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ABSTRACT

SEXUAL AROUSAL, ATTENTION, PERCEPTIONS, AND SEXUAL NARCISSISM: A CONDITIONAL PROCESS MODEL OF SEXUAL COERCION

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Previous research has suggested that as heterosexual males become sexually aroused, they are more likely to interpret potential sexual partners as interested in sexual activity and are subsequently more likely to use sexual coercion. There is also evidence that individuals higher in sexual narcissism are more likely to be sexually coercive. It is unclear, however, how sexual arousal, perceptions of partner interest, and sexual narcissism are related to one another and how this relationship may be similar or different for heterosexual females. Furthermore, cognitive research on attention and motivation supports the theory that increased state-motivation (e.g., hunger) biases our attention to cues that support our goals. The current research attempted to synthesize existing theory and propose a conditional process model of heterosexual males’ and females’ use of sexual coercion. Results partially supported our hypotheses. There was no evidence to support that physiological or self-reported sexual arousal predicted sexual coercion for heterosexual males or females. There was evidence to support that biased attention towards consent cues predicted males’, but not females’ use of sexual coercion. The effect was also conditional on higher levels of sexual narcissism. Perceptions of partner interest was predictive of sexual coercion for both males and females, but the effect was conditional on higher levels of sexual narcissism for females. These findings demonstrate the importance of replication studies.
and the use of multiple factors when predicting sexual coercion. Research and clinical implications are discussed.
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Chapter 1: Introduction

Sexual assault, and more broadly sexual coercion, are serious and prevalent societal concerns. Recently, public attention has been given to sexual misconduct among individuals with positions of power or within certain professional industries such as the American film industry and political systems. Although sexual coercion may occur at a higher frequency among specific populations and with varying power imbalances, it is a phenomenon that occurs broadly across cultures (Krahé et al., 2015; Jewkes, Fulu, Roselli, & Garcia-Morenó, 2013) and can also be found in a variety of non-human primates (Smuts & Smuts, 1993; Feldblum et al., 2014). Campaigns such as the #MeToo and #TimesUp movements have made it increasingly clear that experiences of sexual assault and sexual coercion are widespread and diverse.

In addition to the experiences themselves, the impact of sexual coercion on individuals can also be diverse in nature. Individuals who experience sexual coercion may be at higher risk for negative physical health outcomes, such as being diagnosed with a sexually transmitted infection (de Visser, Smith, Rissel, Richters, & Grulich, 2003; de Visser et al., 2014); higher risk for sexual problems, such as lack of sexual pleasure and lower desire for sexual contact (de Visser et al., 2003; Perilloux, Duntley, & Buss, 2012); and higher risk for poorer psychological health outcomes and increased emotional distress (Kilpatrick et al., 1985; Combs, Jordan, & Smith, 2014; Frazier et al., 2009).

Despite a vast amount of research on the impact, prevalence rates, and risk factors of sexual coercion, there are still many obstacles to understanding the underlying mechanisms of sexual coercion. Varying theoretical perspectives, differing legal and practical definitions, as well as diverse methodological approaches create significant obstacles in scientifically evaluating the many factors involved in the use of sexual coercion.
In order to highlight some of these obstacles, the current review first focuses on the various ways of defining and measuring sexual coercion. Secondly, this review examines broad explanations of sexual coercion, before exploring the benefits of multifactorial interpretations. The following is not a systematic review of the current literature, but an emphasis was placed on including both seminal research, updated reviews, meta-analyses, and original research in order to provide a broad and current understanding of sexual coercion.

**Defining Sexual Coercion**

Although there are varying legal definitions of the concept of *sexual assault*, the current review focuses on the broader, non-legal, concept of *sexual coercion*. A widely used definition of sexual coercion includes the use of verbal manipulation and/or physical force to obtain sexual activity, in contrast to freely given consent (Adams-Curtis, & Forbes, 2004). Within this definition, however, are several terms that vary across research studies. More specifically, the interpretation and operationalization of the definition of sexual coercion depends on the behaviours defined as manipulation/force, the types of sexual activity engaged in, and the nature of freely given consent. For example, studies can define and measure sexual coercion by a diverse list of behaviours considered to be coercive (e.g., threatening to end a relationship, verbal pressure, using drugs or alcohol, physically restraining someone, etc.; DeGue & DiLillo, 2005; French, Bi, Latimore, Klemp, & Butler, 2014), while other research may focus on the type of coerced sexual activity (e.g., penetrative sexual activity versus fondling; DeGue & DiLillo, 2005; French et al., 2014). Lastly, some research differs in its conceptualization of consent and freely given consent. For example, consent might be defined as a non-binary concept, including dimensions of wanted and unwantedness (Muehlenhard & Peterson, 2005).

**Sexual coercion as degrees of unwantedness and consent.** In research regarding sexual
coercion, some studies conflate the concept of consent with the concept of wantedness, while other studies separate the two. Several early studies explore the differences between consent and wantedness by studying examples where consent and wantedness differ, for example in the case of “token resistance.” Early definitions of token resistance involved partners communicating non-consent to desired, or wanted, sexual advances (Muehlenhard & Hollabaugh, 1988). When using qualitative methods to further explore the concept of token resistance, however, research suggested that most individuals’ experiences do not coincide with this early definition.

Muehlenhard and Rodgers (1998) asked 65 male and 65 female undergraduate students to describe their experiences of times when they wanted to engage in some type of sexual activity, “but for some reason you indicated that you didn’t want to, although you had every intention and were willing to engage in sexual activity. In other words, you indicated ‘no’ and you meant ‘yes’” (p. 446). Counter to hypotheses, more men reported engaging in token resistance than women (Muehlenhard & Rodgers, 1998). Qualitative descriptions of these experiences suggested that token resistance rarely referred to expressing non-consent to wanted sexual activity, rather it often represented different forms of ambivalence or a change in wantedness when deciding to engage in a sexual encounter (Muehlenhard & Rodgers, 1998). Over 88% of descriptions were coded as not meeting the original definition of token resistance. Instead, participants described experiencing an initial lack of wantedness, communicating non-consent, then experiencing an increase in desire and providing consent. Alternately, participants also described ambivalence towards the sexual encounters (Muehlenhard & Rodgers, 1998). Given these results, researchers further conceptualized consent as a separate dimension from wantedness to account for ambivalence (Muehlenhard & Peterson, 2005). Muehlenhard and Peterson’s (2005) model proposes wantedness and consent as two distinct dimensions that can result in four possible
categories of sexual activity: non-consensual/unwanted sex, non-consensual/wanted sex, consensual/unwanted sex, and consensual/wanted sex. In line with this model, there is extensive research on consensual/unwanted sex, also referred to as “compliant sexual behaviour” or “acquiescence” (O’Sullivan & Allgeier, 1998; Conroy, Krishnakumar, & Leone, 2015; Impett & Peplau, 2002; Basile, 1999).

Defining consensual/unwanted sex is further complicated by varying interpretations of “freely given consent” with some researchers including consent to unwanted sex even in the context of coercion (Basile, 1999) and other studies clearly defining consensual/unwanted sex as only being able to occur without the use of coercive tactics (Conroy et al., 2015). For the purpose of the current research, we define coerced sexual activity to encompass both unwanted and non-consenting categories of sexual activity.

Sexual coercion by types of coercive behaviour. Returning to the original definition of sexual coercion, there is, in theory, an infinite list of complex behaviours that could be considered coercive tactics. When operationalizing coercion, researchers often combine behaviours to reflect several categories of coercive behaviour. One early study completed a factor analysis of reasons why people engaged in unwanted sexual activity (Muehlenhard & Cook, 1988) and identified several categories of coercion used by sexual partners. Muehlenhard and Cook (1988) asked 993 undergraduate students (507 males and 486 females) about the reasons why they may have engaged in an unwanted sexual activity. Coercive categories included physical coercion, intoxication (i.e., either the partner took advantage of an intoxicated state or provided the individual with drugs and/or alcohol to obtain consent or avoid non-consent), social coercive factors (i.e., peer pressure, popularity, family pressure, and gender-role concerns), verbal coercion, termination of relationship, and partner’s threat of self-harm.
Other factors of unwanted sexual activity contained a mix of coercive and non-coercive items such as enticement, which included more coercive items such as “the other person made an advance, such as kissing, grabbing, etc.” and “the other person started taking off your clothes,” but also more neutral items such as “you were curious” and “something about the person turned you on” (Muehlenhard & Cook, 1988, p. 61). Another mixed factor included reluctance/obligation, which included items such as “you felt obligated to your partner for the money, time, and/or effort your partner had spent on you” and “you wanted to make the other person feel more attractive” (Muehlenhard & Cook, 1988, p. 61).

In addition to research exploring the experience of sexually coercive tactics, research has also evaluated the types of self-reported sexual coercion tactics used by both men and women. Research suggests that females tend to use a similar range of coercive tactics as males do, such as verbal pressure/manipulation, intoxication tactics, and physical tactics (Hogben & Waterman, 2000; Zurbrigggen, 2000; Krahé, Waizenhöfer, Möller, 2003; Anderson, 1996; Schatzel-Murphy, Harris, Knight, & Milburn, 2009; Krahé & Berger, 2013). For example, Schatzel and colleagues (2009) found that both male and female heterosexual undergraduate students reported using seduction, manipulation, intoxication, and force to coerce an unwilling sexual partner, however, overall more males reported using any coercive tactic and more males reported using seduction as a means of coercion. Similarly, Krahé and Berger (2013) found that although significantly more males reported historical use of coercion, both males and females reported using verbal pressure, alcohol, and force to coerce a partner.

As a result of several exploratory studies on coercive behaviours, published measures that evaluate sexual coercion reflect similar categories of sexually coercive tactics. One of the most widely used measures of unwanted sexual activity is the Sexual Experiences Survey,
and revised by Koss and colleagues (SES; Koss & Oros, 1982; Koss et al., 2007). Reliability of the SES was originally completed with undergraduate populations and was found to have good test-retest reliability (i.e., item agreement was 93% after one week) and adequate internal consistency (i.e., a Cronbach alpha score of 0.74 for women and 0.89 for men; Koss & Gidycz, 1985). The authors hypothesized that the internal consistency was somewhat lower because it captured the diversity in coercive sexual experiences (Koss & Gidycz, 1985). Since its publication, the SES has also been demonstrated to have good reliability and validity with more diverse populations such as female Black adolescents (Cecil & Matson, 2006). The SES reflects similar categories of coercive behaviours that have been identified in the earlier factor analysis of unwanted sexual activity. The SES includes items pertaining to the use of alcohol, physical force, threats of physical force, verbal coercion (e.g., telling lies, threatening to end the relationship, threatening to spread rumours, pressuring, and making untrue promises), and showing displeasure or anger in response to a refusal (Koss et al., 2007). In addition to referring to specific coercive behaviours, the authors of the SES also attempt to distinguish between the concepts of wantedness and consent by explicitly using consent language. All items include specific language regarding the use of tactics to obtain sexual activity “without their [the partner’s] consent” (Koss et al., 2007).

More recently research has begun to explore the potential impact of societal coercion as a category of coercive factors. Conroy and colleagues (2015) identified several societal factors that influence an individual’s acquiescence to sexual activity. For example, learned responses to previous coercion, avoidance of negative social consequences to non-consent (i.e., feeling isolated from sexually active peers, being labelled a “tease”), and feeling a responsibility to engage in sexual activity.
**Sexual coercion by types of sexual activity.** In addition to types of coercive behaviours, researchers are often interested in the type of sexual activity that occurs by use of coercion. Similar to types of coercive behaviour, measures such as the Sexual Experiences Survey often include questions regarding the type of sexual activity engaged in (Koss et al., 2007). Research on sexual coercion can also focus on differences between the use of coercion and attempted sexual activity and the use of coercion when the sexual activity did occur. For example, the Sexual Experiences Survey includes distinct questions regarding fondling, oral sex, vaginal penetration (by a penis, fingers, or object), anal penetration (by a penis, fingers, or object), as well as attempted vaginal penetration, and attempted anal penetration (Koss et al., 2007).

Some research presumes that the range of sexual activity coincides with a range in severity of impact, with coerced intercourse having the most severe impact. While it is important to consider the type of coerced sexual activity when thinking about outcomes, research suggests that individuals who experience any form of sexual coercion are more likely to experience lower self-esteem and/or psychological distress (French et al., 2014).

In considering how best to define, and subsequently operationalize, sexual coercion, research suggests it may be important to include broader categories of experience. A recent study used latent class analysis to identify meaningful categories of coercive tactics and sexual behaviour in a sample of 657 male and female high school and university students (French et al., 2014). The researchers concluded that both the tactics and the type of sexual behaviour were important in distinguishing the effects of sexual coercion. They identified four distinct categories including individuals with no history of sexual coercion, those who experienced verbal and/or physical coercion that resulted in intercourse or fondling, those who experienced physical force that resulted in fondling, and a poly-experiences category that reflected individuals who
experienced different forms of coercion (i.e., verbal, physical, and substance induced) that resulted in intercourse (French et al., 2014). Compared to individuals with no history of sexual coercion, all groups had higher levels of sexual risk-taking (French et al., 2014). Those in the poly-experiences category experienced significantly lower levels of self-esteem, higher levels of psychological distress, and higher levels of sexual risk-taking compared to those in the other groups. This suggests that it is important to capture the coercive tactics experienced in their combinations as well as the type of sexual activity engaged in.

**Prevalence of Sexual Coercion**

Prevalence rates of sexual coercion vary somewhat over history, by the population sampled, and with methodological approach. In addition, prevalence rates often do not account for cases when individuals experience multiple instances of sexual coercion. Given French and colleagues (2014) findings regarding the psychological outcomes of poly-experiences, straightforward prevalence rates may not be able to adequately capture the full impact of sexual coercion. More specifically, straightforward prevalence rates, without the number of occurrences, may not capture the outcomes for individuals with multiple and varying experiences of sexual coercion versus the outcomes for individuals with single experiences of sexual coercion. In addition to prevalence rates varying by methodological approach and definition, prevalence rates vary widely depending on populations sampled. Experimental research and prevalence research often focus on cis-gendered, heterosexual males acting coercively and cis-gendered heterosexual females experiencing sexual coercion, but this does not fully capture the diversity in the use and experience of sexual coercion.

Early studies that focused on female experiences of coercion estimated that approximately 50% of college-aged women had experienced some form of unwanted sexual
contact in the past year, with approximately 12 to 20% experiencing rape or attempted rape (Kirkpatrick & Kanin, 1957; Koss, Gidycz, Wisniewski, 1987). More recent research on prevalence rates have indicated somewhat lower prevalence rates of 22 to 40% of women (Elliott, Mok, Briere, 2004; Walker, Messman-Moore, & Ward, 2011; Krahé et al., 2015; Krahé & Berger, 2013) experiencing some form of sexual coercion during adulthood.

Research that focuses on sexual coercion that does not exclusively focus on males acting coercively with a female partner indicate different ranges of prevalence. For example, studies suggest that 5% to 42% of women report a history of using some form of sexual coercion, or of not complying with a male partner’s sexual refusal (Anderson & Savage, 2005; Anderson, 1996; Palmer, McMahon, Rounsaville, & Ball, 2010; Krahé et al., 2015; Krahé & Berger, 2013; Krahé et al., 2011). A range of 1% to 56% of men report experiencing sexual coercion in their adult lives (Krahé et al., 2015, Brousseau, Hébert, Bergeron, 2012; Palmer et al., 2010; Peterson, Voller, Polusny, & Murdoch, 2011). This number varies widely between studies and methodological approaches. However, when using similar methods and directly comparing male and female prevalence rates of sexual coercion from heterosexual partners, females typically report higher levels of experiencing sexual coercion and males typically report more use of sexual coercion (Krahé et al., 2015). Looking specifically at males’ experiences of sexual coercion from female partners, Krahé and colleagues (2015) suggested rates can vary by individual and macro level variables. For example, in a study that examined rates between different European countries, countries that had more political gender equality had lower rates of males experiencing sexual coercion compared to countries with more political inequality (Krahé et al., 2015). Krahé and colleagues (2015) also suggested that male prevalence rates vary by individual factors such as sexual assertiveness, drinking alcohol during sexual interactions, and
acceptance of dating violence.

When examining prevalence rates of experiencing sexual coercion among lesbian, gay, and bisexual individuals, the rates tend to be higher than same-gendered heterosexual individuals (Rothman, Exner, & Baughman, 2011; Balsam, Rothblum, & Beauchaine, 2005; Krahé & Berger, 2013; Conroy & Cotter, 2017). These studies are important in identifying diverse experiences of sexual coercion, but they often fail to identify the gender of the person acting coercively and the context of the relationship the coercion occurs in (e.g., same or opposite gendered stranger, acquaintance, friend, romantic partner). One early study, however, suggested that 52% of lesbian women and gay men had experienced sexual coercion from a same-sex partner (Waldner-Haugrud & Gratch, 1997). Prevalence of experiencing sexual coercion among individuals who identify as transgender suggest that around 50% of individuals experience at least one occurrence of sexual coercion in their adult lifetime (see Stotzer, 2009 for review).

In addition to prevalence rates varying by demographics, prevalence rates can also vary by context, such as relationship context or social context. For example, in contrast to traditional portrayals of sexual coercion, research has consistently indicated that the majority of sexual assaults are not perpetrated by strangers, but rather by someone known to the individual (Conroy & Cotter, 2017; Brennan & Taylor-Butts, 2008; Koss, Dinero, Seibel, & Cox, 1988). In a study of opposite-gendered romantic dyads, approximately 54% of couples reported some form of sexual coercion in their relationship (Brousseau, et al., 2012). The most common forms of sexual coercion occurring in romantic relationships included verbal pressure and continued sexual activity due to their partner being “too excited to stop” (Brousseau, et al., 2012, p. 367).

Prevalence of sexual coercion can also vary in the context of social location, such as among incarcerated individuals or on university campuses. Studies estimate that 1-27% of
incarcerated men and women experience sexual coercion during incarceration, with higher rates for males than females, and varying by whether the coercion occurred from other incarcerated individuals or by prison staff (Hensley, Castle, & Tewksbury, 2003; Struckman-Johnson & Struckman-Johnson, 2006; Struckman-Johnson & Struckman-Johnson, 2002; Blackburn, Mullings, & Marquart, 2008; Wolff, Blitz, Shi, Bachman, & Siegal, 2006; Struckman-Johnson, Struckman-Johnson, Rucker, Bumby, & Donaldson, 1996). In addition to correctional settings, sexual coercion and sexual assault on college campuses has historically received unique attention, in part due to ease of study, popular media portrayals, and increased alcohol use on campuses. Research studies estimate approximately 20% of individuals experience unwanted sexual contact while attending university (Fedina, Holmes, & Backes, 2016; Fedina, Holmes, & Backes, 2018).

It is important to note that social locations and identities are intersecting and prevalence rates do not often capture these intersectional identities. For example, harassment based on race, ethnicity, age, sexual orientation, (dis)abilities, and socioeconomic status often intersect and may impact prevalence rates (Bauer, 2014; Bryant-Davis, Chung, & Tillman, 2009; Nadal, Davidoff, Davis, Wong, Marshall, & McKenzie, 2015). Those with intersectional identities may experience sexual coercion that interacts with gender-based harassment, race-based harassment, and other forms of harassment (Buchanan, Settles, Wu, & Hayashino, 2018).

**Theoretical Explanations of Sexual Coercion**

Sexual coercion is a complex behaviour and explanations of sexual coercion are equally complex, with research on the theoretical explanations of sexual coercion being diverse and wide-reaching. Typically, research on sexual coercion can be categorized as comprising of evolutionary, social, situational, and individual factors. The current review includes additional
focus on one aspect of individual theories, cognitive factors. While some research has focused on single-factor explanations, more recently, multi-factorial approaches to understanding sexual coercion have been used to better account for the complex pathways of sexual coercion. The current study first reviews common single-factor explanations of sexual coercion, before reviewing additional cognitive explanations, and finally multi-factorial explanations.

**Review of common explanations.** Basic evolutionary theory suggests that among animals that sexually reproduce, male and female mating strategies often conflict. In species with higher female investment in reproduction, females may act as gatekeepers, choosing male partners based on genetic advantages. As a result, some males may choose to use aggression, or sexual coercion, to override female reproductive choice and assert the progression of their genes (Malamuth, 1998; Quinsey & Lalumière, 1995; Clutton-Brock & Parker, 1995). Studies with animals and humans support this theory (Smuts & Smuts, 1993; Feldblum et al., 2014; Bisazza, Vaccari, & Pilastro, 2001; Feldblum et al., 2014; Yao, Långström, Temrin, & Walum, 2014; Lalumière, Chalmers, Quinsey, & Seto, 1996; Goetz & Shackelford, 2006). For example, when studying mating strategies of chimpanzees, research suggests that males who were more aggressive towards females had higher rates of copulation and conception with those females (Feldblum et al., 2014). Similarly, research with humans suggests males who use higher levels of sexual coercion have more extensive sexual histories (i.e., have a higher number of sexual partners and engage in sexual activity more frequently; Lalumière et al., 1996). Furthermore, sexual coercion occurs more frequently in the context of perceived sperm competition (i.e., potential infidelity; Goetz & Shackelford, 2006; Camilleri & Quinsey, 2009).

Social explanations of sexual coercion often focus on gendered sexual scripts, and gender role orientation. Research suggests that traditional sexual scripts describe males as aggressive
and females as being required to fulfill obligations to male partners. These sexual scripts often normalize continued persuasion after initial reluctance during consent processes (Impett & Peplau, 2003; Byers, 1996; Muehlenhard & Hollabaugh, 1988; Check & Malamuth, 1983; Jozkowski & Peterson, 2013). Research suggests that higher endorsement of these gender roles and traditional sexual scripts is correlated with increased use of female-targeted aggression (Berke, Sloan, Parrott, & Zeichner, 2012). Furthermore, endorsing a hypermasculine or hostile masculine orientation is linked to sexual aggression (Ryan, 2004; Murnen, Wright, & Kaluzny, 2002; Russell & King, 2017; Truman, Tokar, & Fischer, 1996; Poppen & Segal, 1988; Hill & Fischer, 2001; Jewkes, Sikweyiya Morrell, & Dunkle, 2011).

In addition to evolutionary and social explanations, theories regarding sexual coercion have focused on situational variables, such as alcohol consumption and sexual arousal. In particular, research suggests that alcohol consumption occurs in 30-79% of incidents of sexual coercion, with rates varying depending on who is consuming the alcohol (Testa, 2002; Abbey, Zawacki, Buck, Clinton, & McAuslan, 2001; Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004). Although the likelihood of alcohol consumption by someone who is acting coercively is highly related to the likelihood of alcohol consumption by their partners, rates of alcohol consumption are generally higher among those acting coercively than those experiencing coercion (see Testa, 2002). Furthermore, alcohol is more likely to be consumed in more intrusive forms of sexual coercion, such as physically forced rape, compared to other forms of sexual coercion (Testa, 2002).

In addition to alcohol consumption, sexual arousal has been studied in relation to the use of sexual coercion. Research on sexual arousal and sexual coercion suggests that as males report higher levels of sexual arousal, they predict themselves as acting more coercively (Ariely &
Loewenstein, 2006; Bouffard & Miller, 2014; Bouffard, 2002; Bouffard & Exum, 2003; Loewenstein, Nagin, & Paternoster, 1997). However, it is unclear as to whether this is a self-fulfilling prophecy regarding rape myths (i.e., believing that an aroused male cannot stop himself from acting) or whether sexual arousal impacts other factors such as cognition that increase the likelihood of acting coercively. It is also unclear how sexual arousal impacts females as the majority of research on arousal and coercion is conducted exclusively with males.

In addition to evolutionary, social, and situational explanations, there is a vast amount of research that focuses on various individual traits, beliefs, and experiences as contributing factors to the use of sexual coercion. Coercion-supportive attitudes and beliefs are often cited as an explanation for sexually coercive behaviour. The biggest example of coercion-supportive attitudes is endorsement of rape myths (i.e., stereotyped and false beliefs about sexual assault such as women who are raped often deserve to be raped, or that some women have secret desires to be raped) and adversarial beliefs about women. Endorsement of rape myths has repeatedly been found to be linked to increased use of sexual coercion (Bohner, Jarvis, Eyssel, & Siebler, 2005; Mouilso & Calhoun, 2013; Russell & King, 2016; Ryan, 2004; Murnen, Wright, & Kaluzny, 2002; Lonsway & Fitzgerald, 1994). Individual traits are also often linked to the use of sexual coercion, for example sociosexuality and narcissism. More specifically, having an unrestricted sociosexuality (i.e., desiring sexual relationships without commitment, having more partners, and fantasizing more about sexual relationships outside the context of a relationship) is linked to the use of sexual coercion in males (Kennair & Bendixen, 2012; Yost & Zurbriggen, 2006; Westerlund et al., 2010; Mouilso & Calhoun, 2012a). Similarly, several studies have suggested that having higher levels of narcissism (i.e., clinical or subclinical levels of grandiose self-importance, entitlement, lack of empathy, and/or exploitation of others) is indicative of
higher likelihood and higher incidence of sexual coercion (Baumeister, Catanese, & Wallace, 2002; Blinkhorn, Lyons, & Almond, 2015; Mouilso & Calhoun, 2016; Mouilso & Calhoun, 2012a; Zeigler-Hill, Besser, Morag, & Campbell, 2016; Kosson, Kelly, & White, 1997).

**Cognitive theories of sexual coercion.** While cognitive differences can be considered an individual factor, it has recently garnered more attention, particularly in relation to other variables. There are several aspects of cognition that have been studied in relation to the use of sexual coercion. Some research focuses on individual aspects of cognition such as impulse control, while other research focuses on more broad cognitive processes such as impaired decision-making to explain the use of sexual coercion.

**Impulse control.** Impulsivity and sexual coercion have been linked together in colloquial explanations of sexual coercion, qualitative descriptions of sexual coercion (Hird & Jackson, 2001), and in common rape myths (Cowan & Campbell, 1995; Cowan & Quinton, 1997; Payne, Lonsway, Fitzgerald, 1999). For example, a common rape myth would be that rape and sexual assault are a result of men being unable to control themselves when sexually aroused (Cowan & Campbell, 1995; Cowan & Quinton, 1997; Payne et al., 1999). Despite research suggesting that impulsivity is an individual trait related to aggression and criminal behaviour (Pratt & Cullen, 2000; Hecht & Latzman, 2015; Baltieri & Andrade, 2008; Davis, Danube, Stappenbeck, Norris, & George, 2015), research regarding poor impulse control and the use of sexual coercion has been mixed.

A recent review of factors leading to sexual coercion reported mixed findings regarding the impact of impulsivity in adult populations (Tharp et al., 2013), while a review of adolescent sexual offending suggested poorer impulse control among youth who sexually offend (Veneziano & Veneziano, 2002). Individual studies have also found mixed results in relation to
impulsivity and the use of sexual coercion. For example, one study found that deficits in some aspects of impulse control (i.e., poor executive functioning and sensitivity to temptation) predicted overt verbal sexual coercion (e.g., harassment, manipulation, etc.), but not covert sexual coercion (e.g., passive verbal pressure such as “accidentally” showing someone pornography) for both men and women (Hadjicharalambous & Sisco, 2016). Another study found that impulsivity was not related to an individual instance of sexual coercion, but it was related to multiple instances of sexual coercion (Wilhite & Fromme, 2017). Research has also found that executive functioning, including poor impulse control, was related to general offending, but not sexual offending (Burton, Demuynck, & Yoder, 2016).

In addition to these mixed findings, there are also methodological difficulties in studying impulsivity and sexual coercion. Studies often fail to directly measure impulsivity using standardized measures and there are ethical and practical impossibilities regarding manipulating impulse control and studying sexual coercion behaviourally. Instead, studies often opt to measure impulsivity as one factor in a collection of variables such as executive functioning skills or antisocial traits. Other studies measure impulsivity indirectly by studying diagnoses that are related to impulse control (e.g., Attention-Deficit Hyperactivity Disorder, Narcissistic Personality Disorder). As a result, it is somewhat unclear whether impulse control is uniquely related to sexual coercion.

One study of executive functioning and general aggression attempted to tease apart the impact of impulsivity among other executive functioning traits on general aggression in males and females. Hoaken, Shaughnessy, and Pihl (2003) assessed executive functioning and impulsivity separately using a battery of standardized measures. In addition to completing the executive functioning and impulsivity measures, aggression was measured using the Taylor
Aggression Paradigm (TAP; Taylor, 1967). Using the TAP, Hoaken and colleagues (2003) asked participants to compete against a fictional opponent and provided opportunities to deliver mild shocks to their “opponent.” Reaction time in selecting a shock was measured and it was hypothesized that those with poorer executive functioning skills would be more aggressive and respond more “impulsively,” with faster reaction times. It was found that participants with poorer executive functioning skills, as indicated by standardized measures, did act significantly more aggressively, but they actually took longer to respond than those with stronger executive functioning skills (Hoaken et al., 2003). The researchers, however, did not evaluate whether there was an effect of poor impulse control on aggression when using a standardized measure of impulse control (Hoaken et al., 2003).

The body of research on impulsivity and sexual coercion suggests impulse control may be related to sexual aggression, but it remains unclear the nature of the relationship and how impulsivity may interact with other factors in the use of sexual coercion. Despite the lack of clarity regarding the nature of the relationship between impulsivity and sexual coercion, a number of researchers imply or draw direct conclusions that poor impulse control is related to hypothetical or actual sexual coercion, or sexual offending (Loewenstein et al., 1997; Hadjicharalambous & Sisco, 2016; Ouimette, 1997; Ouimette & Riggs, 1998). Overall, the results regarding impulse control should be interpreted with some caution until future research can distinguish whether impulsivity is a unique factor in predicting sexual coercion and under what conditions it is most predictive.

**Decision-making skills.** Beyond impulsivity, rational choice models of behaviour indicate that behaviour, including criminal behaviour such as sexual coercion and assault, is the result of a series of decisions that are rational in nature. Rational choice theory suggests that
decisions can be constrained by individual processing skills, situational factors, and changes in perceived outcomes (Bouffard, 2002; Cornish & Clarke, 1986; Cornish & Clarke, 1987; Cornish & Clarke, 2014). For example, sexual offending would be a result of weighing the costs and benefits of several choices leading to a desired goal such as sexual gratification. This decision could be affected by factors including the impact on another person, the likelihood of getting caught, and others.

Some rational-choice studies focus on sexual offending and the stages of decision-making for different offenses (Beauregard, Leclerc, & Lussier, 2012; Leclerc, Wortley, & Smallbone, 2011; Beauregard, Rossmo, & Proulx, 2007; Beauregard & Leclerc, 2007). For example, Beauregard and colleagues (2012) examined the decision-making process of individuals who had committed two or more sexual offenses (e.g., sexual assault or sexual homicides) with victims that were previously unknown to them. They interviewed incarcerated individuals regarding their decisions during the commission of their sexual offenses. Beauregard and colleagues (2012) then compared the retrospective reports of the individual decision-making pathways for those whose victims were adult women, children, or both. Decision-making was separated into three phases, offense planning, offense strategies, and aftermath. All types of offenders were able to identify decisions made regarding their offense in different stages, but the types of costs/benefits and decisions made differed between those who committed sexual offenses against adults and those who committed sexual offenses against children, and/or children and adults. In particular, those who committed sexual offenses against adults were more often making decisions that reflected either limited preplanning or planning that focused on leaving minimal forensic evidence behind, and their offense strategies focused on controlling their victims (e.g. with weapons or with minimal force), whereas those who offended against
children were more likely to engage in pre-planning, controlling the environment, and ensuring co-operation from their victims before the crime (Beauregard et al., 2012).

Research on decision-making and sexual coercion found correlations between perceived costs and benefits of sexual coercion and the likelihood of acting coercively. Loewenstein and colleagues (1997) asked heterosexual males how they would act on a hypothetical date and their perceptions of the certainty and severity of several costs and benefits of acting coercively. There was a positive correlation between how fun they thought having sex would be and the likelihood they would act coercively, as well as a negative correlation between possible feelings of guilt and the likelihood of acting coercively (Loewenstein et al., 1997).

**Multifactorial explanations.** Given the complexity involved in the use of sexual coercion, researchers have argued that it is most beneficial to combine existing theories and to evaluate individual factors in the context of other predictors. For example, the confluence model of sexual aggression poses that the majority of predictors of sexual aggression inform two categories, hostile masculinity and unrestricted sociosexuality (Malamuth, Heavey, & Linz, 1993; Malamuth, Linz, Heavey, Barnes, & Acker, 1995).

**Confluence model of sexual aggression.** The confluence model of sexual aggression attempts to explain the overlap between predictors of sexual coercion in offending and non-offending populations. Malamuth and colleagues (1993; 1995) proposed that most predictors of sexual coercion could be explained by hostile masculinity and unrestricted sociosexuality. Malamuth and colleagues (1993; 1995) theorized that hostile masculinity leads to the use of sexual coercion and sexual violence as a form of male power. The confluence model conceptualizes hostile masculinity as including hostile and controlling behaviour that relate to other forms of aggression towards women and lead to a reduction in inhibitions that prevent the
use of sexual coercion (Malamuth et al., 1993; Malamuth et al., 1995). According to Malamuth and colleagues (1993; 1995), unrestricted sociosexuality, or impersonal sex, includes increased motivation for sex. The confluence model suggests that sexual coercion and sexual aggression occur as an interaction between high levels of impersonal sex and hostile controlling characteristics. More specifically, that individuals with high levels of hostile masculinity and impersonal sex would be particularly at-risk to use sexual coercion (Malamuth et al., 1993; Malamuth et al., 1995). There is considerable research that supports the confluence model in different populations (Abbey, Parkhill, BeShears, Clinton-Sherrod, Zawacki, 2006; Hall, Teten, DeGarmo, Sue, & Stephens, 2005; Martín, Vergeles, Acevedo, Sánchez, & Visa, 2005). More recently, researchers have begun to expand the confluence model and look beyond these two clusters of variables. Given that sexual coercion occurs outside of heterosexual males using coercion with heterosexual females, looking beyond these two clusters has been important in better understanding sexual coercion.

**Multifactorial narcissistic explanations.** The personality characteristic of narcissism has been widely studied in combination with other personality and situational factors including sociosexuality and agreeableness (Mouilso & Calhoun, 2012a; Mouilso & Calhoun, 2012b). One theory that has received particular attention is the narcissistic reactance theory of sexual coercion (Baumeister et al., 2002). Baumeister and colleagues (2002) suggested that narcissism moderates the link between reactance theory and sexual coercion. More specifically, that those high in narcissism are more likely to react to sexual refusals by experiencing a perceived reduction in sexual options and attempt to reclaim control by forcing sexual activity (Baumeister et al., 2002).

**Multifactorial cognitive explanations.** In addition to the confluence model of sexual coercion, there is research that combines personality, situational, and cognitive variables to
explain the use of coercion. For example, many rational-choice theorists posit that behaviour
occurs as a result of distal individual differences in decision-making and more proximal factors
such as environmental cues and state dependent decision-making (van Gelder & de Vries, 2014;
Nagin & Paternoster, 1994).

*Alcohol and cognitive evaluations.* Researchers have suggested that specific states may
impact decision-making and subsequently the use of sexual coercion. Several studies have
examined the effects of alcohol on the use of sexual coercion through changes in cognitive
perceptions and expectancies, attitudes towards women and impersonal sex, and mindfulness
(Zawacki, Abbey, Buck, McAuslan, Clinton-Sherrod, 2003; Testa, 2002; Abbey et al., 2001;
Abbey, Zawacki, & Buck, 2005; Abbey et al., 2004; Abbey, Wegner, Woerner, Pegram, &
Pierce, 2014; Gallagher, Hudepohl, & Parrott, 2010; Abbey, 2011; Bartolucci, Zeichner, &
Miller, 2009). More specifically, studies have evaluated how alcohol affects individuals’ ability
to interpret consent cues, leading people to falsely presume sexual interest, and how they believe
alcohol affects their behaviour (Abbey et al., 2005; Abbey, McAuslan, & Ross, 1998; Bartolucci
et al., 2009).

Research has suggested the effects of alcohol on the use of sexual coercion are due to the
cognitive impairments involved in alcohol intoxication and pre-existing expectancy biases
regarding alcohol (see Abbey et al., 2001; Abbey et al., 2004; Abbey et al., 2014 for review).
When testing the theory that alcohol can affect cognitive processes and the use of sexual
coercion through perception and expectancy biases, Abbey and colleagues (2005) found males
who consumed alcohol perceived female confederates as more “sexual” compared to those who
received a placebo, and those who received nothing. In addition, those who consumed alcohol
interpreted a higher ratio of positive social cues compared to negative social cues (Abbey et al.,
2205). This study supported the theory that alcohol influences a positivity bias, leading individuals to believe potential partners are more interested in sexual activity. Bartolucci and colleagues (2009), however, conducted a similar study and only found an effect of alcohol on positive cue biases for female participants, but not male participants, shedding some doubt on the universality of this theory and the potential moderating effect of individual differences.

In general, alcohol is thought to disrupt attention and executive functioning skills that affect decision-making (Steele & Josephs, 1990). Research has also suggested that there is an interaction between alcohol and attention in the use of general aggression (Gallagher & Parrott, 2011; Giancola, Duke, & Ritz, 2011). With respect to alcohol and sexual coercion, both experimental studies and studies that evaluate historical recollections of sexual coercion suggest that alcohol affects the use of sexual coercion differently for different individuals.

Variations in impulsivity, higher alcohol expectancy beliefs, hostility, and mindfulness have been identified as moderators in the effect of alcohol on sexual coercion (Zawacki et al., 2003; Gallagher et al., 2010; Abbey, Parkhill, Jacques-Tiura, & Saenz, 2009). For example, Gallagher and colleagues (2010) found that heavy alcohol consumption did not predict reported sexual coercion for those with higher levels of mindfulness (i.e., a nonjudgmental awareness of the present moment), but did predict more sexual coercion for those with lower levels of mindfulness. The researchers suggested that mindfulness promotes greater cognitive flexibility and self-awareness, essentially interrupting the executive functioning deficits that occur with alcohol consumption (Gallagher et al., 2010).

In addition, Abbey and colleagues (2009) found an interaction between alcohol consumption, hostility towards women, and misperceptions of consent cues when predicting perceived justification for the use of coercion in obtaining unprotected sex. Of males who
consumed alcohol, those with higher hostility towards women and those with higher levels of historically misinterpreting women’s consent cues felt more justified in hypothetically using coercion to obtain unprotected sex (Abbey et al., 2009). These results support the idea that individual cognitive and attitudinal factors moderate the relationship between alcohol and sexual coercion. The bulk of evidence suggests that alcohol likely impairs decision-making, leading to sexual coercion, but the pathway is multi-factorial including moderating effects of several individual traits.

**Sexual arousal and decision-making.** In addition to research on alcohol and cognition, previous research has focused on how sexual arousal may impact individuals’ decision-making processes and the use of sexual coercion (Bouffard, 2002; Bouffard & Miller, 2014; Loewenstein et al., 1997). More specifically, rational choice models have focused on how sexual arousal affects individuals’ cost/benefit analysis of coercion and their perceptions of their partner’s sexual interest (Bouffard, 2002; Bouffard & Miller, 2014; Loewenstein et al., 1997).

Loewenstein and colleagues (1997) asked heterosexual male undergraduate students to read and respond to two hypothetical scenarios. The first scenario required them to decide how coercively they would act on a date and the second scenario required them to decide whether they would drink and drive. Participants were also asked to indicate the certainty and severity of possible costs to their hypothetical actions and to estimate possible gains (Loewenstein et al., 1997). Participants were assigned to one of three conditions: a sexually neutral condition, when participants viewed photographs of fully clothed women; an immediate arousal condition when participants viewed photographs of fully nude women just prior to and while reading the scenarios; and a prior arousal condition where participants viewed photographs of fully nude women one day prior to reading the scenarios. Loewenstein and colleagues (1997) found that
male participants’ hypothetical use of sexual coercion was predicted by both self-reported sexual arousal and an underreporting of the likelihood of potential negative consequences. Compared to the neutral and prior arousal conditions, participants in the immediate arousal condition predicted themselves as significantly more likely to coax a female out of her clothes on date (Loewenstein et al., 1997). There were also significant positive correlations between self-reported arousal and both reported likelihood of coaxing their date out of their clothes and forcing sex on their date (Loewenstein et al., 1997). Participants in the immediate arousal condition also estimated that having sex in the scenario would be significantly more fun compared to those in the other two conditions. Although there was a negative correlation between perceived costs to acting coercively across all conditions, counter to their hypothesis, there was a stronger negative correlation in the immediate arousal condition. More specifically, those who were exposed to sexual stimuli were more sensitive to costs than those in the no arousal or prior arousal conditions (Loewenstein et al., 1997). The authors suggested that emotion and arousal may still be strongly linked, but in this case heightens all possible consequences (Loewenstein et al., 1997).

Bouffard (2002) continued this research regarding sexual arousal, decision-making, and sexual coercion. His procedure was similar to Loewenstein and colleagues (1997), but he included an audio-visual arousal condition where participants watched a ten-minute video of consensual heterosexual activity. In addition, he asked participants to generate their own costs and benefits to acting coercively and rate the probability, salience, and severity of each cost or benefit. While there were no direct effects of the experimental conditions on the use of coercion or cost/benefit analysis, Bouffard (2002) reported an indirect effect of self-reported sexual arousal on sexual coercion through a biased expectancy of positive consequences (e.g., sexual
pleasure, enjoyment).

More recently, Bouffard and Miller (2014) focused on another aspect of decision-making, biased perceptions of sexual interest. They asked undergraduate males to either watch a six-minute video depicting heterosexual consensual sexual activity or a six-minute criminal justice lecture prior to reading a hypothetical dating scenario. Bouffard and Miller (2014) asked participants about their perceptions of the female in the dating story, (i.e., how much pleasure she was experiencing and how willing she was to engage in sex) and how they would act in the scenario. Similar to previous studies, the findings were weak across experimental conditions, but they did find significant regression coefficients between self-reported sexual arousal and sexual coercion and misperception of partners. Results suggested both a significant direct effect of self-reported sexual arousal and the use of sexual coercion, and an indirect effect of self-reported sexual arousal on coercion through misperception of partner’s sexual intent (Bouffard & Miller, 2014). More specifically, as males reported themselves feeling more aroused, the more pleasure and willingness they believed the female to experience, and the more they would predict themselves acting coercively. The authors suggested this is consistent with rational-choice models and provides some evidence that sexual arousal impacts decision-making involved in the use of sexual coercion (Bouffard & Miller, 2014).

In addition to influencing perceptions of sexual partners and the perception of the consequences of using sexual coercion, research has demonstrated that sexual arousal impacts other aspects of decision-making, such as working memory (Spokes et al., 2014). Working memory refers to the ability to manipulate and organize information held in short-term memory and can be important for things like prioritizing information and understanding complex situations (Baddeley, 1992). Spokes and colleagues (2014) conducted a study regarding the
relationship between sexual arousal in response to photos depicting consensual and non-consensual sexual activity, working memory, and responses to a date-rape scenario. Male participants were asked to view the sexually explicit photos (i.e., consensual and non-consensual) and listen to a scenario that progressed from a dinner date to rape. Following the scenario, participants were asked at what point would a typical male stop the interaction, with later stop times indicating higher levels of sexual coercion. Participants also completed a working memory task. The researchers used skin conductance as a measure of sexual arousal and found that individuals who had higher levels of arousal to the non-consensual photos indicated later stop times, or more coercion (Spokes et al., 2014). The results also suggested that working memory moderated this effect. More specifically, for males with low and moderate scores on a working memory task, sexual arousal to non-consensual images predicted a later stop time, or more coercion (Spokes et al., 2014). For individuals with high working memory scores, sexual arousal did not predict higher levels of sexual aggression. While this particular study did not include a control condition of no arousal, nor did they use self-reported or direct and specific measures of genital arousal, it contributes to a body of research that suggests the impact of the situational state of sexual arousal may be cognitive in nature.

Sexual arousal and gaining access to sexual activity can be considered a very strong motivational force that has had implications for individual behaviour across evolution, with sexual success being essential to reproduction and the survival of genes. As a result, becoming sexually aroused can be viewed as a lower-order motivational state, similar to hunger. This is supported by research findings that with increased sexual arousal, there is an increase in motivation to have sex (Goldey & van Anders, 2012; Santos-Iglesias, Sierra, & Vallejo-Medina, 2013). There is a breadth of research that focuses on motivation and its impact on cognition and
decision-making that can be applied to sexual coercion. For example, it has been theorized that general motivation impacts attention and memory, which are important in assisting goal achievement. Kaplan, Van Damme, and Levine (2012) state, “when motivational intensity is high, it is functional to attend to and remember information that is relevant to the active goal at the expense of less relevant information” (p. 5). This is consistent with previous research that has found that pre-goal state motivation, or motivation that occurs prior to achieving a goal, narrows attention and memory towards goal-congruent information (Forestell, Lau, Gyurovski, Dickter, & Haque, 2012; Förster, Liberman, & Higgins, 2005). For example, when in a state of high motivation, such as hunger, attention is narrowed to goal-congruent information, such as high caloric foods, compared to low caloric foods (Forestell et al., 2012). Little is known, however, about the effect of sexual arousal as a motivational state on attentional scope and sexual decision-making.

When it comes to sexual stimuli and cognition, there is research suggesting that participants perform differently on attentional tasks such as detection tasks (Most, Smith, Cooter, Levy, & Zald, 2007; Prause, Janssen, Hetrick, 2008), working memory tasks (Laier, Schulte, & Brand, 2013), and dichotomous listening tasks (Alexander & Sherwin, 1991) when sexually aroused compared to a neutral state. In addition, higher sexual excitation has been linked to poorer performance on inhibition tasks (Macapagal, Janssen, Fridberg, Finn, & Heiman, 2011). Laier and colleagues (2013) found that male participants performed worse on a working memory task after viewing sexually explicit stimuli compared to viewing other affective stimuli. In addition, sexual arousal ratings directly predicted poorer working memory task performance when male participants reported a higher desire to masturbate (Laier et al., 2013). Prause and
colleagues (2008) found that both male and female participants who reported higher levels of stable sexual arousability were slower on an attention task that incorporated sexual stimuli.

In another study of sexual arousal and attention, Alexander and Sherwin (1991) found that males who report historically higher levels of arousal to sexually explicit imagery showed greater selective attention to sexual stimuli. Conversely, Alexander and Sherwin (1991) found that men who viewed erotic stimuli prior to a dichotomous listening task were less distracted by sexual stimuli as compared to men who viewed neutral stimuli prior to the task. Although higher self-reported sexual arousal improved performance, the authors concluded that having a lower threshold for sexual arousal (i.e., reporting becoming more sexually aroused with less stimulation) was associated with a biased response to sexual stimuli (Alexander & Sherwin, 1991). Despite some mixed results from research regarding the direction of the impact of sexual arousal on attention, research from several areas suggest that higher sexual motivation, in the form of sexual arousal and desire, impacts cognition and attention.

There is little research, however, evaluating the impact of sexual motivation on attention to goal-congruent stimuli, such as consent versus non-consent cues. In addition, research has not addressed how motivationally biased attention affects the use of sexual coercion in both men and women. Research that has focused on sexual arousal and attention biases has been somewhat mixed and has not included a physiological indicator of arousal. Given that motivation biases our attention to goal-congruent information (Forestell et al., 2012), it is possible that, when sexually aroused, attention narrows to goal-congruent cues that a partner is consenting as opposed to goal-incongruent cues that a partner is not consenting. If individuals are more likely to attend to consent cues, they may be more likely to misperceive a partner’s interest. Given the link between sexual arousal and misperceived interest (Bouffard & Miller, 2014) and the relationship between
coercive behaviour and misperceived interest (Bouffard & Miller, 2014; Farris, Treat, Viken, McFall, 2008), targeting biased attention to consent cues and more realistic perceptions of partner interest may be relevant to prevention research.

**Current Research**

The current research proposes to expand the literature on multifactorial cognitive explanations of sexual coercion using physiological and subjective measures of sexual arousal, an attention task, cognitive evaluations, and a personality measure. Unlike previous studies, sexual arousal will be measured both subjectively, through self-report, and physiologically, using thermography. Thermography can be used to remotely measure surface temperature of the genital area, which is considered to be a direct indicator of genital blood flow and physiological sexual arousal (Kukkonen, Binik, Amsel, & Carrier, 2007; Kukkonen, Binik, Amsel, & Carrier, 2010). Thermography has been shown to be a valid measure of genital response for both cis-gendered males and females with similar concordance rates for males and females (Kukkonen et al., 2007). Despite prevalence studies indicating that females use sexual coercion, women are often overlooked in studies of sexual arousal and coercion and therefore less is known about the factors that influence female sexual coercion. As thermography can be used with both male and female participants, the current study evaluated both female and male participants’ sexual arousal, attentional bias to consent cues, cognitive evaluations, personality traits, and use of sexual coercion. Given that less is known about the pathways of female sexual coercion compared to males, the multifactorial explanations of sexual coercion were evaluated separately for males and females. The current research attempted to evaluate the effects of increased sexual arousal on sexual coercion through biased attention to consent cues, biased evaluations of partner interest, conditional on the personality trait sexual narcissism. As previous research has not
found strong experimental differences, but has found significant non-experimental predictive value of self-reported arousal and perceptions of partner interest on sexual coercion (Bouffard, 2002; Bouffard & Miller, 2014) and given the increased power required to detect between group differences, our hypotheses are largely based on analyses of a conditional process model within the sexual arousal condition and include:

H1) Increased physiological and subjective sexual arousal will significantly predict the use of hypothetical sexual coercion.

H2) Increased biased attention to consent cues, increased perception of partner interest, and higher levels of sexual narcissism will significantly predict hypothetical sexual coercion.

H3) There will be indirect effects of physiological and subjective arousal on sexual coercion through increased levels of biased attention for consent cues and biased perceptions of partner interest.

H4) The direct and indirect relationships between physiological and subjective sexual arousal, biased attention, and perception of partner interest on sexual coercion will be conditional based on levels of sexual narcissism, with the relationship being stronger at higher levels of sexual narcissism.

Given that there are few previous studies that compared males and females on the current study variables, the gender differences in the model are largely exploratory, but previous research would suggest the following hypotheses:

H5) Males will report higher levels of historical use of sexual coercion and current hypothetical sexual coercion compared to females.

H6) Females will report higher levels of historical experiences of being sexually coerced compared to males.
Given our aim to better understand females’ use of sexual coercion and the current use of a traditionally male explanation of sexual coercion, we will also include largely an exploratory question of the differences in the model as a function of gender.

**Methods**

**Participants**

One-hundred forty-two participants were recruited from the University of Guelph undergraduate research pool and from the broader Guelph community in exchange for course credit or monetary compensation. Nineteen participants were excluded prior to participation based upon telephone screening. Participants were excluded prior to participation based on any one or more of the following criteria: absence of experience with sexual activity (one participant), never having seen pornography (two participants), a history of sexual arousal difficulties or sexual dysfunction of any kind (two participants), any medication use that interfered with sexual arousal (thirteen participants), and two female participants were excluded due to irregularities in their menstrual cycle that interfered with scheduling. No participants were excluded due to additional criteria of being exclusively attracted to members of the same-sex. Subsequent to screening, 123 (58 cisgender males, 65 cisgender females) people aged 18-28 ($M = 19.07$ years, $SD = 1.62$) participated in the current study. Four participants (two male and two female) withdrew from the study after attending the first laboratory visit. Two participants (one male and one female) were excluded from the full analyses because a technical error resulted in them viewing one of the experimental videos twice and not viewing another one, resulting in a final sample size of 117 participants. The appropriateness of this sample size was determined using Fritz and MacKinnon (2007), who suggested sample size of 53 to detect an $\alpha$ pathway (i.e., from predictor to mediator) of 0.39 and a $\beta$ pathway (i.e., from mediator to the outcome
variable) of 0.59 and a sample size of 54 to detect an $\alpha$ pathway of 0.59 and a $\beta$ pathway of 0.39 when using bias-corrected bootstrapping. In addition, the current sample is reflective of typical sample sizes in sexual psychophysiology research.

Participants included in the study were predominately born in North America (85%), the remainder were born in Asia (5%), Latin/South America (3%), Africa (3%), Europe (3%), and the Middle East (1%). The mean years of schooling was 13.6 ($SD=0.97$). Fifty percent of participants were single, 45% had one regular partner, 3% had more than one regular dating partner, and 2% were married or cohabitating with a partner. Ninety-seven percent of participants self-identified as heterosexual or straight, with one participant self-identifying as predominately heterosexual, bicurious, and bisexual respectively. Eighty-two percent of participants were exclusively attracted to members of the opposite sex, with the remainder reporting being predominately attracted to members of the opposite sex. All participants had previously viewed pornography and the range of viewing included a few times per year to viewing pornography daily. The majority of the male sample viewed pornography 2-6 times per week (51.7%). The frequency of viewing pornography for female participants was more evenly distributed, but over one third (35.4%) viewed pornography a few times per month.

**Design and Procedure**

The current research was reviewed and approved by the University of Guelph Research Ethics Board. Participants were informed that the purpose of the study was to evaluate how sexual arousal impacted attention, sexual decision-making, and sexual behaviour. Participants were not informed that the specific behaviours of interest included the use of sexual coercion. We obtained written informed consent from each participant and participants were provided with study information and the full consent form prior to participating. All participants were screened
via telephone to determine eligibility and comfort with the procedure. In order to avoid fatigue, participants completed two separate 1.5 hour laboratory visits (see figure 1). During the first laboratory visit, participants’ sexual arousal and their attention to consent and non-consent cues were evaluated using audiovisual stimuli, thermography, and a dot-probe task. During the second laboratory visit, participants’ sexual arousal, perception of partner interest, and hypothetical sexual coercion were evaluated using audiovisual stimuli, thermography, and hypothetical dating scenarios. Subsequently, previous experiences of sexual coercion and sexual narcissism were evaluated in the second laboratory visit using paper-and-pencil questionnaires. The methodological approach was the same for both males and females. Laboratory visits for female participants who were not using hormonal birth control were booked within the same phase of the menstrual cycle (i.e., luteal phase, approximately day 20 to day 27) in order to control for hormonal effects on sexual arousal. The mean length of time between study visits was 3.35 days for males and 2.78 days for females. The range of days between visits between 1 and 14 days for males and the range of days between visits for females was between 1 and 20 days.

During the first lab visit, participants were fully oriented to the procedure and laboratory equipment, and basic demographic and health information was obtained. In order to get an accurate genital temperature, participants were asked to fully undress from the waist down during the procedure. Participants were alone while undressed and communicated with the female researcher via intercom. They were asked to sit, slightly reclined, on an examining table with their legs apart. All participants first viewed a 15-minute neutral temperature stabilization video. Following this first film, participants then viewed three 10-minute experimental films (i.e., neutral, control, and sexually explicit) in a randomized order. Genital temperature and
subjective sexual arousal were measured continuously during the films. Following each experimental film, participants completed one block of 72 trials of a dot-probe task.

The second laboratory visit consisted of a similar procedure to the first, however, instead of the dot-probe task, after viewing each video, participants read a hypothetical date scenario and answered questions regarding their perception of partner interest and hypothetical use of sexual coercion. The order of the videos and the order of the hypothetical date scenarios were independently randomized. Participants completed additional paper-and-pencil questionnaires subsequent to watching all three experimental videos and reading and responding to all three hypothetical date scenarios. All participants were debriefed and provided additional resources regarding local counselling and psychology offices if they wished to discuss their experiences further.

Equipment

A MCL320 series Thermal Imager was used with LumaSpec RT Viewer software (LumaSense Technologies, Santa Clara, California, USA) to monitor genital temperature. The sampling interval was set at one frame per second. The sensitivity of the camera was 0.06°C with a range of -40 to 120°C. The camera was angled slightly and was marginally adjusted for individual participants in order to allow for more detailed and clear images of the genital region.

All stimuli were presented on a 24inch computer monitor. Stimuli and participant response collection was controlled by E-Prime 2.0 software (Psychology Software Tools, Pittsburgh, PA, USA). A standard intercom was used for communication between the participant and female investigator, who was in the adjoining room. Participants used a standard handheld number keypad to respond to all questions and stimuli.

Tasks and Stimuli
**Dot-probe task.** Similar to previous research on biased attention, the current study used a dot-probe task (MacLeod, Mathews, & Tata, 1986) to assess participants’ level of biased attention to consent vs. non-consent cues. This procedure has been used widely to measure biased attention in different contexts including attention to threatening stimuli, (Koster, Crombez, Verschuere, & De Houwer, 2004; Salemink, van den Hout, & Kindt, 2007; Lipp & Derakshan, 2005), attention to addictive stimuli (i.e., attention to nicotine cues in smokers and non-smokers; Ehrman et al., 2002), and attention to high calorie versus low calorie foods (Tapper, Pothos, & Lawrence, 2010). Individual trials consisted of a fixation period, presentation of a word pair, and presentation of a probe (i.e., a dot), which was followed by participants’ response. Participants first viewed a fixation cross (“+”) for 500ms, followed by a pair of words presented side by side for 500ms (e.g., “actor” and “echo”). Following the word pair, a 1cm target dot, or probe, replaced one of the two words until the participant responds to indicate which side of the screen the probe appeared. Participants responded by pressing the “4” key if the probe was on the left and the “6” key if the probe was on the right. The probe either replaced a consent word (e.g., “yes”), a non-consent word (e.g., “no”), or a neutral word (“echo”). There were 36 word pairs (i.e., 12 consent-neutral, 12 non-consent-neutral, and 12 neutral-neutral). Similar to other studies, participants completed 72 trials per block (each word pair was repeated twice over the block) and error trials were dropped from analysis (Tapper et al., 2010; Koster, Raedt, Leyman, & De Lissnyder, 2010; Koster et al., 2004; Rothermund, Gast, Wentura, 2011). Outlier trials were identified as trials when reaction times were 3 SDs slower or faster than an individual participant’s average reaction time across conditions. As recommended by Price and colleagues (2015), in order to improve internal consistency of the dot-probe task, outliers were winsorized. A repeated measures ANOVA indicated there was no main effect of probe location,
\( F(1,122)=1.82, p=0.18 \) on reaction time and no significant interaction between probe location, video condition, and word type, \( F(4, 488)=1.03, p=0.39 \) on reaction time. Therefore, reaction times were averaged between trials when the probe replaced a target word on the left and trials when it replaced a target word on the right.

**Consent and non-consent stimuli.** Stimuli for the dot-probe task included 36 target words (neutral, non-consent, and consent) paired with 36 neutral words. Words were chosen over visual stimuli in order to more clearly convey consent versus non-consent without potentially introducing further sexual arousal from sexual images. Word pairs were matched on number of letters, number of syllables, and on frequency within English language (Kučera & Francis, 1967). Consent and non-consent words were identified using synonyms for yes (e.g., “approve”) and no (e.g., “deny”). To confirm participants conceptualized the words as consent, non-consent, or neutral, participants were asked to categorize all target words at the end of the first experimental session. Words that were categorized with less than chance accuracy were dropped from analysis (one consent word) as were words that were related to food in order to avoid hunger effects in the motivational control condition (one neutral word; see Appendix A for full list of words).

**Audiovisual stimuli.** Audiovisual film stimuli consisted of one 15-minute neutral temperature stabilization video and six 10-minute experimental videos (i.e., two neutral, two motivational control, two sexually explicit). The first neutral video was used to allow participants’ skin temperature to adjust and stabilize to the temperature of the room and to allow time to become oriented to the procedure. The control video was used in order to control for other non-motivational states, such as hunger. The neutral stabilization video and both experimental neutral videos depicted scenery from a Nordic country presented with instrumental music. The two control videos depicted compilations of recipe videos. Recipes included a mix of
savory and sweet foods and were presented with instrumental music. The two sexually explicit videos each consisted of consenting adults engaged in a variety of sexual activities including manual and oral stimulation as well as penile-vaginal intercourse. Video length and the use of a baseline video was based on prior research evaluating physiological arousal and research that suggests that longer videos elicit more reliable measures of physiological sexual arousal, particularly for women (Kukkonen et al., 2007; Chivers et al., 2010). In order to evaluate the effectiveness of the audiovisual stimuli, discrete, Likert-type questions measuring subjective sexual arousal, motivation to engage in sexual activity, and motivation to eat were posed to participants after each experimental film. The single-item self-reported sexual arousal was measured on 0 (not at all aroused) to 9 (very aroused/arousal associated with an orgasm) scale. Motivation to engage in sexual activity and motivation to eat were measured on a 0 (not at all motivated) to 9 (completely motivated) scale.

**Measures**

**Physiological sexual arousal.** Physiological sexual arousal was measured using thermography, a direct measure of genital response. Thermography can be used to remotely measure temperature and does not require researchers to place equipment on participants. Similar to previous research on physiological arousal using thermography, a small region of interest (ROI) located on the labia for women and on the shaft of the penis for men was used to monitor genital temperature (Kukkonen et al., 2007; Kukkonen et al., 2010; Hodgson, Kukkonen, Binik, & Carrier, 2016). A non-genital control ROI on the upper thigh and on the leg-stirrup served to determine the specificity of temperature change during sexual arousal. The same ROIs were used for all participants. Frames were averaged into ten one-minute intervals, or bins. Similar to other research using physiological sexual arousal, change scores were calculated to capture individual
differences in changes in sexual arousal over time (Chivers, Roy, Grimbos, Cantor, & Seto, 2014; Chivers, Seto, Lalumière, Laan, & Grimbos, 2010; Hodgson, Kukkonen, Binik, & Carrier, 2016). However, as no consensus exists on how best to transform or capture change in genital arousal over time (Chivers et al., 2010), the current study calculated change in sexual arousal by subtracting the first bin from the peak bin between minutes two through ten. The first interval was used as the baseline in order to conservatively account for order effects, the peak interval was used to account for individual differences in peak time of arousal.

**Continual subjective arousal.** In order to continuously record subjective sexual arousal during each film, participants used a handheld response box with two clicker buttons. Participants noted changes in their sexual arousal during the presentation of the videos by clicking on the left button for increases and the right button for decreases. Arousal was measured using a Likert-type scale ranging from 0 (not at all aroused) to 9 (very aroused/arousal associated with an orgasm). Changes in arousal were announced to participants using an automated voice projected through a speaker located next to the examination table. Each click on the response box was followed by an announcement of the number that participants indicated. An auditory reminder occurred if there was inactivity (i.e., no clicking) after a 60 second interval. Visual cues of a plus and minus sign were placed on the response box to ensure the device was relatively easy to use. Although an audio indicator of participants’ subjective arousal may have impacted their arousal (either increasing or decreasing), previous studies have argued that using non-visual stimuli is less likely to distract participants from the videos compared to continuous measures that rely on participants viewing both their continuous scales and the audiovisual stimuli (Kukkonen et al., 2007; Rellini, McCall, Randall, & Meston, 2005). There is also no current research to suggest that audio reminders impact self-reported sexual arousal any more or less
than the process of having one’s genital responses monitored. In addition, our ability to remind participants of their level of arousal after 60s of inactivity encouraged participants to continue using the measure throughout testing. Similar to the physiological sexual arousal, responses were averaged into ten intervals of one minute each. Change in sexual arousal was calculated by subtracting the first minute interval from the peak interval from minutes two through ten.

**Biased attention to consent cues.** Similar to other studies on attention, biased attention to consent cues was measured with a dot-probe task and by subtracting average reaction time to consent trials from average reaction time to non-consent trials (Price et al., 2015; Tapper et al., 2010) to indicate an “attentional bias.” Higher scores indicate more biased attention to consent cues versus non-consent cues. Previous research has interpreted faster reaction times as a result of faster “orientation” towards particular stimuli or delayed “disengagement” from stimuli (Tapper et al., 2010). More specifically, participants who either more quickly “orient” to consent cues or take longer to “disengage” from consent cues and return their gaze to centre would respond faster to trials when a probe replaced a consent cue rather than a non-consent cue. This would result in a larger difference in reaction times to consent trials versus non-consent trials.

**Hypothetical sexual coercion.** Hypothetical sexual coercion was assessed using similar procedures to previous studies on sexual arousal and coercion (Bouffard, 2002; Bouffard & Miller, 2014; Loewenstein et al., 1997). The original scenario from Loewenstein and colleagues (1997) was adapted to remove the consumption of alcohol and to reflect more current language. Additional scenarios were written with similar scripts, but with different names and slight differences in location. The adaptation of the scenarios was balanced between keeping original language to replicate findings and to appear realistic to participants. Similar scenarios have been used in previous research evaluating sexual arousal and sexual coercion (Loewenstein et al.,
Participants read the short hypothetical date scenarios which were all written in the second person (e.g., “you have just returned to Susan’s apartment”) and were asked to rate the likelihood they would act in several ways. The scenarios were approximately 135 words (approximately less than one minute to read) and described a sexual initiation and refusal. The scenarios presented to male and female participants were identical except for the name, the pronouns, and the genitalia of the person they were interacting with. Participants responded to the five sexual coercion questions as taken from Bouffard (2002) and Bouffard and Miller (2014; e.g., “I would say something I did not mean to get him[her] to have sex”). Two additional questions were added to include verbal coercion and seductive coercion (i.e., “I would take off my own clothes and try and seduce my partner”). An additional prosocial item (i.e., I would leave their apartment) was excluded from analyses. The item was excluded because it was not from the previously used scaled, it appeared to evaluate a different concept, and it reduced reliability of the overall measure. Participants responded using a 10-point Likert-type scale ranging from 0 (I would never) to 9 (I would absolutely) engage in that behaviour (see Appendix B for all of the date scenarios and corresponding sexual coercion questions). Cronbach’s alpha for the sexual coercion questions across conditions was 0.90 for males and 0.89 for females.

**Perception of partner interest.** Perception of partner interest was assessed using an adapted procedure from Bouffard and Miller (2014). Participants were asked questions about an individual in a hypothetical date scenario including how willing their hypothetical partner was to have sex and how much pleasure they were experiencing. Participants responded using a 10-point Likert-type scale ranging from 0 (not at all/no pleasure) to 9 (very willing/a lot of pleasure). This procedure has been successfully used by Bouffard and Miller (2014) to predict
coercive behaviour. An additional two questions were added to evaluate biased perceptions of token resistance including how much they thought their partner wanted them to continue pursuing them and how likely it was that their partner was suggesting they were not interested when they really were. Responses were evaluated on the same 0 to 9 scale. Cronbach’s alpha for perception of partner interest across conditions was 0.88 for males and 0.91 for females.

**Sexual narcissism.** Sexual narcissism was evaluated using the Sexual Narcissism Scale (SNS; Widman & McNulty, 2010) which is comprised of 20 items that make up four subscales, sexual exploitation (e.g., “If I ruled the world for one day, I would have sex with anyone I choose”), sexual entitlement (e.g., “I am entitled to sex on a regular basis”), low sexual empathy (e.g., “The feelings of my sexual partners don’t usually concern me.”), and sexual skill (e.g., “My sexual partners think I am fantastic in bed”). Participants responded on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Two items were reverse scored. Higher scores on each scale indicate higher levels of sexual narcissism. Although the SNS is reported to have good internal consistency (α=0.85; Widman & McNulty, 2010), the Cronbach’s alpha in our male sample was in the unacceptable range (α=0.40). Therefore, items in the SNS were standardized based on item means for males and females to improve internal consistency. Cronbach’s alpha for the standardized SNS full scale was 0.75 for males and 0.77 for females. Cronbach’s alphas for the subscales ranged from poor to acceptable and therefore only the full scale was used in analyses.

**Previous sexual coercion experiences.** Previous experiences with sexual coercion were assessed using the Sexual Experiences Survey Short Form – Perpetration and Victimization scales (SES-SFP, SES-SFV; Koss et al., 2007). The SES-SFP is comprised of seven five-part questions that assess the frequency with which participants use different coercive tactics to
engage in various sexual activities. Participants respond with the frequency of tactics used in the previous 12 months and since age 14 up until 12 months prior. Participants respond on a 0 to 3 or more scale. For example, participants indicated how many times since the age of 14 they have had oral sex with someone or had someone perform oral sex on them without their consent by telling lies, threatening to end the relationship, or continually verbally pressuring them after they said they didn’t want to. Cronbach’s alpha for the SES-SFP was 0.90 for males and 0.89 for females. The SES-SFV is structured the same as the SES-SFP but the questions assess the frequency of experiencing different coercive tactics resulting in various sexual activities. For example, how many times someone has told lies, threatened to end a relationship, or continually pressured them to engage in oral sex. Several items on the male SES-SFV had no variance and were dropped from reliability analyses, resulting in a questionable Cronbach’s alpha for males, $\alpha=0.64$. However, given that this variable was not used in our full analyses, but rather to characterize our sample, it was retained. For females, Cronbach’s alpha for the SES-SFV was 0.90.

Demographic variables. Participants completed a demographic questionnaire that also included items on frequency of pornography use. A Kinsey Scale (Kinsey, Pomeroy, & Martin, 1948) was modified to include a 7-point scale ranging from exclusively attracted to members of the opposite sex to exclusively attracted to members of the same sex. For the purposes of the current study the predominately attracted to one sex, but incidentally attracted to another sex and the predominately attracted to one sex, but more than incidentally attracted to another sex options from the Kinsey Scale (Kinsey et al., 1948) were combined. Attracted to neither sex and an other category were also included.

Data Analysis
Order effects and manipulation check. One-way ANOVAs were used to evaluate the effect of the order of the videos the continual measure of subjective arousal as well as physiological sexual arousal. Similarly, story order effects on the perception of partner interest and sexual coercion scales were evaluated using one-way ANOVAs. Repeated measures ANOVAs were used to evaluate whether the experimental videos elicited appropriate responses. Order effects and manipulation checks were analyzed separately for males and females.

Experimental differences. Repeated-measures ANOVAs were used to evaluate whether the videos elicited differences in the mediator variables and the use of hypothetical sexual coercion. Results were analyzed separately for males and females.

Main analyses. Zero-order correlations were used to examine possible control variables. Porn frequency and age were identified as control variables (see Table 1 for zero-order correlation table). Length of time between visits and previous experiences of sexual coercion were not related to any of our predictor or outcome variables.

To investigate our main hypotheses regarding the direct and indirect effects of sexual arousal on sexual coercion through biased attention to consent cues and perception of partner interest and how these effects may be conditional on sexual narcissism, the Preacher and Hayes method of conditional process analysis was used (Preacher & Hayes, 2008; Hayes 2013; Hayes, 2018). This method allows for the evaluation of the effect of multiple moderators and mediators. Compared to evaluating each mediator as a separate model, conditional process analysis reduces the likelihood of biased coefficients. The bootstrapping method of measuring indirect effects also avoids the normality assumption of traditional mediation approaches (see Preacher & Hayes, 2008; Hayes, 2018 for a comparison of mediation models). Bootstrapping uses a resampling procedure that estimates the effects using confidence intervals. The PROCESS macro (Hayes,
2018) for SPSS was used to evaluate the process effects of sexual arousal on sexual coercion through biased attention to consent cues and perception of partner interest based on the conditional effects of sexual narcissism (Figure 2). The confidence intervals for all analyses were set at 95% using a seeded 10,000 samples. Regression coefficients calculated using the PROCESS macro are reported as unstandardized regression weights as is outlined in Hayes (2018). In order to avoid floor effects, all variables were entered from the sexual arousal condition. Results for the other conditions are shown in Appendix C. Given that less is known about female pathways of sexual coercion, the data was analyzed separately for males and females before including gender as a moderator variable.

**Chapter 2: Multifactorial Explanation of Sexual Coercion in Males**

**Results**

**Previous sexual coercion experiences.** Thirty-six percent of male participants reported at least a single incident of attempting to or completing a coercive sexual act. Sixteen percent of males reported an incident of acting coercively in the previous 12 months, while 29% reported an incident of acting coercively between age 14 and the 12 months prior to participating. Of the males who reported acting coercively, 55% used verbal coercion (i.e., telling lies, threatening to end the relationship, threatening to spread rumours, making false promises, or continuously pressuring), 55% showed displeasure, criticized, or became angry after a refusal, 35% used alcohol or substances to take advantage of someone, 10% threatened physical violence, and 5% physically forced someone to engage in sexual activity.

Fifty-two percent of male participants reported at least a single incident of experiencing sexual coercion. Forty-six percent of male participants reported experiencing more than one incident of sexual coercion since age 14. Twenty-six percent of male participants experienced
coercion in the previous 12 months, while 46% experienced coercion between age 14 and the 12 months prior to participating. Of the males who experienced coercion, 55% experienced verbal coercion (i.e., telling lies, threatening to end the relationship, threatening to spread rumours, making false promises, or continuously pressuring), 48% experienced displeasure, being criticized, or someone becoming angry after their refusal, 65% were taken advantage of when intoxicated, no participants experienced threat of violence, and 7% experienced physical force. Variable means and standard deviations are presented in Table 1.

**Order effects and manipulation check.** There were no significant video order effects on the continual measure of subjective sexual arousal or physiological sexual arousal in the sexually explicit condition in either session for males (table 2). Similarly, there were no story order effects on the sexual coercion scale or perception of partner interest scales (table 3). The effects of the videos in session one and session two had the desired effects, with participants reporting more continual sexual arousal and experiencing greater increases in genital temperature during the sexually explicit videos compared to the other two videos (table 4). Participants also reported more sexual arousal and more motivation to engage in sex after the sexually explicit video and more motivation to eat after the control video (table 4).

**Concordance.** Concordance is defined as the level of agreement between physiological genital measures and subjective reports of sexual arousal (Chivers et al., 2010). Concordance was measured by evaluating the within-subjects correlations between physiological arousal and the continual measure of subjective sexual arousal for each one-minute interval before averaging between subjects. The average within-subjects correlation for males across one-minute intervals for session one was 0.27 and 0.11 for session two. The average within-subjects correlation across sessions was 0.12. The concordance rates are somewhat lower than the average male
concordance rates reported in Chivers and colleagues (2010) meta-analysis, but they are still well within the range of reported concordances from studies on agreement between genital response and self-reported sexual arousal (Chivers et al., 2010).

**Experimental differences.** There were no effects of video on biased attention to consent cues or perception of partner interest (table 5). Similar to previous studies, although there was a significant effect of video on the use of sexual coercion, the effect was small and follow up testing suggested there was only a difference between the sexually explicit video and the control video, but not between the sexually explicit and the neutral video, $F(1.72, 53)=3.58, p=0.04$, $\eta^2=0.06$ (see table 5).

**Preliminary results in the model.** Predictors of our mediator variables were evaluated using Hayes’ (2013; 2018) conditional process analyses. Although these analyses are part of the full model, they were not included in our specific hypotheses, and are therefore discussed separately prior to evaluating our hypotheses. Results are discussed separately for physiological sexual arousal and subjective sexual arousal.

**Physiological sexual arousal.** Firstly, when examining the predictor variable of physiological sexual arousal during the second laboratory visit, sexual arousal during the first laboratory visit was a significant predictor, $\beta=0.51, t(50)=5.33, p<0.001, 95\% \text{ CI } [0.32, 0.70]$.

When examining our first mediator variable, biased attention to consent cues, we examined the individual predictors of physiological sexual arousal at time one and sexual narcissism. We also evaluated whether there was an interaction between sexual arousal and sexual narcissism when predicting biased attention to consent cues. Contrary to our hypotheses, physiological sexual arousal at time one was not a significant predictor of biased attention, $\beta=-1.87, t(48)=-0.23, p=0.82, 95\% \text{ CI } [-17.88, 14.15]$. Similarly, sexual narcissism also did not
predict biased attention to consent cues, $\beta = -0.47$, $t(48) = -0.51$, $p = 0.61$, 95% CI [-2.34, 1.39]. There was also no significant interaction between sexual arousal and sexual narcissism on biased attention to consent cues, $\beta = -0.25$, $t(48) = -0.18$, $p = 0.86$, 95% CI [-2.98, 2.49].

When examining our second mediator variable, perception of partner interest, we examined the individual predictors of physiological sexual arousal during the second laboratory visit, biased attention to consent cues, and sexual narcissism. We also evaluated the impact of any interactions between sexual narcissism and physiological sexual arousal or biased attention to consent cues. There was no significant effect of physiological arousal at time two, $\beta = -0.16$, $t(46) = -0.28$, $p = 0.78$, 95% CI [-1.33, 1.00]. There was also no direct effect of biased attention to consent cues on perception of partner interest, $\beta = 0.005$, $t(46) = 0.40$, $p = 0.69$, 95% CI [-0.02, 0.03]. There was a small, but significant direct effect of sexual narcissism on perception of partner interest, $\beta = 0.09$, $t(46) = 2.07$, $p = 0.04$, 95% CI [0.003, 0.18]. There were no significant interactions between physiological arousal and sexual narcissism, $\beta = 0.03$, $t(46) = 0.46$, $p = 0.65$, 95% CI [-0.11, 0.18], or between biased attention to consent cues and sexual narcissism, $\beta = -0.0003$, $t(46) = -0.15$, $p = 0.88$, 95% CI [-0.004, 0.004] when predicting perception of partner interest.

**Subjective sexual arousal.** Firstly, when examining the predictor variable of subjective sexual arousal during the second laboratory visit, sexual arousal during the first laboratory visit was a significant predictor, $\beta = 0.60$, $t(50) = 4.89$, $p < 0.001$, 95% CI [0.35, 0.84].

When examining the first mediator variable, biased attention to consent cues, we examined the individual predictors of subjective sexual arousal at time one and sexual narcissism. We also examined whether there was an interaction between arousal and narcissism. Contrary to our hypotheses, self-reported sexual arousal at time one did not significantly predict
biased attention to consent cues, $\beta=4.44, t(48)=1.69, p=0.10, 95\% \text{ CI } [-0.84, 9.71]$. Similarly, sexual narcissism did not predict biased attention to consent cues, $\beta=0.30, t(48)=0.22, p=0.83, 95\% \text{ CI } [-2.45, 3.05]$. There was also no significant interaction between self-reported sexual arousal and sexual narcissism on biased attention to consent cues, $\beta=-0.25, t(48)=-0.79, p=0.44, 95\% \text{ CI } [-0.89, 0.39]$.

When examining our second mediator variable, perception of partner interest, we examined the individual predictors of subjective sexual arousal during the second laboratory visit, biased attention to consent cues, and sexual narcissism. We also evaluated the impact of any interactions between sexual narcissism and subjective sexual arousal or biased attention to consent cues. The effect of subjective arousal at time two was not significant, $\beta=-0.16, t(46)=-0.28, p=0.78, 95\% \text{ CI } [-1.33, 1.00]$. There were also no direct effects of sexual narcissism, $\beta=0.10, t(46)=1.07, p=0.29, 95\% \text{ CI } [-0.09, 0.30]$ or biased attention to consent cues on perception of partner interest, $\beta=0.01, t(46)=0.43, p=0.67, 95\% \text{ CI } [-0.02, 0.03]$. Similarly, there were no significant interactions between subjective sexual arousal and sexual narcissism, $\beta=0.001, t(46)=0.05, p=0.96, 95\% \text{ CI } [-0.04, 0.04]$, or between biased attention to consent cues and sexual narcissism when predicting perception of partner interest, $\beta=-0.00, t(46)=-0.02, p=0.98, 95\% \text{ CI } [-0.004, 0.004]$.

**Main analyses.** Our full model was evaluated using Hayes’ (2013; 2018) conditional process analyses. Results are discussed separately with physiological sexual arousal and subjective sexual arousal as predictors.

**Physiological sexual arousal.** The overall conditional process model predicted a significant amount of variance in hypothetical sexual coercion, $R^2=0.68, F(11,42)=8.25, p<0.001$ (see Figure 6). With respect to hypothesis one, neither physiological arousal at time one nor at
time two predicted sexual coercion, $\beta=-0.08$, $t(42)=-0.27$, $p=0.79$, 95% CI [-0.67, 0.52] and $\beta=0.20$, $t(42)=0.53$, $p=0.60$, 95% CI [-0.55, 0.94]. With respect to hypothesis two, the direct effects of biased attention to consent cues and perception of partner interest on hypothetical sexual coercion were significant, $\beta=0.01$, $t(42)=2.80$, $p=0.008$, 95% CI [0.004, 0.02] and $\beta=0.30$, $t(42)=4.25$, $p=0.0001$, 95% CI [0.16, 0.44]. The direct effect of sexual narcissism on sexual coercion was not significant, $\beta=0.05$, $t(42)=1.21$, $p=0.23$, 95% CI [-0.03, 0.14]. With respect to hypothesis three, no indirect effects were significant. Hypothesis four was partially supported, there was a significant interaction between biased attention to consent cues and sexual narcissism on sexual coercion, $\beta=0.002$, $t(42)=2.42$, $p=0.02$, 95% CI [0.003, 0.004]. When examining the interaction, biased attention to consent cues did not predict sexual coercion at the 16th percentile, $\beta=-0.002$, $t(50)=-0.41$, $p=0.69$, 95% CI [-0.01, 0.01]. Biased attention to consent cues did predict sexual coercion at the 50th and 84th percentile of sexual narcissism, $\beta=0.01$, $t(50)=2.65$, $p=0.01$, 95% CI [0.003, 0.02] and $\beta=0.03$, $t(50)=2.86$, $p=0.007$, 95% CI [0.008, 0.05]. However, no other conditional or conditional indirect effects were significant (see figure 6).

**Subjective sexual arousal.** The overall conditional process model predicted a significant amount of variance in hypothetical sexual coercion, $R^2=0.70$, $F(11,42)=8.97$, $p<0.001$ (see Figure 7). With respect to hypothesis one, neither self-reported sexual arousal at time one nor at time two predicted sexual coercion, $\beta=-0.08$, $t(42)=-0.83$, $p=0.41$, 95% CI [-0.27, 0.11] and $\beta=0.14$, $t(42)=1.48$, $p=0.15$, 95% CI [-0.05, 0.33]. With respect to hypothesis two, the direct effects of biased attention to consent cues and perception of partner interest were significant, $\beta=0.02$, $t(42)=3.24$, $p=0.002$, 95% CI [0.007, 0.03] and $\beta=0.30$, $t(42)=4.44$, $p=0.0001$, 95% CI [0.16, 0.44]. The direct effect of sexual narcissism on sexual coercion was not significant,
\( \beta=0.001, t(42)=0.03, p=0.98, 95\% \text{ CI } [-0.10, 0.10] \). With respect to hypothesis three, no indirect effects were significant. Hypothesis four was partially supported, there was a significant interaction between biased attention to consent cues and sexual narcissism on sexual coercion, \( \beta=0.003, t(42)=2.69, p=0.01, 95\% \text{ CI } [0.001, 0.004] \). When examining the interaction, biased attention to consent cues did not predict sexual coercion at the 16\textsuperscript{th} percentile, \( \beta=-0.002, t(50)=-0.39, p=0.70, 95\% \text{ CI } [-0.01, 0.01] \). Biased attention to consent cues did predict sexual coercion at the 50\textsuperscript{th} and 84\textsuperscript{th} percentile of sexual narcissism, \( \beta=0.02, t(50)=3.13, p=0.003, 95\% \text{ CI } [0.01, 0.03] \) and \( \beta=0.04, t(50)=3.19, p=0.003, 95\% \text{ CI } [0.01, 0.06] \). However, no other conditional or conditional indirect effects were significant (see figure 7).

**Discussion**

The current study attempted to evaluate a multifactorial explanation of the use of sexual coercion in opposite-sex attracted cis-gendered males. A conditional process analysis was used to assess the relationship between sexual arousal and sexual coercion through biased attention to consent cues and perception of partner interest by sexual narcissism. Previous research has evaluated some of these relationships. Firstly, previous studies have suggested that self-reported sexual arousal predicts hypothetical sexual coercion (Ariely & Loewenstein, 2006; Bouffard & Miller, 2014; Bouffard, 2002; Loewenstein et al., 1997). In addition, a previous study found that subjective sexual arousal predicts sexual coercion through biased perceptions of partner interest (Bouffard & Miller, 2014). Lastly, research has suggested that sexual narcissism is a predictor of the use of sexual coercion (Widman & McNulty, 2010). The current study hoped to combine this previous research along with research regarding motivation and biased attention (Forestell et al., 2012; Förster, et al., 2005) to better explain the use of sexual coercion.
Hypotheses 1 and 3: Sexual arousal predicts sexual coercion through biased attention to consent cues and perception of partner interest. Neither hypothesis one, nor hypothesis three were supported by the current results. More specifically, neither subjective sexual arousal, nor physiological sexual arousal predicted sexual coercion directly or indirectly through biased attention to consent cues or perceptions of partner interest. Null results do not always suggest evidence of no relationship, but interpreting null results is complex and should only be done with caution and within the context of multiple studies. The lack of support for our mediation model is even more difficult to interpret given only one study has evaluated the effect of sexual arousal on sexual coercion through perception of partner interest (Bouffard & Miller, 2014). Although previous research has suggested that subjective arousal (Bouffard & Miller, 2014; Bouffard, 2002; Loewenstein et al., 1997) predicts sexual coercion, without the perspective of large-scale studies or a meta-analyses, it is unclear whether the current lack of replication of the relationship between sexual arousal and sexual coercion is reflective of methodological differences, underlying variance in the population, or a lack of relationship between the two variables.

Differences in methodological approach is one possible explanation for the current null results. The current study does differ from previous sexual arousal studies in several ways. Firstly, previous studies that evaluated subjective sexual arousal and coercion generally used a between-subjects design and a single-item report of sexual arousal (Bouffard & Miller, 2014; Bouffard, 2002; Loewenstein et al., 1997). The current study used a within-subjects design and a continual measure of subjective sexual arousal. This design is more consistent with studies of sexual arousal (Kukkonen et al., 2007; Rellini et al. 2005; Chivers et al., 2010) and allows for individual differences in arousal and a more complete picture of changes in arousal that occur.
over time. Although this methodology is more consistent with studies of sexual arousal, it is possible that the change in study design from previous studies on sexual arousal and coercion may be related to the lack of replication.

In addition to studies using self-reported sexual arousal, studies examining physiological sexual arousal and sexual coercion are limited to sexual arousal to stimuli depicting non-consensual sexual activity (Spokes et al., 2014). It is possible that the previously established relationship between sexual arousal and sexual coercion was not related to physiological sexual arousal. Thermography, in combination with a continual measure of self-reported sexual arousal, tends to yield consistent and reliable measures of sexual arousal. It is possible that when using more robust measures of sexual arousal, the relationship between males’ sexual arousal and coercion is no longer significant.

Despite using more robust measures of sexual arousal compared to previous studies, there are limitations related to the current measures that may have impacted the lack of significant results. For example, we used a change score for both physiological and subjective sexual arousal as a single predictor. While a single predictor is necessary for conditional process modeling, using one predictor rather than multiple time points of arousal may have reduced the sensitivity of our measure. It is possible that as either physiological or subjective sexual arousal fluctuates there are subtle changes in sexual coercion that we were unable to determine.

In addition to sexual arousal not predicting sexual coercion, sexual arousal did not predict biased attention to consent cues. There are several possible factors that may have influenced these null results. Although there is previous research establishing that motivational states such as hunger impact attention (Frestell et al., 2012; Förster et al., 2005), it is possible that sexual arousal does not have the same motivational impact on attention. Previous research has not
evaluated whether sexual motivation impacts attention for goal-congruent or goal-incongruent information, however there is research suggesting sexual arousal impacts attention for sexual stimuli (Alexander & Sherwin, 1991). There are also some methodological differences between the current study and previous studies on goal-congruent attention. Some previous research has used visual stimuli when measuring the effects of motivation on attention (Forestell et al., 2012). Due to the possible conflating effects of sexual arousal from images, the current study could not use sexual images to evaluate attention. Instead, consent and non-consent words were used in the attentional task. Another study has been able to demonstrate significant effects of goals on attention for language-based stimuli (Förster et al., 2005). Förster and colleagues (2005) compared the advantage of a previous goal on response times to different words. The researchers did not, however, evaluate implicit motivational states such as hunger or sexual arousal, rather they used explicit goals or tasks when evaluating goal-congruent motivation and attention. It is therefore possible that the differences between visual attention and attention for language-based information as well as the differences between implicit versus explicit motivation may have influenced the results in the current study. In addition to a possible effect of using language-based stimuli and an implicit motivational state, it is also possible that the consent and non-consent words were not specific to sexual consent. More specifically, the consent words used in the current study could have represented consent to any activity and therefore an increase in sexual motivation may not have had the same impact on attention to those words.

In addition, although we asked participants to confirm whether our words were “consent,” “non-consent,” or “neutral,” these words have not been validated in a large-scale study and it is unclear whether the current words consistently represent these categories for participants. In addition, although our sample size was appropriate for physiological sexual
arousal studies, the dot-detection task is often used were larger samples and may have required additional power to yield consistent results.

In addition to sexual arousal not predicting coercion or biased attention to consent cues, neither subjective arousal nor physiological sexual arousal predicted perception of partner interest. Similarly, there was no evidence to support a mediation model of sexual arousal on sexual coercion through either mediator variable. Previous research has suggested that subjective sexual arousal predicts perception of partner interest (Bouffard & Miller, 2014). The current study differed from Bouffard and Miller’s (2014) study in our addition of a “token resistance” item, the use of a within-subjects design, and the use of a continual measures of subjective and physiological sexual arousal. It is possible that these methodological differences as discussed above may have influenced our results. It is also possible that with the inclusion of other variables predicting the variance in sexual coercion, that the mediation found in Bouffard and Miller’s (2014) study is no longer significant. Without the perspective of additional studies, it is unclear what the relationship between sexual arousal, biased attention to consent cues, and perception of partner interest is in males.

**Hypotheses 2 and 4: Biased attention to consent cues and perception of partner interest conditionally predict sexual coercion.** The current study evaluated reaction times in a dot-probe task involving consent versus non-consent cues. Based on previous research using dot-probe tasks, faster reaction times to goal-congruent versus goal-incongruent trials can be interpreted as individuals’ attention being biased towards goal-congruent information (MacLeod et al, 1986; Tapper et al., 2010). In the current study, the larger the difference between reaction times to goal-incongruent trials versus goal-congruent trials represented biased attention to consent cues as opposed to non-consent cues. There was a small, but significant direct effect of
biased attention to consent cues on the use of hypothetical sexual coercion, supporting to our second hypothesis. However, given the significant findings for our fourth hypothesis and the interaction between sexual narcissism and biased attention to consent cues, the direct effect of biased attention to consent cues is better understood within the context this interaction (Aiken & West, 1991). At both the 50th and 84th percentile of sexual narcissism, biased attention to consent cues predicted sexual coercion. At the 16th percentile of sexual narcissism, there was no significant relationship between biased attention to consent cues and sexual coercion. Meaning that at average and above average levels of sexual narcissism, the more males’ attention was biased towards consent cues, the more coercive they predicted themselves to be. It is important to note that the 50th percentile (i.e., a level of sexual narcissism that 50% of participants scored the same or higher than), can be considered a common level of sexual narcissism. Therefore, while high levels of sexual narcissism may be a risk factor for males’ biased attention to consent cues to lead to sexual coercion, the results are more suggestive that having low levels of sexual narcissism may be protective.

There was also a direct effect of perception of partner interest on the use of sexual coercion in males. More specifically, the more males believed a hypothetical partner was interested in sexual activity, was willing to engage in sexual activity, and was likely saying “no” when they really meant “yes,” the more likely they were to use sexually coercive tactics to obtain sexual activity. It is important to note that this is not a simple incorrect appraisal of a partner’s interest or a “misunderstanding of cues.” In all hypothetical scenarios, potential partners expressed disinterest in continuing sexual activity. Furthermore, people who scored high on the sexual coercion scale were more likely to continue sexual activity despite protests, say things they didn’t mean, and give their partners more alcohol in an attempt to get them to engage in
sexual activity. These results do not reflect scenarios of “miscommunication” where males believe their partners are more interested in sexual activity AND they continue with freely given consent, which has been an issue of some debate in the literature (Muehlenhard & Linton, 1987; Frith & Kitzinger, 1997; Beres, 2010). Rather it suggests that as a heterosexual male believes a partner to be interested (i.e., willing, experiencing pleasure, and may be saying “no” when they really mean “yes”), the more likely they are to use coercion to obtain sexual activity.

Although biased attention to consent cues did predict sexual coercion, biased attention to consent cues did not predict perception of partner interest. It is difficult to interpret these null results, especially when considering previous research has not evaluated this specific relationship. It is possible that biased attention to consent cues and perception of partner interest are both factors of sexual coercion, but are unrelated, or the relationship is simply not being captured by the current study. Another possible explanation is that the bias in attention does not lead to males believing their partners are more interested, but rather is a reflection of their own desire to consent or engage in sexual activity, or their own approach-motivation. Males may not have been influenced by the language-based consent cues in the current study when considering the interest of their partners. The bias in attention to consent cues may have been more related to sexual coercion through other variables such as their own internal state of wanting to pursue sexual activity, their own approach-motivation, regardless of their partners’ consent. This theory is consistent with previous research that has suggested that males are more likely to use non-verbal cues when interpreting the partners’ consent and non-consent (Jozkowski, Peterson, Sanders, Dennis, & Reece, 2014). Therefore, bias in attention towards consent cues may be more related to males’ bias towards approach related cues and the use of sexual coercion may be one tactic that those with average or above average levels of sexual narcissism use to achieve their
goal. This theory is also consistent with evolutionary explanations of sexual coercion that suggest that sexual coercion is just one tactic among other short-term strategies that some males use when attempting to engage in sexual activity (Lalumière, et al., 1996). It is also consistent with previous research which has suggested that individuals with higher levels of general narcissism endorse attitudes that reflect using more extreme measures to achieve desirable goals (Foster & Trimm, 2008).

With respect to sexual narcissism, there was a small, but significant effect of sexual narcissism on perception of partner interest in the physiological arousal model, but not in the subjective arousal model. In addition, there was no evidence of a significant conditional effect of sexual narcissism on the relationship between perception of partner interest and sexual coercion. There is weak evidence to suggest that sexual narcissism is a general predictor of perception of partner interest or its relationship with sexual coercion in males.

When exploring the impact of sexual narcissism further, it may be worthwhile to consider different aspects of the construct. If higher levels of sexual narcissism increase the predictive value of biased attention to consent cues on sexual coercion, but not perception of partner interest, perhaps there are different aspects of sexual narcissism that are more or less related to sexual coercion. One possibility is that the sexual self-esteem subscale (i.e., feeling you are exceptionally skilled and successful in sexual relationships) may be more related to perception of partner interest and less relevant to sexual coercion. In addition, if biased attention to consent cues can be interpreted as influencing sexual coercion, not through biased perception of partner interest, but as a reflection of their own approach motivation, the entitlement and exploitation subscales of sexual narcissism may be more predictive of the relationship between attention and coercion. The current study was unable to evaluate this hypothesis due to the unreliability of the
sexual narcissism subscales. Research establishing the Sexual Narcissism Scale has suggested that all aspects of sexual narcissism (i.e., exploitation, entitlement, low empathy, and inflated sense of skill) are correlated with sexual coercion (Widman & McNulty, 2010). Research, exploring the different aspects of general narcissism (i.e., not sexual narcissism or pathological narcissism), however, has suggested that only the entitlement and exploitation aspects of narcissism predict sexual coercion (Zeigler-Hill, Enjaian, & Essa, 2013; Mouilso & Calhoun, 2016). For example, Zeigler-Hill and colleagues (2013) found that entitlement and exploitation together were predictive of sexual coercion, whereas inflated sense of leadership/authority (e.g., believing the world would be better if they were in charge) and grandiose exhibitionism (e.g., believing they are great because everyone tells them so) were not predictive. By only being able to use the overall sexual narcissism scale in the current study, the complete relationship between sexual narcissism, perception of partner interest, and sexual coercion may not be fully captured. Future research regarding the link between biased attention to consent cues, perception of partner interest, and the different aspects of sexual narcissism is required to fully understand the nature of these relationships.

Chapter 3: Multifactorial Explanation of Sexual Coercion in Females

Results

Previous sexual coercion experiences. Twenty-two percent of female participants reported at least a single incident of attempting to or completing a coercive sexual act. Thirteen percent of females reported an incident of acting coercively in the previous 12 months, while 18% reported an incident of acting coercively between age 14 and the 12 months prior to participating. Of the females who reported acting coercively, 43% used verbal coercion (i.e., telling lies, threatening to end the relationship, threatening to spread rumours, making false
promises, or continuously pressuring), 43% showed displeasure, criticized, or became angry after a refusal, 57% used alcohol or substances to take advantage of someone, 7% threatened physical violence, and no participants physically forced someone to engage in sexual activity.

Eighty-nine percent of female participants reported at least a single incident of experiencing sexual coercion. Eighty percent of female participants reported experiencing more than one incident of sexual coercion. Sixty percent of female participants experienced coercion in the previous 12 months, while 75% experienced coercion between age 14 and the 12 months prior to participating. Of the females who experienced coercion, 66% experienced verbal coercion (i.e., telling lies, threatening to end the relationship, threatening to spread rumours, making false promises, or continuously pressuring), 55% experienced displeasure, being criticized, or someone becoming angry after their refusal, 77% were taken advantage of when intoxicated, 2% participants experienced threat of violence, and 39% experienced physical force. Variable means and standard deviations are presented in Table 1.

**Order effects and manipulation check.** There were no significant video order effects on discrete or continuous measures of subjective sexual arousal or physiological arousal in the sexually explicit condition in either session for females (table 2). Similarly, there were no story order effects on the sexual coercion scale or perception of partner interest scales (table 3). The effects of the videos in session one and session two had the desired effects, with female participants reporting more continual sexual arousal and experiencing more increases in genital temperature during the sexually explicit videos compared to the other two videos (table 6). Female participants also reported more sexual arousal and more motivation to engage in sex after the sexually explicit video and more motivation to eat after the control video (see table 6).
Concordance. Concordance was measured by evaluating the within-subjects correlations between physiological arousal and the continual measure of self-reported sexual arousal during each one-minute interval before averaging between subjects. The average within-subjects correlation for females across one-minute intervals for session one was 0.11 and 0.12 for session two. The average within-subjects correlation for females across sessions was 0.13. Similar to the male results, these correlations are somewhat lower than the average female concordance rates reported by Chivers and colleagues (2010), but are still well within the range of similar studies (Chivers et al., 2010).

Experimental differences. There were no group differences between biased attention to consent cues after participants viewed the different experimental videos (table 5). There were also no experimental differences in perception of partner interest between the different videos (table 5). Lastly, similar to previous studies, there was not a significant effect of video on the use of sexual coercion (see table 5).

Preliminary results in the model. Predictors of our mediator variables were evaluated using Hayes’ (2013; 2018) conditional process analyses. Although these analyses are part of the full model, they are not specific to our hypotheses and are therefore discussed separately prior to evaluating the model as a whole. Results are discussed separately for physiological sexual arousal and subjective sexual arousal and in order to avoid floor effects, all variables were entered from the sexual arousal condition.

Physiological sexual arousal. Firstly, when examining the predictor variable of physiological sexual arousal during the second laboratory visit, sexual arousal during the first laboratory visit was a significant predictor, $\beta=0.43$, $t(59)=4.21$, $p=0.0001$, 95% CI [0.23, 0.63].
When examining our first mediator variable, biased attention to consent cues, we examined the individual predictors of physiological sexual arousal at time one and sexual narcissism. We also evaluated whether there was an interaction between sexual arousal and sexual narcissism when predicting biased attention to consent cues. Contrary to our hypotheses, physiological sexual arousal at time one did not significantly predict biased attention to consent cues at time one, $\beta=-4.79$, $t(57)=-0.59$, $p=0.56$, 95% CI [-20.99, 11.42]. Similarly, sexual narcissism did not predict biased attention to consent cues, $\beta=-0.04$, $t(57)=-0.11$, $p=0.92$, 95% CI [-0.84, 0.76]. There was also no significant interaction between sexual arousal and sexual narcissism on biased attention to consent cues, $\beta=0.51$, $t(57)=0.57$, $p=0.57$, 95% CI [-1.28, 2.30].

When examining our second mediator variable, perception of partner interest, we examined the individual predictors of physiological sexual arousal during the second laboratory visit, biased attention to consent cues, and sexual narcissism. We also evaluated the impact of any interactions between sexual narcissism and physiological sexual arousal or biased attention to consent cues. There was no significant effect of physiological arousal at time two, $\beta=-0.96$, $t(55)=-1.22$, $p=0.23$, 95% CI [-2.55, 0.62]. There was a significant direct effect of sexual narcissism on perception of partner interest, $\beta=0.10$, $t(55)=2.66$, $p=0.01$, 95% CI [0.02, 0.17]. There was a small, but significant direct effect of biased attention to consent cues on perceptions of partner interest, $\beta=0.02$, $t(55)=2.04$, $p=0.046$, 95% CI [0.0004, 0.05]. There was no significant interaction between physiological arousal and sexual narcissism, $\beta=0.01$, $t(55)=0.10$, $p=0.92$, 95% CI [-0.18, 0.20], or between biased attention to consent cues and sexual narcissism in predicting perceptions of partner interest, $\beta=0.0004$, $t(55)=0.28$, $p=0.78$, 95% CI [-0.003, 0.003].
**Subjective sexual arousal.** When examining the predictor variable of subjective sexual arousal at time two, sexual arousal at time one was a significant predictor, $\beta=0.67$, $t(58)=9.04$, $p<0.001$, 95% CI [0.52, 0.82].

When examining our first mediator variable, biased attention to consent cues, we examined the individual predictors of subjective sexual arousal at time one and sexual narcissism. We also evaluated whether there was an interaction between sexual arousal and sexual narcissism when predicting biased attention to consent cues. Contrary to our hypotheses, subjective sexual arousal at time one did not significantly predict biased attention to consent cues at time one, $\beta=-0.77$, $t(56)=-0.53$, $p=0.60$, 95% CI [-3.70, 2.16]. Similarly, sexual narcissism did not predict biased attention to consent cues, $\beta=0.04$, $t(56)=0.04$, $p=0.97$, 95% CI [-2.01, 2.08]. There was also no significant interaction between sexual arousal and sexual narcissism when predicting biased attention to consent cues, $\beta=0.02$, $t(56)=0.08$, $p=0.94$, 95% CI [-0.39, 0.42].

When examining our second mediator variable, perception of partner interest, we examined the individual predictors of subjective sexual arousal during the second laboratory visit, biased attention to consent cues, and sexual narcissism. We also evaluated the impact of any interactions between sexual narcissism and subjective sexual arousal or biased attention to consent cues. There was no significant effect of subjective arousal at time two, $\beta=0.18$, $t(54)=1.19$, $p=0.24$, 95% CI [-0.13, 0.49]. Similarly, there was no significant direct effect of sexual narcissism on perception of partner interest, $\beta=0.08$, $t(54)=0.94$, $p=0.35$, 95% CI [-0.09, 0.25]. There was a significant direct effect of biased attention to consent cues on perception of partner interest, $\beta=0.02$, $t(54)=2.14$, $p=0.04$, 95% CI [0.002, 0.05]. There was no significant interaction between subjective arousal and sexual narcissism, $\beta=0.01$, $t(55)=0.10$, $p=0.92$, 95%
CI [-0.18, 0.20], or between biased attention to consent cues and sexual narcissism when predicting perceptions of partner interest, $\beta=0.0004$, $t(55)=0.28$, $p=0.78$, 95% CI [-0.003, 0.003].

**Main analyses.** Our full model was evaluated using Hayes’ (2013; 2018) conditional process analyses. Results are discussed separately with physiological sexual arousal and subjective sexual arousal as predictors.

**Physiological arousal.** The overall conditional process model predicted a significant amount of variance in hypothetical sexual coercion, $R^2=0.54$, $F(11,51)=5.52$, $p<0.001$ (see Figure 8). Despite the model being significant and accounting for a moderate proportion of the variance in sexual coercion, there was no support for hypothesis one, hypothesis three, or hypothesis four, in that sexual arousal did not predict sexual coercion and there were no significant indirect effects, conditional effects, or conditional indirect effects. Hypothesis two was partially supported, the direct effect of perception of partner interest on hypothetical sexual coercion was significant, $\beta=0.17$, $t(51)=3.04$, $p=0.004$, 95% CI [0.06, 0.29], but no other direct effects were significant.

**Subjective arousal.** The overall conditional process model predicted a significant amount of variance in hypothetical sexual coercion, $R^2=0.61$, $F(11,50)=7.09$, $p<0.001$ (see Figure 9). With respect to hypothesis one, neither subjective arousal at time one nor at time two predicted sexual coercion, $\beta=-0.01$, $t(50)=-0.09$, $p=0.93$, 95% CI [-0.18, 0.16] and $\beta=0.06$, $t(50)=0.61$, $p=0.55$, 95% CI [-0.13, 0.24]. With respect to hypothesis two, the direct effect of biased attention to consent cues was not significant, $\beta=-0.01$, $t(50)=-1.58$, $p=0.12$, 95% CI [-0.02, 0.002]. However, both the direct effects of perception of partner interest, $\beta=0.15$, $t(50)=2.90$, $p=0.006$, 95% CI [0.05, 0.26] and sexual narcissism were significant, $\beta=-0.10$, $t(50)=-2.28$, $p=0.03$, 95% CI [-0.17, -0.01]. With respect to hypothesis three, there were no significant indirect effects.
Hypothesis four was partially supported, the interaction between perception of partner interest and sexual narcissism on sexual coercion was significant, $\beta=0.01$, $t(50)=2.19$, $p=0.03$, 95% CI [0.001, 0.021]. When examining the interaction, perception of partner interest did not predict sexual coercion at the 16th percentile, $\beta=0.07$, $t(58)=0.97$, $p=0.34$, 95% CI [-0.08, 0.22]. Perception of partner interest was however a significant predictor of hypothetical sexual coercion at the 50th and 84th percentile of sexual narcissism, $\beta=0.14$, $t(58)=2.52$, $p=0.02$, 95% CI [0.03, 0.25] and $\beta=0.25$, $t(58)=4.11$, $p=0.0001$, 95% CI [0.13, 0.38]. However, no other conditional or conditional indirect effects were significant (see Figure 9).

**Discussion**

The current study attempted to evaluate a multifactorial explanation of the use of sexual coercion in opposite-sex attracted cis-gendered females. A conditional process analysis was used to assess the relationship between sexual arousal and sexual coercion through biased attention to consent cues and perception of partner interest by sexual narcissism. Unlike for male populations, there is less research exploring the effects of sexual arousal, biased perceptions of partner interest, or sexual narcissism on female sexual coercion. The current study hoped to extend previous research with men to explore the pathways of female sexual coercion.

**Hypotheses 1 and 3: Sexual arousal predicts sexual coercion through biased attention to consent cues and perception of partner interest.** In both the physiological and subjective arousal models, neither hypothesis one, nor hypothesis three were supported by the current results. More specifically, neither physiological nor subjective sexual arousal predicted sexual coercion. Furthermore, there were no indirect or conditional indirect effects of sexual arousal on sexual coercion through either of the mediators or by sexual narcissism. Similar to the male results, caution is recommended in interpreting null results. These results are made more
difficult to interpret without previous research to make comparisons. Very few studies have examined the predictors of female sexual coercion. Some previous research suggested predictors of female coercion have included risky sexual behaviour (Krahé & Berger, 2017), higher levels of sexual activity (i.e., younger age of first intercourse and higher number of sexual partners; Krahé et al., 2003), sexual compulsivity (i.e., difficulty controlling sexual urges; Schatzel-Murphy et al., 2009), and peer/societal pressure to engage in sexual activity (Krahé et al., 2003). Given the lack of research on female sexual arousal and sexual coercion, it is unclear whether the lack of support for hypotheses one and three are related to methodological limitations, such as the use of an arousal change score rather than multiple time points, to normal variance in the population, or to a lack of an underlying relationship. It is also possible that there is a small underlying effect of sexual arousal on females’ use of hypothetical sexual coercion, but we were unable to detect it with our moderate sample size.

Despite there being limited research on pathways for female sexual coercion, previous research with females has suggested that their attention is impacted by motivational states (Forestell et al., 2012). Similar to our male sample, the current study was not able to extend this research to sexual motivation. It is again possible that the changes to methodology including the use of language-based stimuli, implicit motivational states, and limited sample size made it difficult to capture the impact of sexual arousal on attention. It is also possible that the stimuli themselves were not sexually specific and therefore not influenced by sexual arousal. Lastly, sexual arousal as a motivational state may be less influential compared to other motivational states such as hunger or fear.

**Hypotheses 2 and 4: Biased attention to consent cues and perception of partner interest conditionally predict sexual coercion.** In both the physiological and subjective arousal
models, hypotheses two and four were only partially supported. There was no direct or conditional effect of biased attention to consent cues on sexual coercion. There was a significant direct effect of perception of partner interest on sexual coercion in both models and a conditional effect of perception of partner interest based on sexual narcissism in the subjective arousal model.

Unlike males, biased attention to consent cues was not predictive of female sexual coercion. Similar to other null results regarding female sexual coercion, there are several possible explanations, but caution should be used given the lack of previously established studies. The male results suggested biased attention to consent cues may be related to approach motivation to engage in sexual activity and that sexual narcissism, perhaps specifically high levels of entitlement/exploitation, lead males to select coercion as one short-term strategy to approach their goal and engage in sexual activity. Given the different evolutionary drives of males and females, it is possible that for females, this pathway is not relevant. More specifically, females may be less driven by biased attention and sexual narcissism to select coercion as a short-term mating strategy. Future research may wish to explore this hypothesis by examining sociosexuality, biased attention to consent cues, sexual narcissism, and sexual coercion with both males and females.

Despite the lack of a direct effect of biased attention to consent cues on sexual coercion, biased attention to consent cues did predict perception of partner interest in both female models. Meaning, the more females’ attention was biased to consent cues, the more they believed their partner to be interested in engaging in sexual activity. This was not true for males. Previous research has suggested that females use more verbal cues to gauge their partners’ consent or non-consent compared to males (Jozkowski et al., 2014). Jozkowski and colleagues (2014) asked
male and female undergraduate students about the strategies they used to communicate and interpret consent and non-consent during sexual activity. They found that females were more likely than males to use verbal or a mix of verbal and non-verbal strategies when interpreting their partners’ consent and non-consent (Jozkowski et al., 2014). Given the verbal basis of the consent cues used in the current study, females may have been more influenced by their biased attention to consent cues when making evaluations of their hypothetical partners.

There was a significant direct effect of perception of partner interest on sexual coercion in both physiological and subjective arousal models, but there was also an interaction between sexual narcissism and perception of partner interest in the subjective arousal model. At the 50th and 84th percentile of sexual narcissism, perception of partner interest predicted the use of sexual coercion. At the 16th percentile, perception of partner interest did not predict the use of coercion. These results suggest that it may not simply be the interpretation of a partner being interested that leads to coercion, but also a sense of entitlement, willingness to exploit others, low empathy for sexual partners, and inflated sense of sexual skill. It is important to note that at the 50th percentile (i.e., a level of sexual narcissism that 50% of participants scored the same or higher than), or a common level of sexual narcissism, perception of partner interest was predictive of sexual coercion. While high levels of sexual narcissism may be a risk factor for women that overestimate their partners’ interest, the results are more suggestive that having low levels of sexual narcissism may be protective. This is consistent with previous research with general (i.e., non-sexual) narcissism and females’ use of sexual coercion. Blinkhorn and colleagues (2015) found that the entitlement/exploitation aspect of narcissism was correlated with females’ use of self-reported sexual coercion.
In addition to Bouffard and Miller’s (2014) research regarding perception of partner interest and sexual coercion, there is other relevant research to consider in light of the direct effect of perception of partner interest on sexual coercion in the physiological model. Some research has explored the effect of previous experiences of wantedness differing from communicated consent on females’ use of sexual coercion. A study by Krahé and colleagues (2003) evaluated the prevalence and predictors of sexual coercion among German women (n=248). The researchers found that women who previously communicated either consent or non-consent that was not consistent with their wantedness (i.e., ambivalence or acquiescence) were more likely to use sexual coercion (Krahé et al., 2003). Krahé and colleagues (2003) concluded that women who communicate their sexual intentions in an ambiguous way may be more likely to perceive their partner’s rejection of their sexual advances in an ambiguous way. They described these results as a “false consensus bias” (Krahé et al., 2003, p. 229). While the current study did not examine previous ambiguous communication of sexual interest, it is possible that the significant relationship between perception of partner interest and sexual coercion is related to females’ previous experiences of ambiguous consent communication. The current study did evaluate previous unwanted sexual activity, but we did not find any correlations between previous unwanted sexual activity and the use of hypothetical sexual coercion or perception of partner interest.

Chapter 4: Gender Comparisons

Results

Gender differences in individual variables. Independent sample t-tests were used to compare gender differences between several variables. Levels of baseline (i.e., from the neutral condition) hypothetical sexual coercion and perceptions of partner interest along with historical
sexual coercion (i.e., both experiences of unwanted sex and historical use of coercion), subjective sexual arousal in both sessions, and physiological sexual arousal in both sessions were compared between males and females. A Bonferroni correction was used to account for the multiple comparisons, $\alpha=0.05/8$, $\alpha=0.006$. Levene’s Test for Equality of Variances suggested the assumption of equal variances was violated for physiological arousal at time one $F(1, 121)=12.95$, $p<0.001$, physiological arousal at time two, $F(1, 116)=10.24$, $p=0.002$, baseline hypothetical sexual coercion, $F(1, 117)=10.27$, $p=0.002$, historical experience of sexual coercion, $F(1, 117)=60.33$, $p<0.001$, and historical use of sexual coercion $F(1, 117)=10.06$, $p=0.002$, therefore equal variances were not assumed.

There was a significant gender difference in the change scores for genital temperature during the sexually explicit video at time one, $t(92.55)=4.18$, $p<0.001$, with males’ genital temperatures increasing significantly more than females (see Figure 5). There was no significant gender difference in change scores for genital temperature during the sexually explicit video at time two, $t(90.28)=2.33$, $p=0.02$. Similarly, there was no significant gender difference in increases of self-reported sexual arousal during the sexually explicit video at time one, $t(121)=-1.49$, $p=0.14$, or time two, $t(116)=0.23$, $p=0.82$. There were also no gender differences in perceptions of partner interest, $t(117)=2.09$, $p=0.04$.

With respect to hypothesis five, there was a significant gender difference in baseline levels of hypothetical use of sexual coercion, $t(85.57)=3.53$, $p=0.001$, with males reporting higher levels of hypothetical sexual coercion. However, there was no gender difference in reported use of historical sexual coercion, $t(69.59)=1.95$, $p=0.06$. With respect to hypothesis six, there was a significant gender difference in historical experiences of sexual coercion, $t(69.04)=-5.90$, $p<0.001$, with females reporting significantly more experiences of sexual coercion.
Gender differences in historical coercion predicting hypothetical coercion. To investigate whether hypothetical sexual coercion was related to real-world historical use of sexual coercion, gender was used as a potential moderator in the relationship between historical use of coercion and hypothetical coercion. The overall model was significant, $R^2=0.20$, $F(3,113)=9.39$, $p<0.001$. Historical use of coercion significantly predicted hypothetical sexual coercion, $\beta=0.23$, $t(113)=3.03$, $p=0.003$, 95% CI [0.08, 0.38], however, gender was not a significant predictor, $\beta=-0.40$, $t(113)=-1.95$, $p=0.05$, 95% CI [-0.80, 0.006]. There was a significant interaction between gender and historical use of sexual coercion when predicting hypothetical sexual coercion, $\beta=-0.13$, $t(113)=-2.10$, $p=0.04$, 95% CI [-0.26, -0.01]. More specifically, historical use of sexual coercion predicted hypothetical sexual coercion for male participants, $\beta=0.10$, $t(114)=4.01$, $p=0.0001$, 95% CI [0.05, 0.14], but not for female participants, $\beta=-0.04$, $t(114)=-0.62$, $p=0.54$, 95% CI [-0.15, 0.08].

Gender as a moderator in the model. The effects of sexual arousal (i.e., both physiological and subjective) on sexual coercion through biased attention to consent cues and perceptions of partner interest at different levels of sexual narcissism and by gender was evaluated using conditional process analyses. The direct and conditional effects of gender on mediator variables are discussed first before evaluating the full model.

Physiological sexual arousal. The overall conditional process model predicted a significant amount of variance in hypothetical sexual coercion, $R^2=0.60$, $F(16,100)=9.21$, $p<0.001$ (see Figure 10). There was no direct effect of gender on sexual coercion, $\beta=0.15$, $t(100)=0.35$, $p=0.73$, 95% CI [-0.69, 0.98]. There was also no conditional effect of gender on the relationship between sexual arousal and sexual coercion at time one, $\beta=-0.24$, $t(100)=-0.51$, $p=0.61$, 95% CI [-1.17, 0.69], or time two, $\beta=0.32$, $t(100)=0.60$, $p=0.55$, 95% CI [-0.74, 1.38].
There was a significant conditional effect of gender on the relationship between biased attention to consent cues and sexual coercion, $\beta=-0.02$, $t(100)=-2.82$, $p=0.006$, 95% CI [-0.03, -0.01]. When examining the interaction, holding sexual narcissism constant at the 50th percentile, males’ biased attention to consent cues was a significant predictor of sexual coercion, $\beta=0.01$, $t(110)=2.53$, $p=0.01$, 95% CI [0.002, 0.018]. For females, when holding sexual narcissism constant at the 50th percentile, biased attention to consent cues did not predict sexual coercion, $\beta=-0.009$, $t(110)=-1.72$, $p=0.09$, 95% CI [-0.019, 0.001]. There was also a significant conditional effect of gender on the relationship between perception of partner interest on sexual coercion, $\beta=-0.18$, $t(100)=-2.19$, $p=0.03$, 95% CI [-0.34, -0.02]. When examining the interaction, perception of partner interest was a significant predictor of sexual coercion for males at the 16th, 50th, and 84th percentiles of sexual narcissism, $\beta=0.30$, $t(110)=4.35$, $p<0.001$, 95% CI [0.16, 0.43], $\beta=0.35$, $t(110)=5.84$, $p<0.001$, 95% CI [0.23, 0.47], and $\beta=0.44$, $t(110)=5.78$, $p<0.001$, 95% CI [0.29, 0.59]. For females, perception of partner interest was predictive of sexual coercion at the 50th and 84th percentile of sexual narcissism, but not at the 16th percentile, $\beta=0.17$, $t(110)=2.87$, $p=0.005$, 95% CI [0.05, 0.30], $\beta=0.26$, $t(110)=4.01$, $p=0.0001$, 95% CI [0.13, 0.38], and $\beta=0.12$, $t(110)=1.53$, $p=0.13$, 95% CI [-0.04, 0.27]. No other conditional indirect effects were significant (see Figure 10).

Subjective sexual arousal. The overall conditional process model predicted a significant amount of variance in hypothetical sexual coercion, $R^2=0.61$, $F(16,99)=9.72$, $p<0.001$ (see Figure 11). There was no direct effect of gender on sexual coercion, $\beta=-0.02$, $t(99)=-0.04$, $p=0.97$, 95% CI [-1.07, 1.04]. There was also no conditional effect of gender on the relationship between sexual arousal and sexual coercion at time one, $\beta=0.07$, $t(99)=0.61$, $p=0.54$, 95% CI [-0.16, 0.31], or at time two, $\beta=0.02$, $t(99)=0.13$, $p=0.90$, 95% CI [-0.25, 0.28]. There was a
significant conditional effect of gender on the relationship between biased attention to consent cues and sexual coercion, $\beta=-0.02, t(99)=-2.83, p=0.006, 95\% \text{ CI } [-0.03, -0.01]$. When examining the interaction, holding sexual narcissism constant at the 50th percentile, males’ biased attention to consent cues was a significant predictor of sexual coercion, $\beta=0.01, t(109)=2.53, p=0.01, 95\% \text{ CI } [0.002, 0.018]$. For females, at the 50th percentile of sexual narcissism, biased attention to consent cues did not predict sexual coercion, $\beta=-0.009, t(109)=-1.72, p=0.09, 95\% \text{ CI } [-0.019, 0.001]$. There was also a significant conditional effect of gender on the relationship between perception of partner interest on sexual coercion, $\beta=-0.22, t(99)=-2.68, p=0.009, 95\% \text{ CI } [-0.38, -0.06]$. When examining the interaction, perception of partner interest was a significant predictor of sexual coercion for males at the 16th, 50th, and 84th percentiles of sexual narcissism, $\beta=0.31, t(109)=4.73, p<0.001, 95\% \text{ CI } [0.18, 0.44], \beta=0.37, t(109)=6.38, p<0.001, 95\% \text{ CI } [0.26, 0.49]$, and $\beta=0.46, t(109)=6.40, p<0.001, 95\% \text{ CI } [0.32, 0.60]$. For females, perception of partner interest was predictive of sexual coercion at the 50th and 84th percentile of sexual narcissism, but not at the 16th percentile, $\beta=0.16, t(109)=2.63, p=0.01, 95\% \text{ CI } [0.04, 0.27], \beta=0.24, t(109)=3.78, p=0.003, 95\% \text{ CI } [0.12, 0.37]$, and $\beta=0.09, t(109)=1.30, p=0.20, 95\% \text{ CI } [-0.05, 0.24]$. No other conditional indirect effects were significant (see Figure 11).

**Discussion**

The current study explored the predictors of sexual coercion, conditional on gender. There is some research exploring the gender differences in the predictors of sexual coercion; however, we are unaware of research that compares males and females on their biased attention to consent cues, perception of partner interest, sexual narcissism, and the use of sexual coercion. The current study was generally consistent with previous research, demonstrating some gender
differences in the use of and experience of sexual coercion, with males reporting more hypothetical coercion, and females reporting higher levels of historical sexual coercion. There were also some novel findings in how gender and sexual narcissism moderate the relationship between biased attention for consent cues and perception of partner interest and individuals’ use of hypothetical sexual coercion.

**Gender differences in sexual arousal.** There was a significant gender difference in physiological sexual arousal at time one, but not at time two. More specifically, males showed a greater increase in genital temperature compared to females in the first session, but there was no difference in the second. This finding was driven by males demonstrating more of an increase in genital temperature in the first session compared to the second, when there was no difference between the first and second session for female genital responses (figure 5). There is some research to suggest that males are particularly sensitive to habituation of sexually explicit stimuli (Rupp & Wallen, 2008). Although we used different videos between session one and session two and the sessions were separated by at least 24 hours, males may have had more of a sexual response to the novelty of the laboratory setting at time one accounting for the gender differences in sexual arousal at time one, but not at time two.

**Hypotheses 5 and 6: Gender differences in sexual coercion.** Consistent with previous research and our hypotheses, males predicted themselves as acting more coercively at baseline than females. Females also reported significantly more experiences of historical sexual coercion. However, there was a staggering prevalence rate of experiencing sexual coercion for both males and female participants. In fact, over 50% of our male sample and almost 90% of our female sample reported at least a single experience of being coerced since age 14. This is higher than most other studies that use a sample with similar demographics (Elliott et al., 2004; Walker et al.,
2011; Krahé et al., 2015; Krahé & Berger, 2013). There may be several reasons for the discrepancy in prevalence rates. This study was conducted during the beginning of the #MeToo movement with highly publicized cases such as Harvey Weinstein being covered in the media during recruitment and data collection. It is possible that with increased media attention and awareness that individuals were more likely to recognize and label previous experiences as coercive. The measure that we used to assess previous experiences with sexual coercion (i.e., the Sexual Experiences Survey) does not use labels such as “coercion” or “assault,” but it does describe activities as occurring “without consent.” With public examples of coercion and consent being discussed frequently, individuals may have been more reflective of their own histories and their experiences with consent and a lack of consent. It is also possible that given the public conversation and context of more openly discussing sexual coercion, individuals were more likely to feel comfortable reporting their experiences of unwanted sexual activity. Lastly, it is possible that with increased attention to sexual coercion, individuals who had previous unwanted sexual experiences were more likely to want to understand their experiences and subsequent were more willing to participate in studies of “sexual behaviour.” Regardless of the discrepancy between the current findings and previous research on prevalence of experiencing sexual coercion in undergraduate students, the current study suggests that sexual coercion continues to be a prevalent concern.

Although there was a significant difference between males’ and females’ baseline levels of hypothetical use of sexual coercion, contrast to our hypothesis, there was not significant difference between reported levels of historical use of sexual coercion. This is inconsistent with previous research (Conroy & Cotter; 2017; Brennan & Taylor-Butts, 2008; Ménard, Hall, Phung, Ghebrial, & Martin, 2003). One possible explanation for the lack of gender difference in
historical use of sexual coercion is a potential floor effect. Thirty-six percent of males and 22% of females reported at least one incident of using sexual coercion since they were 14 years old. This proportion is relatively high when thinking about real-world implications and it is consistent with previous literature (Anderson & Savage, 2005; Anderson, 1996; Palmer et al., 2010; Krahé et al., 2015; Krahé & Berger, 2013; Krahé, et al., 2003; Brousseau et al., 2012; Peterson et al., 2011); however, the majority of our sample did not report using historical coercion, which may have impacted our results. In addition to a potential floor effect, research on intimate partner violence suggests inconsistencies in gender differences between studies when context, motivations, and consequences vary (Chan, 2011). It is possible that similar to intimate partner violence, it is still difficult to ascertain true gender differences in the use of sexual coercion given the nature of self-report and differences in how researchers operationalize sexual coercion. The discrepancy between the current study and previous studies suggest the need for continued research on gender differences and the use of sexual coercion.

The current study found that historical use of sexual coercion did not predict hypothetical use of sexual coercion for females. There are several possible explanations. It is possible that the method developed for measuring sexual coercion in males is less predictive for females. However, it is also possible that the same floor effect reduced the predictive value of the Sexual Experiences Survey (SES). Alternatively, the language of the SES versus the language of the hypothetical coercion scale may have allowed women to feel more comfortable reporting use of hypothetical sexual coercion versus disclosing historical sexual coercion. The SES’s language explicitly states that the sexual activity with a partner is pursued “without their consent.” The hypothetical sexual coercion measure includes coercive tactics and using words such as “convince.” It is possible that given gender stereotypes and male rape myths, that women do not
conceptualize their coercive behaviour as continuing sexual activity against their male partners’ consent. This theory is supported by a review of research regarding female sexual coercion, that suggested that several male rape myths and gendered stereotypes are related to more victim-blaming and a lack of recognition of males’ experience of sexual coercion (Fisher & Pina, 2013). Similarly, in their qualitative study of undergraduate students’ understanding of consent, Jozkowski and Peterson (2013) identified a perception that men are always going to interested in engaging in sexual activity. The current study finding that perception of partner interest predicted females’ use of hypothetical sexual coercion is also consistent with this theory. The women in the current study who believed their partners were more were more likely to be saying “no” when they really meant “yes,” were more likely to predict themselves as acting coercively. The hypothetical dating scenarios used in the current study included a refusal, however the refusal described was less explicit than the SES, which clearly states continued activity “without consent.” It is therefore possible that based on gendered stereotypes, some women who completed the SES did not view their behaviour as occurring “without consent.” Although historical coercion did not predict hypothetical coercion for females in the current study, it is possible that hypothetical sexual coercion is predictive of females’ coercive behaviour using other measures. For example, future research could explore the relationship between hypothetical sexual coercion and real-world behaviour in females using both females’ and their partners’ reports.

**Gender differences in the model.** In current study, gender moderated several relationships. Given the results within the male and female samples, it is not surprising that gender significantly moderated the relationship between biased attention to consent cues and sexual coercion as well as the relationship between perception of partner interest and sexual
coercion. Based on the current results, it appears that different variables are important in predicting sexual coercion for males and females. For females, biased attention to consent cues was not predictive of sexual coercion, whereas for males (at average and above average levels of sexual narcissism), increased bias towards consent cues was predictive of higher levels of hypothetical sexual coercion. For both males and females, perception of partner interest was an important predictor of sexual coercion, however the conditional effect of sexual narcissism differed between male and female participants. For males, there was no conditional effect of sexual narcissism, meaning regardless of differing levels of sexual narcissism, perception of partner interest was predictive of sexual coercion. For females, however, having lower levels of sexual narcissism was protective and perception of partner interest was no longer predictive of sexual coercion. Based on the current results, it appears that there may be overlap between some predictors of sexual coercion for males and females, but also different patterns. Additional research is required to further drive an understanding of the overlapping and differing predictors of male and female coercion. This has implications for prevention and intervention models.

**Chapter 5: General Discussion, Implications, and Conclusions**

The current study was not able to replicate previous research regarding sexual arousal and sexual coercion; however, it does provide some novel insights into the predictors of opposite-sex attracted cis-gendered males’ and females’ use of sexual coercion. More specifically, the current study expands previous research on the role of perception of partner interest and sexual narcissism on the use of sexual coercion. The study also included a cognitive-attentional task to provide novel insights into how biased attention for consent cues may influence the use of sexual coercion and explored gender differences in the predictors of sexual coercion. Overall, this research is suggestive that overly perceiving partners as interested and
potentially saying “no” when they really mean “yes” is predictive of both males’ and females’ use of sexual coercion. For males, this relationship was a direct effect, whereas for females, this relationship was dependent on sexual narcissism. More specifically, for females having low levels of sexual narcissism was protective. For males, biased attention to consent cues was also predictive of sexual coercion, dependent on sexual narcissism. At average and above average levels of sexual narcissism, biased attention to consent cues predicted males’ use of sexual coercion, at low levels of sexual narcissism, this relationship was not significant. For females, biased attention for consent cues was not predictive of sexual coercion, but it was predictive of perception of partner interest. This research has several clinical and research implications.

**Research Implications and Future Directions**

The current research was able to improve upon the current understanding of sexual coercion by combining multiple theories and factors, using robust methodological approaches, and extending traditionally male-centred research. Firstly, by using a multifactorial model that combined, situational, cognitive, and personality factors, we were able to predict a significant amount of variance in both opposite-sex attracted males’ and females’ use of hypothetical sexual coercion. However, our models also failed to replicate previous findings. Although multifactorial models add insight into the complexity of individuals’ behaviour, they often require additional power and larger sample sizes in order to evaluate all relationships. It is possible that the current study identified several variables that were related to sexual coercion, but also to each other, accounting for significant amount of variance in sexual coercion, but weakening the individual predictive value of each variable. Although multifactorial models present unique challenges, the current research suggests that sexual coercion is a complex combination of behaviours that will likely continue to require multifactorial explanations.
By using more robust measures of sexual arousal including physiological and self-report data we were able to provide further insight into the potential relationship, or lack of relationship, between sexual arousal and sexual coercion. Previous studies have either used single-item retrospective measures of self-reported sexual arousal. The current study was able to use methodology more consistent with sexual arousal literature in order to evaluate the impact of genital response and self-reported sexual arousal on sexual coercion. When using more robust measures, we were unable to replicate previous findings. However, it is still unclear whether the current results are a result of a lack of relationship, or other methodological considerations. It is also possible that by using a single predictor model, we were unable to detect subtle changes in relationships that occurred over time. Future research should explore this finding further using physiological and self-report measures of sexual arousal, perhaps using a more time series analyses approach.

The current study also expands previous literature that often focuses on male theories of sexual coercion. It is clearly documented that females use sexual coercion (Anderson & Savage, 2005; Anderson, 1996; Palmer, McMahon, Rounsaville, & Ball, 2010; Krahé et al., 2015; Krahé & Berger, 2013; Krahé et al., 2011), yet they are often ignored in research exploring the underlying factors of the behaviour. In addition, many theories of sexual coercion explore the impact of power imbalances on the use of sexual coercion and refer to gender-based power imbalances in heterosexual sexual relationships as a clear example. While it is well documented that gender-based power imbalances influence the use of violence and sexual coercion (Krahé et al., 2015; Pulerwitz, Gortmaker, & DeJong, 2000; Teitelman, Ratcliffe, Morales-Aleman, & Sullivan, 2008; O’Leary, Slep, & O’Leary, 2007), it is important to note that gender is not the only form of power or the only variable that may influence the use of sexual coercion. It is
therefore important to continue to include females’ in studies that evaluate the predictors of sexual coercion.

In addition to furthering existing research by using a multi-factorial approach, using more robust measures of sexual arousal, and including female participants, the current study highlighted some unique areas for continued research. Firstly, future research should continue to explore the impact of sexual narcissism on sexual coercion. It is possible that some aspects of sexual narcissism predict sexual coercion differently. Furthermore, different facets of sexual narcissism may be more influential for males and females and may result in different pathways to the use of sexual coercion. For example, Widman and McNulty (2010) found that males had significantly higher levels of sexual entitlement and exploitation and lower levels of sexual empathy compared to females. Given previous research on entitlement and exploitation being more related to sexual coercion (Zeigler-Hill et al., 2013; Mouilso & Calhoun, 2016; Blinkhorn et al., 2015), it may be important to evaluate how different aspects of sexual narcissism affect sexual coercion differently for different genders. The current study found gender differences in how sexual narcissism moderated perception of partner interest and biased attention for consent cues. More specifically, sexual narcissism moderated the effect of perception of partner interest for female participants, but not male participants, and moderated the biased attention for males, but not females. Based on this finding, future research could explore how entitlement, exploitation, and low empathy relate to perceptions of partner interest and biased attention individually. The current measure of sexual narcissism was created almost a decade ago and we were unable to establish adequate internal consistency in the subscales. In addition, although the sexual narcissism scale was developed with both males and females, its relationship with sexual coercion was only established with males. It is possible that an updated and a more female
sensitive measure of sexual narcissism may be needed to better understand the relationship between sexual narcissism and coercion.

With respect to future research on biased attention to consent cues and sexual coercion, future research may benefit from including other measures of attention to distinguish between biased attention that matches an individual’s own approach motivation and biased attention to specific sexual consent cues. Furthermore, future research using biased attention to consent cues to predict sexual coercion may wish to investigate other mechanisms beyond sexual narcissism or perceived partner interest that impact the relationship. For example, there may be affective states, other than sexual arousal, or specific individual traits that predict biased attention to consent cues. For instance, people who are higher in approach motivation may be more biased to consent cues than individuals lower in approach motivation. Although the relationship between biased attention to consent cues and sexual coercion was not significant for females, biased attention did predict perception of partner interest. The more females’ attention was biased to consent cues, the more they believed their hypothetical partners were interested in sexual activity. This relationship was not true for males. Future research should also investigate these gender differences to delineate the specific processes through which biased attention to consent cues impacts males and females.

Perception of partner interest was predictive of sexual coercion for both males and females. This relationship has been previously studied in males’ use of sexual coercion (Bouffard & Miller, 2014; Farris et al., 2008), but it is a novel finding for females. The current study used Bouffard and Miller’s (2014) items to establish perception of partner interest with an additional item evaluating belief in token resistance. This measure has not been evaluated on diverse male and female populations to establish construct validity. It is unclear whether there are particular
aspects of perceptions of partner interest that are most relevant to predicting coercion or if perception of partner interest is a reliable measure over time. Although there are few studies evaluating perception of partner interest, previous research has established that when females have previous experiences of their own consent communication differing from their wantedness (i.e., in cases of “token resistance”/”ambivalence” or “acquiescence”), they are more likely to use coercive tactics (Krahé et al., 2003). These researchers suggested that having experience communicating their own consent in an “ambiguous” way may lead to a “false consensus bias” and the use of sexual coercion (Krahé et al., 2003). The current study did not evaluate previous consent communication, but we did evaluate previous experiences of sexual coercion. Although it was not part of our hypotheses, the current study did not find a relationship between previous experiences of sexual coercion and either historical or hypothetical sexual coercion for males or females (table 1). It is therefore unclear whether perceptions of partner interest are being influenced by individuals’ own history of consent communication, or other factors such as gender stereotypes (e.g., females needing to provide “token resistance,” or males always being interested in pursuing sexual activity). Evaluating the mechanisms involved in perception of partner interest is particularly relevant when considering the distinction between consent and wantedness. Previous research has separated the concepts of wantedness, sexual desire, and sexual consent (Muehlenhard & Peterson, 2005). The current study adapted a measure that primarily focused on how much their partner was wanting to engage in sexual activity, but the measure was limited in that it does not explicitly ask about perceptions of their hypothetical partner’s consent. Future research would benefit from separating these concepts in their measures when evaluating the predictors of sexual coercion.
The current research study evaluated some of the predictive factors in cis-gendered opposite-sex attracted males’ and females’ use of sexual coercion. The study was also conducted with a largely white, North-American born, undergraduate sample. Although the current study extends research that has previously focused primarily on males, the scope of the current study is also significantly limited. Given the influence of traditional sexual scripts and imbalances of power on the use of sexual coercion, it is important to reflect on how the current study fails to address populations that often experience imbalances in power and are ignored in research. It is very possible that the factors identified in the current study do not generalize to other populations and social locations and more research is required to fully understand the use of sexual coercion particularly in vulnerable positions.

Clinical Implications

The current study provided insight into opposite-sex attracted cis-gendered males’ and females’ use of sexual coercion. Given that our sample of participants were largely undergraduate students, the results of this study are particularly relevant to sexual coercion on university campuses. An overwhelming amount of our sample had experiences of sexual coercion since age fourteen. Furthermore, over one in four male participants experienced coercion in the past twelve months and three in five female participants experienced coercion in the past twelve months. While there could be several explanations regarding these high prevalence rates, it does suggest that sexual coercion on campuses is not decreasing. It is also important to note that despite being a non-forensic sample, a proportion of our sample did report historical use of sexual coercion (36% of males and 22% of females). Sixteen percent of male participants and 13% percent of female participants reported using at least one coercive
behaviour in the past 12 months. Despite increased attention and awareness of sexual coercion on campuses, it is clearly still a prevalent and serious concern.

The current study did not find evidence for the theory that sexual arousal predicts the use of sexual coercion. While it is still somewhat unclear the reasons for the null results, the current study used more robust measures of subjective and physiological sexual arousal compared to previous research. This was not entirely due to a floor effect, as participants were significantly more aroused in the sexual arousal condition as compared to the control conditions. Indeed, the levels of physiological and self-reported sexual arousal were similar to other studies using thermography to measure sexual response (Kukkonen et al., 2007; Kukkonen et al., 2010; Hodgson et al., 2016). Previous research also suggests that levels of arousal achieved in a laboratory are comparable or higher in contrast to sexual arousal with a partner present (van Lankveld et al., 2014). These results suggest that at levels of sexual arousal that are comparable to partnered sexual activity, both males’ and females’ use of sexual coercion and assessment of consent is not being influenced by sexual arousal.

The current study identified several predictors of sexual coercion. Both males and females were more likely to use coercive tactics the more they believed a potential partner was interested in sexual activity. For females, having low levels of sexual narcissism was a protective factor in this relationship, but not for males. Having low levels of sexual narcissism was protective for males, however, in that it moderated the relationship between biased attention to consent cues and coercion. This suggests that while there is overlap in the predictors of males’ and females’ use of sexual coercion, there are also unique factors that are dependent on gender. Often prevention and intervention models are based on males’ use of coercion and its unique predictors, but the current results suggest it may be beneficial for prevention and intervention
programs to include different factors for males and females. Similarly, prevention and intervention programs would benefit from targeting multiple factors in combination.

For both males and females, providing intervention around sexual narcissism may be particularly relevant. While pathological narcissism (i.e., narcissistic personality disorder) is generally thought of as a part of one’s personality and as difficult to change with intervention (Brunell & Campbell, 2011), the current research suggests that even subclinical levels of sexual narcissism influence the use of sexual coercion. Although evidence regarding empathy training, in particular with violent or forensic samples is mixed at best (Day, Casey, & Gerace, 2010), there is some research that suggests that by increasing “communal activation” or promoting empathy and concern for others, those high in general narcissism show more commitment in their romantic relationships (Finkel, Campbell, Buffardi, Kumashiro, & Rusbult, 2009). Therefore, it may be useful for intervention programs to promote empathy for sexual partners in order to address several aspects of sexual narcissism (i.e., low empathy, entitlement, exploitation) and how sexual narcissism may relate to other factors. However, additional research is required to determine whether promoting empathy in the general population is beneficial in preventing sexual coercion. In addition, more research is required to establish which aspects of sexual narcissism (i.e., exploitation, entitlement, etc.) may be relevant for female interventions. This is particularly relevant given that the current study was not able to evaluate which subscales of the sexual narcissism scale were most predictive of sexual coercion. For male-oriented interventions, it will be particularly important to target sexual narcissism in the context of bias towards consent or approach-motivated cues. Interventions designed for male sexual coercion should be multi-faceted and include aspects of promoting empathy and attention to both verbal and non-verbal indicators of consent and non-consent. For female-oriented
interventions, it may be particularly important to address sexual narcissism in the context of not overestimating partners’ interest in sexual activity. For example, interventions could include perspective taking to increase sexual empathy and could challenge traditional sexual scripts of males always desiring sexual activity. However, it is important to note that in the majority of findings regarding sexual narcissism and sexual coercion for our males and females were in the context of an interaction with another variable. Although future research is required to fully understand these relationships, prevention and intervention programs may not need to target sexual narcissism itself, but rather how aspects of sexual narcissism may influence other factors such as attention and perceptions of partner interest and how low sexual narcissism may be protective.

It will be important for both male and female-oriented prevention and intervention programs to challenge biases in perceptions of partner interest. The current research suggests that both males and females who endorse beliefs that their partner may be saying “no” when they mean “yes” may be more likely to use coercion. This is consistent with research regarding endorsement of rape myths (Bohner et al., 2005; Mouilso & Calhoun, 2013; Russell & King, 2016; Ryan, 2004; Murnen et al., 2002; Lonsway & Fitzgerald, 1994). Given this finding, it may be especially important for individuals to better understand consent and the difference between sexual desire, wantedness, and consenting to a sexual interaction. More recently, individuals have begun to publicly discuss their experiences of sexual coercion where they have felt their non-consent has not been ignored or unheard. Given the public attention on sexual coercion, now may be a particularly relevant time for individuals to reflect on their potential biases and beliefs about their sexual partners’ interest and consent. Hopefully with continued public examples and awareness, individuals will be less susceptible to this particular rape myth. Interventions may
also include education dispelling this myth, challenging traditional sexual scripts, and encouraging individuals not to assume a partner’s interest.

**Conclusions**

Sexual coercion continues to be a common and serious concern on university campuses. While this finding has often been highlighted with female undergraduate students, the current research illustrates the significance of males’ experience of sexual coercion. Furthermore, the current research expands previous literature and the understanding of heterosexual males’ and females’ use of sexual coercion. Despite using a robust measure of sexual arousal, we were unable to replicate or extend the finding that subjective or physiological sexual arousal predicts sexual coercion. However, we were able to replicate that males’ perceptions of their partners’ interest predicts the use of sexually coercive behaviour. This finding was extended to females who had average or above average levels of sexual narcissism. We also provided evidence for a novel finding that at average and above average levels of sexual narcissism, males’ bias towards consent cues predicted their use of sexual coercion. By including multiple theories and types of factors, we were able to broaden the understanding of sexual coercion for opposite-sex attracted males and females. The current research also provides insight into future considerations for research and intervention programs.


Murnen, S. K., Wright, C., & Kaluzny, G. (2002). If “boys will be boys,” then girls will be victims? A meta-analytic review of the research that relates masculine ideology to sexual aggression. *Sex roles, 46*(11-12), 359-375.


Table 1
Zero-Order Correlations Between Variables

<table>
<thead>
<tr>
<th></th>
<th>Male $M(SD)$</th>
<th>Female $M(SD)$</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>19.26 (1.47)</td>
<td>18.91 (1.74)</td>
<td>0.05</td>
<td>0.15</td>
<td>0.10</td>
<td>-0.20</td>
<td>-0.04</td>
<td>-0.06</td>
<td>0.26</td>
<td>0.40**</td>
<td>0.09</td>
<td>-0.04</td>
<td>0.13</td>
<td>0.07</td>
<td></td>
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<tr>
<td>2. Porn Freq</td>
<td>5.29 (1.06)</td>
<td>3.26 (1.37)</td>
<td>0.23</td>
<td>0.15</td>
<td>-0.17</td>
<td>0.06</td>
<td>0.13</td>
<td>0.07</td>
<td>0.21</td>
<td>-0.01</td>
<td>-0.24</td>
<td>-0.20</td>
<td>0.33*</td>
<td>-0.27*</td>
<td></td>
</tr>
<tr>
<td>3. Visit</td>
<td>3.35 (2.90)</td>
<td>2.78 (3.21)</td>
<td>0.19</td>
<td>-0.00</td>
<td>-0.00</td>
<td>0.05</td>
<td>0.26</td>
<td>-0.23</td>
<td>-0.16</td>
<td>-0.03</td>
<td>0.09</td>
<td>0.21</td>
<td>0.08</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>4. SEV</td>
<td>2.23 (3.00)</td>
<td>12.41 (13.32)</td>
<td>0.13</td>
<td>0.11</td>
<td>0.15</td>
<td>-0.02</td>
<td>-0.20</td>
<td>-0.08</td>
<td>-0.09</td>
<td>0.003</td>
<td>-0.07</td>
<td>0.13</td>
<td>0.06</td>
<td>0.14</td>
<td></td>
</tr>
<tr>
<td>5. Sub Arou$^1$</td>
<td>3.87 (1.55)</td>
<td>4.40 (1.83)</td>
<td>-0.14</td>
<td>0.12</td>
<td>0.18</td>
<td>-0.13</td>
<td>0.59**</td>
<td>0.28*</td>
<td>0.18</td>
<td>0.08</td>
<td>0.07</td>
<td>0.09</td>
<td>0.07</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>6. Sub Arou$^2$</td>
<td>4.52 (1.62)</td>
<td>4.42 (1.58)</td>
<td>-0.04</td>
<td>0.03</td>
<td>0.12</td>
<td>-0.01</td>
<td>0.76**</td>
<td>-0.06</td>
<td>-0.04</td>
<td>-0.07</td>
<td>0.08</td>
<td>0.02</td>
<td>0.05</td>
<td>-0.10</td>
<td></td>
</tr>
<tr>
<td>7. Phys Arou$^1$</td>
<td>0.54 (0.52)</td>
<td>0.21 (0.32)</td>
<td>-0.07</td>
<td>-0.25*</td>
<td>0.16</td>
<td>-0.18</td>
<td>-0.12</td>
<td>-0.16</td>
<td>0.59**</td>
<td>-0.05</td>
<td>-0.09</td>
<td>-0.06</td>
<td>-0.10</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>8. Phys Arou$^2$</td>
<td>0.41 (0.45)</td>
<td>0.24 (0.29)</td>
<td>-0.06</td>
<td>-0.26*</td>
<td>-0.04</td>
<td>0.02</td>
<td>-0.21</td>
<td>-0.20</td>
<td>0.52**</td>
<td>0.00</td>
<td>-0.13</td>
<td>-0.12</td>
<td>-0.11</td>
<td>-0.36**</td>
<td></td>
</tr>
<tr>
<td>9. Atten</td>
<td>1.61 (30.69)</td>
<td>0.31 (19.15)</td>
<td>-0.14</td>
<td>-0.13</td>
<td>0.16</td>
<td>0.05</td>
<td>-0.08</td>
<td>0.01</td>
<td>-0.05</td>
<td>-0.07</td>
<td>0.04</td>
<td>-0.17</td>
<td>0.14</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>10. Per</td>
<td>3.80 (1.94)</td>
<td>3.35 (2.09)</td>
<td>0.13</td>
<td>0.38**</td>
<td>0.13</td>
<td>0.04</td>
<td>0.19</td>
<td>0.22</td>
<td>-0.21</td>
<td>-0.27*</td>
<td>0.20</td>
<td>0.48**</td>
<td>0.69**</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>11. SNS</td>
<td>45.57 (8.52)</td>
<td>42.35 (7.23)</td>
<td>0.21</td>
<td>0.15</td>
<td>-0.00</td>
<td>-0.22</td>
<td>0.17</td>
<td>0.16</td>
<td>0.03</td>
<td>-0.11</td>
<td>-0.00</td>
<td>0.46**</td>
<td>0.61**</td>
<td>0.46**</td>
<td></td>
</tr>
<tr>
<td>12. Coer</td>
<td>1.36 (1.25)</td>
<td>0.68 (0.94)</td>
<td>0.07</td>
<td>0.45**</td>
<td>0.11</td>
<td>-0.07</td>
<td>0.32*</td>
<td>0.30*</td>
<td>-0.10</td>
<td>-0.11</td>
<td>-0.12</td>
<td>0.59**</td>
<td>0.44**</td>
<td>0.45**</td>
<td></td>
</tr>
<tr>
<td>13. SESP</td>
<td>2.34 (5.85)</td>
<td>0.71 (2.27)</td>
<td>0.23</td>
<td>-0.03</td>
<td>0.23</td>
<td>-0.03</td>
<td>0.04</td>
<td>0.02</td>
<td>0.18</td>
<td>-0.01</td>
<td>-0.25*</td>
<td>-0.15</td>
<td>0.18</td>
<td>-0.09</td>
<td></td>
</tr>
</tbody>
</table>

Note: Correlations above are from the male sample, correlations below the diagonal are from the female sample. Porn Freq=frequency of pornography use, SEV=Sexual Experiences Survey, Victimization Scale, Sub Arou=subjective arousal (arousal condition), Phys Arou=physiological arousal (arousal condition), Atten=biased attention for consent cues (arousal condition), per=perception of partner.
interest (arousal condition), SNS=Sexual Narcissism Scale, Coer=hypothetical sexual coercion (arousal condition), SEP=Sexual Experiences Survey, Perpetration Scale, ¹indicates at session one, ²indicates at session two, *indicates $p<0.05$, **indicates $p<0.01$. 
Table 2

*Video Order Effects on Self-Reported and Physiological Sexual Arousal for Males and Females*

<table>
<thead>
<tr>
<th></th>
<th>Order 1</th>
<th>Order 2</th>
<th>Order 3</th>
<th>Order 4</th>
<th>Order 5</th>
<th>Order 6</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Sub Arou¹</td>
<td>4.74</td>
<td>3.25</td>
<td>3.57</td>
<td>3.35</td>
<td>3.97</td>
<td>4.00</td>
<td>4.52</td>
<td>1.12</td>
</tr>
<tr>
<td>Male Sub Arou²</td>
<td>4.98</td>
<td>4.25</td>
<td>4.66</td>
<td>3.67</td>
<td>4.59</td>
<td>4.53</td>
<td>5.50</td>
<td>0.59</td>
</tr>
<tr>
<td>Female Sub Arou¹</td>
<td>3.89</td>
<td>3.78</td>
<td>3.94</td>
<td>5.17</td>
<td>4.54</td>
<td>4.67</td>
<td>5.59</td>
<td>1.03</td>
</tr>
<tr>
<td>Female Sub Arou²</td>
<td>4.25</td>
<td>3.73</td>
<td>4.49</td>
<td>4.89</td>
<td>4.14</td>
<td>5.10</td>
<td>5.56</td>
<td>1.00</td>
</tr>
<tr>
<td>Male Phys Arou¹</td>
<td>0.80</td>
<td>0.56</td>
<td>0.47</td>
<td>0.51</td>
<td>0.49</td>
<td>0.41</td>
<td>5.52</td>
<td>0.66</td>
</tr>
<tr>
<td>Male Phys Arou²</td>
<td>0.50</td>
<td>0.40</td>
<td>0.44</td>
<td>0.27</td>
<td>0.48</td>
<td>0.23</td>
<td>5.49</td>
<td>0.56</td>
</tr>
<tr>
<td>Female Phys Arou¹</td>
<td>0.31</td>
<td>0.23</td>
<td>0.31</td>
<td>0.13</td>
<td>0.06</td>
<td>0.22</td>
<td>5.59</td>
<td>1.10</td>
</tr>
<tr>
<td>Female Phys Arou²</td>
<td>0.23</td>
<td>0.28</td>
<td>0.22</td>
<td>0.19</td>
<td>0.28</td>
<td>0.24</td>
<td>5.57</td>
<td>0.13</td>
</tr>
</tbody>
</table>

*Note:* Sub Arou=Average maximum change score in self-reported sexual arousal from the beginning of the sexually explicit video; Phys Arou=Average maximum change score in genital temperature from the beginning of the sexually explicit video; Order 1=Neutral, Control, Sexual; Order 2=Neutral, Sexual, Control; Order 3=Control, Neutral, Sexual; Order 4=Control, Sexual, Neutral; Order 5=Sexual, Neutral, Control; Order 6=Sexual, Control, Neutral; ¹Indicates at session one, ²Indicates at session two, *Indicates $p<0.05$, **indicates $p<0.01$. 
### Table 3

*Story Order Effects on Perception of Partner Interest and Hypothetical Sexual Coercion*

<table>
<thead>
<tr>
<th></th>
<th>Order 1</th>
<th>Order 2</th>
<th>Order 3</th>
<th>Order 4</th>
<th>Order 5</th>
<th>Order 6</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Per</td>
<td>4.84</td>
<td>3.18</td>
<td>3.38</td>
<td>4.58</td>
<td>3.78</td>
<td>2.92</td>
<td>5.49</td>
<td>1.59</td>
</tr>
<tr>
<td>Female Per</td>
<td>2.55</td>
<td>3.34</td>
<td>4.75</td>
<td>3.67</td>
<td>3.70</td>
<td>3.28</td>
<td>5.57</td>
<td>1.06</td>
</tr>
<tr>
<td>Male Coerce</td>
<td>1.39</td>
<td>1.39</td>
<td>1.18</td>
<td>1.45</td>
<td>1.38</td>
<td>1.33</td>
<td>5.49</td>
<td>0.05</td>
</tr>
<tr>
<td>Female Coerce</td>
<td>0.61</td>
<td>0.32</td>
<td>0.80</td>
<td>0.71</td>
<td>0.97</td>
<td>0.84</td>
<td>5.57</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*Note:* Per=Perception of Partner Interest (range=0-9); Coerce=Hypothetical sexual coercion (range=0-9); Order 1=Susan/Greg, Anna/Justin, Jenna/Mike; Order 2=Susan/Greg, Jenna/Mike, Anna/Justin; Order 3=Anna/Justin, Susan/Greg, Jenna/Mike; Order 4=Anna/Justin, Jenna/Mike, Susan/Greg; Order 5=Jenna/Mike, Susan/Greg, Anna/Justin; Order 6=Jenna/Mike, Anna/Justin, Susan/Greg; *Indicates p<0.05, **indicates p<0.01.
Table 4

*Video Effects on Self-Reported and Physiological Sexual Arousal, Motivation for Sex and Motivation to Eat for Males*

<table>
<thead>
<tr>
<th></th>
<th>Sexual $M(SD)$</th>
<th>Control $M(SD)$</th>
<th>Neutral $M(SD)$</th>
<th>df</th>
<th>$F$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continual Sub Arousal$^1$</td>
<td>3.87(1.55)</td>
<td>0.39(1.08)</td>
<td>0.34(0.80)</td>
<td>1.27,55</td>
<td>210.34***</td>
<td>0.79</td>
</tr>
<tr>
<td>Continual Sub Arousal$^2$</td>
<td>4.52(1.62)</td>
<td>0.31(0.86)</td>
<td>0.31(0.72)</td>
<td>1.27,53</td>
<td>324.37***</td>
<td>0.86</td>
</tr>
<tr>
<td>Single Sub Arousal$^1$</td>
<td>4.55(2.00)</td>
<td>0.41(1.09)</td>
<td>0.29(0.73)</td>
<td>1.29,56</td>
<td>241.85***</td>
<td>0.81</td>
</tr>
<tr>
<td>Single Sub Arousal$^2$</td>
<td>4.80(2.09)</td>
<td>0.45(1.03)</td>
<td>0.38(0.83)</td>
<td>1.31,53</td>
<td>216.24***</td>
<td>0.80</td>
</tr>
<tr>
<td>Phys Arousal$^1$</td>
<td>0.54(0.52)</td>
<td>0.00(0.16)</td>
<td>0.04(0.20)</td>
<td>1.38,56</td>
<td>47.72***</td>
<td>0.46</td>
</tr>
<tr>
<td>Phys Arousal$^2$</td>
<td>0.41(0.45)</td>
<td>-0.01(0.14)</td>
<td>0.02(0.19)</td>
<td>1.24,52</td>
<td>31.37***</td>
<td>0.37</td>
</tr>
<tr>
<td>Motivation for Sex$^1$</td>
<td>5.76(2.18)</td>
<td>1.76(2.26)</td>
<td>1.34(1.73)</td>
<td>1.58,56</td>
<td>159.25***</td>
<td>0.74</td>
</tr>
<tr>
<td>Motivation for Sex$^2$</td>
<td>5.84(2.01)</td>
<td>1.16(1.64)</td>
<td>1.27(1.87)</td>
<td>1.31,53</td>
<td>223.53***</td>
<td>0.81</td>
</tr>
<tr>
<td>Motivation to Eat$^1$</td>
<td>3.52(2.30)</td>
<td>6.38(2.39)</td>
<td>3.78(2.49)</td>
<td>1.77,56</td>
<td>58.22***</td>
<td>0.51</td>
</tr>
<tr>
<td>Motivation to Eat$^2$</td>
<td>2.82(2.46)</td>
<td>4.71(2.61)</td>
<td>2.69(2.32)</td>
<td>1.69,53</td>
<td>24.26***</td>
<td>0.31</td>
</tr>
</tbody>
</table>

*Note:* Continual Sub Arousal=change score in self-reported sexual arousal measured throughout the video, Single Sub Arousal=single-item measure of self-reported sexual arousal measured after the video, Phys Arousal=change score in genital temperature measured throughout the video, Motivation for Sex=single-item measure of motivation to engage in sex measured after the video, Motivation to Eat=single-item measure of motivation to eat measured after the video. $^1$indicates session one, $^2$indicates session two, *indicates $p<0.05$, **indicates $p<0.01$, ***indicates $p<0.001$, †indicates Greenhouse-Geisser corrected for violating Mauchley’s test of sphericity.
Table 5

*Video Condition Effects on Biased Attention for Consent Cues, Perception of Partner Interest, and Hypothetical Sexual Coercion for Males and Females*

<table>
<thead>
<tr>
<th></th>
<th>Sexual M(SD)</th>
<th>Control M(SD)</th>
<th>Neutral M(SD)</th>
<th>df</th>
<th>F</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Attention</td>
<td>1.61(30.69)</td>
<td>-1.95(22.55)</td>
<td>0.92(25.66)</td>
<td>1.56†,56</td>
<td>0.38</td>
<td>0.01</td>
</tr>
<tr>
<td>Female Attention</td>
<td>0.31(19.15)</td>
<td>-2.91(26.81)</td>
<td>0.04(25.95)</td>
<td>2.63</td>
<td>0.35</td>
<td>0.01</td>
</tr>
<tr>
<td>Male Perception</td>
<td>3.80(1.94)</td>
<td>3.62(1.74)</td>
<td>3.71(2.04)</td>
<td>2.53</td>
<td>0.29</td>
<td>0.01</td>
</tr>
<tr>
<td>Female Perception</td>
<td>3.35(2.09)</td>
<td>3.21(1.69)</td>
<td>3.02(1.84)</td>
<td>2.60</td>
<td>1.24</td>
<td>0.02</td>
</tr>
<tr>
<td>Male Coerce</td>
<td>1.36(1.25)</td>
<td>1.03(1.09)</td>
<td>1.22(1.28)</td>
<td>1.75†,53</td>
<td>3.58†</td>
<td>0.06</td>
</tr>
<tr>
<td>Female Coerce</td>
<td>0.68(0.94)</td>
<td>0.64(0.82)</td>
<td>0.57(0.75)</td>
<td>2.60</td>
<td>0.95</td>
<td>0.02</td>
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</tbody>
</table>

*Note:* Attention=Biased attention to consent cues; Perception=Perception of partner interest; Coerce=Hypothetical sexual coercion; †Indicates p<0.05; ‡Indicates Greenhouse-Geisser corrected for violating Mauchley’s test of sphericity.
Table 6

*Video Effects on Self-Reported and Physiological Sexual Arousal, Motivation for Sex and Motivation to Eat for Females*

<table>
<thead>
<tr>
<th></th>
<th>Sexual</th>
<th>Control</th>
<th>Neutral</th>
<th>df</th>
<th>F</th>
<th>η²</th>
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<tbody>
<tr>
<td></td>
<td>M(SD)</td>
<td>M(SD)</td>
<td>M(SD)</td>
<td></td>
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<tr>
<td>Continual Sub Arousal¹</td>
<td>4.40(1.83)</td>
<td>0.34(0.67)</td>
<td>0.39(0.97)</td>
<td>1.37,61</td>
<td>254.27***</td>
<td>0.80</td>
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<tr>
<td>Continual Sub Arousal²</td>
<td>4.42(1.58)</td>
<td>0.34(0.80)</td>
<td>0.33(0.83)</td>
<td>1.18,59</td>
<td>307.75***</td>
<td>0.84</td>
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<tr>
<td>Single Sub Arousal¹</td>
<td>4.98(1.75)</td>
<td>0.43(0.75)</td>
<td>0.46(0.83)</td>
<td>1.42,63</td>
<td>415.75***</td>
<td>0.87</td>
</tr>
<tr>
<td>Single Sub Arousal²</td>
<td>5.32(1.85)</td>
<td>0.73(1.19)</td>
<td>0.53(0.95)</td>
<td>1.39,60</td>
<td>414.14***</td>
<td>0.87</td>
</tr>
<tr>
<td>Phys Arousal¹</td>
<td>0.21(0.32)</td>
<td>-0.06(0.05)</td>
<td>-0.05(0.06)</td>
<td>1.10,63</td>
<td>41.87***</td>
<td>0.40</td>
</tr>
<tr>
<td>Phys Arousal²</td>
<td>0.24(0.29)</td>
<td>-0.06(0.06)</td>
<td>-0.04(0.07)</td>
<td>1.14,60</td>
<td>54.58***</td>
<td>0.47</td>
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<tr>
<td>Motivation for Sex¹</td>
<td>5.92(2.09)</td>
<td>1.20(1.65)</td>
<td>1.28(1.95)</td>
<td>1.79,63</td>
<td>292.44***</td>
<td>0.82</td>
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<tr>
<td>Motivation for Sex²</td>
<td>5.94(2.10)</td>
<td>1.52(1.98)</td>
<td>1.34(1.95)</td>
<td>1.75,60</td>
<td>260.38***</td>
<td>0.81</td>
</tr>
<tr>
<td>Motivation to Eat¹</td>
<td>2.91(2.32)</td>
<td>6.75(2.38)</td>
<td>3.03(2.66)</td>
<td>2.63</td>
<td>106.25***</td>
<td>0.62</td>
</tr>
<tr>
<td>Motivation to Eat²</td>
<td>2.24(2.41)</td>
<td>5.53(2.50)</td>
<td>2.60(2.48)</td>
<td>1.59,60</td>
<td>71.25***</td>
<td>0.54</td>
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</table>

*Note:* Continual Sub Arousal=change score in self-reported sexual arousal measured throughout the video, Single Sub Arousal=single-item measure of self-reported sexual arousal measured after the video, Phys Arousal=change score in genital temperature measured throughout the video, Motivation for Sex=single-item measure of motivation to engage in sex measured after the video, Motivation to Eat=single-item measure of motivation to eat measured after the video, ¹indicates session one, ²indicates session two, *indicates p<0.05, **indicates p<0.01, ***indicates p<0.001, †indicates Greenhouse-Geisser corrected for violating Mauchley’s test of sphericity.
Figure 1. Study design and procedure of the two study visits.
Figure 2. Theoretical model of sexual coercion. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion.
Figure 3. Male self-reported sexual arousal over time in different videos. S1=session one, S2=session two.
Figure 4. Female self-reported sexual arousal over time in different videos. S1=session one, S2=session two
Figure 5. Change in male and female physiological sexual arousal in different videos. S1=session one, S2=session two
Figure 6. Male physiological arousal model. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 7. Male subjective arousal model. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
**Figure 8.** Female physiological arousal model. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 9. Female subjective arousal model. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 10. Physiological arousal model with gender as a moderator. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, W=gender, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 11. Subjective arousal model with gender as a moderator. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, W=gender, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
<table>
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<tr>
<th>Neutral words:</th>
<th>Consent words:</th>
<th>Non-consent words:</th>
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</thead>
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<tr>
<td>actor</td>
<td>allow</td>
<td>decline</td>
</tr>
<tr>
<td>cap</td>
<td>alright</td>
<td>deny</td>
</tr>
<tr>
<td>desert</td>
<td>approve</td>
<td>disapprove</td>
</tr>
<tr>
<td>echo</td>
<td>comply</td>
<td>never</td>
</tr>
<tr>
<td>idea</td>
<td>fine</td>
<td>no</td>
</tr>
<tr>
<td>lot</td>
<td>more</td>
<td>protest</td>
</tr>
<tr>
<td>luck</td>
<td>okay</td>
<td>refrain</td>
</tr>
<tr>
<td>meeting</td>
<td>permission</td>
<td>refuse</td>
</tr>
<tr>
<td>nation</td>
<td>permit</td>
<td>refute</td>
</tr>
<tr>
<td>park</td>
<td>willing</td>
<td>refute</td>
</tr>
<tr>
<td>rainbow</td>
<td>yes</td>
<td>resist</td>
</tr>
<tr>
<td>bacon (dropped from analysis)</td>
<td>please (dropped from analysis)</td>
<td>reject</td>
</tr>
<tr>
<td>stop</td>
<td></td>
<td>resist</td>
</tr>
</tbody>
</table>
Appendix B

Date Scenario – Susan/Greg

For male participants:
You and Susan have just returned to her apartment after spending the night at a local bar. It is 2 o’clock in the morning. You have been talking and having a great time with Susan all night. Once you get to Susan’s apartment, where she lives alone, she grabs you a drink, puts on a band she said she wanted you to hear and you sit down on her couch. After listening to music for a few minutes, Susan turns down the lights and begins to kiss you and rub your penis through your pants. In response, you begin to kiss Susan deeper. You then reach under her skirt and begin to attempt to remove Susan’s clothes. Susan doesn’t physically stop you, she tells you that she really likes you, but she isn’t sure she wants to go any further.

For female participants:
You and Greg have just returned to his apartment after spending the night at a local bar. It is 2 o’clock in the morning. You have been talking and having a great time with Greg all night. Once you get to Greg’s apartment, where he lives alone, he grabs you a drink, puts on a band he said he wanted you to hear and you sit down on his couch. After listening to music for a few minutes, Greg turns down the lights and begins to kiss you and rub your clitoris through your pants. In response, you begin to kiss Greg deeper. You then reach down the front of Greg’s pants and begin to attempt to remove Greg’s clothes. Greg doesn’t physically stop you, he tells you that he really likes you, but he isn’t sure he wants to go any further.
Please respond to the following questions with a number between 0% and 100%, with 0% indicating not at all willing/no pleasure/no desire/not at all likely and 100% indicating completely willing/a lot of pleasure/definite desire/completely likely.

1) How willing do you think Susan[Greg] is in having sex?
2) How much pleasure do you Susan[Greg] was experiencing in this story?
3) How much do you think Susan[Greg] wants you to continue pursuing them?
4) How likely is that that Susan[Greg] is suggesting they are not interested when they really are?

How likely would you be to act in the following ways? Please respond with a number between 0% likely (I would never do this) to 100% likely (I most definitely would do this).

1) I would convince her[him] to take her[his] clothes off
2) I would continue kissing and touching her[him] and try again later
3) I would say something I did not mean to get her[him] to have sex
4) I would try and get her[him] drunk in order to have sex with her[him]
5) I would have sex with her[him] even if she[he] protested
6) I would suggest we just keep kissing (dropped from analysis)
7) I would remind her[him] that no one is home and she[he] invited me over

Date Scenario – Anna/Justin

For male participants:

You and Anna have been hanging out at a party at her house. It is very late and people are leaving, Anna invites you to stay a little longer. Once everyone is gone, Anna says she’s not tired yet, she asks if you want to watch a movie, you agree, and she sits down next to you. The movie has barely started when Anna moves closer to you on the couch and she begins to kiss you. She
slides her hand down the front of your jeans. In response, you move your hand between Anna’s legs and you move to remove her clothes. Anna tells you she’s having a great time, but she is really tired now and thinks you should go home. Anna doesn’t move, but looks at you expecting a response.

For female participants:

You and Justin have been hanging out at a party at his house. It is very late and people are leaving, Justin invites you to stay a little longer. Once everyone is gone, Justin says he’s not tired yet, he asks if you want to watch a movie, you agree, and he sits down next to you. The movie has barely started when Justin moves closer to you on the couch and begins to kiss you. He slides his hand down the front of your jeans. In response, you rub Justin’s penis through his jeans and you move to remove his clothes. Justin tells you he’s having a great time, but he is really tired now and thinks you should go home. Justin doesn’t move, but looks at you expecting a response.

Please respond to the following questions with a number between 0% and 100%, with 0% indicating not at all willing or no pleasure and 100% indicating completely willing or a lot of pleasure.

1) How willing do you think Anna[Justin] is in having sex?

2) How much pleasure do you Anna[Justin] was experiencing in this story?

3) How much do you think Anna[Justin] wants you to continue pursuing them?

4) How likely is that that Anna[Justin] is suggesting they are not interested when they really are?

How likely would you be to act in the following ways? Please respond with a number between 0% likely (I would never do this) to 100% likely (I most definitely would do this).
1) I would convince her[him] to take her[his] clothes off
2) I would continue kissing and touching her[him] and try again later
3) I would say something I did not mean to get her[him] to have sex
4) I would try and get her[him] drunk in order to have sex with her[him]
5) I would have sex with her[him] even if she[he] protested
6) I would leave her[his] place (dropped from analysis)
7) I would tell her[him] I lived far and it would be really hard to get a cab

Date Scenario – Jenna/Mike

For male participants:

You and Jenna are camping with some friends. It’s late, but there are still some people still sitting around the campfire, Jenna says you two should talk in her tent, which no one else is sleeping in. Jenna says she wants to hear the end of a story you were telling her earlier. After talking for a few minutes, Jenna laughs and touches your arm, you smile in return. Jenna turns out her flashlight and begins to kiss you, she pulls you closer and straddles you. In response, you pull her hips towards you so she can feel your penis through your pants and you begin to attempt to unbutton her pants. Jenna, still straddling you, tells you she likes you, but she thinks maybe you should wait to take it any further.

For female participants:

You and Mike are camping with some friends. It’s late, but there are still some people sitting around the campfire, Mike says you two should talk in his tent, which no one else is sleeping in. Mike says he wants to hear the end of a story you were telling him. After talking for a few minutes, Mike laughs and brushes your hair away from your face, you smile in return. Mike turns out his flashlight and begins to kiss you, he pulls you closer and moves you onto his lap. In
response, you push your hips towards him rubbing his penis through his pants and you begin to attempt to unzip his pants. Mike, with his hands still on your hips, tells you he likes you, but he thinks maybe you should wait to take it any further.

Please respond to the following questions with a number between 0% and 100%, with 0% indicating not at all willing or no pleasure and 100% indicating completely willing or a lot of pleasure.

1) How willing do you think Jenna[Mike] is in having sex?
2) How much pleasure do you Jenna[Mike] was experiencing in this story?
3) How much do you think Susan[Greg] wants you to continue pursuing them?
4) How likely is that that Susan[Greg] is suggesting they are not interested when they really are?

How likely would you be to act in the following ways? Please respond with a number between 0% likely (I would never do this) to 100% likely (I most definitely would do this).

1) I would convince her[him] to take her[his] clothes off
2) I would continue kissing and touching her[him] and try again later
3) I would say something I did not mean to get her[him] to have sex
4) I would try and get her[him] drunk in order to have sex with her[him]
5) I would have sex with her[him] even if she[he] protested
6) I would say we could just keep talking (dropped from analysis)
7) I would say people are going to think we are having sex anyways
Appendix C

Non-Arousal Condition Models

Figure 12. Male physiological arousal model in the neutral condition. $X=$ arousal at time one, $M_1=$ arousal at time two, $M_2=$ biased attention to consent cues, $M_3=$ perception of partner interest, $Z=$ sexual narcissism, $Y=$ hypothetical coercion. Direct effects are represented with unstandardized coefficients. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. 
Figure 13. Male subjective arousal model in the neutral condition. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 14. Male physiological arousal model in the control condition. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 15. Male subjective arousal model in the control condition. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 16. Female physiological arousal model in the neutral condition. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 17. Female subjective arousal model in the neutral condition. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
Figure 18. Female physiological arousal model in the control condition. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.
**Figure 19.** Female subjective arousal model in the control condition. X=arousal at time one, M1=arousal at time two, M2=biased attention to consent cues, M3=perception of partner interest, Z=sexual narcissism, Y=hypothetical coercion. Direct effects are represented with unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.