; Reilly, Lott, Caldwell, & DeLuca, 1992). This future propensity toward rape evidenced in so many men suggests an attraction to sexual assault that is quite unsettling and suggests effective primary prevention strategies are critical.

Prevalence of Rape-Supportive Attitudes

As the above review suggests, sexually aggressive behavior is a pervasive problem. Further, there is strong empirical and theoretical evidence that rape-supportive attitudes underlie this problematic behavior (Ajzen & Fishbein, 1977; Burt, 1980; Fazio & Towles-Schwen, 1999; Lonsway & Fitzgerald, 1994; Olson & Fazio, 2009). But how common are rape-supportive attitudes, such as rape myth acceptance, hostility toward women, sex role stereotyping, and adversarial sexual beliefs? Like sexually aggressive behavior, the true prevalence of rape-supportive attitudes can be difficult to clearly determine. Because rape-supportive attitudes follow a continuum of agreement, there is no clearly defined cut point for attitude endorsement. For example, a man may strongly adhere to some rape myths while refuting others. Further complicating the issue, empirical work in this area rarely reports individual-level item endorsement, but instead reports mean level agreement across attitude scales. Thus, the true pervasiveness of these beliefs remains unknown. However, several scholars have noted that attitudes supporting violence against women are extremely common in our rape-prone society in both subtle and not-so-subtle ways, with one function of these attitudes being to deny and trivialize sexual violence against women (e.g., Brownmiller, 1975; Burt, 1980; Lonsway & Fitzgerald, 1994; White & Farbutt, 2006). A second, possibly even more critical function of these attitudes is to allow for object appraisal that would steer men either toward or away from sexually aggressive behavior based on their rape-supportive attitudes (cf. Olson & Fazio, 2009).

In line with this second attitude function, and despite uncertainty about their exact prevalence, rape-supportive attitudes are frequently associated with sexually aggressive behavior. Indeed, in line with empirical work demonstrating that attitudes are highly predictive of behavior (e.g., Ajzen & Fishbein, 1977; Davidson & Jaccard, 1979; Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009), important attitude-behavior links have been noted in the rape

literature. Following nearly three decades of research on the individual and sociocultural attitudes that support sexually aggressive behavior (Brownmiller, 1975; Burt, 1980), a multitude of studies now provide evidence that rape-supportive attitudes differentiate sexually aggressive men from non-sexually aggressive men. Specifically, compared to men without a history of sexual aggression, sexually aggressive men are more accepting of rape myths (e.g., Burt, 1980; Byers & Eno, 1991; Chiroro, Bohner, Viki, & Jarvis, 2004; DeGue & DiLillo, 2004; Koss et al., 1985; Loh et al., 2005; Muehlenhard & Linton, 1987; Osland et al., 1996; Payne et al., 1999; White et al., 1996), have more adversarial sexual beliefs (e.g., Burt, 1980; Loh et al., 2005), have more sexist and hostile attitudes toward women (e.g., Abbey et al., 2001; Forbes et al., 2004; Malamuth, Linz, Heavey, Barns, & Acker, 1995), have greater hypermasculine gender beliefs (for review, see Murnen, Wright, and Kaluzny, 2002), and are more likely to endorse dominance as a motivation for sexual activity (e.g., Abbey et al., 2006; Malamuth, Sockloskie, Koss, & Tanaka, 1991; Malamuth et al., 1995).

Further, researchers have included rape-supportive attitudes as central to several multivariate theories of offending (e.g., Knight & Sims-Knight, 2003; Malamuth, 1998, 2003; White & Farbutt, 2006). In arguably the most comprehensive and well-validated theoretical model of sexual assault perpetration, the confluence model (Malamuth, 1998, 2003; Malamuth et al., 1991; Malamuth et al., 1995), rape-supportive attitudes comprise one of two interactive pathways that predict sexually aggressive behavior. More specifically, the confluence model is a developmental-contextual theory based on Bronfenbrenner's (1979) ecological approach to human development that posits distal risk factors (e.g., childhood sexual abuse, adolescent delinquency) are associated with sexual aggression through two proximal pathways: *hostile masculinity* and *impersonal sex*. Hostile masculinity is an attitudinal pathway defined by

insecure, mistrustful, and dominating attitudes toward women, and impersonal sex is a behavioral pathway defined by early, non-committal, and promiscuous sexual behaviors (Malamuth et al., 1995). According to the model, these proximal factors work both independently and synergistically to predict sexual aggression, such that men who hold hostile, rape-supportive attitudes toward women *and* engage in impersonal sexual behaviors are the most likely to perpetrate sexual aggression. The importance of rape-supportive attitudes, including rape myth acceptance, hostility toward women, and sexual dominance, have now been well documented as proximal predictors of sexual assault in the confluence model across a host of studies (e.g., Abbey et al., 2006; Dean & Malamuth, 1997; Hall, Teten, DeGarmo, Sue, & Stephens, 2005; Johnson & Knight, 2000; Knight & Sims-Knight, 2003, 2004; Lim & Howard, 1998; Malamuth et al., 1991; Malamuth et al., 1995; Vega & Malamuth, 2007; Wheeler, George, & Dahl, 2002).

Rape myths, defined as “attitudes and beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women” (Lonsway & Fitzgerald, 1994, p.134) are the rape-supportive attitudes that have received the most empirical attention to date. They have also been defined as, “Arguments that tend to attribute responsibility to the victims, exonerate the perpetrators of rape and trivialize the severity of rape experience, but which are not supported by empirical evidence” (Anderson & Doherty, 2008, p. 9). Several cross-sectional studies have found greater acceptance of rape myths is related to a prior history of sexually aggressive behavior (e.g., DeGue & DiLillo, 2004; Koss et al., 1985; Muehlenhard & Linton, 1988) and to greater behavioral intentions to rape in the future (e.g., Check & Malamuth, 1985; Hamilton & Yee, 1990; Osland et al., 1996). Additionally, at least two longitudinal studies have found greater rape myth acceptance to predict

sexual assault perpetration at a follow-up assessments after three months (Loh et al., 2005) and one year (Lanier, 2001). Further, rape-myths are a key variable on the hostile masculinity path in the confluence model (for review, see Malamuth, 2003).

Likely due to their association with sexual offending, rape myths have also been targeted in a variety of sexual assault prevention studies. In fact, several recent reviews of rape prevention programs targeting men show that challenging rape-supportive attitudes is a central feature in the majority of prevention efforts (Anderson & Whiston, 2005; Breitenbecher, 2000; Bachar & Koss, 2001; Schewe, 2002). Further, rape myth acceptance scales are commonly used as outcome measures in evaluations of program effectiveness, with many programs showing small but positive rape attitude change immediately following prevention efforts (Anderson & Whiston, 2005; average effect size (g) across prevention outcome studies = .21).

Yet an important caveat to this summary is that *rape-supportive attitudes are not always associated with sexually aggressive behavior*. In fact, several studies find no relationship at all between rape myth acceptance and past sexual assault or future likelihood of rape (Demare et al., 1988; Forbes & Adams-Curtis, 2001; Forbes et al., 2004; Loh et al., 2005; Overholser & Beck, 1986). Further, several rape prevention efforts targeting rape myths have not shown significant decreases in rape myth acceptance (e.g., Berg, Lonsway, & Fitzgerald, 1999; Borden, Karr, & Caldwell-Colbert, 1988; Lenihan, Rawlins, Eberly, Buckley, & Masters, 1992), and a few have inadvertently *increased* participants' rape myth acceptance (Ellis, O'Sullivan, Sowards, 1992; Fisher, 1986). Even among programs that do reduce rape myth acceptance, the effect size of attitude change is generally small and follow-up work suggests changes in rape supportive attitudes do not persist over as little time as one week (for reviews, see Anderson & Whiston, 2005; Brecklin & Forde, 2000; Flores & Hartlaub, 1998).

In line with these null or mixed findings, several problems inherent with the current self-report strategies for assessing rape-supportive attitudes appear to limit the predictive potential of these attitudes. For example, the self-report nature of these surveys may allow biased reporting in response to social desirability pressures or the demand characteristics in rape prevention research. The purpose of the following section is to document the most common rape-supportive attitude assessment strategies and then highlight the problems with these techniques.

CHAPTER IV
CURRENT RAPE-SUPPORTIVE ATTITUDE ASSESSMENT STRATEGIES AND
LIMITATIONS

Self-Report Assessments

With the exception of the implicit rape-attitude measure which is the focus of the current investigation (Widman & Olson, 2008, 2009), to date, rape-supportive attitudes have been assessed exclusively through self-report scales that require respondents to verbally express the extent of their endorsement of rape-related attitudes and beliefs. The most commonly used scales were published by Martha Burt (1980), including the 19-item Rape Myth Acceptance Scale, the 9-item Adversarial Sexual Beliefs Scale, and the 6-item Acceptance of Interpersonal Violence scale. These scales revolutionized the sexual assault research field as they provided the first standardized rape attitude assessment tools and demonstrated the cultural context within which sexual violence occurs. Since the Burt scales were published in 1980, they have been followed by more than 30 variations of rape-attitude measures, including hostility toward women scales, sex role stereotyping scales, hypermasculine gender role scales, and attitudes toward rape scales (for reviews, see Lonsway & Fitzgerald, 1994, 1995; White et al., 1996).

Several very thorough revisions of the rape-supportive attitude scales have been published more recently. For example, Payne et al. (1999) published the most extensive revision of the rape myth acceptance scale, resulting in the updated Illinois Rape Myth Acceptance Scale (IRMA). In a series of six studies, Payne et al. used exploratory and confirmatory analyses to determine an underlying rape myth construct with seven sub-components, labeled, “She asked for it”, “It wasn’t really rape”, “He didn’t mean to”, “She wanted it”, “She lied”, “Rape is a trivial event”, and “Rape is a deviant event.” Payne et al. updated the item wording, clarified the

content of the rape myth scale, and demonstrated acceptable psychometric properties for the new IRMA. Further, Lonsway and Fitzgerald (1995) published updated versions of the Hostility Toward Women scale, Acceptance of Interpersonal violence scale, and Adversarial Heterosexual Beliefs scale. These scales were based on clear definitions of rape-supportive attitudes and demonstrated improved reliability and validity over Burt's original scales.

Although self-report questionnaires may be one convenient way to assess attitudes in terms of time and resources, relying exclusively on self-reports in the sexual assault literature is problematic for several reasons related to both methodology and theory. The specific problems in each of these domains are identified below.

Methodological Limitations of Self-Report Assessments. Within a decade of the creation of the first rape-attitude scales, it became clear to researchers that scale revisions were necessary as the scales suffered significant weaknesses. For example, the Burt scales had inadequate content validity, poor factor structure, outdated and colloquial item wording, and high face validity, making it easy for participants to lie about their true attitudes (for a review of these concerns, see Lonsway & Fitzgerald, 1995; Payne et al., 1999). Although the updated rape attitude scales published by Lonsway and colleagues (Lonsway & Fitzgerald, 1995; Payne et al., 1999) improved upon the item wording and psychometric properties of the original scales, these scales continue to be plagued by methodological problems that are inherent in self-report instruments. Specifically, social desirability pressures and experimental demand characteristics are the two most global methodological concerns with self-reports.

First, social desirability is a significant concern when researchers use self-reports to assess rape-supportive attitudes or attitudes in any other sensitive domain (Marlowe & Crowne, 1961). The underlying assumption of direct, self-report attitude measurement is that people are

aware of their attitudes and willing to accurately admit them in research settings (cf. Olson, 2009). Yet this assumption is not always correct with sensitive or controversial attitudes, including rape-supportive attitudes. Sexual aggression is not a socially desirable behavior and participants may be reluctant to admit perpetrating such offenses or holding rape-supportive attitudes because of self-presentational pressures to appear appropriate or sensitive (cf. Nosek, 2005). Indeed, even in completely anonymous studies of sensitive topics such as racial prejudice and sexual behaviors, there is evidence that some participants bias their answers in directions that are socially desirable (Fazio, Jackson, Dunton, & Williams, 1995; Meston, Heiman, Trapnell, & Paulhus, 1998). For example, in an anonymous study of 504 undergraduates, Meston et al. (1998) found impression management was negatively associated with a host of sexual attitudes and behaviors, such as unrestricted sexual attitudes, sexual fantasies, and sexual experience. In line with such research, it is likely to expect some under-reporting and misrepresentation of rape-supportive attitudes on self-report scales (Senn, Desmarais, Verberg, & Wood, 2000; Walker, Rowe, & Quinsey, 1993).

Second, self-reports of attitudes are highly susceptible to the demand expectations present in an experiment (Orne, 1962), particularly when self-reports are used as an evaluation technique in rape prevention programs. For example, research examining the effectiveness of rape prevention programs often evaluates program effectiveness by measuring rape-supportive attitudes post treatment. During these programs, participants are told in a variety of ways that sexual assault is not appropriate behavior and rape-myths are often criticized and debunked. Then, follow-up testing queries participants' about their sexually aggressive attitudes and behavior since the prevention program (for rape prevention program reviews, see Anderson & Whiston, 2005; Brecklin & Forde, 2001; Lonsway, 1996; Schewe, 2002). Clearly, there is high

experimental demand for participants to report reduced rape-supportive attitudes and behavior after these programs. Of serious concern, a recent meta-analysis of rape prevention outcome studies noted that as few as 17% of all empirical work in this area has attempted to control for social desirability or demand characteristics when evaluating the effects of prevention programming (Anderson & Whiston, 2005). Thus, when participants do report reduced rape-supportive attitudes, we cannot be sure if their attitudes have truly changed or if they are masking their true sentiments to comply with the expectations of the program. The fact that attitudes often rebound to pre-intervention levels shortly after rape prevention programs end may suggest attitudes were never truly changed (Anderson & Whiston, 2005; Brecklin & Forde, 2001; Flores & Hartlaub, 1998).

Theoretical Limitations of Self-Report Assessments. Self-reported attitudes about rape are not only problematic due to methodological weaknesses such as social desirability and experimental demand; they are also problematic in terms of sexual assault theory because they do not capture the automaticity of rape-supportive attitudes. It is now well-documented that attitudes fall along an accessibility continuum, where some attitudes are highly accessible and able to be quickly and effortlessly activated, while others are less accessible (Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Glasman & Albarracin, 2006). Over two decades of social cognitive research suggests that highly accessible, automatic attitudes are strong predictors of social behavior (e.g., Fazio et al., 1995; Fazio & Towles-Schwen, 1999). More specifically, highly accessible attitudes are more stable over time, enhance the ease of decision making, and are more predictive of future behavior than are less accessible attitudes (for reviews, see Fazio, 1995; Fazio, 2007; Glasman & Albarracin, 2006).

Yet the self-report surveys that are currently utilized in sexual assault attitude research cannot capture the automatic nature of rape attitudes. To capture the speed and automaticity of attitudes, implicit assessment techniques must be used. Research into other socially sensitive attitudes such as racial prejudice suggests just how powerful such automatic, implicit attitudes³ can be. For example, work from the racial prejudice domain demonstrates that automatically activated attitudes are strong predictors of spontaneous behavior that is not highly monitored. In a study by Dovidio, Kawakami, and Gaertner (2002), strong automatic prejudice scores (as assessed with an implicit attitude measure) predicted the nonverbal behavior of Whites in their interactions with Black and White confederates. Specifically, Whites with more prejudice implicit attitudes were more racially biased in their nonverbal friendliness toward Blacks. In contrast, explicit attitude assessment (i.e., self-reports) predicted more deliberate verbal behavior in the study. Specifically, Whites who appeared more prejudiced on a self-report scale were more biased against the Black confederates in their verbal friendliness. Importantly, when both explicit and implicit attitude assessments were entered in a simultaneous regression model, only the implicit attitude assessment was predictive of Black confederates' perception of bias in their White interaction partner.

Like the Dovidio et al. (2002) study, a growing body of research now highlights the predictive validity of automatic, implicit attitudes. Specifically, connections between implicit attitudes and behavior have been found in the domain of racial prejudice (e.g., Fazio et al., 1995;

³ Throughout this paper, I will use the term “implicit attitude” to describe the process of attitude measurement; that is, implicit attitudes are those attitudes that have been measured with implicit techniques. I do not intend for the term implicit to imply unconscious or unaware, as others have sometimes suggested (Greenwald & Banaji, 1995). Although it is possible that implicit attitudes lie outside of conscious awareness at times, there is also evidence to suggest that people are generally aware of their gut level, automatic reactions to social stimuli (for discussion, see Fazio & Olson, 2003; Gawronski & Bodenhausen, 2006; Gawronski, Hofmann, & Wilbur, 2005).

Wilson, Lindsey, & Schooler, 2000), and also in other socially-sensitive domains such as self-esteem (e.g., Spalding & Hardin, 1999), attitudes about overweight people (e.g., Bessenoff & Sherman, 2000), stereotypes about the elderly (e.g., Dijksterhuis, Aarts, Bargh, & van Knippenberg, 2000), motivations to consume alcohol (e.g., Ostafin, Palfai, & Wechsler, 2003; Zach, Toneatto, & Macleod, 1999), attitudes about drugs (Stacy, 1997), attitudes about condom use (Marsh, Johnson, & Scott-Sheldon, 2001), and sexual harassment tendencies (e.g., Bargh, Raymond, Pryor, & Strack, 1995).

The MODE model (Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009) provides a useful theoretical framework for understanding the influence of implicitly assessed, automatic attitudes in predicting behavior. Specifically, MODE stands for *motivation and opportunity as determinants* of the association between attitudes and behavior. As summarized by Fazio and Olson (2003), “The model proposes that attitudes can exert influence through relatively spontaneous or more deliberate processes. The former involve judgments of, or behavior toward, an object being influenced by one’s construal of the object in the immediate situation... In contrast, deliberate processing involves a more effortful, cost-benefit analysis of the utility of the particular behavior” (p. 301). The MODE model posits that behavior will be highly influenced by one’s implicit, gut-level attitudes toward social stimuli unless one is sufficiently motivated to respond in an attitude incongruent fashion. Applied to the rape literature, the MODE model would suggest implicit, automatic rape-supportive attitudes may be strong predictors of behavior, particularly among men who are not motivated to restrict their aggressive impulses.

As mentioned previously, it is problematic that the self-report questionnaires currently utilized in the rape attitude literature cannot capture the automaticity of rape-supportive attitudes. Thus, to date, social cognitive theories of attitude-behavior relationships, such as the MODE

model, have not been applied to sexually aggressive behavior. Instead, sexual assault researchers have historically neglected incorporation of these powerful, automatically-activated attitudes in both empirical work and theoretical frameworks of sexual assault perpetration. However, as the above section suggests, evaluating the automaticity of rape-supportive attitudes may provide a more complete picture of the determinants of sexual aggression.

A Call for Methodological and Theoretical Advancement

Given the abovementioned methodological and theoretical limitations with current rape-supportive attitude assessments, it may be no wonder that some disparities between explicit attitude reports and sexually aggressive behavior exist (e.g., Forbes & Adams-Curtis, 2001; Overholser & Beck, 1986). If research is to advance to a point that such harmful social attitudes can be successfully changed or prevented from forming in the first place, accurate attitude assessment is critical. In line with this reasoning, it is not surprising that several researchers have emphasized the importance of developing new methodologies to assess sexually aggressive attitudes that do not rely exclusively on participant self-report. For example, Bernat, Stolp, Calhoun, and Adams (1997) noted, “Progress in understanding the causes and processes of sexual aggression has been hindered by the reliance on self-report methodology and a paucity of laboratory-based paradigms” (p. 316). Additionally, Porter and Critelli (1992) argued, “A fuller understanding of sexual aggression in college males requires more programmatic research, attacking the problem with converging operations, using a variety of designs” (p. 530). Further, Schewe and O’Donohue (1993) suggested, “A measure that could tap a person’s likelihood of raping without creating obvious prosocial demand characteristics would be of enormous help in validating evaluations of rape prevention programs” (p. 674). Finally, in one of the most disparaging comments, Polaschek and Ward (2002) describe the methodological limitations in

research on sexual offenders' cognitive distortions, noting that past research "has relied heavily on self-report measures so transparent that it seems implausible that they will yield valid results in many settings" (p. 386).

CHAPTER V

AN ALTERNATIVE RAPE-SUPPORTIVE ATTITUDE ASSESSMENT

Recently, progress has been made toward addressing the problems inherent in rape attitude assessment. Specifically, Widman and Olson (2008, 2009) recently developed an innovative *implicit* attitude measure to assess automatically-activated attitudes about sexual aggression. Relatively new inventions, implicit attitude measures are derived from social cognitive theories that suggest people hold spontaneous and uncontrollable, implicit attitudes toward social objects (e.g., Greenwald & Banaji, 1995). Unlike direct attitude measures that require an explicit, verbal response on the part of a participant, most implicit measures assess attitudes by measuring reaction times to attitude-relevant stimuli (Fazio & Olson, 2003). Implicit measures provide an index of the automaticity of attitudes and bypass any concerns with socially desirable responding and demand characteristics, as participants are never asked for direct attitude reports. In this way, implicit measures address the two significant problems that have plagued sexual assault attitude research – the methodological problems associated with participant reporting biases, and the theoretical problems associated with not addressing the role of automatic processes in sexual assault perpetration.

Review of Implicit Measures

Currently, there are several ways to measure attitudes implicitly, although two are used with the most frequency: the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) and Evaluative Priming procedures (Fazio et al., 1986). The implicit rape attitude measure that is the focus of the current project is an evaluative priming procedure, but a brief overview of both the IAT and priming will be provided for clarification.

Implicit Association Test. The IAT, developed by Greenwald et al. (1998), is the most well-known implicit measurement technique (cf. Fazio & Olson, 2003). The IAT is a computerized test that involves presentation of attitude-relevant stimuli and evaluative attributes that participants are forced to categorize. Specifically, during the IAT, participants categorize two attitude object categories (e.g., Black people and White people in a racial IAT) *and* two attributes (e.g., pleasant and unpleasant words) within the same task. For example, participants would press a key on the right if the object that appeared was a Black person *or* an unpleasant word; they would press a key on the left if the object was a White person *or* a pleasant word. After several trials with this pairing, the task would switch so that participants would categorize Black-pleasant and White-unpleasant. Presentation order is typically counter-balanced across participants to avoid order effects.

The assumption behind the IAT is that the categories associated more closely in memory, such as White and pleasant, will be categorized more easily with one response key than categories that are less closely associated in memory, such as Black and pleasant (Greenwald & Nosek, 2001). In the above example of racial attitudes, an implicit prejudice score can be derived from participant response latencies to the positive versus negative attributes associated with the images of Black people. Someone who demonstrates racial prejudice towards Blacks will respond more quickly on the Black-unpleasant pairings than the Black-pleasant pairings.

Although the IAT is the more popular method to assess attitudes implicitly, it has limitations that warrant consideration. Most notably, the IAT forces people to consider categories of objects (Olson & Fazio, 2003). In the IAT instructions, participants are explicitly told to press a key, for example, if the image is “good” or “black”. Thus, the participant must consider all black people in one category. If the IAT were used for an implicit rape attitude assessment,

participants would be instructed to press a key, for example, if the image was “good” or “rape”. This sort of categorization would likely activate rape myths and increase the negativity associated with rape as a category. Men, particularly those high in rape myth acceptance, could proclaim a negative attitude toward the concept “rape” because the word congers up images of weapon-yielding stranger rapists; yet these same men could report positive dispositions toward and previous perpetrations of behavior that would meet definitions of rape. Thus, we decided to utilize an implicit priming procedure to capture rape attitudes because it was the participant’s affective response to the depiction of sexual assault that we sought to assess, for which priming measures are best suited, and not merely their affective associations in memory to whatever their concept of “rape” might entail, for which the IAT is well-suited (Olson & Fazio, 2003).

Evaluative Priming. Like the IAT, evaluative priming procedures are computer-administered implicit measurement techniques. Yet, unlike the IAT, priming procedures do not rely on categorization of attitude objects and evaluative attributes in one task. Instead, evaluative priming, developed by Fazio et al. (1986), is based on spreading activation research in cognitive psychology (e.g., Neely, 1977) and captures the automatic activation of an attitude from memory. As summarized by Fazio et al. (1986), “The procedure is a variant of a now well-tested method commonly employed to investigate automatic processing. It involves consideration of the extent to which the presentation of a prime automatically activates concepts that facilitate responding to a target word” (p. 230). During an attitude priming procedures, an attitude object (e.g., a black person) appears briefly on the computer screen followed closely by either a positive or negative adjective (e.g., wonderful, awful). The participant’s task is simply to identify the valence of the target word as quickly as possible by pressing a key marked “good” or “bad”.

The assumption behind evaluative priming is that viewing an attitude object can automatically activate positivity or negativity, and this automatic activation will facilitate reaction times to the congruent adjective and impede reaction times to the incongruent adjective. For example, if negativity is automatically activated in response to an attitude object (e.g., a black person), then a participant would be able to more quickly identify the valence of a negative word (e.g., awful) than a positive word (e.g., wonderful) because they were primed with negativity. The implicit rape-attitude test developed by Widman and Olson (2008, 2009) is an evaluative priming procedure that captures participants' implicit, gut-level reactions to sexually aggressive images by employing image primes depicting sexual assault. Because participants are never directly asked to report their rape-supportive attitudes, the priming procedure bypasses any concerns with socially desirable responding and experimental demand while providing an index of the automaticity of rape-supportive attitudes.

Development of the Implicit Rape Attitude Priming Procedure

Identifying appropriate attitude stimuli was the first step in developing the implicit rape attitude priming procedure. Through systematic pilot research with 100 male undergraduates who rated over 80 images of men and women interacting in neutral, sexual, aggressive, and sexually aggressive ways, we were able to identify ten sexually aggressive images that clearly depicted acts of male perpetrated sexual assault against females. Thirty neutral, aggressive, and sexual filler images were also selected from the pilot research (Widman & Olson, 2008).

After image selection, we conducted our first tests of the attitude priming procedure. Participants were introduced to the priming task as a test of word meaning identification. During the procedure, participants quickly viewed an image for 300 milliseconds on the computer screen, followed immediately by either a good or bad word (e.g., wonderful, horrible). In total

there were 40 images (ten from each image category described above), and 20 words (ten good words and ten bad words). Participants' job during the procedure was to categorize the word following the image as either "good" or "bad" as quickly as possible. Attitude indices were then computed by calculating the difference between response latencies to positive versus negative words for each image category. In our original tests of the implicit rape attitude priming procedure, the implicit procedure was followed by several explicit scales, including the 20-item Illinois Rape Myth Acceptance Scale (IRMA; Payne et al., 1999) and the 10-item Hostility Toward Women scale (HTW; Lonsway & Fitzgerald, 1995). The dependent variables in these studies were either participant self-reports of sexual assault, assessed with the 30-item revised Sexual Experiences Scale (SES; Abbey et al., 2005), or a lab-based observational procedure that captured sexually impositional behavior in a controlled laboratory environment (Hall & Hirschman, 1994; Mitchell, Angelone, Hirschman, Lilly, & Hall, 2002). Results of the first two rape-attitude priming studies are reported in the sections that follow.

Rape Attitude Priming Procedure: Study 1 (Widman & Olson, 2009). Participants in the first study of implicit rape attitudes were 82 college men (M age = 19.3; 87% Caucasian). Data from 20 participants had to be eliminated due to high error in responding (error \geq 25%). Thus, the final sample included 62 college men. Descriptive statistics revealed that 37% of the sample had perpetrated a past act of sexual assault, and 6% of the sample had committed an act of completed rape. Further, raw scores on the rape attitude priming procedure ranged from -120.40 to 127.12 ($M = 23.87$, $SD = 50.46$). In total, 29% of men ($n = 18$) responded more quickly to the positive than negative words following sexually aggressive images suggesting more "pro-rape" attitudes. The range of IRMA and HTW scores was somewhat more restricted and negatively skewed, possibly due to social desirability response bias. Specifically, the mean IRMA score was

2.58 ($SD = .72$) with an observed range of scores from 1.18 to 4.29 (possible range = 1-7), and the mean HTW score was 3.38 ($SD = .98$) with an observed range of scores from 1.50 to 5.0 (possible range = 1-7).

When we examined the relationship between implicit rape attitudes and sexual assault in Study 1, we found that implicit rape attitudes were significantly related to the total number of sexual assaults perpetrated since the age of 14 ($r = .29, p < .05$) as well as the severity of sexual assault ($r = .27, p < .05$). Then, to assess the unique predictive power of automatic attitudes above self-reported attitudes, automatic attitudes were entered into a simultaneous negative binomial regression model with rape myth acceptance, hostility toward women, and rape myth acceptance *and* hostility toward women. Results indicated that when automatic rape attitudes were entered into multivariate models with rape myth acceptance and with hostility toward women, automatic rape attitudes emerged as a significant unique predictor of both sexual assault frequency and sexual assault severity. Notably, in the final multivariate model where automatic rape attitudes, rape myth acceptance, and hostility toward women were simultaneously entered as predictors, automatic rape attitudes and hostility toward women remained significant predictors of sexual assault but rape myth acceptance was no longer significant.

Rape Attitude Priming Procedure: Study 2 (Widman & Olson, 2009). We followed up the first attitude priming study with a second replication study. In an attempt to cut down on the high error rates observed in Study 1, we modified the instructions slightly, stressing the importance of quick but *accurate* responding. We also included a lab based indicator of sexually impositional behavior as our dependent variable in this study, to reduce reliance on self-reports of behavior (Hall & Hirschman, 1994). In this lab-based procedure, men were asked to select images to be used in a study with women entitled, “Women’s Perceptions of People Interacting”.

Similar to the procedures used by Hall and Hirschman (1994) and Mitchell et al. (2002), we developed an analogue procedure to capture sexually impositional behavior in a controlled lab setting. Specifically, participants proceeded through 10 computer screens. On each screen, they were shown four pictures of men and women (i.e., one from each image category – sexually aggressive, sexual, aggressive, or neutral) and they chose the one image from each screen that they wanted us to show women many times in a future study. Like Hall and Hirschman (1994), we believed that it was a sexually impositional act to choose the sexually aggressive images to show women, especially considering there was absolutely no incentive for participants to choose the sexually aggressive images. Possible scores could range from 0 to 10.

The sample for Study 2 included 121 college men (M age = 18.6; 89% Caucasian). In this sample, 6 participants were dropped due to error rates over 25%, an improvement over Study 1. Thus our final sample included 115 college men. Descriptive statistics revealed that on the laboratory-based indicator of sexual assault, 37% of men ($n = 72$) chose to engage in a sexually impositional act in a laboratory setting. Further, raw scores on the rape attitude priming procedure ranged from -81.55 to 221.78 ($M = 15.96$, $SD = 51.75$). In total, 43% of men ($n = 49$) demonstrated a “pro-rape” attitude pattern where they responded more quickly to the rape-positive than rape-negative image-word pairings. Also similar to Study 1, the range of RMA and HTW scores was more restricted and negatively skewed. Specifically, the mean RMA score was 2.63 ($SD = .79$) with an observed range of scores from 1.12 to 4.88 (possible range = 1-7), and the mean HTW score was 3.47 ($SD = .88$) with an observed range of scores from 1.20 to 5.40 (possible range = 1-7).

Results from Study 2 corroborated and extended results from Study 1. Specifically, we found that implicit rape attitudes accounted for significant unique variance in the lab-based

indicator of sexual assault ($r = .20, p < .05$) above and beyond rape myth acceptance and hostility toward women. Notably, when all three predictors were entered into a simultaneous model, rape myth acceptance was no longer significantly associated with the sexually impositional behavior observed in the lab.

Conclusions and Future Directions

The results from these two studies suggest the novel rape attitude priming procedure is a promising alternative to assessing men's attitudes via self-report. Specifically, we demonstrated initial convergent validity for the implicit attitude test by documenting the significant association between implicit attitudes and a behavioral history of sexual assault and a tendency to engage in sexually impositional behavior in the lab in two samples of college men. Further, compared to a traditional self-report rape attitude assessments (i.e., rape myth acceptance and hostility toward women), results suggest the new implicit rape attitude priming procedure provides a superior test of the relationship between attitudes and behavior, likely because this novel priming procedure captures the automaticity of rape attitudes and is less susceptible to experimental demand and socially desirable response bias.

Yet, to validate the implicit rape attitude priming procedure in these first studies, we used self-reported sexual assault and a lab-based proxy measure to capture sexually aggressive behavior. Although this initial research was promising, it is not without limitations. Reports of sexually aggressive behavior in particular are susceptible to the same biases as reports of rape-supportive attitudes. Specifically, men may lie about their history of sexual assault perpetration in an effort to appear appropriate or avoid consequences. Further, men may inaccurately report a behavioral history of sexual assault if they are not aware they have committed a sexually aggressive act. This concern may be particularly likely among men who highly adhere to

traditional rape myths, such as “women say no to sex when they really mean yes” (Burt, 1980; Lonsway & Fitzgerald, 1995), or men who believe women offer “token resistance” to sexual advances (Marx & Gross, 1995; Masser, Viki, & Power, 2006; Osman & Davis, 1999). If a man believes a woman wants sexual activity even after she has said no, he will be unlikely to endorse sexual aggression items that suggest in some way he “forced” or “pressured” her to engage in unwanted sexual behaviors. As noted by Spitzberg (1999) in his review of the prevalence literature, self-report biases among men may, in part, explain the large discrepancy in sexual aggression perpetration and victimization rates reported by men and women, respectively. Thus, to firmly establish the validity of the rape-attitude priming procedure and demonstrate its predictive potential, we must not rely solely on self-reports of behavior.

One ideal way to test the predictive validity of the implicit rape attitude measure and highlight the methodological and theoretical utility of this assessment is to compare a sample of convicted sexual offenders to a demographically matched control group. Of critical importance, using this known groups approach would allow a direct test of the potential for implicit rape attitudes to differentiate sexually aggressive men from non-sexually aggressive men *without relying on self-reports of behavior*. Additionally, using a sample of convicted sex offenders would allow for a test of the association between implicit attitudes and risk of future sexual recidivism using an actuarial risk scale (e.g., Rapid Risk Assessment for Sex Offense Recidivism; Hanson, 1997). Although such scales are not excellent predictors of known recidivism ($r = .27$ in one study; Hanson, 1997), they do provide some proxy of risk and may well be associated with implicit rape attitudes. Further, using a known groups approach would allow for an evaluation of the incremental validity of implicit rape attitudes above and beyond self-reported rape attitudes to predict offender status. A significant incremental validity test

would suggest implicit attitudes contribute unique variance to sexual assault perpetration and should be incorporated into current theories of sexual offending. If results are as expected, the implicit rape attitude measure may have tremendous implications for future rape prevention and treatment research.

CHAPTER VI

PROJECT AIMS AND HYPOTHESES

In line with the above review, the purpose of this dissertation research is to extend a novel implicit rape attitude assessment (Widman & Olson, 2008, 2009) by establishing the predictive validity of this new attitude assessment tool. This will be accomplished, in part, by investigating the implicit rape attitudes of convicted sex offenders and comparing these attitudes to a demographically matched community control sample. The three specific aims and five hypotheses that follow from this purpose are as follows:

Aim 1: Document Rates of Sexual Assault in a Sample of Convicted Sex Offenders and a Sample of Demographically-Matched Community Men

Aim 2: Examine the Predictive Validity of the Implicit Rape Attitude Measure

Hypothesis 1. Implicit rape attitudes will discriminate between sex offenders and non-offending men, with sex offenders holding more “pro-rape” implicit attitudes.

Hypothesis 2. Among sex offenders, implicit attitudes will predict risk of recidivism, assessed with a Rapid Risk Assessment for Sex Offense Recidivism (RRASOR; Hanson, 1997).

Aim 3: Examine if Implicit Rape Attitudes Contribute Unique Variance to Theories of Sexual Offending by Testing the Incremental Validity of Implicit Attitudes to Predict Offending above and beyond Self-Reported Attitude Measures

Hypothesis 3. Self-reported rape-supportive attitudes (i.e., rape myth acceptance, hostility toward women, and sexual dominance) will not differ between men convicted of a sexual offense and a control sample. This effect may be similar to the demand characteristics in response to rape prevention programming that were discussed previously (see Anderson & Whiston, 2005; Brecklin & Forde, 2001).

Hypothesis 4. It is predicted that implicit attitudes will be strongly associated with sexual offending and will contribute significant unique variance above self-reported attitudes to predict offending status.

Hypothesis 5. Implicit attitudes will explain significant unique variance in sexual assault when controlling for the hostile masculinity and impersonal sex pathways within the multivariate confluence model (Malamuth, 2003).

CHAPTER VII

METHOD

Recruitment Strategies

Sex Offender Recruitment. Participants in the sex offender sample were recruited from a local treatment center that provides therapy and assessment services for men who have committed a sexual offense. To be eligible for the study, men were required to meet four eligibility criteria: 1) be at least 18 years of age, 2) be able to read English, 3) have committed a sexual offense against a girl or woman⁴, and 4) be willing to view sexually explicit material. All data collection for this sample was completed at the sex offender treatment office in a private meeting room. Sessions were run with either one or two individuals at a time. The experimenter remained present throughout all sessions to answer questions, assist with computer issues, and make certain participants remained quiet and focused. Computers were positioned so that the experimenter could not see the screen to protect participant privacy. The duration of participation was approximately 1 hour and participants were compensated with \$30 in cash for their time.⁵

Community Sample Recruitment. A convenience sample was recruited from the Knoxville community to serve as a control group in analyses. The goal of recruitment for this sample was to match the sexual offender sample on basic demographic characteristics such as age, race, socioeconomic status, and education level. Toward this end, the research team posted

⁴ Because the stimulus material in this study depicted acts of sexual assault perpetrated against adult women, it would have been ideal to recruit a sample of men who were convicted of a sexual offense against an adult woman. However, the vast majority of men at the treatment center were convicted of a child sexual offense and it was not possible to recruit a full sample of 35 men into the sample who had committed an offense against an adult woman.

⁵ Two participants in the sex offender sample refused payment for their participation in the study. Both stated that they hoped their participation would help society and they did not feel they should be compensated considering their prior sexual offending.

study flyers at locations likely to draw a lower income, lower education sample such as blood banks, car washes, and restaurants and grocery stores in lower income neighborhoods. Initially, eligibility criteria was set at age 25 for the community sample to ensure the sample would not be dominated by undergraduate students. However, this age criteria was dropped to age 18 after the first 40 participants were recruited and it was determined that the community sample was slightly older than the sex offender sample. Other screening criteria for the community sample included the ability to read English and a willingness to view sexually explicit material. All data collection for this sample was completed in a research lab on the University of Tennessee campus. Sessions were run with either one or two individuals at a time. As in the sex offender sample, the experimenter remained present throughout all sessions with community men to answer questions, assist with computer issues, and make certain participants remained quiet and focused. Computers were positioned so that the experimenter could not see the screen to protect participant privacy. The duration of participation was approximately 1 hour and participants were compensated with \$30 in cash for their time.

Participants

Sex Offenders. Participants in the sex offender sample were 44 men between the ages of 18 and 63 ($M = 39$, $SD = 11.6$). One participant arrived at the research session but could not complete the study due to severe hand tremors that would not allow him to use the computer and thus produced no useable data. Data from a second participant was excluded from the study because he identified as exclusively homosexual (i.e., he indicated he was homosexual and had no sexual fantasies involving girls or women) and he had only perpetrated sexual offenses against boys. Further, I was not able to utilize data from 5 sex offenders who did not follow instructions on the implicit attitude test (error rates near 50%) and from 1 participant who was an

extreme outlier on the implicit attitude test (reaction time over 4 *SD* from group mean). Thus, the final sample included 36 sex offenders with useable data. The racial identification in this sample was primarily Caucasian (86%), but also included Native American (6%), African-American (3%), and “other” races (3%). The highest level of education completed included some high school (20%), high school graduate (25%), some college/technical school (31%), Associates degree (8%), Bachelors degree (8%), or graduate degree (6%). Three percent of the sample was currently in school, and 67% of the sample was currently working. With respect to economic status, participants reported their income last year was: \$0-10,000 (28%), \$10,001-20,000 (17%), \$20,001-30,000 (40%), and \$30,001-40,000 (14%). No participant reported making more than \$40,000 in the past year. Finally, regarding the duration of treatment for the sex offender sample, participants reported being in treatment for: 2-3 months (6%), 4-5 months (8%), 6-8 months (8%), 9-12 months (11%), 1-2 years (14%), and 2 or more years (44%). No participants reported being in treatment for less than 2 months, and two participants did not report treatment duration.

Community Men. Participants in the community sample were 51 men between the ages of 19 and 79 ($M = 36$, $SD = 13.9$). I excluded two participants from analyses because they identified as exclusively homosexual (i.e., they reported being homosexual and had no sexual fantasies involving girls or women), and one participant who did not follow instructions on the implicit attitude test (error rate = 48%). Thus, the final sample included 48 men. The racial identification in this sample was primarily Caucasian (83%), but also included African-American (6%), Hispanic/Latino (2%), Asian American (2%) and “other” races (6%). The highest level of education completed by this sample included some high school (12%), high school graduate (25%), some college/technical school (29%), Associates degree (8%), Bachelors degree (17%), some graduate school (4%), or graduate degree (4%). Forty-two percent of the sample was

currently in school, and 58% of the sample was currently working. Finally, with respect to economic status, participants reported their income last year was: \$0-10,000 (44%), \$10,001-20,000 (29%), \$20,001-30,000 (13%), and \$30,001-40,000 (10%), \$40,001-50,000 (2%), and \$50,001-60,000 (2%).

General Procedure

All data collection sessions were run by the P.I. When the research session began, participants first read and signed the informed consent forms. Next, the experimenter read the study instructions (see Appendix A) and answered any questions before participants began. All procedures were computerized. Participants were asked to remain quiet during the procedure unless they had trouble reading an item or needed assistance with the procedure. All study instructions and surveys were adapted to a 5th or 6th grade reading level in an attempt to accommodate participants with less education and lower reading ability. Participants' first completed the attitude priming procedure, then they completed several self-report surveys on the computer, and finally they were debriefed.

Attitude Priming Procedure. Participants were told that the priming procedure was a test of word meaning identification. They were told that they would be viewing pictures of men and women interacting on a computer screen followed by a word that was either good (e.g., nice, happy) or bad (e.g., gross, sad; for a complete list of words, see Appendix B). Participants' task was to decide if the word meant something good or bad as quickly as possible by pressing a button clearly marked "good" or "bad" on the keyboard.⁶

⁶ One participant also took it upon himself to write the word "bad" in marker on the computer to help facilitate his responding.

Before the priming procedure began, participants completed a practice block to become familiar with the words. The presentation of each word was preceded by a row of asterisks that served as a warning signal that the target word was to appear. Each word remained on the screen until the participant responded. Participants were prompted by the computer to respond more quickly if 1500 ms elapsed without a response. Participants completed one practice block where each of the 20 adjectives was presented twice in random order (i.e., 40 total practice responses).

Next, the critical priming blocks began. On the critical priming blocks, an image replaced the asterisks that were shown in the practice block. In total there were 40 images used as primes: 10 that depicted male perpetrated sexual assault against a female⁷, 10 that depicted sexual activity with no aggressive content, 10 that depicted aggression with no sexual content, and 10 neutral male-female interactions with no aggressive or sexual content. On any given trial, an image prime was presented for 300 ms followed immediately by a target word. Participants' task was to respond to the target word as quickly and accurately as possible by pressing one of two clearly labeled "good" or "bad" keys. As in the practice block, if a response was not given in 1500 ms, a warning message flashed on the screen asking the participant to respond more quickly. The latency of reaction time (RT) from word onset to response was recorded for each participant to the nearest millisecond. Participants completed three priming blocks with a brief

⁷Although the most common forms of sexual assault occur between acquaintances and involve alcohol and/or verbal coercion without of physical violence (Abbey et al., 1998; Abbey et al., 1996; Copenhaver & Grauerholz, 1991; Harrington & Leitenberg, 1994; Koss, 1988; Muehlenhard & Linton, 1987; Ullman, Karabatsos, & Koss, 1999a; 1999b), it was not possible to identify still-frame images that clearly depicted these form of sexual assault. Instead, the images we used in this study involved more overt forms of physical force and clearly displayed signs of disgust, resistance, or fear from the female victim. Pilot testing indicated that the sexually aggressive images were rated highly on both sexual and aggressive content (Widman & Olson, 2009). A copy of all images are available from the P.I.

rest period between blocks. In each block, each of the 40 images appeared twice, once with a good word and once with a bad word. This resulted in 80 image-word trials per block. Across the three blocks, there were 30 rape image-positive word pairings and 30 rape image-negative word pairings. The entire priming task lasted approximately 10 minutes.

Self-Report Measures. Several self-report measures were included to gather demographic information along with self-reported attitudes and behaviors (see Appendix C). These included:

Demographic Information Form. Several questions were included to capture basic demographic information, including age, race, sexual orientation, education background, work status, and socioeconomic status.

Sexual and Relationship History Questionnaire. An abbreviated sexual and relationship history was collected from participants. This questionnaire gathered specific information about any legal charges or convictions for a sexual offense – including the type of conviction, the victim’s age and sex, and the offender’s relationship to the victim. Items were also included to capture current relationship status, the content of men’s sexual fantasies, and sexual behaviors such as age of first intercourse and lifetime number of sexual partners.

Sex Offense Recidivism. To estimate sex offender risk of recidivism, I used the 4-item Rapid Risk Assessment for Sex Offense Recidivism (RRASOR; Hanson, 1997). Specifically, the RRASOR produces a summed score of 4-items, including a weighted number of prior sex offenses, any unrelated victims, any male victims, and whether or not the offender’s current age was less than 25. Total scores could range from 0-6. Because I did not have access to official records from the sex offenders, I had to rely on self-reports for these items. Prior research has shown the 4-item RRASOR to be equally effective at predicting recidivism risk as much more

thorough assessments (Barbaree, Seto, Langton, & Peacock, 2001), with an average correlation of .27 with sexual recidivism (Hanson, 1997).

Rape Myth Acceptance. The 20-item Illinois Rape Myth Acceptance Scale (IRMA; Payne et al., 1999) was used to assess the degree to which men accept traditional myths about rape. Rape myths have been defined as, “Attitudes and beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women” (Lonsway & Fitzgerald, 1994, p. 134). Example items include, “If a woman doesn't physically fight back, you can't really say that it was rape,” and “Men from nice middle-class homes almost never rape”. Items were rated on a 7-point scale from (1) Strongly Disagree to (7) Strongly Agree. The IRMA contains three items that are not scored with the total scale but are included to help avoid response sets; thus the final scale included 17-items that can be summed to produce a total rape myth acceptance score with higher scores indicating stronger acceptance of rape myths ($\alpha = .89$).

Hostility Toward Women. Lonsway and Fitzgerald's (1995) 10-item Revised Hostility Toward Women scale (HTW) was used to assess general feelings of hostility and resentment toward women. The HTW scale is based on the original Hostility toward Women Scale by Check, Malamuth, Elias, and Barton (1985), and contains items such as “I think that most women would lie just to get ahead,” and “I am easily angered by women”. Items were rated on a seven point Likert scale from (1) Strongly Disagree to (7) Strongly Agree. A total scale score was calculated such that higher scores indicated more hostile attitudes toward women ($\alpha = .82$).

Sexual Dominance. The 8-item Sexual Dominance (DOM) subscale of the Sexual Functions Inventory (Nelson, 1979) was used to assess power, control, and dominance as motivations for sexual activity. Example items include, “I have sex because I like the feeling that

I have someone in my control⁸,” and “I have sex because I like the feeling of having another person submit to me.” Items were rated on a seven point Likert scale from (1) Strongly Disagree to (5) Strongly Agree. A total scale score was calculated such that higher scores indicated stronger dominance motives ($\alpha = .90$).

Sexual Assault Frequency and Severity. Sexual assault perpetration was assessed with a recently updated Sexual Experiences Scale (SES; Abbey et al., 2005) that captures sexual assault perpetrated by men against women since the age of 14 (Koss & Gidycz, 1985; Koss & Oros, 1982; Koss et al., 1987). Importantly, the SES makes no reference to “rape” or “sexual assault,” prompting respondents to simply report whether they had engaged in a series of specific behaviors that meet current legal and research definitions for sexual assault. Specifically, participants reported whether or not they had used six different tactics – 1) arguments/pressure, 2) lies/promises, 3) guilt/anger, 4) giving alcohol or drugs, 5) taking advantage of an intoxicated woman, and 6) using physical force – to engage in five different types of sexually aggressive behavior: 1) fondling/kissing, 2) attempted sex, 3) oral sex, 4) sexual intercourse, and 5) anal sex/insertion of objects. A total sexual assault frequency score was computed by summing the total number of items endorsed which could range from 0-30.

Additionally, I used the SES to calculate a separate index of sexual assault severity following that was conceptually different but highly related to the sexual assault frequency score (e.g., Koss et al., 1987). Specifically, participants were coded into one of five mutually exclusive categories: 1) no sexual assault, 2) sexual contact (i.e., verbally pressured or physically forced kissing or sexual touching, but not sexual penetration), 3) sexual coercion (i.e., verbally

⁸ The original wording of this item was “I have sex because I like the feeling of having someone in my *grasp*.” However, I changed the wording of this item, and several others, to reflect a 5th to 6th grade reading level. See Appendix D for exact wording of all items.

pressured sexual penetration), and 4) attempted rape (i.e., sexual penetration that was attempted but not completed through use of physical force, giving drugs/alcohol, or taking advantage of a victim who was too incapacitated to consent), or 5) completed rape (i.e., sexual penetration that was completed through use of physical force, giving drugs/alcohol, or taking advantage of a victim who was too incapacitated to consent).

Final Aspects of the Procedure. At the conclusion of the study, participants were read a debriefing statement, allowed to ask questions, compensated, and thanked for their time. They were also given a copy of the consent form which included researcher contact information should they have follow-up questions.

Human Subjects Protection

The University of Tennessee Institutional Review Board approved all procedures before data collection began. Because participants in this study were asked very personal questions, some that could be legally incriminating, privacy and confidentiality were of primary concern. Further, because participants were exposed to graphic material that depicted acts of sexual aggression, it was important to ensure proper debriefing and mitigate the risks associated with viewing this type of material. Several specific procedures were implemented to ensure the proper protection of human subjects with these concerns in mind. First, all data were collected such that participants' responses could remain completely anonymous and confidential. Participants did not enter their names or identifying information into the computer at any time so that their names could not be connected to their data. This precaution eliminated the risk that participants could be incriminated by their answers. Second, participants were told that their participation was completely *voluntary*, and that they were free to decide not to answer any question that they felt was too personal. They were also able to withdraw their participation from the study at any time

without penalty, as outlined in the Informed Consent. This mitigated the risk that participants would become overly uncomfortable or feel coerced to continue their participation. Finally, to minimize exposure to sexual images, we selected images that were roughly “pg-13” or “R” rated and similar to the kind of images participants had likely previously been exposed to through television, movies, and the internet. Additionally, in line with a meta-analysis that found short educational debriefings were sufficient to mitigate the effects of experimental exposure to violent sexually explicit material (Allen, D’Alessio, Emmers, & Gebhardt, 1996), we included an educational component to our debriefing statement that was similar to the effective debriefing statement published by Malamuth and Check (1984) and warned participants of the harmful consequences of sexual assault (See Appendix D for full debriefing procedure).

CHAPTER VIII

RESULTS

Computing Rape Attitude Estimates

Estimates of automatically activated rape attitudes were derived from participants' performance on the priming procedure. To compute such scores, first reaction times faster than 100 ms or slower than 1500 ms were trimmed to reduce the likelihood that an outlier would distort the reaction time measure (Fazio, 1990). This resulted in a loss of 1.42% of raw data in the sex offender sample and 1.38% of raw data in the community sample. Next, mean times were calculated across blocks for the rape image-positive word pairings and the rape image-negative word pairings (excluding error trials). Finally, rape attitude indices were computed by subtracting the rape-positive RTs from rape-negative RTs, where more positive scores indicated faster response times to rape-positive pairings than rape-negative pairings and suggested more "pro-rape" attitudes.

Sample Comparisons

To determine if the sexual offender and community samples were well-matched on basic demographics, I computed a series of independent samples *t*-tests. Results demonstrated that the samples did not significantly differ on most demographic characteristics, including age, $t(81) = -1.09, p = .28$, race, $t(81) = .87, p = .39$, yearly income, $t(81) = -1.38, p = .17$, or whether they were currently working, $t(81) = -.95, p = .35$. However, community participants were more likely to be currently in school than sex offenders, $t(81) = 5.02, p < .01$. Overall these results suggested that the two samples were quite comparable.

Descriptive Statistics

Before examining differences between sex offenders and community men, it was important to understand basic descriptive information about the sexual offenses of each sample individually. This was accomplished by analyzing responses to two surveys: 1) the Relationship and Sexual History questionnaire which queried about the type and number of legal charges and convictions for a sexual offense, information about the victim's age and sex, and the offender's relationship to the victim, and 2) the Sexual Experiences Scale (Abbey et al., 2005) which included self-reported acts of sexual assault that may not have been reported to the police. In this section, I also present basic descriptive information about the rape supportive attitudes of the sex offender and community samples.

Descriptive Statistics for Sex Offenders. Results from the Relationship and Sexual History questionnaire revealed a range of 0-3 charges for a sexual offense ($M = 1.14$, $SD = .60$) and 0-2 convictions for a sexual offense ($M = 1.09$, $SD = .47$).⁹ Regarding the type of offense, results indicate that 14% ($n = 5$) of sex offenders were convicted solely of a non-contact offense (e.g., receipt of child pornography, indecent exposure), 75% ($n = 27$) were convicted of a contact offense (e.g., rape, attempted rape, statutory rape, aggravated sexual battery, incest), and the offenses of 11% ($n = 4$) of sex offenders were unknown. An independent samples *t*-test demonstrated that implicit rape attitudes did not differ significantly between the contact and non-contact sex offender groups, $t(33) = .90$, $p = .38$. The most common sexual convictions reported

⁹ Data on the Relationship and Sexual History questionnaire was missing for one man and three more men reported 0 charges for a sexual offense. It is unlikely that men in the sex offender treatment program were never charged with a sexual offense. Thus, the three men who indicated they had never been charged with a sexual offense either misread the question or were intentionally lying in their response. Two of these men indicated that they had been convicted of attempted aggravated sexual battery in an open-ended item, so I suspect these men simply misread the items querying about legal charges and convictions.

in this sample included rape ($n = 11$), attempted rape ($n = 8$),¹⁰ receipt or possession of child pornography ($n = 7$), and aggravated sexual battery ($n = 4$). Regarding the age of the victim, 35% ($n = 12$) of men perpetrated exclusively against children under the age of 13, 37% ($n = 13$) perpetrated exclusively against teens age 14-17, 3% ($n = 1$) perpetrated exclusively against adult women, and 24% ($n = 8$) perpetrated against girls and women of different age groups.

Using this information about legal charges and convictions, I was able to classify sex offenders into three distinct groups: 1) a sample of men who perpetrated exclusively against children under the age of 13 ($n = 15$, “child offenders”), 2) a sample of men who perpetrated against an adolescent girl between the ages of 14 and 17 ($n = 18$, “adolescent offenders”), and a small sample of men who perpetrated against an adult woman age 18 or older ($n = 3$, “adult offenders”).

When sexual assault was assessed via the behaviorally-specific Sexual Experiences Scale (SES; Abbey et al., 2005), only 70% ($n = 25$) of the sex offender sample acknowledged they had committed an act of sexual assault when they were 14 years or older, 25% ($n = 9$) claimed that they had not engaged in any of the behaviors on the SES, and another 5% ($n = 2$) did not complete the survey. The number of self-reported sexual assaults ranged from 0-20. Further, 56% ($n = 20$) of sex offenders reported perpetrating more than one act of sexual assault and 23% ($n = 9$) reported perpetrating five or more acts. A breakdown by the severity of sexual assault indicated that 8% ($n = 3$) had perpetrated a form of sexual contact against a woman’s will, 39% ($n = 14$) had perpetrated an act of sexual coercion, no participants had attempted rape, and 17% ($n = 6$) had completed rape.

¹⁰ It was not always clear if these rapes were of children or adults, so this number was collapsed across all rape groups (i.e., child rape, statutory rape, and adult rape).

Because it appeared suspicious that only 70% of convicted sex offenders admitted they had engaged in sexual assault, follow-up analyses were conducted to determine if this discrepancy was due to a non-overlap of the SES with the sex offenders offenses. For example, the SES captures contact sexual offenses but does not query about events such as indecent exposure or possession of child pornography. Thus, it was possible that the 25% of men who did not endorse any items on the SES had been convicted of a non-contact offense that was not captured by the SES. This possibility was not confirmed. Instead, an examination of SES scores by sex offender contact group revealed that 20 of the 27 men who were convicted of a contact offense reported some sexual assault on the SES (frequency range = 1-20), while 7 of 27 contact offenders reported nothing on the SES. The legal convictions of these 7 men included attempted rape ($n = 3$) and rape of a child/statutory rape ($n = 4$). Also, 3 of the 5 participants who were convicted of a non-contact offense reported some sexual assault on the SES (frequency range = 1-9), while the other 2 non-contact offenders reported nothing on the SES. Both of these men were legally convicted of possession of child pornography. Further, all 4 of the men missing offense contact information reported some sexual assault on the SES (frequency range = 2-11).

Descriptive statistics for rape supportive attitudes, including implicit rape attitudes and self-reported rape attitudes are located in the top portions of Table 1 and Table 2 (all Tables are located in Appendix E). As shown in the tables, rape attitudes assessed with the evaluative priming measure demonstrated good variability in the sex offender sample, with raw scores ranging from -155.67 to 99.89. As can be seen, sex offender's implicit rape attitudes became more "pro-rape" as the sample moved from child offenders ($M = -20.85$), to adolescent offenders ($M = -17.08$), to adult offenders ($M = 40.72$). The ranges of rape myth acceptance, hostility toward women, and sexual dominance scores were much more restricted and negatively skewed.

Specifically, on a possible scale of 1-7 where higher scores indicate more rape supportive attitudes, the mean RMA score was 1.99 ($SD = .73$) with an observed range of scores from 1.00 to 3.71 and the mean HTW score was 2.88 ($SD = .78$) with an observed range of scores from 1.20 to 4.88. On a possible scale of 1-5, the mean DOM score was 1.90 ($SD = .71$), with a range of scores from 1.00 to 4.38. As indicated in Table 2, and in contrast to the pattern observed in the implicit measure data, self-reported rape attitudes actually became more “anti-rape” as the sample moved from child offenders to adult offenders.

Descriptive Statistics for Community Men. When the Relationship and Sexual History questionnaire was examined in the community sample, one of the 48 community participants revealed a legal history of a sexual offense charge. This participant was charged with indecent exposure approximately 10 years prior to study participation, and he was never convicted of the crime. Because he was never convicted and never received sex offender treatment, his data were retained in the community sample.

When behavioral history of sexual assault was examined using the Sexual Experiences Survey (Abbey et al., 2005), a very different picture of perpetration among the community sample emerged. Specifically, since the age of 14, a full 60% ($n = 29$) of the men in the community sample reported they had committed at least one act of sexual assault, with the number of sexual assaults ranging from 0-15. Further, 46% ($n = 23$) of community men reported perpetrating more than one act of sexual assault, and 26% ($n = 13$) reported perpetrating five or more acts. A breakdown by the severity of sexual assault indicated that 18% ($n = 9$) had perpetrated a form of sexual contact against a woman’s will, 29% ($n = 14$) had perpetrated an act of sexual coercion, 6% ($n = 3$) had perpetrated an act of attempted rape, and 6% ($n = 3$) had completed a rape. Using this descriptive information, I was able to classify the community

sample into two distinct groups: 1) men who did not report a history of sexual assault perpetration ($n = 19$, “community non-offenders”), and 2) men who reported a history of sexual assault perpetration ($n = 29$, “community offenders”).

Descriptive statistics for implicit rape attitudes and self-reported rape attitudes for the community sample are located in the bottom portions of Table 1 and Table 2. As shown in Table 1, rape attitudes assessed with the evaluative priming measure demonstrated good variability in the community sample, with raw scores ranging from -221.89 to 116.07. As in the sex offender sample, the range of scores for rape myth acceptance, hostility toward women, and sexual dominance were much more restricted and negatively skewed. Specifically, with a possible range of 1-7, among all community men the mean RMA score was 2.53 ($SD = .89$) with an observed range of scores from 1.00 to 4.41 and the mean HTW score was 3.12 ($SD = .93$) with an observed range of scores from 1.00 to 5.60. On a possible scale of 1-5, the mean DOM score was 2.49 ($SD = .78$), with a range of scores from 1.00 to 4.38.

Hypothesis 1: Implicit Rape Attitudes will discriminate between Sex Offenders and Non-Offending Men.

I examined this first hypothesis in two ways. First, I compared the implicit rape attitudes of convicted sex offenders to community men. In line with the hypothesis that implicit rape attitudes would significantly discriminate between convicted sex offenders and non-offending community men, I began with a test of these groups. However, I also conducted follow-up analyses to examine if any differences were present between convicted sex offenders and community men with a self-reported history of sexual assault. Second, I compared the implicit rape attitudes of offending community men to non-offending community men. Results of these group comparisons are detailed below.

Comparing Convicted Sex Offenders to Community Men. To compare the implicit rape attitudes of convicted sex offenders to non-offending community men, I conducted a one-way ANOVA, $F(4, 79) = 1.38, p = .12$, with planned comparisons between the non-offending community men ($n = 19$) and: 1) child offenders ($n = 15$), 2) adolescent offenders ($n = 18$), and 3) adult offenders ($n = 3$). Given the small sample sizes and directional hypotheses, one-tail significance tests were used¹¹. Results of the planned comparisons demonstrated that mean implicit rape attitude scores did not significantly differ between the community sample ($M = -24.11, SD = 66.25$) and the child sex offender sample ($M = -20.85, SD = 46.21$), $t(79) = .16, p = .44$, nor between the community sample and the adolescent offender sample ($M = -17.08, SD = 50.43$), $t(79) = .37, p = .35$. However, consistent with the first hypothesis, men who committed a sexual offense against an adult woman demonstrated significantly more “pro-rape” implicit attitudes ($M = 40.72, SD = 54.22$) than the community men, $t(79) = -1.82, p < .05$.

Follow-up analyses were conducted to determine if implicit rape attitudes differed between convicted sex offenders and community men who indicated a history of sexual assault perpetration. Planned comparisons indicated that the attitudes of offending community men ($n = 29, M = 1.88, SD = 60.55$) did not significantly differ from the attitudes of the child sex offenders, $t(79) = -1.25, p = .11$, the adolescent sex offenders, $t(79) = -1.10, p = .14$, or the adult sex offenders, $t(79) = 1.12, p = .13$.

Comparing Offending Community Men and Non-Offending Community Men. To examine if implicit rape attitudes differed between community men who had committed sexual assault and those who had not committed sexual assault, I used the continuous outcome score of

¹¹ One-tail significance tests are reported throughout the rest of the results given the small sample size and directional hypotheses.

sexual assault frequency calculated from the Sexual Experiences Scale (Abbey et al., 2005) as the dependent variable and conducted a negative binomial regression analysis. A negative binomial regression was selected because the sexual assault frequency data were highly negatively skewed count data, and thus violated assumptions of normality (cf. Widman & McNulty, 2009; see Atkins & Gallop, 2007, and Orme & Combs-Orme, 2009, for a thorough discussion of non-normal distributions and corrective statistical techniques). Consistent with hypotheses, results demonstrated that implicit rape attitudes were significantly related to the total number of sexual assaults perpetrated since the age of 14 in the community sample, $Wald \chi^2 = 5.33, p < .05, d = .71$, such that men with more positive implicit rape attitudes reported perpetrating a greater number of sexual assaults than men with less positive implicit attitudes.

Hypothesis 2: Implicit Attitudes will predict Risk of Recidivism among Sex Offenders

To test this hypothesis, I examined the bivariate correlations between implicit rape attitudes and scores on the Rapid Risk Assessment for Sex Offense Recidivism (RRASOR; Hanson, 1997) among the three samples of sex offenders. Results failed to support the second hypothesis, as the correlations between implicit attitudes and the RRASOR were not significant in the child sex offender sample ($r = -.25, p > .10$), the adolescent sex offender sample ($r = -.24, p > .10$), nor the adult sex offender sample ($r = .02, p > .10$).

Hypothesis 3: Self-Reported Rape Attitudes will not clearly discriminate between Sex Offenders and Non-Offending Men.

Much like the 1st hypothesis, I examined the 3rd hypothesis by comparing the self-reported attitudes of convicted sex offenders to both non-offending and offending community men, and also by comparing the self-reported attitudes of non-offending community men to offending community men.

Comparing Convicted Sex Offenders to Community Men. First, to compare the self-reported rape attitudes of sex offenders to community participants I conducted a series of independent samples *t*-tests comparing community men who had perpetrated sexual assault, community men who had not perpetrated sexual assault, and all three of the sex offender groups (i.e., child offenders, adolescent offenders, adult offenders). Mean self-report scores are presented in Table 2 and results of independent sample *t*-tests are presented in Table 3. As indicated in Table 3, and consistent with the 3rd hypothesis, sex offenders generally demonstrated similar or even *lower* self-reported rape attitudes than the community men. Specifically, all three groups of convicted sex offenders reported lower rape myth acceptance, lower hostility toward women, and lower sexual dominance than the community men with a history of sexual assault ($t_s = -.91$ to -3.90 , $p_s < .10$). Further, the convicted sex offenders reported significantly lower rape myth acceptance than the community non-offenders ($t = 3.27$, $p < .05$).

Comparing Offending Community Men and Non-Offending Community Men. To examine if self-reported rape attitudes differed between community men who had committed sexual assault and those who had not committed sexual assault, I conducted three independent sample *t*-tests using rape myth acceptance, hostility toward women, and sexual dominance as the dependent variables and offending status as the grouping variable. Results are reported at the bottom of Table 3. As shown in the Table, community men who reported a history of sex assault perpetration endorsed more sexual dominance as a motivation for sexual activity, $t(46) = -3.00$, $p < .001$, and also reported slightly more hostility toward women than non-offending community men, $t(46) = 1.64$, $p < .10$. Rape myth acceptance did not significantly differ between the two groups.

In sum, results of self-reported attitude comparisons found convicted offenders appeared to have less rape supportive attitudes than community men. However, community men who had admitted to perpetrating a sexual offense reported more rape supportive attitudes than non-offending community men.

Hypothesis 4: Implicit Rape Attitudes will Contribute Significant Unique Variance to Predict Sexual Offending above Self-Reported Attitudes.

Because implicit attitudes only discriminated between convicted sex offenders and community men when the small sample of three adult sex offenders was used, and because self-reported rape attitudes were actually lower in the sex offender sample than the community sample, it did not make sense to test if implicit attitudes contributed significant unique variance to predict sexual offending above self-reported attitudes among convicted sex offenders. However, considering that implicit attitudes were significantly associated with sexual assault in the community sample, a test of the incremental validity of implicit attitudes above self-reported attitudes was warranted in this sample.

Comparing Offending Community Men and Non-Offending Community Men. To examine the unique predictive power of implicit attitudes above self-reported rape attitudes among community men, I used the continuous sexual assault frequency score as the outcome variable and conducted two separate sets of analyses. First, preliminary correlations were conducted to provide a snapshot of the interrelationship between implicit rape attitudes, self-reported rape attitudes, and sexual assault perpetration among community men. Second, a series of negative binomial regression analyses (for review, see Orme & Combs-Orme, 2009) were conducted to examine if implicit rape attitudes contributed additional variance to predict sexual assault above and beyond self-reported rape attitudes (i.e., do implicit attitudes remain a

significant predictor of sexual assault when entered into the same model as self-reported attitudes?).

First, I conducted preliminary correlations with the attitudinal variables of interest. As seen in Table 4, the self-reported rape attitudes were all significantly associated, with a strong correlation noted between rape myth acceptance and hostility toward women ($r = .57$). Further, implicit rape attitudes and self-reported rape attitudes were each significantly positively associated with the frequency of sexual assault perpetration.

Next, to examine if implicit rape attitudes contributed additional variance to predict sexual assault above and beyond self-reported rape attitudes, I conducted a series of negative binomial regression analyses using sexual assault frequency as the dependent variable. First, implicit rape attitudes, rape myth acceptance, hostility toward women, and sexual dominance were entered into independent models to examine the individual variance in sexual assault accounted for by each variable. Then, to assess the unique predictive power of implicit attitudes above self-reported attitudes, implicit attitudes were entered into a simultaneous regression model with rape myth acceptance (Simultaneous Model 1), hostility toward women (Simultaneous Model 2), sexual dominance (Simultaneous Model 3), or rape myth acceptance, hostility toward women, *and* sexual dominance (Simultaneous Model 4). As shown in Table 5, when implicit rape attitudes were entered into multivariate models with rape myth acceptance, hostility toward women, and sexual dominance, implicit rape attitudes emerged as a significant unique predictor of sexual assault frequency, accounting for variance in sexual assault above and beyond that accounted for by traditional self-report measures. Notably, in the final multivariate model where implicit rape attitudes, rape myth acceptance, hostility toward women, and sexual dominance were simultaneously entered as predictors, only implicit rape attitudes remained a

significant predictor of sexual assault; hostility toward women and sexual dominance fell from fully significant to marginally significant, and rape myths were no longer associated with sexual assault perpetration.

Hypothesis 5: Implicit Attitudes will Explain Significant Unique Variance in Sexual Assault when controlling for the Hostile Masculinity and Impersonal Sex Pathways within the Multivariate Confluence Model.

To test this final hypothesis, I needed to recreate the hostile masculinity (HM) and impersonal sex (IS) pathways proposed by Malamuth and colleagues (Malamuth et al., 1991; Malamuth et al., 1995; Malamuth, 2003). First, I created the HM path by standardizing and summing the abovementioned attitude scales (i.e., rape myth acceptance, hostility toward women, sexual dominance; for a similar HM path, see also Dean & Malamuth, 1997; Hall et al., 2005; Malamuth et al., 1995; Wheeler et al., 2002). Next, the IS variable was created by standardizing and summing two items: 1) number of consensual sexual intercourse partners (coded on an 8-point scale from 0 to 51 or more) and 2) age at first intercourse (coded on a 10-point scale from age 22 or older to age 12 or younger; for a similar IS path, see also Malamuth et al., 1991).

With the HM and IS pathways created, the next step was to examine if implicit rape attitudes would explain significant unique variance in sexual assault above these two comprehensive attitudinal and behavioral pathways. As in hypothesis 4, it did not make sense to examine this possibility in the sex offender sample since self-reported attitudes did not clearly discriminate between groups. However, considering that implicit attitudes and self-reported attitudes were significantly associated with sexual assault in the community sample, a test of the incremental validity of implicit attitudes above HM and IS was warranted in this sample.

As in Hypothesis 4, I conducted a series of negative binomial regressions examining the independent effects of each variable as well as the unique effects of each variable by entering them into simultaneous models. As indicated in Table 6, and replicating prior research on the confluence model (Malamuth, 2003), both hostile masculinity and impersonal sex were significant unique predictors of sexual assault. Importantly, however, implicit attitudes remained significantly associated with sexual assault even when hostile masculinity and impersonal sex were controlled, and in the final model when all three variables were entered, only implicit attitudes, $Wald \chi^2 = 2.96, p < .05$, and hostile masculinity, $Wald \chi^2 = 12.08, p < .001$, remained significant predictors, with impersonal sex falling out of significance, $Wald \chi^2 = .21, p > .20$.

Post-Hoc Analyses

In an effort to better understand the implicit rape attitudes of convicted sex offenders, a series of exploratory post-hoc analyses were conducted to examine multiple demographic and treatment variables that might be associated with implicit attitudes, including age, race, income level, treatment duration, perceived need for treatment, number of charges for a sex offense, number of convictions for a sex offense, and any convictions for non-sexual violence. Bivariate correlations between the aforementioned variables and implicit rape attitudes did not reveal any significant relationships ($p > .10$).

Then, to determine if any basic demographic or treatment variables were associated with self-reported rape attitudes in the sex offender sample, I examined bivariate correlations between each of the above variables and rape myth acceptance, hostility toward women, and sexual dominance. Results revealed that sex offenders with higher income reported lower sexual dominance ($r = -.31, p = .07$) and hostility toward women ($r = -.32, p = .08$). Further, negative associations were observed between rape myth acceptance and treatment length ($r = -.31, p =$

.09) and perceived need for treatment ($= -.31, p = .08$), such that participants who had been in treatment longer and felt they needed treatment more reported lower rape myth acceptance. All other bivariate analyses were not significant ($p > .10$).

CHAPTER IX

DISCUSSION

Snapshot of Study Findings

Considering the problems inherent in assessing rape supportive attitudes through self-reports, the goal of the current project was to advance sexual assault research by examining the implicit rape attitudes of convicted sex offenders and then to compare these attitudes to a matched community control sample. Consistent with hypotheses, results demonstrated that sex offenders who perpetrated a sexual offense against an adult woman held more “pro-rape” implicit attitudes than non-offending men in a demographically matched, low-income community sample. Then, within the community sample, I found that implicit rape attitudes were a robust indicator of sexual assault and contributed significance unique variance in explaining sexual assault perpetration beyond traditional self-reported rape attitudes (i.e., rape myth acceptance, hostility toward women, and sexual dominance). Results also demonstrated that implicit attitudes accounted for significant unique variance in sexual offending when included as a third pathway in the comprehensive confluence model of sexual assault (Malamuth, 1998, 2003). In the discussion that follows, I will briefly review the purpose of the study, highlight the alarming prevalence of sexual assault that was uncovered, comment on the key study findings, review several study strengths and limitations, and suggest fruitful avenues for future research.

Brief Review of Study Purpose

Prior research and theory suggest that rape supportive attitudes may be important predictors of sexual assault and provide insight into the causes of this harmful social behavior (e.g., Burt, 1980; Lonsway & Fitzgerald, 1995). Yet, prior research has assessed rape supportive attitudes almost exclusively through self-report measures (for exception, see Widman & Olson,

2008, 2009). These measures are both methodologically and theoretically limited in that they are susceptible to reporting biases and cannot capture the automaticity of rape attitudes. It was argued that these limitations could hamper a more complete understanding of the relationship between rape attitudes and sexual assault perpetration. To address these prior limitations, the purpose of the current project was to extend a novel implicit rape attitude assessment procedure (Widman & Olson, 2009) by examining the implicit rape attitudes of convicted sex offenders and a matched community control sample. It was predicted that implicit rape attitudes would significantly discriminate between sex offenders and non-offenders and contribute significant unique variance to theories of offending above and beyond the more traditional self-reported rape attitudes of rape myth acceptance, hostility toward women, and sexual dominance. Further, it was expected that implicit rape attitudes would predict risk of sexual recidivism among the convicted offenders. A final important purpose of this study was to document self-reported rates of sexual assault perpetration among the samples of community men and convicted sex offenders, as this documentation has been noticeably sparse in prior research. A discussion of these prevalence findings is presented next.

Rates of Sexual Assault in Two Unique Samples

Perpetration in the Low Income Community Sample. Findings from this study contribute to a growing body of literature documenting the prevalence of male perpetrated sexual assault in several ways. First, this study adds to prior research in that it assesses rates of sexual assault in a sample of U.S. community men, adding to the mere handful of prior studies in this important population (i.e., Abbey et al., 2006; Calhoun et al., 1997; Lanier, 2001; Merrill et al., 2001). The results of this investigation were quite alarming. Specifically, since the age of 14, a full 60% of the men in this low-income community sample reported they had committed at least one act of

sexual assault. Overall, almost half of the community men reported perpetrating more than one act of sexual assault, and a quarter of the sample had perpetrated five or more acts. One participant admitted he had perpetrated as many as 15 sexual assaults. Further, a full 12 percent of community men admitted to an act that would meet most legal standards for an attempted or completed rape. These rates are comparable to the most recently published community sample by Abbey et al. (2006) who found the prevalence of sexual assault to be near 63%, but these statistics far exceed the prevalence rates of 20-30% found in the other community samples (Lanier, 2001; Merrill et al., 2001) and the prevalence rates around 30% that are typical in college samples (e.g., Abbey et al., 1998; Abbey et al., 2001; Loh et al., 2005; White et al., 1996).

There are several possible reasons that I found such alarmingly high rates of sexual assault in this study. One possibility is that the sample was recruited from the southeast, a region of the country generally known for higher sexual assault (Koss et al., 1987); yet, this explanation does not fully explain why the numbers in this study were so much higher than the community sample collected from a rural Georgia community (Calhoun et al., 1997; sexual assault prevalence = 22%). A second possibility for the high prevalence is the advanced screening instrument that I used, a 30-item assessment (Abbey et al., 2005) that may have captured a broader range of offenses and aided in memory recall compared to the briefer assessments used in prior research. Indeed, prior research on both adult sexual assault and child sexual abuse have found that research methodology can account for a significant portion of the observed discrepancy in prevalence estimates. For example, more rigorous studies that include ample behaviorally specific screening questions and clearly defined definitions of sexual assault, such as the screening tool used in the current project, generally find higher prevalence of sexual

assault and sexual abuse than studies with fewer items (Bolen & Scannapieco, 1999; Russell & Bolen, 2000). A third possibility for the increased sexual assault reporting in this study is that I made all procedures anonymous and emphasized the importance of honest responding. This may have reduced social desirability pressures to underreport these crimes. Indeed, recent research by Olson and colleagues (Olson, Fazio, Hermann, 2007; Phillips & Olson, 2009) has demonstrated that simply asking participants to respond honestly can reduce discrepancies between implicit and explicit reports and increase the veracity of self-report assessments. A fourth possibility is that rates of sexual assault are truly on the rise and I found higher prevalence of sexual assault simply because men are now committing more sexual assaults than in prior investigations. Alternatively, it is also possible that this study over-estimates sexual assault prevalence because of the small, low-income sample and/or sample selection bias (Catania, Binson, Van der Straten, & Stone, 1995; Weinhardt, Forsyth, Carey, Jaworski, & Durant, 1998). Follow-up research that uses a rigorous screening instrument in a broader community sample is needed to evaluate the aforementioned possibilities. The ideal test would be to recruit a large, nationally representative sample. Although such samples have been conducted with nationally representative samples of community women (Brener et al., 1999; Resnick et al., 1993; Tjaden & Thoennes, 1998), a similar prevalence study is notably lacking with community men. This is an essential direction for future sexual assault research.

Perpetration in the Sex-Offender Sample. A second way that this study uniquely contributes to the literature documenting the prevalence of sexual assault is that it assesses rates of self-reported sexual assault among men previously convicted of a sexual offense. Importantly, there have been no published studies that use the Sexual Experiences Scale in a sample of

convicted offenders (M. P. Koss, personal communication, June 22, 2009), so the descriptive results for this sample are entirely novel.

Results of this descriptive assessment revealed that among convicted sex offenders, only 70% of the sample acknowledged they had committed an act of sexual assault, with nearly half of the sample reporting 2 or more assaults and one quarter of the sample reporting 5 or more assaults. There were at least five possible explanations for the notable discrepancy between SES scores and a sexual offense conviction: 1) the convicted sexual assault did not match with an item on the SES, 2) the offender was wrongly convicted and never actually perpetrated a sexual assault, 3) the offender misread or misunderstood items on the SES, 4) the offender's cognitive distortions prohibited him from understanding that his victim did not want his sexual advances, or 5) the offender lied. These possibilities are briefly discussed below.

First, although it was possible that the discrepancy between legal convictions and self-reported sexual assault could be attributable to a mismatch between legal convictions and SES items (i.e., the men who did not report an assault on the SES were convicted of a non-contact sexual offense that was not captured by the SES, such as indecent exposure or child pornography), follow-up analyses did not confirm this possibility. Specifically, I found that 7 of the 27 men who were convicted of a contact sexual offense did not report anything on the Sexual Experiences Survey. A second possible explanation for the reporting discrepancy could be that the sex offender was wrongly convicted and never actually perpetrated an assault, though this possibility is highly unlikely given the difficulty of prosecuting sexual offenses and very low conviction rates (Benedict & Klein, 1997; Bohmer & Parrot, 1993; Fairstein, 1993; Vachss, 1994). A third possibility is that some of the sex offenders misunderstood the SES items and thus inaccurately – but unintentionally – did not report an offense. There is anecdotal evidence for

this third possibility in that several sex offenders had to ask for clarification throughout the study, even on relatively simple words (i.e., heterosexual, anal sex, awesome). A fourth explanation for the noted discrepancy could be that the cognitive distortions surrounding sexual offending were so pervasive for some offenders that they did not perceive that their victims' did not want the sexual contact (Hall, 1996; Hall & Hirschman, 1991; Polaschek & Ward, 2002; Ward, 2000). Specifically, due to their distortions, they might have felt that the SES items did not apply to them as all SES items describe sexual experiences that the woman did not want. A final, less forgiving explanation is that the sex offenders who were convicted of a contact offense but did not report anything on the SES intentionally lied in an effort to deny or minimize this behavior (cf. Ward, 2000; Ward, Hudson, & Marshall, 1995).

Although the current data can rule out the first possibility, the final four possibilities remain speculative and subject to investigation in future work. Regardless of the reason for the discrepancy, these results do speak to the external validity of the SES, suggesting that the SES is able to capture a large portion of sexual offenses but may still be plagued with problems of under-reporting.

Discussion of Major Findings Related to Rape-Supportive Attitudes

Consistent with the original study hypotheses, and attesting to the powerful relationship between implicit attitudes and behavior (Bessenoff & Sherman, 2000; Dijksterhuis et al., 2000; Fazio et al., 1995), implicit attitudes discriminated between adult sex offenders and non-offending control participants such that men convicted of a sexual offense against an adult woman demonstrated more "pro-rape" implicit attitudes than non-offending community men. Additionally, community men with a self-reported history of sexual assault perpetration held more hold pro-rape implicit attitudes than non-offending community men. Such results

demonstrate the unique predictive power of implicit attitudes and corroborate prior research that suggests highly accessible, implicit attitudes are more stable over time and are more predictive of future behavior than are less accessible attitudes (Fazio, 1995; Fazio et al., 1995; Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009).

Also consistent with initial hypotheses, self-reported rape attitudes did not clearly discriminate between sex offenders and community men. Instead, sex offenders actually demonstrated slightly *less positive* explicitly measured rape attitudes than community men. There are a couple of possible explanations for these findings. First, it is possible that the sex offenders had truly changed (i.e., lowered) their rape supportive attitudes in the context of their treatment. Considering that almost half of the sample had been in treatment for 2 years or more, this possibility is certainly hopeful. However, a second possibility that cannot be ruled out is that sex offenders actually held more rape-supportive attitudes than community men, but did not honestly report their attitudes via self-report. This possibility is in line with the argument presented in the introduction of this project that suggests rape-supportive attitudes are socially undesirable, particularly in the context of a rape prevention or sex offender treatment program, and that there may be considerable pressure on convicted sex offenders, both externally and possibly internally, to report reduced rape supportive attitudes (Nosek, 2005; Olson, 2009). It would be ideal to replicate the current research in a sample of convicted offenders who are not in treatment to help reduce the demand some participants may feel to report lowered rape supportive attitudes.

Beyond testing for between-group differences in implicit and self-reported rape attitudes, another primary purpose of the current project was to extend theories of sexual assault by situating implicit attitudes more globally within a theoretical attitude framework, the MODE

model (Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009), and more specifically within the most comprehensive model of sexual assault, the confluence model (for reviews, see Malamuth, 1998, 2003). Importantly, when implicit rape attitudes were entered into a multivariate model with rape myth acceptance, hostility toward women, and sexual dominance, implicit rape attitudes emerged as a significant unique predictor of sexual assault frequency, accounting for variance in sexual assault above and beyond that accounted for by traditional self-report measures. Such findings are consistent with MODE theory that suggests automatic attitudes should be strong predictors of social behavior, except in cases when a person is sufficiently motivated to behave in an attitude incongruent fashion. It is certainly possible that offending community men are not sufficiently motivated to resist their aggressive impulses because they have never been caught and punished for their deviant behavior. However, future research might directly test this reasoning by creating measures of motivation to avoid sexual assault in conjunction with implicit measures.

Not only did this study place implicit rape attitudes within existing attitude theory, it also expanded the most comprehensive model of sexual assault, the confluence model (Malamuth, 2003). Specifically, I was able to demonstrate that implicit rape attitudes contributed significant unique variance to explain the frequency of sexual assault in the community sample, even when the confluence model paths of hostile masculinity and impersonal sex were controlled for in the same model. As suggested in the introduction, these results highlight the need for future investigators to consider the powerful role of implicit attitudes in both theoretical and empirical work. Ideally, future research will replicate the current results using a larger sample of men and more sophisticated statistical techniques, such as Structural Equation Modeling (Bollen, 1989),

to reduce error in the model and examine if implicit attitudes are best left as their own pathway or if they are a better fit as a component of one or both of the existing paths.

Null Findings. Although the implicit rape attitude procedure captured group differences when comparing community offenders to non-offenders and convicted adult offenders to community non-offenders, it appeared to be less adept at discriminating between convicted child sex offenders and community men. It makes sense that the priming procedure most clearly discriminated between adult sex offenders and community men as the stimulus material used in the implicit priming procedure depicted acts of sexual assault perpetrated against adult women which would have increased attitude specificity matching for the adult sex offenders (for further discussion of attitude specificity matching, see Ajzen & Fishbein, 1977). To adequately capture implicit rape attitudes of child offenders, the stimulus material would likely need to show acts of sexual assault perpetrated against children; yet, this test would not be legally or ethically possible using the current image priming procedure as it would not be ethical to show men images of child sexual abuse. Instead, a future direction for researchers who wish to capture the implicit attitudes of child sex offenders may be to use an alternative implicit assessment technique that does not rely on images, such as a word priming task or a word fragment completion task (e.g., Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Stacy, 1997; alternative implicit procedures are briefly detailed in the future directions section at the end of the discussion).

Also contrary to predictions, within the sex offender sample I did not find that implicit attitudes clearly predicted risk of recidivism, as assessed with the Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR; Hanson, 1997). Nor did I find any clear correlates of implicit attitudes within the sex offender sample, such as basic demographic (i.e., age, race, income level) or treatment related variables (i.e., perceived need for treatment or treatment

duration). These results were somewhat perplexing in light of the significant associations between implicit attitudes and sexual offending discussed earlier. It is possible that implicit attitudes are simply not a good indicator of recidivism risk; although this possibility is not in line with the attitude and sexual assault theories previously described (Fazio & Towles-Schwen, 1999; Malamuth, 2003). A second possibility for these null results is that the RRASOR did not sufficiently capture recidivism risk, and therefore did not allow for an adequate test of my hypothesis. In line with this possibility, at least one study found that the RRASOR did not predict recidivism risk for convicted rapists (Bartosh, Garby, Lewis, & Gary, 2003), and other researchers have more generally argued for the limitations of the RRASOR and similar actuarial risk assessments (Amenta, Guy, & Edens, 2003). Instead, it has been suggested that researchers and treatment providers must consider dynamic risk factors, such as sexual interests, distorted attitudes, and social functioning, along with more stable risk factors (i.e., behavioral history) to truly understand recidivism risk (Thornton, 2002). Although implicit rape attitudes were not associated with the recidivism risk scale, it is still possible that they are predictive of actual recidivism. The only way to test this hypothesis with certainty is to follow a group of convicted offenders longitudinally and determine the relationship between implicit attitudes and recidivism. Considering that 10-15% of convicted sex offenders are known to reoffend within a 5 year time period (Hanson & Bussiere, 1998), it is essential that treatment providers are able to better identify risk factors for reoffending in order to strategically target and reduce this risk. A longitudinal study of implicit attitudes may contribute to knowledge and prevention of this risk.

Strengths

A few strengths of the current study and are worth noting. First, the hypotheses and research methodology utilized in this study are extremely novel. The current study is based on

reputable indirect measurement methods (Fazio & Olson, 2003) and represents the first to utilize an attitude priming procedure to test implicit rape attitudes in either a convicted sex offender sample or a sample of community men. Using this novel procedure, I was able to capture attitudes about rape without relying on self-reports, an advancement that other investigators have requested (e.g., Bernat et al., 1997; Polaschek & Ward, 2002) and one that truly extends research in this area. Such a procedure also contributes to a growing body of research demonstrating robust relationships between automatic attitudes and behavior in socially-sensitive domains, such as racial prejudice and self-esteem (e.g., Bargh et al., 1995; Dijksterhuis, 2004; Dijksterhuis et al., 2000; Dovidio et al., 2002; Fazio et al., 1995). Further, this research is based on sound social cognitive attitude theory (Fazio & Towles-Schwen, 1999; Greenwald & Banaji, 1995) and suggests valuable avenues for future theoretical and empirical research on sexual assault.

Not only was the research methodology novel, but a second strength of the current project was that the two samples were quite novel. This study is one of only a small handful of studies that has systematically document rates of sexual assault among U.S. community men (Abbey et al., 2006; Calhoun et al., 1997; Lanier, 2001; Merrill et al., 2001), and the only known study that documents self-reported sexual assault in a convicted sex offender sample (M. P. Koss, personal communication, June 22, 2009). Because these samples are so rare, the basic descriptive information provided as part of this study may advance science in this area, allowing future investigators to better understand these populations. Future research that continues documenting rates of sexual assault and understanding the correlates of this harmful social behavior in diverse samples of community men and offenders is absolutely essential if we are to understand the full extent of sexual aggression. Better understanding the risk factors for sexual

assault in community samples may also contribute to the community based prevention programs already in place.

A third strength of the current project was that the sex offender and community samples were very well matched on basic demographics, including age, race, income level, and job status. It was encouraging that I was able to get such close matching using convenience sampling methods. Such matching was essential for a proper comparison between groups.

A final strength of the current research was that it provided a relatively rigorous test of the independent contribution of implicit attitudes to current theories of sexual assault by demonstrating that these attitudes accounted for unique variance in sexual assault while situated in the most comprehensive model of sexual aggression currently available (Malamuth, 2003). As noted previously, this study suggests that implicit attitudes must be considered in future theoretical and empirical work.

Limitations

Although the study has several strengths, results must also be interpreted with caution due to several limitations of the study methodology. Arguably the most serious limitation was that the final sample of participants was not the ideal sample to test the study hypotheses. Specifically, the sex offender sample perpetrated offenses predominately against young girls and teenagers, and the size of the community sample was drastically reduced by the high rates of self-reported sexual aggression in this sample. The ideal sample would have been an offender group of at least 35 men who were convicted of a sexual offense against an adult woman compared to a sample of at least 35 community men who had not committed sexual assault. Although this was the sample I originally intended to collect, practical limitations restricted me from recruiting these ideal comparison groups. For example, although I had hoped to gather data

exclusively from adult sex offenders, it was simply not feasible to gather enough adult offenders in the outpatient treatment center from which I recruited participants as the majority of men had committed crimes against young girls. Future research should continue the quest to gather implicit attitude data from adult offenders, possibly in a prison setting with adult rapists. Further, I had originally estimated that around 30% of community men would have committed a sexual offense in line with the bulk of prior research with college and community men (e.g., Abbey et al., 2001; Calhoun et al., 1997; Koss et al., 1987; Lanier, 2001; Merrill et al., 2001), but a full 60% of men in this community sample had perpetrated sexual assault. Because of this high prevalence rate I was left with a final sample of only 19 non-offenders instead of the 35 non-offenders I had originally expected. Future research should consider these alarming prevalence rates when estimating sample sizes and budgeting for data collection. Due to these sample limitations, I cannot be certain if the null findings (i.e., no clear group implicit attitude differences between the full sex offender sample and non-offending community sample, no relationship between implicit attitudes and risk of recidivism) were observed because there were truly no relationships between these variables or because the sample introduced too much error and did not allow for an accurate test of my hypotheses. A follow-up study with a larger sample is certainly warranted.

As mentioned previously, a second limitation was that all sex offenders were currently receiving psychological treatment to address their offending, and some had been in treatment for extended periods of time (i.e., over 2 years for almost half of the sample). It is possible, and certainly hopeful, that this treatment reduced offenders' rape-supportive attitudes. Although I did not find significant associations between implicit attitude scores and either length of treatment or perceived need for treatment, I cannot rule out the possibility that treatment did impact attitude

scores and contribute to the null findings between attitudes and risk of recidivism or limit me from finding cleaner group differences between the child or adolescent sex offenders and community men. Recent research on goal pursuit by Ferguson and Bargh (2004) has demonstrated that automatic evaluations toward social objects can be affected by goals related to that object, such that people are likely to evaluate goal-relevant objects more positively than goal-irrelevant objects. Since the goal for men in a sex offender treatment program would likely be to change rape related attitudes and behaviors so as to never offend again – or at least not get caught for such behavior – it is possible that the goal of avoiding punishment could take precedence over sexual/power goals and slow their responsiveness to the sexually aggressive images. This possibility is speculative but could be examined in future research. To reduce the possibility of treatment influencing implicit attitudes, this study should also be replicated in a sample of offenders who are not receiving treatment.

A third limitation of the current project was that sexual offense history was gathered via self-reports from sex offenders. The ideal way to collect such data would have been to gain access to the offender's legal records. However, this was not feasible for the current project given the project timeline and the necessity of collecting data in a way that would preserve total anonymity. Future research would benefit by a more thorough screening of sexual offenses using official court records and treatment notes. Not only would this increase accuracy, but it would also allow investigators to calculate a more thorough index of recidivism risk, such as the 10-item Static-99 (Hanson & Thornton, 2000) or the 15-item Sex Offender Risk Appraisal Guide (SORAG; Quinsey, Harris, Rice, & Cormier, 1998), both indices that rely heavily on official record reviews.

A final limitation is that this study utilized a convenience sample of relatively low-income men recruited from two medium-sized communities in east Tennessee. Thus, results may not be generalizable to other parts of the country or other samples. It is possible that men who volunteered to participate in this psychological study about sexual attitudes were quite different from men who were not willing to participate in this study, or men from other regions of the country. For example, in general it has been found that people who participate in sexuality research have more liberal attitudes about sex, including more positive attitude towards sexuality, less sexual guilt, and more sexual experience (Strassber & Love, 1995). Further, one nationally representative sample of college men found that men from the southeastern portion of the United States perpetrate significantly more sexual assault than men from the northwest or plain states (Koss et al., 1987). Thus, it is possible that the rates of sexual assault and the attitudes about rape I observed in this study were influenced by these sample biases (for further reviews of bias issues in sex research, see Catania et al., 1995; Weinhard et al., 1998). Future research with a nationally representative sample of community men and/or sex offenders would be the best way to determine the true representativeness of the current findings.

Implications for Treatment and Prevention Work

Given the aforementioned limitations, results of the current project should be understood as preliminary until they can be replicated in a larger sex offender sample that includes more adult offenders. Yet the preliminary results I found do seem promising and may have important implications for sex offender treatment and prevention work. Specifically, in combination with current treatment evaluations (e.g., polythymographs, polygraphs, self-report surveys; Beech, Fisher, & Thornton, 2003; Prentky, Janus, Seto, & Burgess, 2003), the implicit rape attitude procedure may offer an additional way to evaluate if sexual offender treatment is effective.

Specifically, providers could test for pre- and post-treatment attitude changes to determine if implicit attitudes become less rape supportive over treatment. However, until sufficient test-retest reliability can be established for the implicit rape attitude procedure, results of such treatment outcome research would remain tentative.

Additionally, in the same way that self-report attitude and behavior scales are sometimes used to pre-screen high risk men into prevention programs (e.g., Schewe & O'Donohue, 1993, 1996), the automatic rape attitude procedure could also be used as a screening tool to identify men at high risk of sexual assault *before* they perpetrate so that appropriate prevention services could be offered. This primary prevention strategy could be a tremendous step towards reducing this detrimental social problem. Additionally, instead of evaluating rape prevention programs with self-reported rape attitude measures that are susceptible to response biases, as is often the case (for reviews, see Anderson & Whiston, 2005; Brecklin & Forde, 2001; Schewe, 2002), researchers could use the implicit rape attitude procedure to evaluate prevention efficacy without relying on self-reports. This approach may increase accuracy in rape prevention program evaluations and provide insight into the changes necessary to make current prevention programs more effective. In these ways, the procedure developed and validated in the current research may have lasting implications for sexual assault research and may help to reduce the burden of this social problem.

A Few Additional Directions for Future Research

The current project pioneers research on implicit attitudes in sex offenders and community samples and it is my hope that this study will serve as a springboard for further research in this area. Although several future research directions have been briefly noted in the discussion above, a few additional avenues for research seem worth mentioning in more detail.

For example, one fruitful line of future research will be to explore causality and directionality in the formation of implicit rape attitudes. Specifically, it will be important to understand if implicit attitudes develop before or after more explicit rape-supportive attitudes. It will also be important to better understand the sequential link between attitudes and sexual behavior by longitudinally examining if implicit attitudes develop before sexual offending or are a byproduct of sexually aggressive behavior, possibly through processes of rationalization and dissonance reduction (Festinger, 1957; Hall, 1996). Polaschek and Ward (2002) argue that implicit rape supportive attitudes, which they also refer to as cognitive distortions and “implicit theories”, develop early in life to help organize the world and explain experiences of sexual abuse (see also Hall & Hirschman, 1991; Ward, 2000). Such a theory suggests that implicit rape attitudes develop before sexual assault perpetration begins, and possibly before more explicit, self-reported attitudes are formed (for a similar argument, see Gawronski & Bodenhausen, 2006), though no empirical tests of such a hypothesis have been conducted in the rape domain. Future research could examine these possible causal links through the use of a prospective design and examine the developmental trajectory of rape-supportive attitudes. This could be particularly useful using the developmental contextual framework proposed in the original confluence model (Malamuth et al., 1991) by testing such hypotheses longitudinally. Such an investigation could provide rich information about attitude formation processes and the progression of sexually aggressive behavior, thereby informing prevention programs that seek to reduce this harmful behavior.

In addition to exploring attitude formation, it will also be important to investigate processes of attitude change. If researchers and clinicians are to reduce sexual offending, they must seriously consider how to most effectively and most permanently change rape supportive attitudes, particularly these implicit rape attitudes that are largely automatic and uncontrolled. A

recent review of implicit attitude change by Gawronski and Bodenhausen (2006) suggests that one such way implicit attitudes can be changed is through a process called evaluative conditioning (for further reviews, see DeHouwer, Baeyens, & Field, 2005; Walther, Nagengast, & Trasselli, 2005). Evaluative conditioning involves reconditioning and changing mental associations through repeated pairings with a new association (Dijksterhuis, 2004; Mitchell, Anderson, & Lovibond, 2003; Olson & Fazio, 2001, 2002, 2006). For example, Olson and Fazio (2006) successfully reconditioned white participants' prejudiced attitudes towards blacks by repeatedly pairing black faces with positive words and positive images, thereby reducing automatic prejudice scores. Importantly, in a second experiment, Olson and Fazio (2006) also demonstrated this reduction in prejudice persisted over a 2-day period, suggesting the change in prejudice could last over time. Applied to rape attitudes, it is possible that pro-rape implicit attitudes could also be reconditioned through an evaluative conditioning process where sexually aggressive images are repeatedly paired with negative words and negative images, thereby implicitly increasing a rape-bad association. Because this type of evaluative conditioning has not been systematically investigated in the rape domain, it is unclear how long it might take to recondition rape supportive associations or how persistent such reconditioning might be over time. This could be an extremely important avenue for future prevention and treatment work.

Further, although there are strong theoretical and psychometric rationalizations for using an evaluative priming procedure to capture implicit attitudes (for discussion, see Olson & Fazio, 2003), there are limitations to evaluative priming procedures. For example, high error rates in responding to the good and bad words have been noted in some studies (e.g., Widman & Olson, 2008), and even in the current study 5 people had to be excluded because they had error rates near 50%. Thus, one line of inquiry that might be a useful future direction would be to explore

alternative implicit attitude assessments. In the past 20 years, several of these alternative implicit techniques have been developed. These include IAT procedures (Greenwald et al., 1998), although as discussed in the introduction, there are reasons that the IAT may not be well-suited for rape attitude assessment as it is a forced-categorization task and would require participants to categorize images or words as "rape" or "not rape." Even men who admit to sexual assault may not classify their behavior as rape and could respond negatively to the word "rape," so the IAT would likely not get beyond the cognitive association to the category label "rape" to the root affective response to the behavior. However, other implicit measures are not as susceptible to this limitation and might prove useful as an alternative to the priming procedure investigated in this study, such as the Affective Misattribution Procedure (AMP; Payne, Cheng, Govorun, & Stewart, 2005), a word-fragment completion task (e.g., Dovidio et al., 1997; Hetts, Sakuma, & Pelham, 1999; Son Hing, Li, & Zanna, 2002), semantic priming (Wittenbrink, Judd, & Park, 1997) the Go-No Go Association Task (GNAT; Nosek & Banaji, 2001), or one of several physiological indicators that have been used to capture automatic reactions, such as facial electromyography (EMG; Vanman, Paul, Ito, & Miller, 1997) and eyeblink startle response (e.g., Phelps et al. 2000; Amodio, Harmon-Jones, & Devine, 2003). Investigators wishing to pursue these alternative techniques can find extensive reviews elsewhere (i.e., DeHouwer, 2003; Fazio & Olson, 2003; Wittenbrink & Schwartz, 2007).

Future studies could also examine links between sexual arousal assessed with a penile plethysmograph and rape attitudes assessed with an implicit measure – either the implicit measure discussed in this paper or one of the aforementioned alternative measures. To the extent that sexual arousal is an involuntary response that is closely linked to affective arousal (Heiman & Rowland, 1983; Meisler & Carey, 1991; Mitchell, Dibartolo, Brown, & Barlow, 1998), it may

match closely with implicit measures which have also been argued to capture gut-level affective responses (Abelson, Kinder, Peters, & Fiske, 1982; Greenwald & Banaji, 1995). This line of research may provide a way to bridge the gap between implicit measurement and less obtrusive measures of sexual arousal that sexual assault researchers have employed in the past.

A final direction for future research may be to examine the role of implicit attitudes in sex offending among alternative groups. The current project examined the role of implicit attitudes in accounting for sexual assault that was perpetrated by men against women. Although this is the most common type of sexual assault (Bureau of Justice Statistics, 1995), other types of sexual assault, such as same-sex or female perpetrated sexual assault, may be better understood and prevented if researchers and prevention specialists were more attuned to the role of implicit attitudes in these populations. Future research may benefit by examining this possibility.

CHAPTER X

CONCLUSION

Sexual assault is a pervasive social problem that negatively impacts the lives of women in many ways, from the physical and psychological consequences of an assault (e.g., Golding et al., 2000; Koss et al., 1994b; Kilpatrick et al., 2000) to the fear of rape that plagues the majority of women (for discussion, see Koss et al., 1994a). Over two decades ago, one of the women who pioneered research on sexual assault, Dianna Russell, wrote, “It is imperative that the magnitude of this problem in the United States be addressed, and it is urgent that more effective preventive strategies be developed and implemented” (Russell, 1983, pp. 145).

Toward the aim of further documenting and addressing this social problem, the purpose of the current project was to examine the predictive validity of a novel implicit rape attitude procedure and extend current theories of sexual assault by comparing the implicit rape attitudes of convicted sexual offenders to demographically matched controls. Results demonstrated the promise of using the implicit rape attitude procedure to unobtrusively capture attitudes toward rape, as I found men convicted of sexual offense against an adult woman held more pro-rape implicit attitudes than non-offending community men. Further, within the community sample, more rape supportive implicit attitudes were associated with more frequent sexual assault perpetration, and implicit attitudes explained additional variance in sexual assault when situated within the comprehensive confluence model (Malamuth, 2003). Finally, results draw attention to the alarming prevalence of sexual assault in this low-income community sample, with a rate of 60% noted in this study. Taken together, this research provides numerous avenues for future investigations and highlights the urgent need for continued prevention efforts that reduce the tremendous burden of this social problem.

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APPENDICES

APPENDIX A

STUDY INSTRUCTIONS

You will complete a couple tasks on the computer and your participation will take about an hour. All of the answers you provide today will be *completely anonymous and confidential*. Your name will not be entered into the computer at any time and I will have no way to connect you to any of the information you provide. I hope this allows you to answer all questions with complete honesty.

The study has 3 parts. For the first part, you will respond to words on the computer screen. Each word will mean something good or bad. For example the word “nice” means something good and the word “gross” means something bad. Your task will be to press the YELLOW DOT on the right if the word means something GOOD and the BLUE DOT on the left if the word means something BAD. The computer will record how quickly you can identify the word as good or bad. You must try to be very quick WITHOUT MAKING MISTAKES. If you do make a mistake, move on to the next word.

Then, for the second part of the study, you will see good and bad words, just like before. Again, you will decide if each word is good or bad as fast as you can. But this time you will see a picture before each word. The pictures show men and women doing many things, like talking, kissing, and fighting. DO NOT press a button when you see a picture. ONLY press a button when you see a word. We want to see how FAST you can decide if a word is good or bad after you see a picture of men and women together. Again, your goal is to be very fast without making mistakes.

For the last part of the study, you will answer several surveys on the computer. These surveys ask about your attitudes and feelings about relationships, women, and sex as well as your personality style and your background. The surveys will take about 30 minutes to complete. Please take your time and answer each item honestly. We are interested in your honest feelings of yourself and your attitudes. Remember, all of your answers are completely confidential. If you have trouble reading any questions or if you are uncertain about an answer, please let me know so I can help.

Do you have any questions about what you will be doing?

I have to warn you that some of the pictures you will see involve physical fighting and sexual acts, so if you're not comfortable seeing these pictures you can stop your participation at any time. Also, some of the survey questions will ask very personal questions about sexual attitudes and behaviors. You can skip any of these questions if they make you uncomfortable.

I ask that you complete the study quietly. If you have a cell phone, please turn it off now. When you are ready to begin you may press “continue”. The on-screen instructions will guide you through the study.

APPENDIX B

WORDS USED IN EVALUATIVE PRIMING PROCEDURE

“Good” Words

Good
Great
Fun
Nice
Joy
Happy
Pretty
Super
Perfect
Awesome

“Bad” Words

Bad
Mean
Ugly
Sad
Mad
Gross
Sick
Nasty
Pain
Evil

APPENDIX C

SELF-REPORT SURVEYS

Demographic Information Form

1. What is your age? _____
2. What is your Race?
 - 1) Caucasian
 - 2) African American
 - 3) Native American
 - 4) Hispanic/Latino
 - 5) Asian
 - 6) Other
3. What is your Sexual Orientation?
 - 1) Heterosexual
 - 2) Homosexual
 - 3) Bisexual
4. What is the Highest Level of School You Have Finished:
 - 1) Some high school
 - 2) High school
 - 3) Some college/technical school
 - 4) Associates Degree (AA)
 - 5) Bachelors Degree (BA/BS)
 - 6) Some graduate school
 - 7) Graduate degree
5. Are you currently in school?
 - 1) No
 - 2) Yes, Part Time
 - 3) Yes, Full Time
6. Do you currently work?
 - 1) No
 - 2) Yes, Part Time
 - 3) Yes, Full Time
7. Last year, about how much money did you make *before taxes*?
 - 1) \$0 to \$10,000
 - 2) \$10,001 to \$20,000
 - 3) \$20,001 to \$30,000
 - 4) \$30,001 to \$40,000
 - 5) \$40,001 to \$50,000
 - 6) \$50,001 to \$60,000
 - 7) \$60,001 to \$70,000
 - 8) \$70,001 to \$80,000
 - 9) \$80,001 to \$90,000
 - 10) over \$90,001
8. Which option best describes your romantic relationship status?
 - 1) Not in a relationship
 - 2) Casually dating
 - 3) In a relationship but not engaged or married
 - 4) Engaged/Married
 - 5) Separated/Divorced
9. Do you have any children?
 - 1) No
 - 2) Yes

Sexual and Relationship History Questionnaire

1. How old were you the first time you had *vaginal sex* with your consent (by consent, we mean sex that wasn't forced)?
 - 1) 12 or younger
 - 2) 13
 - 3) 14
 - 4) 15
 - 5) 16
 - 6) 17
 - 7) 18
 - 8) 19
 - 9) 20
 - 10) 21
 - 11) 22 or older
 - 12) Never had vaginal / anal sex

2. In your lifetime, how many *vaginal* sex partners have you had?

1) 0	4) 3-4	7) 10-15	10) 31-50
2) 1	5) 5-7	8) 16-20	11) 51 or more
3) 2	6) 8-10	9) 21-30	

3. How old were you the first time you had *anal* sex with your consent (by consent, we mean sex that wasn't forced)?

1) 12 or younger	4) 15	7) 18	10) 21
2) 13	5) 16	8) 19	11) 22 or older
3) 14	6) 17	9) 20	12) Never had vaginal / anal sex

4. In your lifetime, how many *anal* sex partners have you had?

1) 0	4) 3-4	7) 10-15	10) 31-50
2) 1	5) 5-7	8) 16-20	11) 51 or more
3) 2	6) 8-10	9) 21-30	

5. How many of your sex partners were women?

1) None of my sex partners were women	3) Most of my sex partners were women
2) A few of my sex partners were women	4) All of my sex partners were women

6. How often do you use condoms when you have sex?

1) Never	3) Sometimes	5) Always
2) Rarely	4) Often	

****Instructions break****

The next questions are about sexual fantasies. When people have sexual fantasies, they usually imagine sexual activities they have tried in the past or might like to try in the future. We want to know who the people are in your sexual fantasies. There are no right or wrong answers. Just answer honestly.

7. When you have sexual fantasies, how often are the people in your fantasies:
ADULT WOMEN (age 18 or older)

1) Never	2) Sometimes	3) Often
----------	--------------	----------

8. When you have sexual fantasies, how often are the people in your fantasies:
TEENAGE GIRLS (14-17 years old)

1) Never	2) Sometimes	3) Often
----------	--------------	----------

9. When you have sexual fantasies, how often are the people in your fantasies:
YOUNG GIRLS (13 or younger)

1) Never	2) Sometimes	3) Often
----------	--------------	----------

10. When you have sexual fantasies, how often are the people in your fantasies:
ADULT MEN (age 18 or older)

1) Never	2) Sometimes	3) Often
----------	--------------	----------

11. When you have sexual fantasies, how often are the people in your fantasies:
TEENAGE BOYS (14-17 years old)

1) Never	2) Sometimes	3) Often
----------	--------------	----------

12. When you have sexual fantasies, how often are the people in your fantasies:
YOUNG BOYS (13 or younger)

1) Never	2) Sometimes	3) Often
----------	--------------	----------

****Instructions break****

The next questions ask about your legal history. Remember, all answers are CONFIDENTIAL. We will not report this information to anyone.

13. How many times have you been convicted of a criminal offense of any kind?

- 1) 0 3) 2 5) 4 7) 6
2) 1 4) 3 6) 5 8) 7 or more

14. Type all the crimes you have been convicted of with the date. For example: Driving Under the Influence (2001), Armed Robbery (2007), 1st degree Rape of a Child (2008): _____

15. How many times have you been legally CHARGED with a sexual offense?

- 1) 0 3) 2 5) 4 7) 6 or more
2) 1 4) 3 6) 5

If any legal charges for sexual offense:

15a. Who was the alleged victim(s) – mark all that apply:

- 1) Male, age 10 or younger 5) Female, age 10 or younger
2) Male, age 11-13 6) Female, age 11-13
3) Male, age 14-17 7) Female, age 14-17
4) Male, age 18 or older 8) Female, age 18 or older

15b. How did you know the alleged victim(s) – mark all that apply:

- 1) Family member (Uncle, brother, cousin, parent, etc.)
2) Acquaintance (e.g., neighbor, teacher, friend, etc.)
3) Stranger (knew the victim 24 hrs or less)

16. How many times have you been legally CONVICTED of a sexual offense?

- 1) 0 3) 2 5) 4 7) 6 or more
2) 1 4) 3 6) 5

If any legal convictions for sexual offense:

16a. Who was the victim(s) – mark all that apply:

- 1) Male, age 10 or younger 5) Female, age 10 or younger
2) Male, age 11-13 6) Female, age 11-13
3) Male, age 14-17 7) Female, age 14-17
4) Male, age 18 or older 8) Female, age 18 or older

16b. How did you know the victim(s) – mark all that apply:

- 1) Family member (Uncle, brother, cousin, parent, etc.)
2) Acquaintance (e.g., neighbor, teacher, friend, etc.)
3) Stranger (knew the victim 24 hrs or less)

16c. Were you also convicted of non-sexual violence at the same time you were convicted of a sexual offense (for example, assault, robbery, pointing a firearm)?

- 1) No 2) Yes

17. Have you ever been legally convicted of a non-contact sexual offense (e.g., exhibitionism, possessing obscene material, obscene telephone calls, voyeurism)?

- 1) No 2) Yes

18. Are you currently receiving therapy because of a sexual offense?

- 1) No 2) Yes

If in therapy for a sexual offense:

18a. How many months have you been in therapy?

- 1) 1 month or less 4) 6-8 months 7) 2 years or more

- | | | |
|------|---|----------------|
| | 2) 2-3 months | 5) 9-12 months |
| | 3) 4-5 months | 6) 1-2 years |
| 18b. | How much do you feel you need to be in therapy? | |
| | 1) Not at all | 3) Somewhat |
| | 2) A little | 4) A lot |

19. Have you ever been legally convicted of any violence that was non-sexual (e.g., assault, robbery, pointing a firearm, arson, etc.)?
 1) No 2) Yes

Rape Myth Acceptance (RMA)

The next statements are about women, sexual activity, and rape. We want to know how much you agree or disagree with each statement. It is important you answer honestly.

1 = Strongly Disagree to 7 = Strongly Agree

1. If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.
2. Although most women wouldn't admit it, they generally find being forced into sex a real "turn-on".
3. If a woman is willing to make out with a guy, then it's no big deal if he goes a little further and has sex.
4. Many women secretly desire to be raped.
5. Most rapists are not caught by the police.
6. If a woman doesn't physically fight back, you can't really say that it was rape.
7. Men from nice middle-class homes almost never rape.
8. Rape accusations are often used as a way of getting back at men.
9. All women should have access to self-defense classes.
10. It is usually only women who dress suggestively who are raped.
11. If the rapist doesn't have a weapon, you can't really call it a rape.
12. Rape is unlikely to happen in the woman's own familiar neighborhood.
13. Women tend to exaggerate how much rape affects them.
14. A lot of women lead a man on and then say it was rape.
15. It is preferable that a female police officer conduct the questioning when a woman reports a rape.
16. A woman who "teases" men deserves anything that might happen.
17. When women are raped, it's often because the way they said "no" was not clear.
18. Men don't usually mean to force sex on a woman, but sometimes they get too sexually carried away.
19. A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.
20. Rape happens when a man's sex drive gets out of control.

Hostility Toward Women (HTW)

1 = Strongly Disagree to 7 = Strongly Agree

1. I feel that many times women flirt with men just to tease or hurt them.
2. I believe that most women tell the truth.
3. I usually find myself agreeing with women.
4. I think that most women would lie just to get ahead.
5. Usually it is safer not to trust women.
6. When it really comes down to it, a lot of women are not honest.
7. I am easily angered by women.
8. I am sure I get a raw deal from the women in my life.
9. Sometimes women bother me just by being around.
10. Women are responsible for most of my troubles.

Sexual Dominance Scale (DOM)

People have sex for lots of reasons. How much do you agree with the following reasons that YOU have sex?

1 = Strongly Disagree to 5 = Strongly Agree

1. I HAVE SEX...Because I like the feeling that I have someone in my control.
2. Because, like many people, I enjoy the challenge.
3. Because it makes me feel powerful.
4. Because I like the feeling of having another person submit to me.
5. Because I like teaching less experienced people how to get off.
6. Because in the act of sex more than at any other time I get the feeling that I can really control how someone feels and behaves.
7. Because I like it when my partner is really open and weak to me.
8. Because when my partner finally gives in to me I get this really satisfying feeling.

Sexual Experiences Scale (SES)

Please answer each question about your sexual experiences with women SINCE THE AGE OF 14.

1 = No, 2 = Yes

Have you ever overwhelmed a woman with arguments and pressure, although she indicated she didn't want to, in order to . . .

1. fondle, kiss, or sexually touch her without her permission?
2. attempt to make her have sexual intercourse with you, but for some reason intercourse didn't happen?
3. make her have oral sex with you?
4. make her have sexual intercourse with you?
5. make her have anal sex or insert an object into her?

Have you ever told a woman lies or made promises that you knew were untrue (after she indicated she didn't want to), in order to . . .

6. fondle, kiss, or sexually touch her without her permission?
7. attempt to make her have sexual intercourse with you, but for some reason intercourse didn't happen?
8. make her have oral sex with you?
9. make her have sexual intercourse with you?
10. make her have anal sex or insert an object into her?

Have you ever shown you were not happy by making a woman feel guilty, swearing, sulking, or getting angry (after she indicated she didn't want to), in order to . . .

11. fondle, kiss, or sexually touch her without her permission?
12. attempt to make her have sexual intercourse with you, but for some reason intercourse didn't happen?
13. make her have oral sex with you?
14. make her have sexual intercourse with you?
15. make her have anal sex or insert an object into her?

Have you ever given a woman drugs or alcohol without her permission in order to . . .

16. fondle, kiss, or sexually touch her without her consent?
17. attempt to make her have sexual intercourse with you, but for some reason intercourse didn't happen?
18. make her have oral sex with you?
19. make her have sexual intercourse with you?
20. make her have anal sex or insert an object into her?

When a woman was passed out or too drunk to give permission or stop what was happening, have you ever

21. fondle, kiss, or sexually touch her without her permission?
22. attempt to make her have sexual intercourse with you, but for some reason intercourse didn't happen?
23. make her have oral sex with you?
24. make her have sexual intercourse with you?
25. make her have anal sex or insert an object into her?

Have you ever used some degree of physical force (twisting her arm, holding her down) or in any other way held down or physically hurt a woman in order to . . .

26. fondle, kiss, or sexually touch her without her permission?
27. attempt to make her have sexual intercourse with you, but for some reason intercourse didn't happen?
28. make her have oral sex with you?
29. make her have sexual intercourse with you?
30. make her have anal sex or insert an object into her?

APPENDIX D

DEBRIEFING PROCEDURE

At the conclusion of the study, a final computer screen read, “In a minute, the researcher will give you more information about this study and answer any questions you might have. But first we would like to tell you that some of the pictures you viewed today depicted sexual assaults against women. While the following is probably obvious to all participants, we would like to emphasize that sexual assault is a serious crime that is punishable by many years in prison. Also, rape victims suffer severe psychological damage as well as the more obvious physical effects of the assault. Unfortunately, many people still believe a number of falsehoods or myths about rape. For example, one totally unfounded myth is that if a woman does not immediately report a rape, or hesitates to report it, then the act is somehow not considered a real rape. A second falsehood is that if a woman does anything that puts her at greater risk or makes her more vulnerable to being victimized (e.g., going to a man's apartment, wearing enticing clothing, etc.) she somehow brings the rape upon herself. These are in fact myths and are totally unfounded. Hopefully you will leave this experiment with a more realistic and accurate view of sexual assault” (adapted from debriefing by Malamuth & Check, 1984).

When participants finished reading this statement, they were instructed to tell the researcher they were finished. Then they were read the following information aloud:

Thank you for taking the time to participate in this research. Now that the study is over, let me tell you a bit more about what the study involved. This study had to do with an indirect measure of attitude. Past research has shown that the speed it takes a person to decide the meaning of an adjective can be facilitated by the presence of what we call a prime. So, imagine that, just before you saw the word gross, we flashed a picture of a cockroach on the screen. The prime, that is the picture of the cockroach, may automatically activate a negative emotion, and because you already are thinking ‘bad,’ you would actually be able to say that gross means bad more quickly than if we hadn’t presented the picture. In this study, you had to indicate the meaning of several words while we very quickly flashed pictures of men and women interacting on the screen.

Some trials of this experiment involved primes of positive interactions (i.e., people holding hands or smiling) and others involved aggressive interactions (i.e., people holding each other down or hitting). We are interested in determining whether differences in the type of interaction affect your ability to respond to the words. We expect that some people will respond more quickly to the aggressive images than other people. We also imagine that some people will believe aggression is more acceptable in relationships and will report more acceptance of aggression on the self-report surveys.

Please be assured that your data are *completely anonymous and confidential* and I will have no way to determine your individual attitudes and beliefs. I truly value

your time and your participation in this study. If you have any questions about the experiment, you may ask me now or you may contact my research advisor, Dr. Michael Olson. His contact information can be found on the Informed Consent document that you may take with you today.

Also, please keep in mind that other men will participate in this study, and it is extremely important that they are not informed about the study predictions before they participate. Please do not discuss the details of this experiment with other men who may participate in this study in the future.

Thanks again for your participation in this study.

Final questions were then answered and participants were paid before being dismissed.

APPENDIX E

TABLES

Table 1: Descriptive Statistics for Implicit Rape Attitudes

	<u>Sex Offender Sample</u>					
	<i>n</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum	% Pro-Rape
Child Offenders	15	-20.85	50.39	-91.10	54.55	27
Adolescent Offenders	18	-17.08	50.43	-155.67	56.05	37
Adult Offenders	3	40.72	54.22	-6.60	99.89	67

	<u>Community Sample</u>					
	<i>n</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum	% Pro-Rape
Non-Offending	19	-24.11	66.25	-161.62	111.68	42
Offending	29	1.88	60.55	-221.89	116.07	55

Note. Higher numbers indicate faster reaction times to rape-positive pairings than rape-negative pairings suggesting more positive, “pro-rape” attitudes. % Pro-Rape = percentage of participants with positive rape attitude scores.

Table 2: Descriptive Statistics for Self-Reported Rape Supportive Attitudes

<u>Sex Offender Sample</u>			
	RMA <i>M (SD)</i>	HTW <i>M (SD)</i>	DOM <i>M (SD)</i>
Child Offenders ^a	2.18 (.87)	3.02 (1.08)	2.00 (.67)
Adolescent Offenders ^b	1.98 (.66)	2.84 (.62)	1.89 (.79)
Adult Offenders ^c	1.39 (.27)	2.57 (.42)	1.54 (.07)
<u>Community Sample</u>			
	RMA <i>M (SD)</i>	HTW <i>M (SD)</i>	DOM <i>M (SD)</i>
Non-Offending ^e	2.34 (1.07)	2.91 (.87)	2.11 (.77)
Offending ^d	2.65 (.74)	3.35 (.94)	2.74 (.69)

Note. RMA = Rape Myth Acceptance, HTW = Hostility Toward Women, DOM = Sexual Dominance.

^a*n* = 11

^b*n* = 18

^c*n* = 3

^d*n* = 19

^e*n* = 29

Table 3: *t*-test Comparisons of Self-Reported Rape Attitudes

	<u>Non-Offending Community Men</u>		<u>Offending Community Men</u>	
	<i>t</i> (<i>df</i>)	<i>Cohen's d</i>	<i>t</i> (<i>df</i>)	<i>Cohen's d</i>
Child Offenders				
RMA	-.43 (28)	.17	-1.74 (38)*	.67
HTW	.30 (28)	.11	-.91 (38)	.79
DOM	-.41 (31)	.15	-3.34 (41)***	1.09
Adolescent Offenders				
RMA	-1.23 (35)	.41	-3.12 (45)***	.96
HTW	-.27 (35)	.09	-2.24 (45)**	.64
DOM	-.85 (35)	.28	-3.90 (45)***	1.15
Adult Offenders				
RMA	-3.27 (20)**	1.46	-2.88 (30)**	1.05
HTW	-.66 (20)	.30	-1.42 (30) ⁺	.52
DOM	-1.25 (20)	.56	-2.98 (30)**	1.09
Offending Community Men				
RMA	-1.20 (46)	.35	-	
HTW	-1.64 (46) ⁺	.48	-	
DOM	-3.00 (46)***	.88	-	

Note. One tail significance tests reported. RMA = Rape Myth Acceptance, HTW = Hostility Toward Women, DOM = Sexual Dominance. Cohen's *d* was calculated using the formula: $d = 2t / df$ (Dunst, Hamby, & Trivette, 2004).

*** $p < .001$; ** $p < .01$; * $p < .05$; ⁺ $p < .10$

Table 4: Correlations between Rape-Supportive Attitudes and Sexual Assault Perpetration in the Community Sample

	1	2	3	4	5
1 Implicit Rape Attitudes	-				
2 Rape Myth Acceptance	.26*	-			
3 Hostility Toward Women	.16	.57***	-		
4 Sexual Dominance	.25*	.27*	.49***	-	
5 SES Frequency	.26*	.33*	.39*	.32*	-

Note. One tail significance tests are reported. SES = Sexual Experiences Scale.

*** $p < .001$; * $p < .05$.

Table 5: Negative Binomial Regressions with Rape-Supportive Attitudes Predicting Sexual Assault in the Community Sample

	<u>Sexual Assault Frequency</u>	
	<i>Wald χ^2</i>	Cohen's <i>d</i>
Single Predictor Models		
Implicit Rape Attitudes	5.33*	.71
Rape Myth Acceptance	10.54***	1.06
Hostility Toward Women	9.84***	1.02
Sexual Dominance	7.99**	.89
Simultaneous Model 1		
Implicit Rape Attitudes	2.86*	.50
Rape Myth Acceptance	7.99***	.89
Simultaneous Model 2		
Implicit Rape Attitudes	5.31*	.71
Hostility Toward Women	10.06***	1.03
Simultaneous Model 3		
Implicit Rape Attitudes	4.84*	.67
Sexual Dominance	7.66***	.87
Simultaneous Model 4		
Implicit Rape Attitudes	3.36*	.56
Rape Myth Acceptance	1.93 ⁺	.41
Hostility Toward Women	1.49	.36
Sexual Dominance	1.77 ⁺	.39

Note. One-tailed significance tests are reported. A Cohen's *d* statistic was calculated using the formula: $d = \sqrt{[(4\chi^2)/(N - \chi^2)]}$ (Dunst et al., 2004).

*** $p < .001$; ** $p < .01$; * $p < .05$; ⁺ $p < .10$.

Table 6: Negative Binomial Regressions Examining an Expanded Confluence Model in the Community Sample

	<u>Sexual Assault Frequency</u>	
	<i>Wald</i> χ^2	Cohen's <i>d</i>
Single Predictor Models		
Implicit Rape Attitudes	5.33*	.71
Hostile Masculinity	14.82***	1.34
Impersonal Sex	2.86*	.50
Simultaneous Model 1		
Implicit Rape Attitudes	3.63*	.57
Hostile Masculinity	13.29***	1.24
Simultaneous Model 2		
Implicit Rape Attitudes	4.28*	.63
Impersonal Sex	1.79 ⁺	.39
Simultaneous Model 3		
Implicit Rape Attitudes	2.96*	.51
Hostile Masculinity	12.08***	1.12
Impersonal Sex	.21	.13

Note. One-tailed significance tests are reported. Hostile Masculinity = composite of rape myth acceptance, hostility toward women, and sexual dominance. Impersonal Sex = composite of number of intercourse partners and age of first intercourse (Malamuth et al., 1991). A Cohen's *d* statistic was calculated using the formula: $d = \sqrt{[(4\chi^2)/(N - \chi^2)]}$ (Dunst et al., 2004).

*** $p < .001$; * $p < .05$; ⁺ $p < .10$.

VITA

Laura Marie Widman was born in Colfax, Washington and graduated from Colfax High School in 1998. She completed her undergraduate education in Seattle, Washington at Seattle Pacific University (SPU) and graduated with a B.A. in psychology in 2003. While at SPU, Laura majored in psychology, worked for three years in a women's psychophysiology research lab (P.I. Dr. Kathy Lustyk), volunteered for two years on the King County Crisis Line, and competed in track and field as an intercollegiate athlete. Laura began her graduate studies in clinical psychology at the University of Tennessee (UT) in 2004. For the first two years at UT, Laura worked in a research lab focused on adolescent romantic relationships (P.I. Dr. Deborah Welsh). She completed her thesis in 2006, entitled "Sexual Communication and Contraceptive Use in Sexually Active Adolescent Dating Couples." Then during the last three years of her graduate training, she worked in a research lab focused on attitude formation and assessment (P.I. Dr. Michael Olson). Laura will be completing her predoctoral internship at the University of North Carolina, Chapel Hill from August 2009 to 2010. She will *finally* graduate with her Ph.D. in clinical psychology in December 2010 and will then be forced to get a job and enter the real world.