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Predictors of harmful sexual behaviors in a normative population

Matthew A. Poinsett

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Harmful Sexual Behaviors
Predictors of Harmful Sexual Behaviors in a Normative Population

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Abstract

In order to identify important predictors of high-risk and aggressive sexual behavior, this study examined the relationships between problematic sexual behavior, aberrant sexual experiences, family environment, parental monitoring, delinquency, and peer relatedness. Participants were 344 college students who completed the Comprehensive Sexual Experience Survey (CSES), an online questionnaire. High-risk behaviors, including possible victimization, were predicted by aberrant sexual experiences, family environment, delinquency, and parental monitoring. Regression analyses indicated that aggressive sexual behavior was associated with aberrant sexual experiences and delinquency. Examination of data across genders indicated significant differences between them, including men’s earlier initiation of masturbation and pornography use, higher rates of exhibitionism and fetishistic arousal, and a significantly stronger relationship between aberrant sexual experiences and aggressive sexual behavior. Aberrant sexual experience, including early knowledge and initiation of sexual behavior, emerged as the prevailing predictive factor across genders for high risk sexual behavior. Results also included useful findings regarding the initiation of normative sexual behaviors, paraphilic behavior, pornography use, sexual pleasure, and the functions of sexual behavior. Findings provide foundational information highlighting normative sexual development in a college population, the role of aggression in sexual behavior, and key gender differences in predictive models of problematic sexual behavior.
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Introduction

Sexual aggression is a pervasive problem that has received extensive attention from both the media and scientific researchers due to its prevalence and costly impact on the population. Recent data from the Uniform Crime Report indicate that over 75,000 attempted or completed rapes were reported in 2010 (FBI, 2010). Kolivas and Gross (2007), in a review of the sexual aggression literature, reported that between 4% and 11% of men disclose perpetrating rape against a woman. The same review indicated that women’s rates of reported victimization are notably higher, between 12% and 36%. Sexual harassment, another form of sexual aggression, is even more prevalent. Dziech (2003) found that within academia, 90% of female college students reported experiences of unwanted sexual behavior from peers. More concerning, however, were the author’s reports of faculty perpetration against undergraduate students; 30% of female undergraduates and 40% of female graduate students identified themselves as victims of unwanted sexual behaviors perpetrated by faculty members. In 2001, the American Association of University Women (AAUW) reported that 81% of high school students have experienced some form of unwanted or unwelcome sexual behavior at least once in the course of their education. The same study indicated that more than 50% of students in grades 8 through 11 reported experiencing nonphysical sexual harassment, “often or occasionally.” From rape to sexual harassment, unwanted sexual behavior is prevalent and its impact is widespread.

Experiences of sexual victimization carry significant consequences. Research indicates that victims of sexual aggression are at increased risk for depression, anxiety, post-traumatic stress disorder, substance abuse, and insomnia (Ben-Ezra et al, 2010; Clum, Calhoun, & Kimerling, 2000; Kaltman, Krupnick, Stockton, Hooper, & Green, 2005; Kaukinen & DeMaris, 2005; Ullman & Brecklin, 2002). Vandemark and Mueller (2008) reported that poor mental
health among victims of sexual violence was associated with poor physical health, noting that victims reporting poor mental health were more likely to smoke and were less likely to have healthy diets or exercise regularly. The personal and societal impacts of sexual aggression are even more concerning considering the prevalence. The severity and diversity of consequences experienced by victims of sexual aggression necessitate ongoing efforts to understand and control the behavior.

Several models of sexual aggression attempt to explain and predict harmful sexual behavior (Knight & Sims-Knight, 2003; 2004, Andrews & Bonta, 1998; Malamuth 1996; 1998). Despite focused investigations, many questions remain. Inconsistencies in the operationalization of sexually aggressive behaviors create challenges in generalizing research findings. Social protocols surrounding research pertaining to sexual behavior, particularly in adolescents, have also complicated the understanding of sexual aggression. Further limiting the understanding of sexual aggression is the lack of collaboration between researchers studying antisocial and violent behaviors and those examining sexual behavior. The purpose of this study is to explore the relationships among variables that have an empirically supported relationship to sexual aggression. The aim is to develop a predictive model of a full spectrum of aggressive sexual behaviors within a nonajudicated population.

**Defining Sexual Aggression**

Sexual aggression is conceptualized differently across professions. While these variations are useful within each field, they complicate the broader picture of sexual aggression. The most prominent definitions involving sexual aggression come from academia, the field of mental health, and the judicial system.
**Academic.** In an effort to provide an operational definition of sexual aggression, researchers have worked toward a characterization that is more specific than the overarching legal definitions and broader than the narrowly focused diagnostic definitions. Research examining sexual misconduct falls roughly into three broad categories: aggression, harassment, and offending. Scientists focusing on “sexual aggression” tend to focus on rape and coercive sexual behavior with peer-aged victims. Those interested in sexual harassment have worked diligently to operationalize the construct, often examining sexualized (but non-assaultive) behavior in corporate and academic settings. Other researchers attend to sexual offending, and they typically focus on predatory behavior or criminal sexual conduct involving young victims. Despite incredible conceptual and theoretical overlap across these constructs, the literatures remain relatively distinct.

**Sexual aggression.** The term “sexual aggression” is often used as a synonym for sexual assault or rape, excluding less severe forms of sexual misconduct. Most commonly, sexual aggression is measured using the Sexual Experience Survey (SES; Koss & Oros, 1982). This tool provides delineation into four groups: non-sexually aggressive, sexually coercive, sexually abusive, and sexually assaultive experiences. The range of behaviors addressed is extremely limited in this 10-item questionnaire and researchers often expand or otherwise alter the measure to fit a specific conceptualization of sexual aggression (Abbey, Wegner, Pierce, Jacques-Tiura, 2011; Thompson & Cracco, 2008; Vega & Malamuth, 2007; Warkentin & Gidycz, 2007). As designed by the authors (Koss & Oros, 1982), the SES uses questions tailored to identify rates of legally defined rape or attempted rape. This limitation excludes a significant range of aggressive sexual behaviors that do not meet the specific criteria for criminal behavior.
In a study looking at sexual aggression within bars and at off-campus parties, Thompson and Cracco (2008) expanded the original SES to include behaviors that may not meet legal criteria for sexual assault or rape. The authors questioned participants about engaging in sexual conversations, rubbing or stroking the knee of an acquaintance, pressing against women from behind, and grabbing women’s buttocks. Two-thirds of the 264 male college students reported engaging in four or more of the sexually aggressive behaviors, indicating that some level of sexual aggression was extremely common in the normative population. The authors discussed all of these behaviors within the construct of sexual aggression; however, they may be more consistent with the current understanding of sexual harassment.

In others studies, sexual aggression is defined more broadly as any behavior in which a man has engaged in sexual activity with a woman when he knew she was unwilling (Abbey, Wegner, Pierce, & Jacques-Tiura, 2012). The authors maintain a subjective perspective on sexual aggression by including all types of unwanted sexual behavior while still using a modified 16-item iteration of the Sexual Experiences Survey (Koss & Oros, 1982). They did not discuss specific behaviors included in the study, only that the version of the SES used assessed for unwanted sexual touch and oral, vaginal, and anal intercourse.

Greene and Davis (2011) used an updated version of the original SES (SES-A; Abbey, Parkhill, & Koss, 2005) that focuses on a spectrum of specific sexual behaviors (fondling/kissing, oral sex, attempted intercourse, and intercourse) and explores whether or not aggression was used while engaging in those behaviors. They examined the use of physical force and intoxication as forms of aggression, but also included the use of verbal coercion tactics such as guilt, lies, and pressure as forms of aggression.
Mathes and McCoy (2011) developed the Perpetration of Sexual Coercion Scale and the Victim of Sexual Coercion scale to overcome the limitations of the SES. The authors established gender neutral questions, avoiding common presumptions of men as perpetrators and women as victims. Mathes and McCoy (2011) also incorporated a full spectrum of coercion strategies (i.e., physical force or threat of force, arguing, relational manipulation, verbal abuse, and attempted seduction via sexual exposure) as well as associated factors in coercion (alcohol abuse, sexual behavior patterns, masculine hostility, delinquency, rape-myth acceptance, pornography use, arousal to force, and victimization history). Their broad definition of sexual aggression included any occasion when coercion of any type was used to engage in “sexual activities.” Using both men (n = 42) and women (n = 69) with a mean age of 21 years old, Mathes and McCoy (2011) examined sexual perpetration and victimization from a gender neutral perspective.

Results indicated significant correlations between the construct of hedonism and the perpetration of sexual coercion ($r^2 = .40, p < .01$) as well as being a victim of sexual coercion ($r^2 = .38, p < .01$). The authors propose that individuals pursuing hedonistic behaviors are more likely to engage in high risk behaviors such as alcohol consumption and promiscuous sex, thus increasing their chances of perpetrating and falling victim to sexual coercion. Sexual coercion tolerance, measured via a composite of 19 modified items from the Rape Myth Acceptance Scale (Burt, 1980) and the College Date Rape Attitude and Behavior Survey (Lanier & Elliot, 1997), was also found to be significantly correlated to the perpetration of sexual coercion ($r^2 = .51, p < .01$) and being a victim of sexual coercion ($r^2 = .36, p < .01$). Items included in the tolerance scale included the rationalizations that sex is owed in some circumstances, “no” often means “yes,” and coercion is how people get their needs met. These data suggest that both perpetrators and victims may endorse such items at higher rates; however, due to the cross-sectional design of
the study it is unclear if those with higher tolerance for coercion are more likely to be perpetrators and victims or conversely, perpetrators and victims are more likely to engage in post hoc justification of their experiences.

Some authors have created unique terminology and broadened the concept of sexual aggression to include a wider variety of sexual behaviors. Seto and colleagues (2010), for example, used the term “sexual coercion” rather than sexual aggression to indicate engaging in sexual touching, masturbation, oral, anal, or vaginal intercourse using pressure or force. They did not distinguish between social or verbal pressure and physical force, nor did the authors assess the degree of force, thereby limiting the ability to identify reports of sexual coercion that met the legal or diagnostic definitions of sexual assault.

Sexual harassment. Despite limited overlap with the sexual aggression construct in the research literature, sexual harassment can also be reasonably conceptualized as a form of sexual aggression. The definition of sexual harassment, however, has proven elusive even within the academic literature studying the phenomenon. One overview (Pina, Gannon, & Saunders, 2009) identified the operationalization of sexual harassment as a major point of contention, describing the debate as a perpetual balancing act between protecting individuals’ safety, protecting freedom of speech, and acknowledging the sexual nature of social interactions between men and women.

The Equal Employment Opportunity Commission provides a broad definition of sexual harassment that encompasses any verbal or physical conduct of a sexual nature that creates an intimidating, hostile, or offensive work environment (www.eeoc.gov). Several recent studies have relied on the definition of sexual harassment provided by the American Association of University Women (AAUW; Chiodo, Wolfe, Crooks, Hughes, & Jaffe, 2009; Espelage & Holt, 2007; Petersen & Hyde, 2009) that encompasses a wide variety of verbally and physically
harassing behaviors. The AAUW definition (Hill & Sliva, 2005) is intentionally broad. In assessing levels of harassment, the AAUW includes questions regarding everything from jokes and gestures, to voyeuristic and exhibitionistic behaviors, to the perpetration of sexual assault. Others have associated sexual harassment more closely with bullying, identifying sexual harassment as playful or mean-spirited interactions between peers that are sexual in nature (Shute, Owens & Slee, 2008).

Consistently, sexual harassment is discussed as a subjective judgment regarding how much a behavior is “wanted.” Given the individualized nature of the construct, it is extremely difficult to operationalize. In a laboratory paradigm aimed at understanding the subjectivity of the construct, researchers used an online speed-dating scenario to measure 128 female college students’ tolerance of sexual harassment (Angelone, Mitchell, & Carola, 2009). After participants rated dating candidate profiles on attractiveness and status, a brief interaction unfolded where “candidates” responded to 11 questions.

These responses were scripted and contained various levels of sexually suggestive language. For example, in response to the query, “What would a past girlfriend say is your best quality,” the scripted response was, “I’m a loyal friend…there 24/7…and willing to please and attend to ALL of their needs…” Results indicated that perception of sexual harassment during these interactions was substantially influenced by the implied attractiveness and social status of the perpetrator of the potentially offensive comments. These data empirically supported the assumed subjectivity of sexual harassment, showing individual differences in perceived harassment were based on factors independent of the specific behaviors.

Despite the variety of definitions and subjective nature of the construct, researchers have made progress toward a more manageable operational definition of sexual harassment. With
strong empirical support, the Sexual Experiences Questionnaire (SEQ; Fitzgerald, Gelfand, & Drasgow, 1995) has helped classify the broad construct of sexual harassment into three general categories: gender harassment, unwanted sexual attention, and sexual coercion. Gender harassment includes insulting, hostile and degrading behaviors toward women. Unwanted sexual attention consists of unwanted touching, sexual advances, and propositions for sex. Lastly, the term sexual coercion is reserved for instances of sexual bribery or blackmail. As discussed above, researchers exploring sexual aggression would call these types of coercive behaviors aggressive. The distinction between harassment and aggression appears to be largely semantic; however, it has become an important difference because it has created limits to generalizability in both fields of study.

While the operationalization of the sexual harassment construct is perhaps more thoroughly defined than sexual aggression in general, it continues to rely on the subjective nature of wanted versus unwanted sexual behaviors. Concrete definitions of sexual harassment remain elusive to researchers and the current understanding of the constructs makes it unlikely those problems will be quickly resolved. Sexual desire or “wanting” can perpetually change depending on perceptions and circumstance, meaning the degree of aggression or harassment can fluctuate with any given behavior. Sexual offending, conversely, is an objective construct frequently used in the sexual misconduct literature.

Sexual offending. Sexual offenders are typically portrayed in the media as pedophiles who victimize young children. Within the literature, the definition is not nearly so limited. Barbaree and Marshall (2006) provide a typical academic definition of sexual offenders, describing them as, “persons who have been convicted in a criminal court of a sexual crime.” (p.2). Sexual offending, therefore, may be conceptualized as engaging in any sexualized
behaviors that may result in criminal conviction, and individuals engaging in any form of sexual aggression or harassment are almost certainly perpetrating some sexual offense. Further confusion stems from the arbitrary inclusion or exclusion criteria for what behaviors are considered “sexual offending” across the literature. At times, “sexual offending” is synonymous with pedophilia, and at other times, the definition is limited to rape, exhibitionism, or criminal behavior with a sexual component. While the connotations associated with sexual offending, sexual aggression and sexual harassment are very different, a detailed review of the three constructs shows that they are much more similar than they are different (Pina, Gannon, & Saunders, 2009; Shute, Owens, & Slee, 2008).

**Mental Health.** The Diagnostic and Statistical Manual Fourth Edition, Text Revision (DSM-IV-TR, American Psychological Association [APA], 2000) tangentially addresses sexual aggression through the diagnostic labels of pedophilia (p. 572; sexual attraction toward children), voyeurism (p. 577; observing unsuspecting person in a state of undress or engaging in sexual activity), exhibitionism (p. 569; exposure of one’s genitals to a stranger), frotteurism (p. 570; touching or rubbing against a nonconsenting person), and sadism (p. 574; psychological or physical suffering of a victim is arousing). While various forms of sexual aggression may be associated with each of these paraphilias, it is atypical for these labels, other than pedophilia, to be used for perpetrators of sexual assault or harassment except in the most extreme circumstance. For each diagnosis, an individual must report at least six months of intense recurring fantasies, urges, or behaviors involving the paraphilic behavior. This effectively eliminates opportunistic or impulsive aggressive sexual behavior from any of the diagnostic categories.

Various other mental disorders described in the DSM IV-TR (APA, 2000) include sexual behavior as a symptom. Engaging in forcible sexual acts meets one (of fifteen) criteria for
Conduct Disorder (CD; pp. 98-99). Two personality disorders specifically address sexual behavior. Diagnostic criteria for Borderline Personality Disorder include impulsive sexual behavior that may be self-damaging (p. 710). In addition, individuals with Histrionic Personality Disorder characteristically act in ways that are inappropriately seductive or provocative (p. 714). As with the diagnoses discussed above, these personality disorders require an enduring pattern of problematic behaviors. Conduct disorder (CD) is the only diagnosis that directly addresses aggressive sexual behavior by including criteria that technically describe rape. The seventh criterion for CD is if the individual, “has forced someone into sexual activity (p. 99).” In practice, Conduct Disorder diagnoses focus on more general disruptive behaviors and rarely is the focus on sexual aggression specifically. The paraphillias provide a direct assessment of sexual behavior, but offer a very limited range of behaviors. Perhaps the most concrete definition of sexual aggression comes from the judicial system; however, it does little to establish a concise definition. Laws focus specifically on sexual behaviors, but the definition becomes complicated and inefficient when addressing caveats, limitations, and stipulations to the legality of the behavior.

**Legal.** According to Michigan state law (2013 MCL 328, 750.520b) Criminal Sexual Conduct (CSC) may range from sexual penetration of a victim under 13 years of age to using the element of surprise to engage in sexual contact. Iterations of CSC may or may not involve the use of physical or verbal aggression; they may or may not involve age discrepancies between perpetrator and victim; they may or may not involve the use of threats, manipulation, or the exertion of authority. Michigan Penal Code (1984 MCL 343, 752.364) attempts to define sexual conduct as, “representations or descriptions of ultimate sexual acts, normal or perverted, actual or simulated,” or, “representations or descriptions of masturbation, excretory functions, or a lewd
exhibition of the genitals.” The legal definition goes on to explain that “ultimate sexual acts” includes, “sexual intercourse, fellatio, cunnilingus, anal intercourse, or any other intrusion, however slight, of any part of a person’s body or of any object into the genital or anal openings on another person’s body, or depictions or descriptions of sexual bestiality, sadomasochism, masturbation, or excretory functions.”

Within the legal system, clearly, a broad net is cast, allowing for prosecution of a range of sexually aggressive behaviors but contributing little to succinctly operationalizing sexual aggression. Inclusion of a behavior into the category of criminal conduct is dependent on several factors including the age of the victim and perpetrator, the relationship between the two, the mental and physical capabilities of the victim, and the types of coercion used. In addition to the variability within the definitions of criminal sexual conduct, there are also differences between state laws, with each state delineating which specific behaviors are legal or illegal based on sometimes minute variations in the factors relevant to conviction.

Models of Sexual Aggression

Using a combination of these definitions of sexual aggression or creating their own, several researchers have developed explanatory or predictive models of sexual aggression.

**General Sexual Coercion.** Knight and Sims-Knight (2003; 2004) proposed a three-path etiological model of sexual aggression which they found adequately predicted male sexual aggression in adult and juvenile sexual offenders as well as in a community sample of adults. Sexual aggression was described as serious (attempted or completed forced intercourse), moderate (oral or anal penetration), or mild (touching, feeling, kissing, or petting) sexual coercion. Across all types of coercion, the victim was presumed to be a woman or peer-aged girl. Sexual coercion perpetrated against younger victims and males were not included in this model.
Eliminating these factors allowed the development of a succinct model, but it is also greatly limiting the broad spectrum of sexually aggressive behaviors. Coercion was defined as the use of alcohol, interpersonal manipulation, verbal threats, or physical force.

Sexual behavior was measured using the Multidimensional Assessment of Sex and Aggression (MASA; Knight & Cerce, 1999; Knight, Prentky, & Cerce, 1994) in several examinations of the General Coercion model (Knight & Sims-Knight, 2004; Daversa & Knight 2007). Knight, Prentky, and Cerce (1994) developed the Multidimensional Assessment of Sex and Aggression (MASA) in an effort to address, “the problem of the multidimensional nature of sexual aggression.” (p. 73). The MASA is a computer based assessment which collects data pertaining to developmental history, social, academic, sexual, and antisocial behaviors, substance use history, normal and deviant sexual behaviors, masculinity, paraphilias, and aggression.

In studies utilizing the MASA, predictive factors including early physical and sexual abuse, callousness, antisocial traits, impulsivity, hypersexuality, negative masculinity, hostility toward women, and misogynistic fantasies contributed to a predictive structural model of sexual coercion across several populations. Similar factors have been explored using Hare's Psychopathy Checklist (PCL-R; Hare et al., 1990), used to measure Predatory Personality (also described as Arrogant and Deceitful Personality/Emotional Detachment) and Antisocial Behavior. Sexual preoccupation/hypersexuality was assessed in several different ways, examining not only the strength of sexual drive, but also the acceptance/pursuit of impersonal sex, preoccupation with sex, and use of pornography. According to this model, these variables are influenced by abuse experiences (physical, verbal and sexual) and personality predispositions.
In the developmental phase of the MASA (Knight, Prentky & Cerce, 1994), the authors focused research efforts on the construction of the assessment and provided limited discussion regarding conclusions or results based on the assessment. Participants in the initial study (Knight, Prentky & Cerce, 1994) were 127 civilly committed sexual offenders, 59 rapists with exclusively adult victims and 68 offenders with at least one child victim. All participants spent 45-90 minutes completing the 403 item MASA, and 35 were retested six months after the initial assessment. Five “booklets” make up the MASA, each containing items to a specific domain or construct. Booklet one is a brief evaluation of social and employment history. Booklet two addresses specific behavioral patterns throughout the lifespan, including impulsiveness, acting out behavior, drug and alcohol use, and assaultiveness. Actual and fantasized expressions of anger were assessed in booklet three which also contains the K scale from the MMPI to identify potential tendencies toward nondisclosure. Booklet four, containing 137 items, is the largest section and compiles responses specific to sexual behavior. Sexual preoccupation, masculine self-image, paraphilias, sadism, gratuitous aggression in sexual acts, sexual compulsion, and attitudes of sexual inadequacy are measured in this section of the MASA. Questions related to several important components of aberrant sexual history, including childhood exposure to pornography, and adult use of pornography are contained in booklet five.

Initial psychometrics were not impressive, as the authors found that many variables measured in the MASA had weak correlations with data compiled from clinical records; however, the lack of convergence appeared to be largely due to poor accuracy of the archival data rather than theoretical or functional shortcomings of the MASA. Self-report responses from the MASA were consistently indicative of more problematic/deviant behaviors and thoughts. Aggressive tendencies that were not at a clinical level (non-assaultive behavior) showed up in the
results of the MASA, but were not in the archival data. Similarly, participants appeared to disclose more detailed information regarding sexual preoccupation when provided the opportunity to self-report. Knight and colleagues (1994) concluded that the MASA provided a more comprehensive and accurate assessment of the multidimensional factors explaining patterns of sexual aggression.

In a recent application of the MASA, Daversa and Knight (2007) used the MASA along with structural equation modeling to develop predictive pathways to sexually abusive behavior. Juvenile sexual offenders (n = 329) from several inpatient facilities volunteered to participate in the study. Each participant had been involved in at least one assault that involved physical contact with the victim and was sexually motivated. Analysis of responses resulted in four significant pathways, each explaining/predicting child victimization.

Three of the four significant paths began with early experiences of emotional and physical abuse. Daversa and Knight (2007) focused especially on the importance of emotional abuse in childhood, suggesting that it is emotional abuse, more so than physical or sexual abuse, that lead to the callousness, anger, and socially manipulative behavior that is consistently linked to offense perpetration. Factors that moderated the relationship between childhood abuse (nonsexual) and offending behavior included psychopathology, sexual fantasies, and feelings of sexual inadequacy.

The fourth significant pathway, and the only one not including emotional and physical abuse, is a direct connection from aberrant histories of being the victim of sexual abuse to being the perpetrator of sexual abuse. While this research provided an empirically rich description of pathways to sexual offending, it does little to help understand motivational factors. The authors included this limitation in their discussion of the current state of research, noting that even using
the expansive data set compiled by the MASA, they cannot draw conclusions regarding the motivation of the perpetrators. This inability to identify the function of offending behavior limits the useful application of these pathways in clinical interventions. Treatment strategies based on a perpetrator’s attempts to cope with arrested sexual development, paraphilic interests, sensation seeking, compensatory social behavior, or unmet intimacy needs will be incredibly different, and the MASA cannot currently identify those functional motivates for the perpetration of sexually aggressive behavior.

Criminogenic Needs. According to Andrews and Bonta (1998; Bonta & Andrews, 2003), criminogenic needs are dynamic factors associated with recidivistic criminal behavior. The authors focus on factors such as pro-offending attitudes, substance abuse, hostility, anger, poor problem-solving skills, and impulsivity because, unlike static risk factors, these factors can be effectively altered through treatment to reduce recidivism (Andrews & Bonta, 1998). Static factors (e.g., gender, age, criminal history, aberrant sexual history) provide information in initial assessments of risk; however, they do little to guide treatment or provide differentiated risk levels post treatment. Andrews and Bonta (1998) also identified noncriminogenic needs such as anxiety, personal distress, and group cohesion that do not appear to be directly related to criminal recidivism. The authors acknowledge the importance of these factors but conclude that, in regard to treatment of antisocial behaviors, interventions should focus specifically on criminogenic needs.

Consistent with the criminogenic needs model, Hanson and Harris (2000) identified several important dynamic factors related specifically to sexual offending behaviors. In examining more than 400 sexual offenders, the authors compared static and dynamic risk factors between recidivists (n =208) and nonrecidivists (n =201). They concluded that substance abuse,
social support, attitudes toward sexual aggression and general antisocial behavior, and socially deviant sexual behaviors were important criminogenic needs that resulted in greater likelihood to recidivate. Andrew and Bonta (1998) found group cohesion was a nonfactor in terms of criminogenic needs, yet Hanson and Harris (2000) indicated social support was a key factor in predicting re-offense. This discrepancy suggests that criminogenic needs may be specific to a given population, and they could vary dramatically depending on the offending behavior being studied.

Not all researchers have agreed with the importance of focusing exclusively on criminogenic needs. Wilson and Yates (2009) argue that both types of needs (noncriminogenic and criminogenic) must be addressed in order to treat individuals as a, “whole person.” and ultimately maximize reductions in recidivism. Ward and Stewart (2003) support the focus on rehabilitation and addressing all dynamic needs; however, they also discuss extensive shortcomings of the model of criminogenic needs. They argue that the theory that Andrews and Bonta (1998) put forth is limited in its perception and definition of “needs,” creating potentially less effective interventions. Ward and Stewart (2003) assert that the treatment of certain dynamic factors that are not consistently related to recidivism (i.e., personal distress or anxiety) create a richer therapeutic alliance and greater investment in treatment, making interventions generally more effective. They promote a focus on holistic personal needs that encourage movement towards general well-being.

**Confluence Model.** Malamuth and colleagues (Malamuth, Linz, Heavey, Barnes, & Acker, 1995: Vega & Malamuth, 2007; Malamuth, 1998; Malamuth, 1996) have done extensive research in the development of the confluence model of sexual aggression. This model proposes that two primary factors are integral to understanding pathways to sexual aggression, 1) hostile
masculinity, and 2) the construct of promiscuous-impersonal sex. High hostile-masculinity men, according to this model, are thought to be insecure, hypersensitive, hostile/distrustful (particularly toward women), and gratified by controlling or dominating women. It is assumed that by being sexually coercive or aggressive, men may be compensating for insecurities and avoiding anxieties surrounding rejection. Scholars have further elaborated on this theory by differentiating hostility toward women and general hostility, and recognizing that factors such as irritability, high negative affect, and impulsivity may contribute specifically to hostility toward women, and more broadly to sexual aggression. The second major factor described in the confluence model, identified as a promiscuous-impersonal sex, is conceptualized as noncommittal approach to sexual relationships. It encompasses one’s willingness to engage in sexual relations without closeness. Behaviors such as one-night stands, total number of sexual partners, being aroused by strangers and frequency of extramarital affairs are used to quantify this variable. Tests of this model (Malamuth, 1998; Malamuth, 1996; Malamuth, Linz, Heavey, Barnes, & Acker, 1995; Vega & Malamuth, 2007) consistently indicate that general hostility is related to conflict and aggression; however, hostility toward women contributes uniquely to predicting sexual aggression.

In a nationwide sample (n = 289) of single 18-to-35-year-old males, Greene and Davis (2011) examined the predictive contribution of hostile masculinity and impersonal sex as outlined in in the confluence model (Malamuth, Sockloskie, Koss, & Tanaka, 1991). They also included a measure of alcohol consumption during sexual interactions to assess the impact of alcohol on sexually aggressive behaviors. Data supported the importance of hostile masculinity; however, results varied regarding the impact of the other variables in relation to the standards set out by the confluence model.
Four distinct groups were compared based on the three variables. Group one (24.7% of sample) consisted of participants scoring lowest across all three risk factors, reporting little or no hostile masculinity, impersonal sex, or alcohol consumption. Rates of all types of sexual aggression were lower in this group than any of the others. One-third of the participants met criteria for group two, reporting high levels of impersonal sex and low levels of hostile masculinity and alcohol consumption. Significantly more sexual aggression was present in this group than in the all low group and a pattern emerged of verbal coercion rather than coercion through force or intoxication.

Participants in the high hostile-masculinity group (31.4% of sample) reported the highest levels of hostile masculinity and moderate or low levels of the other two variables. Consistent with the confluence model, this group engaged in significantly more sexually aggressive acts and were more likely to use a variety of coercive tactics; however, their scores for aggression and coercion were not significantly different than the fourth group (10.7% of sample), which consisted of individuals scoring high in all three variables.

Greene and Davis (2011) concluded that hostile masculinity is significantly more important to the confluence model of sexual aggression than the construct of impersonal sex. They noted that elevations in sexual aggression in participants with elevated impersonal sex scores may be, in part, due to higher number of total partners and more opportunities to engage in sexual behavior rather than heightened aggressive or delinquent tendencies. Greene and Davis (2011) also introduced an assessment of alcohol consumption based on previous research (Parkhill & Abbey, 2008; Testa, 2002) and described important connections between drinking habits and sexual assaults within the confluence model.
**Integrated Theory of Sexual Offending (ITSO).** In an attempt to address the contradictions, inconsistencies, and shortcomings of existing theoretical models of sexual aggression, Ward and Beech (2006) developed the Integrated Theory of Sexual Offending. Their goal was to create a comprehensive explanation for the onset, development, and maintenance of sexual offending, specifically the perpetration of rape and child sexual abuse. The authors acknowledged the important groundwork of other theories in the descriptive relationships between offending behavior and a variety of factors. Genetic predisposition, aberrant developmental experiences such as childhood abuse, and trait factors including low empathy or deviant sexual preferences were recognized as variables important to understanding sexual offending. Additionally, Ward and Beech (2006) discussed the impact of broad sociocultural processes on perpetrating behavior as well as more situation-specific individual factors such as intoxication and the experience of severe stress. While Ward and Beech (2006) do not disagree with the important relationship these variables have with sexual offending, they contend the existing explanatory models neglect neuropsychological mechanisms. They go on to challenge current literature as merely descriptive and correlational rather than explaining causal mechanisms, which they propose should focus more heavily on assessment and differential comparisons of the functioning of neurotransmitters, neural pathways, and various neural structures.

Within the construct of neuropsychological functioning, Ward and Beech (2006) describe three primary avenues for brain function to impact symptomology and behavior. Focusing on underlying neurological factors, the authors examine how motivation and emotion, perception and memory, and action selection and control systems are impacted by biological and ecological factors and how they influence symptomology and behavioral outcomes. In establishing their
theory, Ward and Beech (2006) systematically attribute predictive variables and symptoms of sexual offending to the underlying neurological process. For example, deficits in the motivation/emotion system (cortical, limbic, and brainstem structures) may lead to isolation, emotional coping deficits, and attachment difficulties. According to the authors, these factors have been implicated as causal variables in sexual offending.

Dysfunction in the action selection and control systems (frontal cortex, basal ganglia, and parts of the thalamus) can result in impulsive behavior, poor problem-solving, cognitive inflexibility, and becoming emotionally reactionary rather than responsive. Without sufficient capacity to solve problems effectively or control impulses, sexually acting out becomes highly probable. Furthermore, deficits in this area of the brain may also be connected to general antisocial behaviors through impulsiveness, reactionary aggression, and rigid attitudes.

Healthy perceptual and memory systems (hippocampal formation and the posterior neocortex) were described as necessary to develop the ability to effectively process and apply information. In the context of sexual offending, deficits in this area can result in difficulty processing even basic social interactions. Neurological problems within these systems can also adversely affect the previously discussed functions through selective attention and distorted processing. If information is consistently processed through distorted mental filters, the impact will be pervasive as it influences motivation, emotion, and action selection.

In each of these explanatory models of sexual aggression, general antisocial behavior plays a role. The general coercion model and the criminogenic needs model each looks specifically at antisocial behaviors, while the confluence model focuses on hostility, negative affect, impulsivity, and more recently, substance use/abuse to indirectly examine the role of antisocial behaviors. The ITSO indirectly suggests that antisocial, aggressive, and sexually
inappropriate behaviors likely have some common underlying biological cause. These comprehensive theories of sexual behavior have incorporated antisocial behavior; however, theories of antisocial behavior traditionally fail to include sexual behavior. Despite these omissions, the literature on antisocial behavior can be linked in other ways to various forms of sexual misconduct.

**Sexual Misconduct and Antisocial behavior**

Study after study supports the connection between general antisocial behavior and sexual misconduct, yet definitive conclusions regarding the relationship are absent from the literature. One explanation is the lack of consensus regarding the construct of antisocial behavior and conduct problems. Reviews and meta-analyses must rely on a wide variety of operational definitions of antisocial behavior and sexual aggression. Recently, the understanding of antisocial and aggressive behavior development was described as, “a haphazard array of risk factors that may cumulate, interact, and transact in unknown ways” (Dodge, Coie, & Lyman, 2006, p. 771). Combine the complexities of defining sexual aggression with the challenges of measuring antisocial behaviors and it becomes extremely difficult to understand the relationship between the two constructs. A review of the antisocial and conduct disorder literature provides some perspective on the assumed connection.

To the layperson, those diagnosed with Conduct Disorder (CD) are delinquent, criminal, or otherwise deviant; however in both casual and professional environments, sexualized behavior is notably absent from explorations of Conduct Disorder. Forcing an individual into sexual activity is one of 15 DSM-IV TR criteria for the diagnosis of Conduct Disorder (CD, APA, 2000; pp. 98-99), yet CD literature is consistently devoid of exploration of sexualized behavior.
Several CD criteria have potential relationships with problematic sexual behavior, but they are typically addressed and assessed in nonsexual ways. For example, bullying and being cruel to people (CD diagnostic criteria) are primarily discussed exclusively in terms of physical or verbal aggression, omitting sexual harassment as a form of bullying. Researchers, however, have found some support for the relationship between bullying and sexual harassment (Shute, Owens, & Slee, 2008). The authors acknowledge the trend of excluding sexualized questions from assessments of bullying and aggression in school settings and aimed to bridge the conceptual gap between general aggression and sexual aggression. In their qualitative study of adolescents and their teachers, the authors found that a majority of aggressive behavior and bullying behavior occurring across genders involved some form of sexualization (i.e., inappropriate touching, commenting on breasts, or using derogatory sexual terms for classmates). This study offers a foundation for the inclusion of questions regarding sexual aggression when assessing other forms of aggression. The qualitative nature of the study (i.e., extensive informal interviewing and group discussion) limits its generalizability, and to date, the integrative approach is not incorporated into broader research applications.

Other criteria for CD may also be related to sexual aggression. Trespassing on another person’s property and “conning” others each constitutes criteria for conduct disorder. Extrapolating these criteria to include sexualized behavior takes little effort. Breaking into someone’s house may be sexually motivated for the purposes of attaining underwear or other sexualized items, and “conning” people is commonly referred to as grooming in the sexual offender literature. Conning others may also be closely related to certain forms of verbal coercion discussed in reference to sexual harassment or sexual aggression. Despite the potential for sexual motivations to strongly influence several criteria (enough to reach diagnostic levels),
comprehensive reviews of the CD literature fail to address sexual behavior in any meaningful way (Farrington 2009; Hinshaw & Lee, 2003; McMahon & Frick, 2005; McMahon, Wells, & Kotler, 2006).

When sexual behavior is addressed in association with antisocial behavior, the focus is typically on high-risk behaviors such as promiscuity and unprotected sex (Biglan, Brennan, Foster, & Holder, 2004) rather than aggressive sexual behavior or potentially less harmful behaviors such as sexual harassment. In extensive review of the antisocial behavior literature, Biglan and colleagues (2004) addressed a wide variety of co-occurring problematic behaviors associated with at-risk adolescents. While they can be commended for directly acknowledging sexual behavior, the authors limited their definition of risky sexual behavior to a failure to use birth control and tendencies toward promiscuity. This limited questioning exacerbates the challenge of understanding the relationship between antisocial behavior and problematic sexual behavior.

While research aimed specifically at CD and antisocial behavior largely avoids questions of sexual misconduct, some researchers studying sexual assault and sexual harassment have attempted to elucidate potential relationships between the two variables within normative populations (Abbey et al., 2012; Vega & Malamuth, 2007, Poinsett & Loverich, 2010). This adds clarity beyond the data describing the relationship antisocial behavior and sexually aggressive behavior that comes from researching incarcerated adult and juvenile populations (e.g., Harpur et al., 2002; Porter et al., 2000; Prentky & Knight, 1991).

Characteristics associated indirectly with antisocial behavior have also been linked to sexual aggression in noncriminal populations. For example, Knight and Sims-Knight (2004)
identified the antisocial variables of callousness and lack of emotionality as factors predictive of sexual aggression based on their exploration of 217 juvenile sexual offenders.

Vega and Malamuth (2007) examined several important variables associated with sexual misconduct within a population of 102 male undergraduates and found that general delinquency significantly correlated with sexual aggression ($r^2 = .42$, $p < .01$), rape myth acceptance ($r^2 = .43$, $p < .01$), and adversarial sexual beliefs ($r^2 = .31$, $p < .01$). The authors used the original 10-item Sexual Experiences Scale (SES) for perpetrators (Koss & Oros, 1982) to assess sexual aggression, the Rape Myth Acceptance Scale for Males (RMA; Burt, 1980), and the Adversarial Sexual Beliefs Scale (ASB; Burt 1980). Delinquency was measured with a brief Delinquency questionnaire (DQ; Malamuth et al. 1995) developed by one of the authors.

Similarly, Voller, Long, and Aosved (2009) used an expanded version of the SES to examine correlates of sexual aggression in 492 male undergraduates. Results indicated that both perpetrators of rape and perpetrators of criminal sexual assault ($n = 64$, 14.9%) reported significantly higher levels of attraction to criminality compared to nonperpetrators ($n = 428$, 85.1%). The authors concluded that general antisocial behavior is an important variable in understanding sexual misconduct within normative populations.

In a study of nearly 400 male and female undergraduate psychology students, Poinsett and Loverich (2010) found that participants reporting moderate to high levels of sexual aggression, also reported significantly higher levels of delinquency. Despite significant group differences (based on level of sexually aggressive behavior) in reported delinquency, the overall correlation between delinquency and aggressive sexual behavior was a modest ($r^2 = .21$, $p < .01$). Interestingly, a regression analysis indicated that delinquency was a better predictor of sexual aggression for females than for male participants. In this study, one aspect of antisocial behavior,
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delinquency, was significantly related to sexual aggression, and led authors to the conclusion that additional facets of antisocial behavior should be investigated to clarify their relationship to aggressive sexual behavior.

**Comparison of Sexual and Nonsexual Juvenile Delinquency**

Despite some lack of clarity, researchers have worked hard to better understand the associations between antisocial behavior and sexual misconduct. One common strategy used is comparing juvenile delinquents who have committed sexual offenses to those that have committed exclusively nonsexual crimes. Study after study has confirmed strong similarities between sexual offenders and nonsexual criminal offenders. (Ford & Linney, 1995; Hagan, Gust-Brey, Cho, & Dow, 2001; Letourneau & Miner, 2005; Righthand & Welch, 2004; Schwartz, Cavanaugh, Pimental, Prentky, 2006). At times, it is assumed that sexual behavioral problems are distinct from more general behavior problems; however, in terms of etiology, individuals exhibiting either behavior show a likely history of childhood maltreatment including physical, emotional, and/or sexual abuse (Righthand & Welch, 2004). Both general and sexual offenders are more likely to have developed in disrupted families (Ford & Linney, 1995; Ryan et al., 1996; van Wijk, Loeber et al., 2005). With no singular conceptualization of family disruptions, these studies have included parental separation, family deaths, parental substance abuse, and high levels of conflict in the home as measures of disruption. Hagan and colleagues (2001), in their comparison of sexual and nonsexual offenders concluded that both groups commonly engage in antisocial behavior, highlighting the lack of distinction in behavior patterns of the two groups.

Similarly, Jacobs, Kennedy, and Meyer (1997) were unable to identify any meaningful differences in sexual and nonsexual juvenile offenders when they compared the two groups. The authors developed a study with strong methodology to overcome some of the shortcomings of
typically descriptive and correlational studies comparing adolescent sexual and nonsexual offenders. They included 78 juvenile sex offenders and 78 nonsexual juvenile offenders, ranging in age from 13 to 18. Basic demographic information, detailed offense histories, and standardized assessments (Wechsler tests of intelligence (WAIS-R, WISC-R, or WISC III), Wide Range Achievement Tests (WRAT-R or WRAT-3), the Minnesota Multiphasic Personality Inventory (MMPI-A or MMPI-2), and Hare’s Psychopathy Checklist – Revised (PCL-R) were used to compare the two groups. Initial hypotheses suggested there would be clear distinctions between the group exhibiting sexual aggression and the group exhibiting more general antisocial behaviors. Data indicated that there were no significant between group differences based on any of the standardized tests. Significant differences were identified in regard to age at first legal referral and frequency of interaction with the legal system. Sexual offenders were older at first referral and less engaged with the legal system than the more general offenders.

While this study used more scientific rigor (standardized assessments, adequate sample size) to compare the two groups, there was considerable similarity in the populations due to the fact that all participants had met requirements to be incarcerated in a facility reserved for the most severe and chronic adolescent offenders in the state of Florida. This limited range in the type of offender (regardless of extent of specifically sexual behavior) restricts the ability to generalize the results.

Miner and Munns (2005) concluded that one factor that does distinguish general adolescent offenders from those that engage in sexually problematic behaviors is individual perception of peer isolation. In a study of 78 sex offenders and 156 juvenile delinquents, and 80 adolescents reporting no history of noteworthy behavioral or legal problems, the authors identified similarities across several measures of social, family, and school based attitudes.
Juvenile sex offenders rated their feelings of isolation as significantly higher than the group of the nonsexual offenders. The authors discussed this distinction with caution due to the insignificant difference in feelings of isolation between the JSOs and the adolescents with no criminal history. They concluded that the potential cumulative effects of feeling isolated from family, peers, and school may motivate adolescents to seek out social connectedness via inappropriate sexual interactions.

Van Wijk and colleagues (2006) surveyed the current state of literature focused on identifying differences between sexual and nonsexual offenders. They set strict inclusion criteria for the review, limiting their search to studies involving direct comparisons of sexual and nonsexual offenders, standardized testing or systematic data collection, and included comparison groups of at least 30 participants. Given these criteria, they were only able to include 17 empirical studies in their review. Despite efforts to maximize validity, some important factors limited the ability to draw conclusions from the included studies. A majority of the studies used the history of problematic sexual behavior as the only form of classification between or within groups. Most studies made no effort to assess variability of severity or frequency of criminal behavior within the groups of offenders. Using these 17 studies the authors were able to examine the impact of standard demographic differences, family factors, intellectual and neurological functions, personality and behavior problems, attitudes, sexual experiences (abuse, development, and functioning), history of nonsexual offending, drug use, and peer functioning. Comparisons between the two groups revealed no firm conclusions regarding meaningful differences. Results indicated that inconsistency between studies was the norm, displaying contradictory evidence of the predictive abilities of demographics, history of family violence, and intellectual functioning.
Across the whole of the literature used in the review, there was not a single factor that consistently distinguished the sexual offenders from the nonsexual offenders.

In a comprehensive meta-analysis of conduct problems within the juvenile sexual offender population, Seto and Lalumière (2010) found support for the relationship between antisocial behaviors and sexual aggression, but ultimately concluded that “general delinquency” was not an adequate explanation for sexual aggression. Using 59 independent studies, the authors compared nearly 4,000 male adolescent sex offenders to over 13,000 non-sexual offenders. Results indicated that several factors pertaining to sexual history including aberrant sexual history (sexual abuse and early exposure to pornography), social isolation, and atypical sexual interests, contributed to effectively distinguishing sexual offenders from nonsexual offenders. While the studies above compared groups of delinquent youth, there was limited distinction regarding the type or degree of criminality within or across groups.

The studies discussed above each used significantly different measures of antisocial behavior. For example, Vega and Malamuth (2007) used a simple four item measure looking at delinquency in childhood and adolescence. Seto and Lalumière (2010), conversely, compiled studies using more than twenty separate indicators of antisocial behaviors. These included official records of criminal charges, criminal conviction, court referrals, school disciplinary action, a variety of standardized measures of conduct problems, and a plethora of indicators of specific illegal activities. Voller and colleagues (2006) developed their own measure aiming to assess “attraction to criminality” by asking respondents how compelling it is to rob a bank, kill someone, or sell illegal substances. Poinsett and Loverich (2010) compiled questions largely focused on adolescent substance use and school disciplinary action to determine delinquency.
Variability in the construct breeds uncertainty regarding exactly which aspects of antisocial behavior relate to sexually problematic behaviors.

**Aggression and Sexual Misconduct**

Consistently, throughout the antisocial and CD literature there have been attempts to create more useful ways of discussing conduct problems, some of these efforts have made distinctions between types of behavior problems more concrete (Dodge & Coie, 1987; Frick & Ellis, 1999; Frick et al., 1993), while others broaden the construct of problem behaviors to be nearly all-inclusive (Biglan et al. 2004; Jessor, 1998). Across the constructs of CD, sexual offending, criminal behavior, and antisocial patterns, aggression consistent plays a key role. While dictionary definitions vary, aggression consistently implies a forceful act aimed at dominating another, infringing on their rights – often with hostility. Aggression, which is presumably a significant factor in explaining the interaction between antisocial behavior and sexual misconduct, has been isolated and examined. The construct of aggression has been meaningfully divided (proactive vs. reactive; social, physical, etc.), but it is unclear how the various types of aggression may contribute to explaining and predicting sexual aggression or sexual behavior more generally. The distinctions, however, hold promise in their ability to differentiate antisocial individuals that act out sexually and those who do not act out sexually.

**Models of Aggression**

**Reactive Versus Proactive Aggression.** Dodge and Coie (1987) performed research with adolescents and developed a model of aggression that revolves around the difference between reactive and proactive aggression. The former occurs as the result of provocation and typically involves an emotional component (e.g., anger), and the latter is best described as a goal oriented aggression with tangible or social rewards motivating aggression, often void of emotional
outbursts. Subsequent research has identified differences in problem-solving skills, social-cognition, peer popularity, and various other behavioral dimensions across these two types of aggression (Day, Bream, & Paul, 1992; Dodge, 1991; Vitaro, Brendgen, & Tremblay 2002). While much of the data pertaining to reactive and proactive aggression comes from young children, Fite and colleagues (2010) used data from the Pittsburgh Youth Study (PYS) to examine differential projective outcomes based on aggression typologies in adolescents. Cross-sectionally, at age 16, they found that adolescents with reactive aggression largely avoided developing more severe antisocial behaviors at the age of 26. Proactive aggression in adolescence, conversely, was consistently associated with the development of antisocial personality traits, callous affect, interpersonal manipulation, violence, and delinquency in early adulthood.

Integration of this data into theories of life-course versus adolescent limited CD (Moffitt, 1993, Moffitt, 2003; Moffitt & Caspi, 2001) suggests that reactive aggression in adolescents is more closely associated with adolescent limited CD and proactive aggression is more consistent with life-course persistent CD and more severe antisocial behaviors. While researchers have not directly studied how these types of aggression may manifest sexually, the data indicate that proactive aggression is associated with variables recognized as correlates of sexual assault (i.e., callous affect, interpersonal manipulation, violence). These traits have been linked specifically to sexual aggression through Knight and Sims-Knight’s (2004) model of general sexual coercion. Furthermore, sexual aggression that is predatory in nature may be more consistent with proactive aggression, and sexual aggression that is more impulsive or opportunistic may be more closely related to reactive aggression. To date, sexual aggression has not been directly examined with these distinct types of aggression as correlates.
Relational Aggression. Antisocial behavior is commonly associated with the use of violence; however, researchers have begun to examine the role of relational aggression within the construct. Unlike physical aggression, relational aggression does not involve the use of force or cause injury to the victim. Instead, this form of aggression relies on the manipulation of relationships and may involve social ostracism, spreading malicious rumors, or actively ignoring a selected victim (Crick & Grotpeter, 1995). Sexual aggressors have been shown to use similar strategies while coercing sexual behaviors from victims. Warkentin and Gidycz (2007) surveyed 297 male college students in order to identify tactics used in the perpetration of sexual aggression. Several factors relied on the manipulation of the relationship between the victim and perpetrator, including demanding silence, promising positive or negative consequences based on compliance, and using social isolation. This particular form of aggression is sometimes overlooked within the study of antisocial behavior due to the prevalence of more overt aggressive behaviors; however, relational aggression is commonly found across settings, genders, and ages (Crick, Casas, & Mosher, 1997; Harman, 2010; Linder, Crick, & Collins, 2002; Murray-Close et al., 2010; Werner & Crick, 1999). Additionally, relational aggression is correlated with peer rejection in male and female college students (Werner & Crick, 1999), and social isolation has been linked to patterns of sexual misconduct (Miner & Munns, 2005; Seto and Lalumière, 2010). Through several potential pathways, relational aggression likely contributes to sexual aggression, yet, to date, the relationship between these constructs has not been examined in the literature.

Burt and Donnellan (2009) theorized that antisocial behavior should be viewed as a three-factor model, including the two forms of aggression discussed above (physical and relational) along with rule-breaking behavior. The scale they developed to measure these aspects of
antisocial behavior detected meaningful differences within and across high-risk and community samples, suggesting that specific patterns of antisocial behavior (substance use versus violent crime) may be associated with particular configurations of the three identified factors. As distinctions are made among types of aggression, it becomes more apparent that general antisocial behavior, aggression, and delinquency are inadequate as the primary links between behavior problems and sexual aggression. At this point, the relationship between these specific types of aggression and problematic sexual behaviors is inadequately understood. Without examining the predictive contributions of a variety of aggression variables, it remains unclear exactly how specific types of aggression relate to sexual aggression. Moving forward it will be important to examine these relationships within adjudicated and at-risk populations as well as in normative populations.

**Sexual Misconduct Within Normative Populations**

The extant literature connects sexual misconduct with antisocial behaviors, specifically aggression. This section highlights research that examined sexually problematic behaviors within more normative populations, looking at individuals that have not been labeled as antisocial, aggressive, or otherwise prone to sexually acting out. Despite the absence of labels, research indicates that sexually aggressive behaviors are not uncommon, even in normative populations.

Lack of knowledge regarding deviant adolescent sexual behavior in normative populations is due primarily to social protocols limiting questions asked of normative adolescents. Currently, sociocultural limitations are effectively limiting the ability of researchers to compare the early sexual experiences of those that engage in sexual misconduct and those that do not. Until very recently, research regarding normative sexual development focused on finding
prevalence rates for heterosexual vaginal intercourse. Those data provided valuable information toward reducing unwanted pregnancies and the spread of sexually transmitted infections but failed to reveal the full spectrum of sexual behaviors experienced by adolescents. Without a clear understanding of normative sexual experiences, it has been impossible to examine the impact of aberrant sexual experiences.

This restricted assessment of sexual behavior is exemplified throughout the major longitudinal studies of adolescent behavioral development (Costello et al., 1996; Lacourse, Cote, Nagin, Vitaro, Brendgen, & Tremblay, 2002; Loeber et al., 2002; Silva, 1990). Loeber and colleagues (2002), for example, compiled 15 years of longitudinal data, including more than 50,000 assessments as they conducted three of the largest longitudinal studies on adolescent development (e.g., Developmental Trends Study, Pittsburgh Youth Study, Pittsburgh Girls study), yet they provide no information pertaining to specific aggressive sexual behaviors. Outside of the realm of sexual health and simple “yes” or “no” questions, the public appears to be fervently opposed to asking community samples of teens about their sexual experiences. The arguments against asking questions are exposure and curiosity. Those opposed to this line of questioning fear that any level of exposure, even a questionnaire, would increase sexual curiosity and ultimately increase deviant sexual behavior.

Much of the research on problematic sexual behavior in youth is examined through questions regarding high-risk sexual behaviors such as engaging in sexual intercourse at an early age or accumulating a significant number of sexual partners. Questions regarding early initiation of other sexual behaviors is nonexistent. One of the largest sources of data is the National Longitudinal Study of Adolescent Health (ADD Health; Udry & Bearman, 1998) which has had ongoing data collection since 1994. The ADD Health survey includes more than 90,000
representative participants. In addition, the authors of the study maintain a sub-sample of subjects that engage in regular in-home interviews that involve teens and their parents.

Using this data set, researchers have published hundreds of peer-reviewed journal articles, including articles that point to antisocial behaviors and family dynamics as two important factors in predicting high-risk sexual behaviors (Castronova, 2004; Fingerson, 2005; Rostosky, Regnerus, & Wright, 2003). Those same factors appear to be related to aggressive sexual behavior as well (Poinsett & Loverich, 2010).

While the ADD Health Survey has contributed significantly to the current understanding of normative sexual behavior, it fails to ask specific questions regarding early, deviant, or aggressive sexual behaviors. Survey items focus on the frequency of typical behaviors within typical dating relationships. Sexual harassment and more severe forms of sexual aggression are not addressed in terms of history of victimization or perpetration, making it impossible to explore correlates of these behaviors.

With more than 3,000 initial contacts representing contemporary U.S. demographics, the Princeton Survey Research Associates International conducted the National Survey of Young Teens Sexual Attitudes and Behaviors (NBC/People Topline Report, 2005), which aimed to clarify the picture of sexual behavior of American youth. After a thorough screening and consent process, researchers interviewed one-thousand teen-parent dyads about the sexual behavior of the teens. Questions included detailed information about intercourse, oral sex, reasons for engaging in or refraining from sex, sources of sexual information, and attitudes about specific sexual behaviors.

While this survey took steps to deliver a more comprehensive view of adolescent sexual behavior, it suffered from flaws that limit the usefulness of the results. Survey questions
consisted of medically appropriate terminology about a range of behaviors consistent with a narrow view of sexual behaviors. Teens, some as young as 13, may only have familiarity with sexual colloquialisms used by peers, limiting their ability to answer questions accurately. Questions were structured to gather information about romantic partners, making no mention of the possibility of other types of partners. No questions about sexual victimization or perpetration were included on the survey. Neither sexual aggression nor sexual harassment was directly addressed in any items on the survey.

With minimal extrapolation, the data collected from this normative population can be related to patterns of aggressive sexual behavior. In describing their reasons to engage in sexual intercourse with a partner, 34% of 13-to-16-year-olds indicated that pressure from their partner was a factor in their choice (NBC/People Topline Report, 2005). Within the normative population, pressure was discussed as merely another factor in deciding whether or not to have a sexualized relationship, no different than logistical considerations or personal values. Severity of “pressure” can only be assumed; however, in the sexual aggression literature pressuring a partner to engage in sexual behaviors of any kind is typically discussed as an act of coercion and viewed as deviant. Within the antisocial literature, this pressure may be consistent with the use of relational aggression.

Knight and Sims-Knight’s (2004) predictive model of sexual aggression indicates that pressure and coercion in sexual relationships are influenced by the same factors regardless of the population sampled. Data suggest that pressure, coercion, and forcible rape would be on the same continuum of aggressive sexual behavior, yet the progressive 2005 survey failed to even discuss the aggressive nature of more than one-third of teens feeling pressured by their partners to engage in sexual behaviors.
When researchers have looked more closely at sexual coercion in normative populations, the prevalence of sexual aggression becomes abundantly clear. Jackson, Cram, and Seymour (2000) looked specifically at reported experiences of unwanted sexual contact among 304 (135 male, 169 female) high school students from Auckland, New Zealand. More than three-quarters of the female students indicated that they had experienced unwanted sexual contact within a peer dating relationship. Males were slightly less likely to report unwanted sexual experiences; however, it was the majority (67.4%) that reported unwanted sexual contact. Interestingly, nearly half the males and over one-quarter of the females indicated that they were not bothered by this unwanted behavior. This general acceptance and lack of distress suggests that unwanted sexual contact has been normalized within some groups and the lines continue to blur around the constructs of sexual harassment and sexual aggression.

Within a normative college population, Warkentin and Gidycz (2007) found that approximately 20% of the male participants reported having used continual arguments, authority, or force to coerce a woman into sexual behavior other than intercourse. Thompson and Cracco (2008) indicated that 92% of their 264 male participants reportedly used at least one sexually aggressive tactic in the context of mixed gender interactions at bars or off-campus parties. Respondents’ most commonly disclosed acts of sexual aggression were grabbing a woman’s butt (77.3%), pressing up against a woman from behind at a bar or while dancing (77.3%), and intentionally brushing up against a woman (67.3%). More than one-third of participants reported asking a woman they did not know to have sex. These pervasive behaviors, while normalized in the context of college bars and parties, objectively meet the criteria for sexually offending.

Poinsett and Loverich (2010) examined responses of 384 college undergraduates (age 18 to 22) and found that nearly 20% endorsed having experienced some form of unwanted sexual
contact. Interestingly, 51.3% of the participants reported having engaged in some form of sexual aggression. In this study, sexual aggression was assessed via self-reported predatory behaviors, initiating inappropriate impersonal sexual behaviors, and engaging in intrusive paraphilic behaviors (exhibitionism, frottage, or sadism). In the “high” sexual aggression group (n= 49, 12.7%), undergraduates reported engaging in, on average, more than 4 of the aggressive behaviors. Poinsett and Loverich (2010) also found that participants who reported any sexually aggressive behaviors were significantly more likely to report higher levels of delinquency and more aberrant sexual histories (exposure to sexualized material or behavior at a young age).

Based on the data reviewed above, sexually aggressive behavior is prevalent and associated with antisocial behavior; however, there is a dearth of research that comprehensively examines the breadth of factors important to the entire continuum of sexually aggressive behaviors that also considers variability within the constructs of antisocial behavior and aggression. Currently, the literature divides sexual harassment, sexual assault, and sexual offending into distinct categories, yet the commonalities across populations and constructs suggest that exploring a single continuum of sexual aggression may bolster the current understanding of sexual misconduct. While the view of sexual aggression is often too narrow, researchers have been both inconsistent and overly broad with respect to antisocial behavior. It seems possible that examining multiple well-defined facets of antisocial behavior and aggression in a single study will allow for a greater understanding of how the two constructs interact.

The 2010 study by Poinsett and Loverich outlined the correlational relationships between high-risk and aggressive sexual behavior and several important predictive variables. They examined aberrant sexual experiences, family environment, perceived parental supervision, delinquency, and peer relatedness. While the study laid a foundation for understanding the
interconnectedness of these factors, hierarchical regression analysis indicated that the model could only account for some of the variance in high-risk and aggressive sexual behavior. Gender differences in the initial study were significant, and the model was most effective in predicting male sexual aggression (13.9% of variance) and high-risk sexual behaviors in females (24.5% of variance). Working with behaviors as dynamic and complex as patterns of sexual behavior, it is promising that five constructs were able to account for even that much variability; however, the unexplained variance in the hierarchical model revealed the need to change the strategy and to measure some variables differently and to explore additional potential contributors. Changes have been made in this study to address those shortcomings.

Despite consistent theoretical and empirical indications of an important relationship, data from Poinsett and Loverich (2010) showed nonsignificant correlations between peer relatedness and sexually acting out (-.02 for high risk behaviors and .02 for aggressive behaviors), despite theory that supported the relationship. In this study, the construct of peer relatedness is measured by the items from the original survey used in the 2010 study and supplemented with a well validated measure of social and emotional loneliness (SELSA; Cramer, Ofosu, & Barry, 2000).

Updating the literature review also elucidated potential limitations of the 2010 model's conceptualization of delinquency, which focused on illegal behaviors, substance abuse, and difficulty in school. In the current study, delinquency was intended to be expanded to include a broader measure of antisocial behavior, focusing on tendencies toward rule-breaking as supported by Burt and Donnellan’s (2009) operationalization of antisocial behaviors. It was hypothesized that the expansion of the construct of delinquency to include a broader spectrum of antisocial behaviors would give a more accurate measure of the variables important to predicting high-risk and aggressive sexual behavior. Despite the intention to include this measure and
expand the construct of delinquency, mistakes in the creation of the online survey led to only a subset of participants completing the additional measure (STAB; Burt & Donnellan), excluding it from use in the data analysis.

Another major change was the inclusion of a general aggression construct. Based on the literature examining antisocial and aggressive behavior, sexually aggression appears closely related to a variety of other forms of aggression. Two questionnaires were originally added to this construct. The first assessed physical aggression and social aggression (STAB; Burt & Donnellan, 2009), and the other measured reactive versus proactive aggression, the Reactive-Proactive Aggression Questionnaire (RPQ; Raine et al., 2006). As mentioned above, errors in measurement construction resulted in the exclusion of data from the STAB questionnaire (Burt & Donnellan, 2009).

Aside from these additions, the most significant change from the 2010 study methodology is the changes to the construct of sexual aggression. Casting a broader net in terms of aggressive sexual behavior made it apparent that limiting sexual aggression to sexual offending excluded important aspects on the continuum of sexually aggressive behavior. Literature clearly suggested significant overlap in the constructs of sexual harassment and sexual offending behaviors. The current study therefore includes a measure addressing the attitudes toward a variety of sexually aggressive behaviors including sexual harassment (verbal, visual, physical), as well as the behaviors typically thought of as sexual offenses. This expanded definition is also assessed in terms of victimization as it is applied to high-risk sexual experiences. By appropriately lowering the threshold for what constitutes sexual aggression, the potential range of high-risk and aggressive sexual behavior was greatly increased. This expanded range was also expected to strengthen the predictive model.
Testing a comprehensive predictive model required a clear understanding of the relationships between the new and altered variables and the expanded outcome variables. The correlation matrix from the first study is shown in Table 1. It shows significant relationships between most of the variables.

Table 1

| Intercorrelations Between Predictor and Criterion Variables (n = 384) |
|-----------------------|--------|--------|--------|--------|--------|
|                       | Agg    | Ab     | FE     | Mntr   | Del    |
| High-Risk (HR)        | .38    | .37**  | .12    | -.15** | .37**  |
| Aggressive (Agg)      | .30**  | .05    | -.15** | .21**  | .02    |
| Aberrant (Ab)         | .26**  | -.25** | .30**  | .02    |
| Family Environment (FE)| -.36** | .20**  | -.17** |
| Monitoring (Mntr)     | -.17** | .19**  |
| Delinquency (Del)     | -.00   |

Note. PR = Peer Relatedness. *p<.05, **p<.01
Correlation table from Poinsett and Loverich (2010)

Note that peer relatedness was found to have virtually no relationship with the outcome variables, in direct contrast to the most recent meta-analysis of factors related to sexually aggressive behavior (Seto, 2010). With more exhaustive assessment of high-risk and aggressive sexual behaviors and the addition of the SELSA (Cramer, Ofosu, & Barry, 2000), significant inverse relationships are expected. It was hypothesized that the more accurate measurement will result in data consistent with existing research, demonstrating that the more social disconnection experienced by a participant, the more likely he or she would be to engage in high-risk or aggressive sexual behavior.

Additionally, by expanding the operationalization of the outcome variables, it was hypothesized that the proposed model would explain more variance in harmful sexual behavior. Introducing several new assessments and combining the theoretical frameworks of sexual harassment and sexual offending, was expected to allow for a more complete continuum of sexual behaviors to be measured.
Hypotheses

This study, in part, was designed to replicate and extend the findings of Poinsett and Loverich (2010) with regard to correlates of high-risk and aggressive sexual behavior. In addition, this study examined more comprehensive operational definitions of sexual and antisocial behaviors with hopes of gaining a better understanding of the factors that contribute to high-risk and aggressive sexual behavior in late adolescence and early adulthood. Initially results were examined for support of the original hypotheses:

1) Participants endorsing higher levels of high risk and aggressive sexual behavior will report more aberrant sexual experiences (sexual abuse, younger age at first sexual experience, exposure to sexual behavior). Ford and Linney (1995) indicate that sexual offenders have earlier exposure to explicit materials; this pattern was expected to be evident in the normal population with early exposure correlating with higher levels of aggressive and high-risk behavior. Poinsett and Loverich (2010) found that individuals moderate and high in risky or aggressive behaviors reported significantly more aberrant sexual experiences.

2) Participants endorsing higher levels of high risk and aggressive sexual behavior will report higher levels of family disruptions (physical/emotional abuse, parental drug use, divorce or separation). This would indicate that within the normal population, family environment influences sexual behavior outcomes in much the same way as Righthand and Welch (2004) concluded that sexual offending behavior is linked to poor family environments. The original study (Poinsett & Loverich, 2010) also found significant differences related to reports of family
Participants endorsing higher levels of high risk and aggressive sexual behavior will report lower levels of adult monitoring during childhood and adolescence. Poinsett and Loverich (2010) showed that perceived adult monitoring was significantly correlated with both high-risk and aggressive sexual behaviors. Data collected in the NBC/People (2005) survey suggest that lack of opportunity is an important factor in abstaining from sexual behaviors, but it is currently unclear how impactful adult monitoring is on limiting opportunity for engaging in health or maladaptive sexual behaviors.

Participants endorsing higher levels of high risk and aggressive sexual behavior will report higher levels of delinquency (drug use, legal contacts, school discipline). Fingerson (2005) and Rostosky, Regnerus, and Wright (2003) linked delinquent behaviors to sexual behaviors in a normative population. Others (Hagan et al., 2001) identify delinquent behaviors as common in sexual offending populations. Multiple theories of sexual aggression also identify delinquent or antisocial behaviors as important factors (Knight & Sims-Knight 2003; 2004; Malamuth 1996; 1998)

Participants endorsing higher levels of high risk and aggressive sexual behavior will report lower levels of peer relatedness. Clinical observations and research (Minor & Munns, 2005; Hanson & Harris, 2000) indicate that poor interpersonal functioning can lead to the pursuit of inappropriate sexual relationships and ultimately to sexual offending. This hypothesis assumes similar patterns would be evident within an older adolescent college population.
Several new hypotheses based on results of the previous study as well as the expanded literature review were also tested in this study.

1) Expansion of the construct of sexual aggression to include a more comprehensive continuum of sexual behaviors will result in stronger correlations between problematic sexual behavior (high-risk and aggressive) and each variable theorized to predict sexual behavior (aberrant sexual behavior, family environment, delinquency, monitoring, and peer relatedness). These stronger relationships will also result in the predictive variables accounting more variance in predictive modeling.

2) General aggression, which was not specifically measured in the first study, will be positively correlated with aggressive sexual behavior and it will explain unique variance beyond general delinquency. Also, aggression will have a significantly stronger relationship with aggressive sexual behavior than with high-risk sexual behavior.

3) By improving the assessment of peer relatedness, significant negative correlations with high-risk and aggressive sexual behavior will become evident.

4) Measures of aberrant sexual experiences, family environment, parental monitoring, delinquency, peer relatedness, and aggression will explain adequate variance in the constructs of high-risk and aggressive sexual behavior to develop two useful structural equation models.

Methods

Participants

A total of 359 students at Eastern Michigan University initiated participation in the study. Several participants answered only the demographic information and were not included in the
analyses. Other participants who were excluded showed inconsistent or sporadic responding, completing less than half the survey or skipping large portions of multiple questionnaires. There were no apparent differences between participants that completed the questionnaire and those that did not. In total, 344 participants displayed consistent response patterns and met criteria for inclusion in the study. Respondents consisted of 267 (77.6%) females and 77 (22.4%) males. The sample was composed of 226 (65.7%) Caucasians, 69 (20.1%) African American, 3 (0.9%) Asian Americans, 13 (3.8%) Hispanics, 5 (1.5%) Middle Eastern Americans, and 27 (7.8%) participants who identified their ethnicity as “mixed” or “other.” Stipulations of participation limited the age range to 18 through 22 years old. This limitation was established to minimize the time between initiating the sexual behaviors in question and the time of reporting. Additionally, this relatively narrow window provides consistent comparisons with normative data already established in terms of number of sexual partners and rates of substance use. The average age of the sample was 20 years old.

Procedure

After receiving approval from EMU’s Institutional Review Board (IRB), the study was submitted to the university’s SONA system allowing students to participate for class credit. Instructors were contacted and invited to inform their students of this research opportunity. Once students signed-up to participate in the study through SONA, they were provided a link to the online survey hosted by Surveymonkey. The process of separating the proof of participation from the actual survey ensured that there was no link between an individual’s name and his or her data, making the survey completely anonymous.

It was estimated that each participant took approximately one hour to complete the survey. Upon completion, Surveymonkey stored and compiled all responses in an account that
was accessible to a small number of researchers trained in informed consent and confidentiality.

**Instruments**

To gather data covering many broad topics, the Comprehensive Sexual Experience Survey (CSES; Poinsett & Loverich, 2010) included questions adapted from several research questionnaires. Where there were changes, they were made in order to make a line of questioning more efficient, modifying the format of the questions or responses to reduce time necessary to provide the pertinent information. Changes were also made to address shortcomings of the original measures, using more colloquial language, asking additional questions, or providing additional possible responses. There are examples of questions included in the CSES based on each instrument below.

*Family Environment Scale* (FES; Moos, R. & Moos, B., 1994). Two of the three scales from the FES were used, retrospectively assessing Conflict ($\alpha = .81$) and Control ($\alpha = .61$) within the family. Each scale consists of nine true-or-false items concerning typical interactions amongst family members.

*Childhood Experience of Abuse and Care Questionnaire* (CECA.Q; Smith, N., Lam, D., Bifulco, A., Checkley, S. 2002). This questionnaire assesses parental antipathy ($\alpha = .81$) and parental neglect ($\alpha = .81$) via fifteen questions ranked on a five point Likert-type scale (from “Yes, Definitely” to “No, Not at All”). Several questions assess the presence of a history of physical and sexual abuse. The CECA.Q was converted directly from the paper-and-pencil version with minor alterations to the format and no alterations to the content for the scales indicated above.

*National Survey of Young Teens Sexual Attitudes and Behaviors* (NBC/People, 2005). This survey was a model for questions regarding sexual attitudes and behaviors. Questions
derived from this scale aim to assess beliefs regarding how common sexual behaviors are at particular ages and the perceived age-appropriateness of specific sexual behaviors. CSES questions pertaining to sexual experiences also draw from this survey. In addition, this scale serves as a model for questions regarding sources and usefulness of sexual information. Adaptations for the CSES include creating questions using common sexual vernacular, asking participants about a greater variety of sexual behaviors, and reducing ambiguity in the questions. Questions assess a wide range of sexual behaviors including masturbation, kissing, manual stimulation, vaginal intercourse, oral sex, and viewing pornography. For example:

“In your opinion, at what age do the following sexual behaviors typically occur, and at what age you do feel they are appropriate?”

*Denver Neighborhood Survey* (Huizinga, Esbensen, & Weiher, 1991): Several short scales (four items) derived from this survey measure perceived peer, family, and school isolation. Each question was rated on a five point Likert scale ranging from “Strongly Agree” to “Strongly Disagree.” Two of the four questions were reverse coded and a sum was created to examine total levels of isolation.

Family isolation. This scale includes items such as, “As a teenager…My family didn’t take much interest in my problems,” (α = .80).

School isolation. This scale includes such items as “As a teenager…even though there were lots of students around, I often felt lonely at school” (α = .66).

Peer isolation. This scale includes items such as “As a teenager…I felt close to my friends” (α = .76).

*Abbreviated Social and Emotional Loneliness Scale for Adults* (SELSA; Cramer, Ofosu & Barry, 2000). Indications of family, romantic, and social loneliness were derived from 15
statements rated on a five point Likert-type scale ranging from “Strongly Agree” to “Strongly Disagree.” With multiple populations, the authors of the assessment have shown that the scales have strong internal consistencies ($\alpha = 0.89, .96,$ and .86 for the 3 scales respectively). Cramer and colleagues (2000) also displayed the brief measures’ convergent and divergent validity by exploring the correlations of each subscale with several standard measures of various forms of loneliness. This scale was added to the CSES due to the nonsignificance of social relatedness with harmful sexual behavior based on questions derived from the Denver Neighborhood Study. The most recent research (Seto and Lalumiere, 2010) clearly indicated social isolation is a factor in sexual aggression; therefore the tool used to assess social isolation was strengthened. The following are examples of the types of questions asked:

“I can depend upon my friends for help.”

“My family is important to me.”

*Subtypes of Antisocial Behavior* (STAB; Burt & Donnellan, 2009). This 32-item questionnaire was developed to distinguish between physical aggression, rule-breaking behavior, and social aggression. All items were designed to be answered using a five point Likert scale ranging from “Never” to “Nearly All the Time.” Participants were instructed to report how often they have done or experienced various behaviors, thoughts, and feelings (i.e., “got angry quickly,” “shoppedlifted things,” and “felt better after hitting”). Authors reported coefficient alphas of .84 for the physical aggression subscale, .85 for the social aggression subscale, and .78 for the rule-breaking subscale. In a separate study, Burt and Donnellan (2010) found that the STAB was useful in predicting patterns of acting out behavior in subclinical populations of college undergraduates.

*Reactive-Proactive Aggression Questionnaire* (RPQ; Raine et al., 2006). Raine and
Harmful Sexual Behaviors

coauthors (2006) developed this 23-item self-report questionnaire to characterize patterns of aggressive behaviors as either reactive or proactive. Initial psychometric analysis indicated strong internal consistency with reactive, proactive, and total aggression scales delivering coefficient alphas of .81, .84, and .89 respectively. This instrument was introduced to more accurately assess the role of aggression in high-risk and aggressive sexual behavior.

**Sexual Experience Survey** (SES; Koss & Oros, 1982; Koss et al., 2007). The SES was used to assess history of sexual victimization. Koss and Gidycz (1985) indicate adequate internal consistency (α = .89) and test-retest reliability (.93) over a one week interval. As noted in the literature review, this assessment has been consistently used to record a wide variety of sexual behaviors.

**Illinois Rape Myth Acceptance Scale** (IRMA; Payne, Lonsway, & Fitzgerald, 1999). This questionnaire is a 45-item measure of the beliefs regarding rape. Each item was assessed on a seven point Likert scale ranging from “Strong Agree” to “Strongly Disagree.” For the full IRMA, the developers found strong internal consistency. (α = .93). In this study, the IRMA assessed sexually aggressive attitudes and contributed to the identification sexually aggressive attitudes in participants even if their behaviors have been relatively well controlled. Participants responded to questions such as “When a woman goes home with a man she doesn’t know, it is her own fault if she’s raped” and “A rape probably didn’t happen if the woman has no bruises or marks.”

**Monitoring Scale.** To assess level of supervision, the survey included five items from a monitoring scale (α = .58) developed by Brown and colleagues (1993). Items aim to measure how well parents or caregivers know who their children are socializing with and how they spend their time and money. All responses indicate the level of parent/caregiver knowledge and are on a 5-point Likert-type scale ranging from “Nothing” to “Everything.” Michigan has no law
regarding the standard for appropriate adult supervision, and regional guidelines vary greatly in terms of recommendations for adequate monitoring of minors. This study addressed three age categories: younger than age 10, ages 10 to 14 years old, and older than 14 years old. Questions included:

“Prior to age ten, how much did your parents or caregivers know about where you were after school?”

“Between the ages of 10 and 14, how much did your parents or caregivers know about what you did with your free time?”

“After the age of 13, how much did your parents or caregivers know about who your friends were?”

Additional questions assessed conflict within the home, parental substance use, participant substance use, and various functions of sexual behavior. The discussion of individual variables provides a more thorough explanation of questions created for the survey.

**Variables**

Using the measures listed above, several key variables were examined. Below, each variable is described in detail and plans for composite scoring are described. Once established, these variables were used in further data analysis. Decisions regarding values within the composites were made with the understanding that the precise impact each factor would have in the current model was unknown. In most circumstances, more severe experiences or more frequent behaviors resulted in higher composite scores.

**High-Risk Sexual Behavior.** High-risk sexual behavior scores included indications of participating in sexual behavior with individuals five or more years older and reporting intercourse prior to the age of 15. With only approximately 25% of adolescents engaging in
sexual intercourse before age 15 (Mosher, Chandra, & Jones, 2005), any participant reporting engagement in intercourse prior to age 15 was considered high risk. According to statistics from the Center for Disease Control, 70.7% of males and 75% of females 15 to 19 years old report fewer than three sexual partners. In the current study, participants reporting three or more partners received elevated risk composites. In addition to the previously established measure, the IRMAS and the SES increased the breadth of the high-risk sexual behavior variable.

**Aggressive Sexual Behavior.** Aggressive sexual behavior was assessed via the CSES, examining criminal sexual behavior with younger individuals, paraphilic behaviors resulting in some form of victimization, and patterns of sexual behavior with relatives, acquaintances, or strangers.

Composites were derived to quantify both high-risk and aggressive sexual behavior. Descriptive statistics of the IRMAS, and SES were computed and converted to z-scores. The standardized scores were then summed with the other factors examined to calculate a total score for aggressive sexual behavior. Being involved, as victim or perpetrator, in predatory relationships will contribute to, respectively, high-risk and aggressive sexual behavior scores. Additionally, number of sexual partners will be included in the overall measure of high-risk sexual behavior, and intrusive paraphilic tendencies will be included in the quantification of aggressive sexual behavior. Simple addition was used to compute the totals for high-risk and aggressive sexual behavior composites.

Table 2

<table>
<thead>
<tr>
<th>Sexual Behavior Outcome Composites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>For each partner 5 or more years older</td>
</tr>
<tr>
<td>+1</td>
<td>For each year under 15 years of age at first sexual intercourse</td>
</tr>
<tr>
<td>+1</td>
<td>Each advanced sexual behavior involving a stranger, acquaintance, or relative</td>
</tr>
</tbody>
</table>
**Harmful Sexual Behaviors**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>For each partner beyond two</td>
</tr>
<tr>
<td>+ z-score</td>
<td>Illinois Rape Myth Acceptance Scale</td>
</tr>
<tr>
<td>+ z score</td>
<td>Sexual Experience Survey</td>
</tr>
</tbody>
</table>

**Aggressive Sexual Behavior**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>For engaging in advanced sexual behaviors prior to age 16 with a younger partner</td>
</tr>
<tr>
<td>+1</td>
<td>For each partner 5 or more years younger</td>
</tr>
<tr>
<td>+1</td>
<td>For each experience of advanced sexual behavior initiated with an acquaintance, stranger, relative, etc.</td>
</tr>
<tr>
<td>+1</td>
<td>For each endorsement of exhibitionism, frottage, or sadism</td>
</tr>
</tbody>
</table>

**Sexual History.** Each participant’s sexual history score accounted for age at first experience, number of partners, diversity and extent of experiences, level of initiation, relationships with sexual partners, and perceptions of their experiences. Questions assessed a wide range of sexual behaviors including masturbation, kissing, manual stimulation, vaginal intercourse, oral sex, and viewing pornography. For example:

27. For each sexual behavior, please indicate if, when, and how you first experienced it.

28. For each sexual behavior, please provide details regarding the gender, age, and number of partners you have shared the behavior with.

**Aberrant Sexual Experiences.** For the purposes of this study, aberrant experience scores consisted of indications of sexual abuse, substantially earlier report of any sexual behavior, early exposure to sexual behavior through parents or other adults, and engaging in paraphilic behaviors. These data were summed based on self-report, and aberrant sexual experiences were analyzed as a continuous variable.

**Table 3**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>For each standard deviation below the mean age at which they learned about each sexual behavior</td>
</tr>
<tr>
<td>+1</td>
<td>For each standard deviation below the mean age for each sexual experience</td>
</tr>
<tr>
<td>+1</td>
<td>If they have witnessed parents having sex</td>
</tr>
<tr>
<td>+1</td>
<td>If they have heard parents having sex</td>
</tr>
</tbody>
</table>
Harmful Sexual Behaviors

+1 If they have witnessed other adults having sex
+1 If they have heard other adults having sex
+1 For each paraphilia they endorse
+1 For indication of unwanted sexual experience
+2 For reporting severe sexual abuse from CECA

**Family Environment.** Several items identified distress within the family. A composite score included items that addressed type and intensity of conflict within the home, parental separation, experience of abuse within the home, and parental substance abuse. These data were summed based on self-report, and level of family disruption was analyzed as a continuous variable. The components were derived from the FES, CECA, and items developed specifically for this survey. For example:

Did your parents ever divorce?

Did you experience any type of abuse while growing up?

Table 4

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>For “very bad” or “bad” primary relationship model</td>
</tr>
<tr>
<td>+1</td>
<td>For divorce of parents</td>
</tr>
<tr>
<td>+1</td>
<td>For “some” family confrontations (verbal or physical)</td>
</tr>
<tr>
<td>+2</td>
<td>For “often” family confrontations (verbal or physical)</td>
</tr>
<tr>
<td>+1</td>
<td>For each substance used by parent</td>
</tr>
<tr>
<td>+1</td>
<td>For high parental neglect from the CECA</td>
</tr>
<tr>
<td>+1</td>
<td>For high parental antipathy from the CECA</td>
</tr>
</tbody>
</table>

Family Conflict Score from FES

**Monitoring.** Composite scores for monitoring consisted of ratings of perceived adult supervision at all three age groups based on the parental monitoring scale and scores from the Family Control scale of the FES. These data were summed based on self-report, and level of parental monitoring will be analyzed as a continuous variable.

**Delinquency.** This construct was intended to be the most revised since the original study (Poinsett & Loverich, 2010). Delinquency scores were a composite of truancy, number of school
suspensions, number of misdemeanor charges, number of felony charges, and the extent of drug use. Total number of drugs tried, current number of drugs used, and number of illegal substances used prior to age 13 determined overall drug use. The Center for Disease Control (CDC; 2014) statistics show that fewer than ten percent of high school students have ever tried cocaine, heroin, methamphetamines, ecstasy, or steroids. Lifetime use of inhalants is 12.4%, while alcohol (75%) and marijuana (38.4%) are much more common. Originally, delinquency was going to include a measure of general rule-breaking behavior (STAB; Burt & Donnellan, 2009); however, the STAB questionnaire was unintentionally included as part of the skip-logic associated with substance use. This resulted in the collection of STAB scores exclusively from substance users and was therefore excluded from data analysis. Data from each self-reported delinquency indicator was summed to calculate the composite score.

Table 5

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>If they have ever used drugs</td>
</tr>
<tr>
<td>+1</td>
<td>For each drug tried prior to 13 years of age</td>
</tr>
<tr>
<td>+1</td>
<td>For each drug ever used beside alcohol and marijuana</td>
</tr>
<tr>
<td>+1</td>
<td>For each drug used more frequently than once per week</td>
</tr>
<tr>
<td>+1</td>
<td>For each case of school disciplinary action</td>
</tr>
<tr>
<td>+1</td>
<td>For each response above “occasionally”</td>
</tr>
<tr>
<td>+1</td>
<td>If they were in danger of failing a grade</td>
</tr>
<tr>
<td>+1</td>
<td>For each misdemeanor charge</td>
</tr>
<tr>
<td>+2</td>
<td>For each felony charge</td>
</tr>
</tbody>
</table>

**Peer Relatedness.** Participants’ composite score of questions from the Denver Neighborhood Survey (Huizinga, Esbensen, & Weiher, 1991) Peer Isolation Scale remained as part of the peer relatedness variable. All responses are on a 5-point Likert-type scale ranging from “Strongly Disagree” to “Strongly Agree.” Poinsett and Loverich (2010) found that peer relatedness was not significantly related to sexual aggression or high-risk behaviors, so the
Abbreviated Social and Emotional Loneliness Scale for Adults (SELSA; Cramer, Ofosu, & Barry, 2000) was used to determine degree of loneliness using a more widely used assessment tool. Actual scores on the Peer Isolation Score and a weighted SELSA score were summed to determine the composite score. SELSA scores were doubled to ensure that the measure with the stronger psychometrics determines the largest portion of the composite score.

**Aggression.** This variable was new to the CSES and it was added to address the unique contribution of aggression to overall patterns of sexual behavior. The RPQ (Raine et al., 2006) and the STAB (Burt & Donnellan, 2009), were intended to measure four separate types of aggression; however, due to the previously mentioned inconsistencies with the STAB measure, assessment of the aggression variable was limited to the RPQ alone. The aggression variable was quantified by summing the scores of the reactive and proactive aggression subscales to account for a broad spectrum of aggressive behaviors.

**Results**

**Sexual History**

Sexual behavior generally progressed toward advanced behaviors chronologically, stemming from kissing at the beginning of adolescence (M = 13.14) and progressing in a linear fashion from basic to more advanced sexual behaviors such as vaginal and anal intercourse (M = 16.41, M = 17.20 respectively) as shown in Table 6. Males tended to engage in some behaviors such as masturbation and pornography use at higher rates than their female counterparts did. Independent sample t-tests assessed the significance of mean differences between genders. Men initiated kissing (M=11.95 and 13.48 years old respectively) and masturbation (M=12.01 and 13.98 years old respectively) at statistically significant younger ages than women did, with differences of approximately 1.5 years and two years. The large majority of age differences
were separated by less than one year, indicating relative equality in the age of initiation across genders. See Table 7 for average ages of initiation for all the sexual behaviors examined.

Examination of pornography use and various paraphilic behaviors provided additional insight into sexual behavior in this normative sample. For this sample of participants, more than 60% (n=207) reported being accidentally exposed to pornography, with the average age of 12 at the time of exposure. Behaviors associated with exhibitionism, fetishism, frottage, and masochism were experienced by more than 10% of respondents. Nearly 20% of men (n=13) endorsed exhibitionistic behaviors (exposing yourself to someone else in public) compared to under 10% of women (n=26). A higher percentage of men also reported being aroused by objects, with 38% (n=29) of males and 12% (n=29) of females confirming this fetishistic experience. Conversely, 15% of women (n=40) acknowledged being aroused by being humiliated, beaten, or tied up, while only 5% (n=4) of men reported the same type of potentially masochistic arousal. Other key gender differences include males substantially higher reported rate of pornography use. Over 80% (n=63) of males report viewing pornography via the internet, with the average age of initiating this behavior at 12.75 years old. Only 61% (n=162) of females disclosed engaging in the same behavior, and of those who did report using pornography, their average age of initiation was 15.49 years old, significantly older than their male peers. Similar age and percentage discrepancies were present regardless of type of pornography consumed.

Of 344 participants, 16% (n=55) reported having endured some form of unwanted sexual experience. Only five of the 55 participants reporting unwanted sexual experiences were male resulting in a gender difference of 6.5% of men compared to 18.7% of women. Scores for high-risk behavior were not normally distributed, and approximately 70% of the sample fell below the mean scores. Furthermore, the score for high-risk sexual behavior was highly dependent on the
disclosure of unwanted sexual experiences, greatly limiting the variability in the composite scores for high-risk sexual behavior for both men and women. Scores for aggression were even more skewed. Examining the overall scores for aggressive sexual behavior, approximately 80% (n=210) of women and 45% (n=35) of men displayed no aggressive sexual behavior. These limitations in the current data set made it implausible to complete the complex exploration of the relationships across the variables being measured, and reduced the clinical significance of the conclusions being drawn.
Table 6

**Mean Ages Learning About and Experiencing Sexual Behavior**

<table>
<thead>
<tr>
<th>Sexual Behavior</th>
<th>Knowledge</th>
<th>Experience</th>
<th>Mean Differences</th>
<th>df</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n (percent)</td>
<td>n (percent)</td>
<td>n (percent)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kissing*</td>
<td>8.52 (3.50)</td>
<td>13.14 (3.29)</td>
<td>11.95 (4.05)</td>
<td>301</td>
<td>-2.85</td>
<td>.005*</td>
</tr>
<tr>
<td></td>
<td>303 (88.08)</td>
<td>66 (85.71)</td>
<td>270 (88.70)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masturbation*</td>
<td>12.33 (2.50)</td>
<td>13.44 (3.58)</td>
<td>12.01 (3.07)</td>
<td>256</td>
<td>-4.34</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>258 (75.00)</td>
<td>70 (90.91)</td>
<td>188 (70.41)</td>
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<tr>
<td>Touching Over Clothes</td>
<td>11.44 (3.03)</td>
<td>14.61 (2.53)</td>
<td>14.27 (2.61)</td>
<td>283</td>
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<td>.243</td>
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<tr>
<td></td>
<td>285 (82.85)</td>
<td>62 (80.52)</td>
<td>223 (83.52)</td>
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<tr>
<td>Touching Under Clothes</td>
<td>12.20 (2.94)</td>
<td>14.97 (2.98)</td>
<td>15.09 (3.16)</td>
<td>329</td>
<td>-1.21</td>
<td>.226</td>
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<tr>
<td></td>
<td>275 (79.94)</td>
<td>63 (83.11)</td>
<td>211 (79.40)</td>
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<tr>
<td>Manual Stimulation (Male Receiving)</td>
<td>13.11 (2.32)</td>
<td>15.60 (2.45)</td>
<td>16.00 (2.59)</td>
<td>229</td>
<td>1.45</td>
<td>.148</td>
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<tr>
<td></td>
<td>231 (67.15)</td>
<td>59 (76.62)</td>
<td>172 (64.42)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual Stimulation (Female Receiving)</td>
<td>13.26 (2.34)</td>
<td>15.42 (2.82)</td>
<td>15.60 (3.14)</td>
<td>268</td>
<td>.52</td>
<td>.582</td>
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<tr>
<td></td>
<td>270 (78.49)</td>
<td>58 (75.32)</td>
<td>212 (79.40)</td>
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<tr>
<td>Oral Sex (Male Receiving)</td>
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<td>16.05 (2.14)</td>
<td>16.47 (1.98)</td>
<td>234</td>
<td>1.51</td>
<td>.131</td>
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<td></td>
<td>236 (68.60)</td>
<td>61 (79.22)</td>
<td>175 (65.54)</td>
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<td></td>
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<tr>
<td>Oral Sex (Female Receiving)</td>
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<td>16.54 (2.55)</td>
<td>17.06 (1.91)</td>
<td>223</td>
<td>1.67</td>
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<tr>
<td></td>
<td>225 (65.41)</td>
<td>53 (68.63)</td>
<td>172 (65.54)</td>
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<tr>
<td>Vaginal Intercourse</td>
<td>12.03 (2.89)</td>
<td>16.41 (2.13)</td>
<td>16.52 (1.52)</td>
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<td>.427</td>
</tr>
<tr>
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<td>250 (72.67)</td>
<td>58 (69.87)</td>
<td>233 (77.40)</td>
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<td>Anal Intercourse</td>
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<td>.984</td>
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<td>91 (26.45)</td>
<td>24 (31.17)</td>
<td>67 (25.09)</td>
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Note: * indicates a significant age difference between genders, p < .05
### Table 7
Mean Ages of Individual Exposure to Pornography and Paraphilic Behaviors

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<th>Sexual Behavior</th>
<th>Experience</th>
<th>Significant Mean Differences</th>
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<td>Female</td>
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<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
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<tr>
<td></td>
<td>n (percent)</td>
<td>n (percent)</td>
</tr>
<tr>
<td></td>
<td>df</td>
<td>t</td>
</tr>
<tr>
<td></td>
<td>Sig</td>
<td></td>
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<tr>
<td>Accidental Exposure to Pornography*</td>
<td>11.95 (3.48)</td>
<td>10.88 (3.15)</td>
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<td></td>
<td>207 (60.17)</td>
<td>54 (70.13)</td>
</tr>
<tr>
<td></td>
<td>12.33 (3.52)</td>
<td>153 (57.67)</td>
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<td>Viewing Pornography (magazines, photos, etc)*</td>
<td>13.69 (3.28)</td>
<td>11.87 (2.75)</td>
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<td></td>
<td>136 (39.53)</td>
<td>46 (59.74)</td>
</tr>
<tr>
<td></td>
<td>14.62 (3.15)</td>
<td>90 (33.71)</td>
</tr>
<tr>
<td>Viewing pornography via video, dvd*</td>
<td>13.01 (4.28)</td>
<td>11.84 (3.38)</td>
</tr>
<tr>
<td></td>
<td>71 (20.64)</td>
<td>31 (40.23)</td>
</tr>
<tr>
<td></td>
<td>14.00 (4.70)</td>
<td>40 (14.98)</td>
</tr>
<tr>
<td>Viewing pornography via internet*</td>
<td>14.72 (3.40)</td>
<td>12.75 (2.74)</td>
</tr>
<tr>
<td></td>
<td>225 (65.41)</td>
<td>63 (81.81)</td>
</tr>
<tr>
<td></td>
<td>15.49 (3.33)</td>
<td>162 (60.67)</td>
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<tr>
<td>Someone purposely exposing private parts to you</td>
<td>14.41 (3.34)</td>
<td>14.02 (3.46)</td>
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<tr>
<td></td>
<td>182 (52.91)</td>
<td>46 (59.74)</td>
</tr>
<tr>
<td></td>
<td>14.54 (3.30)</td>
<td>136 (50.94)</td>
</tr>
<tr>
<td>Exposing yourself to someone else in public</td>
<td>14.05 (4.92)</td>
<td>13.53 (5.01)</td>
</tr>
<tr>
<td></td>
<td>41 (11.91)</td>
<td>15 (19.48)</td>
</tr>
<tr>
<td></td>
<td>14.35 (4.93)</td>
<td>26 (9.74)</td>
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<tr>
<td>Becoming sexually aroused by objects*</td>
<td>13.62 (3.89)</td>
<td>12.41 (3.57)</td>
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<tr>
<td></td>
<td>58 (16.86)</td>
<td>29 (37.66)</td>
</tr>
<tr>
<td></td>
<td>14.83 (3.87)</td>
<td>29 (11.86)</td>
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<tr>
<td>Touching or rubbing against someone for sexual purposes</td>
<td>16.58 (3.82)</td>
<td>15.36 (5.02)</td>
</tr>
<tr>
<td></td>
<td>41 (11.91)</td>
<td>11 (14.28)</td>
</tr>
<tr>
<td></td>
<td>17.03 (3.26)</td>
<td>30 (11.24)</td>
</tr>
<tr>
<td>Watching others have sex without their knowledge</td>
<td>17.33 (1.75)</td>
<td>18.33 (.578)</td>
</tr>
<tr>
<td></td>
<td>6 (1.74)</td>
<td>3 (.89)</td>
</tr>
<tr>
<td></td>
<td>16.33 (2.08)</td>
<td>3 (1.12)</td>
</tr>
<tr>
<td>Becoming aroused by being humiliated, beaten, or tied up</td>
<td>17.39 (2.90)</td>
<td>15.50 (5.80)</td>
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<tr>
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<td>44 (12.83)</td>
<td>4 (5.19)</td>
</tr>
<tr>
<td></td>
<td>17.58 (2.51)</td>
<td>40 (14.98)</td>
</tr>
<tr>
<td>Controlling physical or psychological suffering of a partner</td>
<td>16.75 (1.97)</td>
<td>16.40 (1.52)</td>
</tr>
<tr>
<td></td>
<td>16 (4.66)</td>
<td>5 (6.49)</td>
</tr>
<tr>
<td></td>
<td>16.91 (2.56)</td>
<td>11 (4.12)</td>
</tr>
</tbody>
</table>

Note: * indicates a significant age difference between genders, p < .05
Correlates of High-Risk and Aggressive Sexual Behavior

Significant correlations were found between the primary variables (high-risk and aggressive sexual behavior) and several of the other variable measured (See Table 8). High-risk sexual behavior was found to have small to moderately significant correlations with aggressive sexual behavior ($r=.39$, $p<.01$), aberrant sexual behavior ($r=.36$, $p<.01$), family environment ($r=.14$, $p<.01$), delinquency ($r=.24$, $p<.01$), and aggression ($r=.21$, $p<.01$). While these results supported initial hypotheses, it was expected that the relationship would have been stronger. Both monitoring and peer relatedness had weak and nonsignificant relationships with high-risk behaviors. Despite the efforts made to strengthen the validity of these constructs, the results demonstrated a lack of correlation which did not support the established hypotheses related to these variables. Aberrant sexual behavior scores reflected participants’ early exposure to sex, and of the predictive variables, aberrant sexual behavior was most strongly associated with high-risk sexual behavior. Early exposure to sexual experiences also had the strongest relationship with aggressive sexual behavior ($r=.33$, $p<.01$). Only one other variable, aggression ($r=.12$, $p<.05$), was significantly related to participants’ aggressive sexual behavior scores. Contrary to the original hypotheses, family environment, monitoring, delinquency, and peer relatedness were not significantly related to aggressive sexual behavior, and the correlations were all near-zero. The significance of relationships with aggressive sexual behavior may have been limited by the low number of participants reporting sexually aggressive behaviors.

Table 8

<table>
<thead>
<tr>
<th>Intercorrelations Between Major Variables ($n = 344$)</th>
<th>AggSx</th>
<th>Ab</th>
<th>FE</th>
<th>Mntr</th>
<th>Del</th>
<th>Agg</th>
<th>PR</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Risk (HR)</td>
<td>0.39**</td>
<td>0.36**</td>
<td>0.14**</td>
<td>-0.09</td>
<td>0.24**</td>
<td>0.21**</td>
<td>-0.09</td>
</tr>
<tr>
<td>Aggressive (AggSx)</td>
<td>0.33**</td>
<td>0.02</td>
<td></td>
<td>-0.08</td>
<td>0.05</td>
<td>0.12*</td>
<td>0.02</td>
</tr>
<tr>
<td>Aberrant (Ab)</td>
<td>0.23**</td>
<td></td>
<td>-0.19**</td>
<td></td>
<td>0.26**</td>
<td>0.28**</td>
<td>0.05</td>
</tr>
<tr>
<td>Family Environment (FE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.23**</td>
<td>0.42**</td>
<td>-0.40**</td>
</tr>
</tbody>
</table>
Examining relationships across gender, several meaningful differences emerged (see Table 9). High-risk and aggressive sexual behavior was much more strongly correlated within the male population (r = .61, p < .01) than the female population (r = .26, p < .01). Fischer’s z-test was used to compare differences in correlations across gender and the analysis indicated that the previously described difference was significant (z = 3.37, p < .01). Delinquency was significantly more related to high-risk behavior within the female population than the male population (z = 2.33, p < .01). Contrary to hypotheses and well-established theory, correlations between delinquency and male high-risk and aggressive sexual behavior were weak, negative, and nonsignificant. This anomaly appears to stem from the low variability in delinquency scores in the small sample of males. Due to the exclusion of the STAB (Burt and Donellen, 2009) scores, the construct of delinquency was limited, and two-thirds of the male sample endorse no delinquency items. Family environment was also significantly related to high-risk behavior for females (r = .16, p < .01) and was nonsignificant for males. Given that the relationships are similar, and both relatively weak, this difference in significance may be a result of having more female participants than male participants. Correlations were similar across genders for high-risk sexual behavior and aberrant sexual behavior and the difference in strength of relationships with aggression was not significant.

There was only one significant difference across gender when examining correlates of aggressive sexual behavior. Aberrant sexual behavior was strongly and significantly correlated

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male (Mntr)</th>
<th>Female (Mntr)</th>
<th>Male (Del)</th>
<th>Female (Del)</th>
<th>Male (Agg)</th>
<th>Female (Agg)</th>
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<tbody>
<tr>
<td>Monitoring (Mntr)</td>
<td>-.08</td>
<td>-.36**</td>
<td>.21**</td>
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<tr>
<td>Delinquency (Del)</td>
<td></td>
<td>.16**</td>
<td>-.12*</td>
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<tr>
<td>Aggression (Agg)</td>
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<td>-.29**</td>
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</tbody>
</table>

Note. PR = Peer Relatedness. *p < .05, **p < .01
to aggressive sexual behavior only in male participants, displaying a weak and nonsignificant relationship for female participants ($z = 4.47, p < .01$).

Table 9

<table>
<thead>
<tr>
<th></th>
<th>AggSx</th>
<th>Ab</th>
<th>FE</th>
<th>Mntr</th>
<th>Del</th>
<th>Agg</th>
<th>PR</th>
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<tr>
<td>High-Risk (HR)</td>
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<td>.26**</td>
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<td>.16**</td>
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<td>.24*</td>
<td>-.38**</td>
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<td>-.12*</td>
<td>-.35**</td>
<td>.22</td>
<td>.09</td>
<td>-.37**</td>
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<td>-.24**</td>
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</table>

Note. PR = Peer Relatedness. *p < .05, **p < .01, box denotes significant differences

**Hierarchical Regression Analysis**

Hierarchical regression determined the amount of variance each predictor variable accounted for in models developed to explore high-risk and aggressive sexual behaviors across genders. Regression rather than path analysis was used due to the relatively weak initial correlations between outcome and predictor variables. Based on the patterns of correlations among predictor variables, additional examination of potential mediating or moderating variables was not warranted. Given the notable differences in correlation patterns and mean comparisons, separate regression equations were generated for males and females. Variables presumed to be
predictors of the high-risk sexual behavior variable were entered according to the temporal assumptions of the models. Family environment was entered first, followed by aggression, monitoring, aberrant sexual experiences, delinquency, and finally peer relatedness. Peer relatedness was significantly correlated with female high-risk sexual behavior, so it was included in the analysis despite its relatively weak correlations with other variables of interest. Given the size of the current sample, overall variance accounted for refers to the adjusted r-squared values.

Correlates of aggressive sexual behavior within the female sample were deemed too weak to justify a regression model. For males, some weakly correlated variables were included to align with the theoretical model proposed, controlling for variables based on when they may impact aggressive sexual behavior across the course of the development. Researchers have established value in analyzing complete regression models despite weak correlations or nonsignificant regression coefficients (Steyerberg, Eijkemans, Harrell, & Habbema, 2001). The authors indicate there are particular benefits when the model is based on theory driven by previous research and the sample size of the data being analyzed is less than ten times the degrees of freedom in the model. Both criteria are met in this study; therefore, regression is examined using all predictive variables and simplified models are also considered. Aberrant sexual behavior ($F(1, 61) = 8.75, p < .01$) and Delinquency ($F(1, 60) = 8.30, p < .05$) accounted for the large majority of the variance in predicting aggressive sexual behavior in males. As mentioned previously, delinquency did not exhibit the expected relationship with problematic sexual behaviors; therefore, in the regression model for both aggressive and high-risk sexual behavior in men, lower levels of delinquency predicted higher levels of the outcome variables.

The current model explains 35.0%, $F(6, 59) = 6.82, p < .001$ of the variance in male aggressive sexual behavior. This substantial amount of variance accounted for supported the
hypothesis that improvements made to this study would result in a model that more accurately predicted sexual aggression. In an analysis of a simplified model including only aggression, aberrant sexual behavior, and delinquency as predictors of sexually aggressive behavior, slight changes to the results were observed. The model accounted for the same overall variance (F(3, 62) = 12.68, p < .001); however, delinquency became marginally nonsignificant in this model (F(1, 62) = 3.64, p = .061). This change in significance suggests the possibility of important interactions between variables. See Table 10 for additional details of the contributions of each variable in predicting male sexual aggression.

Table 10

<table>
<thead>
<tr>
<th>Predicting Aggressive Sexual Behavior</th>
<th>Males (n = 65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
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<td>Total Adjusted R²</td>
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</table>

* p < .05

Overall, the model predicting male high-risk sexual behavior accounted for 14.3% of variance (F(6, 65) = 2.98, p < .05). Two variables made significant contributions; aggression and aberrant sexual behaviors. Aggression, after controlling for Family Environment, accounted for 6.6% (F(1, 69) = 4.93, p < .05) of the variance in male high-risk behaviors. Aberrant sexual experience represented a significant 9.6% of the total variance (F(1, 67) = 7.83, p < .01) after
controlling for family environment, aggression, and supervision. See Table 11. Using a simplified regression model including only aberrant sexual behavior and aggression, slightly less variance was accounted for (13.8%, F(2,69) = 6.67, p < .005) and aberrant sexual experiences became the only significant contributor. It appears that the full regression model examining the interactions of all variables involved provided some unique contribution to understanding the development of high-risk sexual behavior.

For women, the model accounted for 19.1% of the variance (F(6, 243)= 10.80, p < .001) in high-risk sexual behavior. Family environment (F(1,248) = 6.75, p < .01), monitoring (F(1,246) = 6.23, p < .05), aberrant sexual experiences (F(1,245) = 18.73, p < .001), and delinquency (F(1,244) = 24.89, p < .001) each contributed significantly to high-risk sexual behavior in women. Family environment accounted for 2.6%, monitoring was responsible for 2.4% while aberrant experiences and delinquency accounted for 6.7% and 8.1% respectively after previously input variables had been controlled.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Variables</th>
<th>Males (n = 71)</th>
<th>Females (n = 249)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Family Environment</td>
<td>.160</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>Aggression</td>
<td>.233</td>
<td>.066*</td>
</tr>
<tr>
<td></td>
<td>Monitoring</td>
<td>.167</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Aberrant Sexual Experience</td>
<td>.364</td>
<td>.096*</td>
</tr>
<tr>
<td></td>
<td>Delinquency</td>
<td>-.198</td>
<td>.034</td>
</tr>
<tr>
<td></td>
<td>Peer Relatedness</td>
<td>.008</td>
<td>.000</td>
</tr>
<tr>
<td>Total Adjusted R2</td>
<td>.143</td>
<td>.191</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
Additional Predictive Models

To more accurately examine the benefits of a predictive model of sexual aggression, a structural equation model was developed based on theory concerning the path to sexual aggression. Stata Data Analysis and Statistical Software was used to develop and analyze predictive models, examining 1000 iterations of the models using 50 bootstrap replications. Due to the small number of male participants, the model was simplified in an effort to maximize the likelihood of fitting the data set to the predictive model. Despite the regression model accounting for 35% of the variance in male aggressive sexual behavior, the small sample size resulted in a nonsignificant model when incorporating all predictive variables. Simplifying the model even further, models of moderation and mediation examined the impact of aggression on the relationship between aberrant and aggressive sexual behavior. With regard to moderation, initial regression analysis indicated a significant interaction effect when predicting aggressive sexual behavior (F(3,62) = 17.32, p < .001) with the interaction between aggression scores and aberrant sexual behavior accounting for 11.2% change in variance in aggressive sexual behavior.

Post-hoc analysis of the significant moderation effect demonstrated meaningful but nonsignificant differences in the simple regression slopes. The discrepancy in significance between these two calculations of moderation is consistent with previous research suggesting a higher threshold for meeting the requirements for significant effects using the comparison of simple regression slopes (Robinson, Tomek, & Schumacker, 2013). Assuming the nonsignificant results of the analysis of regression slopes are due to small sample size, outcomes may provide insights regarding the relationships of variables in the moderation model. As can be seen in the graph below, male participants reporting high levels of aggression exhibit a stronger relationship
between aberrant sexual behavior and aggressive sexual behavior. Additionally, individuals scoring low in aberrant sexual behavior appear least affected by level of aggression. Unexpected patterns were found in the low aggression conditions, where participants with low aberrant sexual behaviors scores had higher levels of sexual aggression than those with average or high levels of aberrant sexual behavior. This may indicate that individuals exhibiting low levels of aggression have developed alternative coping strategies to manage interpersonal relationships, and despite early exposure to sexual behavior they refrain from sexually aggressive behavior. The impact of aggression beyond sexual exposure is supported by Martino and colleagues (2006) who found consumption of music containing aggressive sexual lyrics negatively influenced sexual behavior, yet equivalent consumption of nonaggressive sexual lyrics had no significant impact of sexual behavior. It is also possible that nonaggressive individuals that have experienced aberrant sexual experiences may reactively avoid sexual behaviors, especially aggressive sexual behavior. This reluctance to engage in sexual behavior has been supported by research elucidating the emotional and behavioral limitations that adult survivors of childhood sexual abuse experience in their intimate relationships (Easton, Coohey, O’Leary, Zhang, & Hua, 2010). The mediation model was nonsignificant.
Other Relevant Findings

This study provided additional information that was not predicted by the original hypotheses, but which will be investigated more fully in future research. For example, when looking at functions of sexual behavior, participants indicated that they use sex for far more than physical pleasure. Approximately 30% of all respondents acknowledged using sex as an escape from negative emotions. Men were more likely than women to report use of sex to improve self-esteem (40.3% versus 27.3%; t(343) = 4.73, p < .05), and as an attempt to increase their popularity (6.5% versus 1.5%; t(343) = 5.85, p < .05). Women were more likely than men to acknowledge the use of sexual behavior to strengthen their relationship (69.7% versus 53.2%; t(343) = 7.17, p < .01). Further analysis would be necessary to understand how these functions relate to healthy or maladaptive sexual behaviors.
Independent t-test comparisons indicated significant differences in general enjoyment of sexual activities. Men consistently reported gaining more enjoyment from sexual behaviors, and these discrepancies were significant for all behaviors accept kissing and cunnilingus; for those behaviors, differences were nonsignificant.

**Discussion**

**Primary hypotheses**

This study, in part, was designed to replicate and expand on the findings of Poinsett and Loverich (2010) and many of the findings were consistent with the previous study. With regard to sexual history, mean ages for experiencing the entire spectrum of sexual behaviors were often within few month when comparing the 2010 study to the current data set. None of the differences between the ages across studies was more than one year.

The correlational data were also fairly consistent across the two studies when examining the sample as a whole. Some results were inconsistent with the 2010 study when the sample was split by gender. One notable difference was the absence of aberrant sexual experiences as a strong correlate of other variables for men. Poinsett and Loverich (2010) found significant correlations between aberrant behaviors and high-risk behaviors, aggressive behaviors, family environment, monitoring, and delinquency. In this study, with minor modifications to those variables, aberrant sexual behavior was no longer significantly correlated with family environment, monitoring, or delinquency for male participants. Aberrant sexual behavior was significantly correlated to high-risk and aggressive sexual behavior as well as the new variable of aggression. Additional questions arise regarding these discrepancies due to the nearly identical correlations between the 2010 study and the current research when looking at the same data for the female sample. Unfortunately, inconsistencies are not uncommon in research on sexually
aggressive behavior. In one review (van Wijk et al., 2006) authors found pervasive inconsistencies across studies when examining predictive variables of sexual aggression, including family problems, drug use, and peer functioning. In the current replication, inconsistencies may be the result of sample error, exacerbated by the size of the sample reporting aggressive sexual behavior.

Hypothesis one suggested aberrant sexual behavior would be significantly positively correlated with both high-risk and aggressive sexual behavior. These hypotheses were supported when analyzing the sample in its entirety; however, when separating participants by gender, aberrant sexual behavior had an extremely weak and nonsignificant correlation with aggressive sexual behavior (\( r = .06, p > .05 \)) for female participants. Conversely, for male participants, aberrant sexual experiences had moderate and significant correlations with both high-risk (\( r = .40, p < .01 \)) and aggressive behavior (\( r = .57, p < .01 \)).

The second set of hypotheses assumed that increased levels of family disruption would correlate with higher levels of problematic sexual behavior. These hypotheses were partially supported. Despite prior research suggesting a potentially meaningful relationship between family environment and problematic sexual behavior, results indicated a weak but significant correlation between family environment and high-risk behavior (\( r = .143, p < .01 \)) and a smaller nonsignificant relationship with aggressive sexual behavior. This pattern was consistent with the results of Poinsett and Loverich (2010). When accounting for gender differences, the only significant correlation related to this hypothesis was the relationship, in the female population, between family environment and high-risk sexual behavior (\( r = .16, p < .01 \)). This pattern of differences between males and females was in contradiction to the findings of Poinsett and Loverich (2010). The previous study found that family environment was significantly correlated
with high-risk sexual behavior for both males and females. Correlations in the 2010 study were weak \((r = .11\) and \(r = .16\) respectively for males and females) and met the minimum criteria for statistical significance \((p < .05)\), so the discrepancies across studies may be due to minor variation in responding more than a meaningful difference in the relationships between variables.

With regard to adult monitoring, hypothesis three predicted significant correlations between that variable and the measures of problematic sexual behavior. These hypotheses were not supported. The weak and nonsignificant correlations between these variables were in contrast to the significant findings of Poinsett and Loverich (2010); however, even in the previous study, the relationship was relatively weak \((r = -.15)\), which is consistent with the current findings \((r = .09)\). Based on Poinsett and Loverich (2010), monitoring during early adolescence was particularly important to predicting high-risk sexual behavior, and when limiting the analysis to that age range, a significant correlation is found \((r = .16, p < .01)\). The lack of significant correlations for overall monitoring in the current study may be a result of the slightly smaller population or minor variation in responding.

In this study, delinquency was found to be significantly correlated with high-risk sexual behavior, but not with aggressive sexual behavior. Further exploration of these hypotheses demonstrated that the significant correlation between delinquency and high-risk behavior is only significant for female participants. Results from Poinsett and Loverich (2010) indicated significant relationships between all of these variable and across genders. The most prominent difference related to this hypothesis is the drastically weaker correlation between delinquency and high-risk sexual behavior in males. Given the extremely small subset of male participants endorsing high-risk behaviors, minor variations in responses compared the same group in the 2010 study, would be enough to alter the results dramatically.
Overall, peer relatedness was found to have weak and nonsignificant relationships with high-risk and aggressive sexual behaviors. Despite modifications designed to increase the construct validity of the peer relatedness variable, results mirrored the findings of Poinsett and Loverich (2010). Contrary to that study, in the instance of female aggressive sexual behavior, peer relatedness had a weak, but significant correlation ($r = -0.13$, $p < .05$).

While expanded measures were used to provide a stronger predictive model, correlations observed in the current study were equivalent to, or slightly weaker than, those in Poinsett and Loverich (2010). However, even without marked differences in correlational data, hierarchical regression analysis indicated that the modified variables provided a more accurate predictive model for male sexual aggression. In the original study, 13.6% of the variance in male sexually aggressive behavior was accounted for, and in the current model, 35.0% of variance was accounted for by the predictor variables. This substantial change of more than 20% suggests that the updated methods and model improved the prediction of male sexual aggression.

Unfortunately, similar gains were not found in the sample-wide models nor in any other gender specific models. Aside from the improved prediction of male aggressive sexual behavior, results of hierarchical regression analysis were comparable to the finding of Poinsett and Loverich (2010). Results were consistent with regard to the general pattern of low variance accounted for in female aggressive sexual behavior and male high-risk sexual behavior, and clinically relevant variance accounted for under the other conditions.

The measure of general aggression was significantly correlated with each of the other variables examined; however, it did not have the expected stronger relationship with aggressive sexual behavior versus high-risk behaviors. Results indicated, when split across genders, aggression was not significantly correlated with male or female aggressive sexual behavior, but it
was significantly correlated with high-risk behaviors ($r = .17, p < .05; r = .28, p < .01$ respectively). This contradicts theoretical expectations and deserves further examination. One possible explanation relates to the function of sexual behavior. The RPQ (Raine et al., 2006) focused on reactive and proactive aggression constructs built largely on the use of anger, aggression, and violence in response to various social interactions. High-scores on the RPQ therefore, could be indicative of poor social coping strategies and ineffective conflict resolution. These deficits, in turn, could result in individuals engaging in high-risk sexual behaviors in response to social conflict or peer pressure. Research has supported a clear impact of aggression, measured by the RPQ (Raine et al., 2006), on problem-solving skills, social-cognition, peer popularity, and various other behavioral dimensions across aggression types (Day, Bream, & Paul, 1992; Dodge, 1991; Vitaro, Brendgen, & Tremblay 2002). Additionally, aggression has demonstrated a consistent positive correlation with general risk-taking behavior (Swaim, Henry, & Baez, 2004)

**Practical Implications**

As discussed above, the wealth of normative data surrounding the initiation of sexual behavior, now replicated across multiple studies, will provide a foundation for understanding healthy sexual development beyond the realm of abstinence and condom use. Prevalence rates of pornography use and paraphilic behaviors may help to re-educate professionals and lay people regarding current normative sexual behaviors, reducing stigmatization and negative labeling. For individuals and organizations focused on providing accurate education pertaining to sexual behavior, sexual development, and relationships, findings can be used to open the dialogue related to what is normal behavior in relationships and how aggression may factor into sexual experiences.
Aside from simply increasing knowledge regarding sexual behavior, the study provides some support for predictive models of high-risk and aggressive sexual behavior. The regression analyses replicated gender differences that may be vitally important in the ongoing development of gender specific interventions aimed at reducing the development of high-risk and/or aggressive sexual behaviors. Future models will require gender specific revisions to the operational definitions of the variables being studied. The gender based differences imply that constructs of high-risk sexual behavior, aggressive sexual behavior, delinquency, and aggression may look very different in men and women. Current definitions of these constructs are often based on stereotypical gender-based assumptions that are likely causing limitations in the ability to create accurate predictive models.

Across genders and without regard to the type of sexual behavior being predicted, aberrant sexual experience accounted for more variance than any other variables examined. Early sexual experiences do matter, even after controlling for family environment, aggression, and monitoring. Significant research has focused on the impact of childhood sexual abuse on adult functioning (Allen, Telllez, Wevodau, Woods, & Percosky, 2014; Polusny & Follette, 1995; Putnam, 2003), and the correlation between early abuse and mental health and interpersonal difficulties has been consistent. Early experiences of abuse appear to be formative in terms of future mental, emotional, and social functioning, and the current study suggests aberrant sexual experiences, as measured in this study, similarly impact future behavior.

The presence of high-risk and aggressive sexual behavior within a normative population of college students confirms the need for greater consistency and collaboration across fields of research. Results confirm the importance of delinquency, aggression, and aberrant sexual experiences in the development of sexual aggressive behaviors. A more comprehensive
understanding of how these factors interact with other potentially important variables will only come about with intentional collaboration between research focused on sexual harassment, sexual aggression, and sexual offending.

**Limitations and Future Directions**

Being primarily a retrospective self-report, the current study shared many limitations of Poinsett and Loverich (2010). Reliability was limited by each participant’s ability and willingness to accurately recall and report past experiences. Roughly 3% of respondents were identified as intentionally or unintentionally misrepresenting themselves in one large scale self-report assessment, creating consistent patterns of distorted scoring (Fan, et al., 2006). When focused specifically on disclosure of sexual abuse research supports the possibility of even greater levels of inaccurate responding. Widom and Morris (1997) found that only 16% of men with documented experiences of childhood abuse reported a history of abuse in a retrospective interview in adulthood. Women in the same study were found to be more accurate reporters, yet only 64% of documented victims of sexual abuse report the experience in the assessment. The authors suggested the inaccuracies in this type of reporting may be due to embarrassment, altered perceptions or attitudes regarding a sexualized experience, an inadequate measure of the variables in question, or simply an inability to recall events accurately. Some inaccuracies in self-report may also have been due to patterns of socially desirable responding, particularly given the sensitive nature of many questions. Privacy was encouraged to help reduce the impact of socially desirable responding; however, due to the methodology, privacy was merely a presumption and it is unclear under what circumstances individuals completed the survey. The impact of inconsistent or inaccurate responses can be mitigated by increasing the sample size and improving the validity of measures included in the assessment.
As noted above, sample size was a persistent issue when attempting to examine the relationships between variables in increasingly complex ways. Initial estimations suggested a total sample size of approximately 300 participants. It appears that estimate was more appropriate for a normally distributed variable; however, with the majority of participants endorsing little or no high-risk or aggressive sexual behaviors, the sample size required to reach statistical significance becomes much higher. Given the complexity of the variables being examined and the theorized relationships between them, having a large number of participants endorsing high-risk and aggressive sexual behavior becomes imperative. Assuming similar methods of data collection within a similar population roughly ten times as many participants would be required to ensure adequate power using a similar structural equation model as initially proposed.

It also became evident that the operationalization of high-risk and aggressive sexual behavior may suffer from inherent conceptual flaws. For example, participants reporting high numbers of sexual partners had elevated scores in high-risk behavior based on how the scores were compiled. It is possible, however, that having multiple partners could represent aggressive behavior from the participant. Initiating sexual behavior under specific circumstances was deemed a reflection of aggressive behavior, yet some participants may find themselves engaging in these behaviors because of peer pressure, lack of education, unstable environments, or other factors that suggest the behavior is more high-risk than aggressive. These considerations become increasing important when taking gender into account. Presumptions in this study (and others) often define high-risk and aggressive behaviors without regard to differential presentations in males and females. Future research must take into account gender differences in cultural and developmental expectations related to sexual behavior when defining problematic behaviors.
To some unknown degree, determining aggressive versus high-risk behaviors requires an understanding of the individual’s intent and their motivation to engage in the behavior, which were not assessed in this study. Context matters. Nearly all of the behaviors assessed in this study, aside from specifically identified unwanted sexual experiences, could be viewed as either high-risk or aggressive depending on the mental and emotional experience of the participant at the time of the event. Research has also suggested that in some cases, early sexual experiences can lead to decreased sexual activity of any kind (Allen, et al., 2014), and this was not an outcome considered in this study.

Operationalization of problematic sexual behaviors focused on direct interaction between a victim and perpetrator, eliminating any less direct forms of high-risk or aggressive sexual behavior. This study failed to examine behaviors such as engaging in harassment or pursuing inappropriate relationships through social media or other online venues. With the ubiquitous use of sites such as Facebook, Instagram, and Snapchat to interact with peers, it is reasonable to assume, for some individuals, sexualized behaviors occur online even more prevalently that they do during face-to-face interactions.

Failure to include the STAB questionnaire (Burt & Donnellan, 2009) also created potential weakness in the study. As originally proposed, this assessment would have strengthened the validity of both the Delinquency and Aggression variables, potential increasing the strength of correlations and resulting in a more robust predictive model for high risk and aggressive sexual behavior.

Due to the use of Eastern Michigan University’s SONA system for collecting data, recruitment was largely limited to students in psychology classes and primarily introductory psychology classes. As noted above, this resulted in an overrepresentation of females compared

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to a representative community sample. Future research may focus exclusively on male participants, crafting questions and tailoring the predictive model to more effectively understand sexual behavior in males.

Exploratory studies require researchers to cast a wide net. Poinsett and Loverich (2010) required participants to answer a seemingly exhaustive set of questions, and this study expanded the length of the Comprehensive Sexual Experience Survey. The length and time commitment to thoroughly answer all of the survey questions likely deterred some participants from answering every question accurately. Using the current results, and continuing to identify more efficient and effective measures, the CSES would benefit from a significant reduction in length. Questions that are not directly relevant to the prediction of sexual behaviors could be eliminated (i.e., source of sexual education), and cumbersome questions could be revised to more accurately and quickly provide meaningful information. It may be reasonable to reduce the time of the survey to 30 minutes, making it less demanding and potentially encouraging more complete patterns of responding.

While a more streamlined version is likely to result in more consistent engagement from the participants, the inclusion of the STAB (Burt & Donnellan, 2009) in future examinations may be a more efficient method of measuring both aggression and delinquency.

It is vital for future researchers to continue exploring related literatures on normative and deviant sexual behavior in order to elucidate additional factors that may contribute to high-risk and aggressive sexual behavior. The models examined in this study were insufficient in predicting high risk sexual behavior generally and aggressive sexual behavior in young women.
Conclusions

Efforts were made to expand and strengthen the findings of Poinsett and Loverich (2010), and in many respects, the current study achieved that task. Participants of the current study replicated evidence regarding normative sexual development within a Midwestern college population. Relationships between variable also demonstrated meaningful similarities. Aberrant sexual experiences, or early exposure to sexual behavior, stood out in both studies to be an important predictor of high-risk sexual behavior in both men and women as well as a powerful predictor of aggressive sexual behavior in men. Expectations of creating a more robust predictive model for problematic sexual behavior were not met. Improvements in predictive models were limited to male aggressive sexual behavior. Regression analysis was able to account for significantly more variance in male aggressive sexual behavior, yet the limited sample size greatly restricted examination involving more complex predictive models. Attempts at structural equation modeling resulted in nonsignificant findings. Despite these limitations, moderation analysis demonstrated the significant impact of aggression on the relationship between aberrant sexual behavior and aggressive sexual behavior for male participants.

Aggression has been shown to impact a wide variety of variables including general risk-taking behaviors (Day, Bream, & Paul, 1992; Dodge, 1991; Swaim, Henry, & Baez, 2004; Vitaro, Brendgen, & Tremblay 2002). Results from this study confirmed the pervasive impact of aggression as demonstrated by significant relationships with all other variables of interest. Despite those findings, the comparatively stronger correlation between aggression and high-risk behavior versus aggressive sexual behavior in this study was unexpected and will require additional examination. One possible explanation based on previous research involves the impact of female aggression on relationship dynamics within heterosexual partnerships. Archer (2000)
found that women were slightly more likely than men to use physical aggression in their relationships, yet they were less likely to inflict injury and were more likely to sustain injuries. As applied the finding of the current study, women engaging in aggressive behaviors may be elevating risk by exacerbating conflict peers and partners likely to escalate the aggressive behavior. The net result of this pattern, may be the victimization of the woman engaging in aggressive behaviors. Another path explaining the comparatively stronger relationship between aggression and high-risk sexual behavior is the typical pattern of impulsivity associated with aggression which may also lead to high-risk sexual behaviors (Campbell & Muncer, 2009). Aggression, as a predictive variable, was an important addition to this study and deserves to be more fully explored in future iterations of this line of study.
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