

**Sexual Motives in Heterosexual Women With and Without Sexual Problems**

**By**  
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## ABSTRACT

### **SEXUAL MOTIVES IN HETEROSEXUAL WOMEN WITH AND WITHOUT SEXUAL PROBLEMS**

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The most commonly reported sexual concerns for women are low desire and orgasm difficulties (Laumann, Paik & Rosen, 1999; Laumann et al., 2005). Previous research indicates that women with sexual problems may have different reasons for engaging in sex than women with healthy sexual functioning (Giles & McCabe, 2009; Sand & Fisher, 2007). The current study investigated whether motivations for sex differed by levels of sexual functioning overall and specifically among women with and without problems with sexual desire or orgasm. Seven hundred and eight heterosexual women completed an online questionnaire assessing reasons for sex and sexual functioning. Women with sexual functioning concerns were more likely to endorse insecurity reasons for sex, while women without were more likely to endorse physical reasons for sex. Women experiencing low desire were less likely to endorse emotional and physical reasons for sex. Women experiencing orgasm difficulties were more likely to endorse insecurity reasons. The limitations and implications of the results are discussed.

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## Literature Review

### Introduction

Research has demonstrated that sexual dysfunctions are prevalent, especially among women (Laumann et al., 2005). It is estimated that between 18% and 43% of women report sexual functioning concerns, with lack of interest in sex being the most commonly reported concern followed by inability to orgasm (Laumann, Paik & Rosen, 1999; Laumann et al., 2005; Mercer et al., 2003). Sexual functioning has shown positive associations with relationship satisfaction, marital happiness, personal well-being and relationship stability (Heiman, 2002; Shifren, Monz, Russo, Segreti, & Johannes, 2008). Previous research indicates a link may exist between sexual functioning and sexual motives. It has been suggested that women with sexual problems may have different reasons for engaging in sex than women with healthy sexual functioning (Basson, 2000; Giles & McCabe, 2009; Sand & Fisher, 2007).

Previously, reasons for sex were considered to be few; traditional models of sexual response emphasized pleasure, release of sexual tension and reproduction as reasons for engaging in sex (Masters & Johnson, 1966). More recent research acknowledges the diversity of sexual motives, including emotional, relational and psychosocial (Carroll, Volke, & Hyde, 1985; Hill & Preston, 1996; Meston & Buss, 2007). Women's sexual motives are purported to be especially complex and not always related to sexual desire, or even sexual in nature (Basson, 2003; Cawood & Bancroft, 1996). Preliminary studies have identified that women with sexual concerns endorse models of sexual response that include emotional and intimacy motives over sexual drives, however no empirical research has assessed this connection (Giles & McCabe, 2009; Sand & Fisher, 2007). An examination of the sexual motives of women by levels of sexual functioning will lead to a better understanding of women's sexual behavior and will add further insight to the existing literature demonstrating the variability of women's reasons for sex.

## **Sexual Functioning**

Sexuality is an important element in human life. Healthy sexual functioning has been shown to be associated with personal well-being and general happiness (Heiman, 2002). Furthermore, sexual functioning has an important impact on romantic relationships showing a positive association with relationship satisfaction, marital happiness and relationship stability (Heiman, 2002; Shifren et al., 2008). Sexual problems can greatly impact one's self-esteem and personal well-being, resulting in decreased happiness (Heiman, 2002). In one study, the association between sexual problems and low personal and emotional satisfaction was found to be more extensive and more severe for women than men (Laumann et al., 1999). Further studies have shown associations between sexual problems and stress, anxiety and depression (Shifren et al., 2008). Several studies have identified marital strain and relationship instability as negative consequences of sexual problems (Heiman, 2002; Morokoff & Gilliland, 1993; Pridal & LoPiccolo, 2000).

The profound impact of sexual problems on both personal and relational aspects of life is especially concerning given the prevalence of reported sexual dysfunctions. A U.S study conducted by Laumann et al. (1999) indicated that 16% to 32% of adult women aged 18-29 reported experiencing trouble with a least one sexual function in the past month. The most common was lack of interest in sex (32%), with sex not being pleasurable (27%) following closely behind. Other sexual complaints included arousal problems (14%), and sexual pain (7%). This study has been criticised for using the term "sexual dysfunction" to represent any sexual difficulty without adequate consideration of duration or severity (Mercer et al., 2003). Whereas the authors acknowledged their classification may not be reflective of a clinical diagnosis of sexual dysfunction, their findings nevertheless, are supported by numerous other studies. Data

from a multinational survey of older adults mirrored these trends showing between 18%-43% of women reported at least one sexual concern persisting two months or longer. Lack of interest in sex remained high for women (26%-43%) and inability to reach orgasm was similarly prevalent (18% - 41%) (Laumann et al., 2005). In a study of British women, Mercer et al. (2003) found that 53.8% had experienced a sexual problem that lasted over a month in duration, with other studies placing community estimates as high as 63% of women (Heiman, 2002). A more recent population-based, cross-sectional study reports an age adjusted prevalence of 43.1%. Lack of interest in sex remained the most frequent concern (38.7%), with low arousal at 26.1% and orgasm difficulties at 20.5% (Shifren et al., 2008).

The Female Sexual Functioning Index (FSFI) assesses six domains of sexual dysfunction through self-report of experiences. These dysfunctions include a persistent delay in or an inability to reach orgasm including satisfaction with orgasmic frequency, lack of interest in sex, pain during sex, problems with arousal and lubrication, and low subjective satisfaction (Rosen et al. 2000). Lack of interest in sex is characterised by persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity that causes marked distress or interpersonal difficulty (Basson et al., 2000; Brotto, 2010). Problems with arousal relate to an inability to attain or maintain an adequate lubrication-swelling response of sexual excitement until the completion of sexual activity. Upcoming changes to the DSM propose a merger of problems with desire and arousal. Problems can also relate to a lack of “subjective arousal” (American Psychiatric Association, 1994; Basson et al., 2000). Persistent or recurrent delay in, or absence of, orgasm following a “normal” sexual excitement phase characterises the DSM-IV definition of Female Orgasmic Disorder. The pain domain of the FSFI includes various pains associated with intercourse. Pain can occur during intercourse (Dyspareunia) or pain can prevent intercourse due

to vaginal spasms (Vaginismus) (Basson et al., 2000; Brotto, 2010, Heiman, 2002). Finally, level of subjective sexual satisfaction is an important component of the experience and classification of sexual problems.

The aetiology for each dysfunction is variable; Basson (2005) notes that even when physiological factors are identified, the dysfunction may result entirely from psychological roots making each of these disorders subject to “psychosomatic” criticisms. Several factors have been associated with sexual dysfunction including age, hormonal birth control, menopause and antidepressants (Deeks & McCabe, 2001; Rothschild, 2000; Shifren et al., 2008; Wallweiner et al., 2010).

Research has demonstrated substantial differences in the reported prevalence of sexual problems by age (Meston, Hamilton & Harte, 2009). Overall sexual functioning disturbances are more prevalent in older age cohorts (Dennerstein, Koochaki, Barton & Graziottin, 2006; Lieblum, Koochaki, Rodenberg, Barton, & Rosen, 2006; Shifren et al., 2008). Studies show disinterest in sex is more common in women in their early to mid-forties, while pain during intercourse, greater difficulty with lubrication, trouble achieving orgasm, as well as increased sexual anxiety, are more often reported by women in their late teens and early twenties (Laumann et al., 1994).

### **Disrupted sexual functioning**

The criticism of the use of the term “sexual dysfunction” by Laumann et al. (1999) is an example of the ongoing debate in the sexuality literature over how to define sexual functioning (Basson, 2005). Previously, diagnoses of sexual dysfunction were made at the discretion of the physician (American Psychiatric Association, 1994), and only recently has subjective experience of sexual problems including personal distress been taken into consideration (American

Psychiatric Association, 2000; Basson et al., 2000). The concern with using the term sexual dysfunction in non-clinical literature stems from the criticism that sexuality has become increasingly medicalised, implying a “normal” standard of sexuality exists which may not be representative of broader populations (Basson, 2003; Brotto, 2010; Stephenson & Meston, 2010; Tiefer, 2010). Studies in which female sexual distress was assessed in conjunction with occurrences of sexual problems showed significantly lower rates of problems in contrast with studies which did not take distress into account (Dennerstein et al., 2006; Shifren et al., 2008; Witting et al., 2008).

The term sexual dysfunction is used when a clinical diagnosis is made using the DSM-IV criteria, wherein ‘abnormal’ sexual functioning is present causing distress to the individual (Tiefer, 2010). However, non-clinical terms such as sexual problems or sexual concerns have typically been used to reflect sexual occurrences where an individual is indeed unhappy or disturbed by the experience, but has not necessarily received medical attention or a diagnosis (Laumann et al., 2005; The Working Group for A New View of Women’s Sexual Problems, 2002). For these reasons a divide has emerged regarding the appropriate terminology to describe this construct. This thesis has adopted the terminology specific to each study. When analyzing and discussing the results of the current investigation, the term “sexual dysfunction” was adopted to denote women who scored below 26.55 on the FSFI as this score is congruent with, and used in, clinical diagnosis situations (Rosen et al., 2000). However the term “sexual problems” has been used to describe any problems for which a validated clinical score has not been used, such as for the analysis and subsequent reporting of results related to motivations for sex by levels of orgasm and desire.

## **Models of Sexual Response**

Several models have characterized the components of sexual response in an effort to help explain various elements of sexual functioning (Basson, 2001; Kaplan, 1977; Masters & Johnson, 1970). Masters and Johnson (1966) developed the first sexual response model in which sexual functioning was conceptualized as a linear progression through four physiological stages of sexual response. The first stage, excitement, was characterized by a physiological preparedness to engage in sexual behavior. This was followed by plateau. Masters and Johnson suggested that if sufficient mental and physical stimulation occurred, an individual would experience orgasmic release, or the feeling of extreme pleasure and satisfaction. Finally, the model concluded with resolution, or the return to a pre-aroused state where sexual tension is significantly lessened.

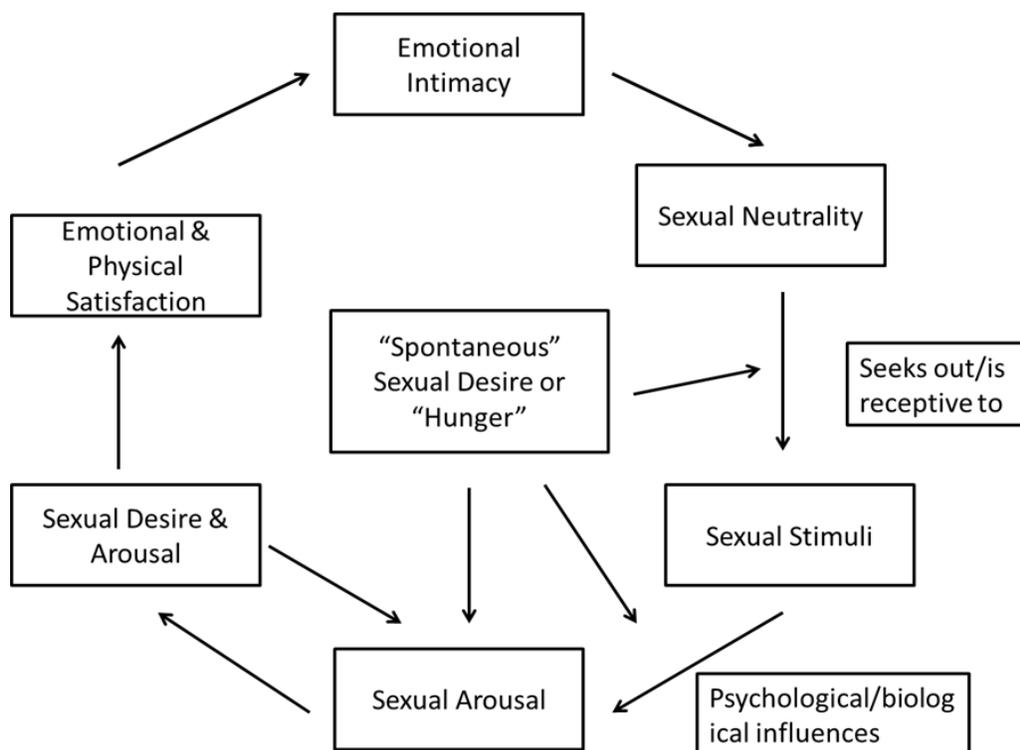
Kaplan (1977) rejected the notion of a purely physiological model heavily based on genital arousal and expanded on Masters and Johnson's original conceptualization by adding a psychological component, desire. Kaplan argued that interest in sex preceded engaging in sex and thus, desire, defined by one's hunger, or interest in sex, should initiate the process (Kaplan, 1977). In her model, desire initiates sexual response, which is followed by the experience of arousal (originally termed excitement), then followed by orgasm and finally concludes with resolution.

A combination of both Masters and Johnson's (1966) and Kaplan's (1977) conceptualizations is referenced in the sexuality literature as the Masters/Johnson/Kaplan Model (Basson, 2000). Whereas this model has been very influential in the field of sexuality as a theoretical guide to locating, defining and treating sexual problems, it largely assumes that reasons for sex are limited to pleasure, release of sexual tension and reproduction, thus giving

little acknowledgement of potential cognitive and affective components of sexual response. More recently, Basson (2000) put forth a model of sexual response that captures the interactional nature of body and mind in processing sexual stimuli. Basson proposes a circular model of sexual response that deemphasizes the role of orgasm, and does not necessitate a chronological progression through set stages, but rather acknowledges the circular and reciprocal nature of subjective sexual arousal (Basson, 2000) (Figure 1).

Basson (2000) originally developed the model of female sexual response for women based on the premise that sexual responses are highly variable both between and within individuals. Many factors such as sexual context, personal or familial stress, dyadic influences such as relationship duration, and age lead to a variation in sexual response. In her clinical work, Basson found women often began sexual activity from a state of neutrality, rather than lust. This finding was congruent with Cawood and Bancroft's (1996) findings that women's sexual response occurred after a decision was made to engage in sexual activity. Additionally, Basson (2001) observed that when initiating sexual activity, women sought to achieve numerous non-sexual goals, in addition to sexual goals, such as seeking love, compassion and intimacy. This observation was especially evident in relationships that were long-term commitments (Basson, 2000; 2001; 2003). Basson's model of female sexual response thus acknowledges various cognitive and emotional motives of sexual behavior and incorporates the unique influence of biological and psychosocial factors on women's sexual experience.

Figure 1. Basson's (2000) model of female sexual response



### Theories and Models of Sexual Motivation

Numerous scholars have attempted to explain sexual motivation in humans (e.g. Buss, 1998; Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Greiling & Buss, 2000; Hill & Preston, 1996). The present study is guided using the Incentive Motivation Model and Social Exchange Theory as frameworks.

**Incentive Motivation Model.** Hill and Preston (1996) explained motivation as a state of increased interest in, and behaviour directed towards, a particular goal. They posited that motivation can arise from both internal drives and external incentives (Hill & Preston, 1996; Sdorow, 1998; Singer & Toates, 1987). Hill and Preston (1996) developed an incentive motivation model to reflect the role of internal drives and external incentives as behavioural motivators. They proposed motivational behaviour is dually influenced by situational factors, such as the availability of incentives external to the individual, and internal factors, such as the

value a person places on each incentive. The strength of the value directly corresponds with an increase in motivation (Hill & Preston, 1996). Additionally, Hill and Preston (1996) propose motivational behaviour is a highly subjective experience. The incentive motivation model acknowledges cultural, evolutionary, and biopsychosocial influences on behaviour and thus, can be used to explain the highly individual experience of desire and arousal in women (Basson, 2000). For example, Meston and Buss (2007), found even a homogeneous sample of undergraduates revealed significant variability in the rated importance of particular sexual motives; Meston explains, “one person’s seemingly trivial reasons for having sex might well be another person’s magnificent obsession” (Meston & Buss, 2007 pp. 499). Incentive motivation models posit that sexual pleasure is achieved through attainment of personal sexual goals (Hill & Preston, 1996). Impett, Peplau and Gable, (2005) demonstrated that, at times, individuals seek positive outcomes from sexual activity while at other times, individuals engage in sexual activity to avoid negative experiences, such as conflict in a relationship or sexual frustration. Impett, Gordon and Strachman (2008) found that individuals with avoidant attachments not only had sex to avoid negative relational consequences, but were additionally less likely to have sex to express love. This finding is consistent with previous research demonstrating avoidant attached individuals are emotionally detached during sex and lack interest in affection or intimacy, but more interested in pursuing sex for self-interested, self-focused goals like feeling good about themselves or to boost self-image (Birnbaum, Reis, Mikulincer, Gillath & Orpaz, 2006). Incentive motivation could explain the pursuit of sexual activity for nonsexual reasons, or reasons unrelated to physical pleasure, such as insecurity or goal attainment, as means of seeking pleasure from sexual activity. Further, incentive motivation could also explain the variability, or multiplicity, of sexual motives operating during any given sexual encounter.

**Social Exchange Theory.** Social Exchange Theory (SET) as proposed by Thibaut and Kelley (1959) can also be used to explain the diversity of motives reported by individuals (Meston & Buss, 2007). SET suggests that individuals enter relationships weighing the costs versus benefits they are likely to experience with any given partner, situation or behaviour (Boul, Hallam-Jones, & Wylie, 2009). Behaviour is thus motivated by individuals seeking to maximise benefits like love and companionship, while simultaneously minimising costs like work and conflict. In this regard, Boul et al., (2009) posits that sex is used as a form of currency or resource; it may be used or traded to achieve levels of agreement or compromise in a relationship, or even as a means to obtain advantage. Likewise, Basson (2005) reflects that many women engage in sex for the “spin-offs” they receive including acceptance, bonding, closeness and tolerance. This theory explains why women might report a variety of motives for sex that are non-sexual, non-physiological or pleasure driven. SET further supports motives for the continued engagement in sexual behaviours despite the experience of sexual problems (Vannier & O’Sullivan, 2010). Non-sexual “spin-offs” gained by engaging in sex are not dependent upon sexual function, and thus sex may persist motivated by these spin-offs, even in the face of sexual problems. It is possible that these non-sexual benefits may serve to positively reinforce sexual behaviour where sexual functioning can not.

### **Research on Motivations and Reasons for Sex**

Previous reasons for sexual behaviour were considered to be few and assumed to be driven by physiology or related to evolutionary needs. Reproduction, release of sexual tension and pleasure were emphasised by traditional models of sexual response as the primary reasons for engaging in sex (Masters & Johnson, 1970). However, more recent research acknowledges the diversity of sexual motives, including emotional, relational, and psychosocial (Browning,

Hatfield, Kessler, & Levine, 2000; Carroll et al., 1985; Cooper, Shapiro, & Powers, 1998; Hill & Preston, 1996; Hill, 1997; Impett, & Peplau, 2002; Leigh, 1989; Meston & Buss, 2007).

Women's sexual motives, in particular, are complex (Basson, 2003). Research shows that women initiate sexual activity for reasons unrelated to sexual desire (e.g. Beck, Bozman, & Qualtrough, 1991; Cawood & Bancroft, 1996; Everaerd, Laan, Both, & van der Velde, 2000; Galyer, Conaglen, Hare & Conaglen, 1999; Garde & Lunde, 1980; Klausmann, 2002), and often based on a system of rewards or gains not limited to sex, or biological urge (Basson, 2000; 2001, 2002a). Several studies cite "intimacy" as the primary reason women engage in sexual activity (e.g. Carroll et al., 1985; Denney et al., 1984; Leigh, 1989).

Sexual motivation is, surprisingly, an insufficiently studied topic (Meston & Buss, 2007). Nelson (1978) constructed the first scales to measure sexual motives. Factor analysis yielded five reasons for engaging in sexual behaviour including love and affection, conformity, pleasure, recognition-competition and power (dominance and submission). It was found that a higher percentage of women than men endorsed submission as their primary sexual motive.

Carroll et al. (1985) asked the open ended question "what would be your reasons for engaging in sex?" to a sample of college students and divided their reasons for sex into four categories: Feeling horny, pleasure reasons, emotional reasons and "other". More women than men cited feeling "horny" (46% of women compared to 36% of men), however the most common reasons for engaging in sex among women overall were emotional in nature (58%). Carroll et al. (1985) posited that sexual activity for women is an adapted means of communicating love as many women are not aware of their physiological arousal. Women in this sample placed importance on feeling loved and needed and were unlikely to pursue sex for pleasure in the absence of psychological or relational reasons.

Whitley (1988) also asked male and female university students to report the primary reason they engaged in sexual intercourse on the most recent occasion. As in previous research, “lust/pleasure” and “love/emotions” were common reasons cited for engaging in sex. New categories included reasons relating to departure or reunion, and non-specific reasons (e.g. “I wanted to”). A fifth category, “other” grouped nonspecific reasons such as “I was drunk”. Again, women reported love/emotional reasons more often than men.

In 1989, Leigh conducted a study on reasons for sex using a random sample of San Francisco residents aged 18-76 ( $M=35$ ). Unlike the previous studies, Leigh asked participants to rate pre-determined reasons for sex on a scale ranging from not at all important to extremely important. Seven specific reasons were included in her study: (1) pure pleasure, (2) to express emotional closeness, (3) to reproduce, (4) because a partner wants to, (5) to please your partner, (6) for conquest and (7) to relieve sexual tension. Out of the seven reasons, women rated emotional closeness as the most important reason for engaging in sex. However, while frequency of sex was assessed over a 30 day period, reasons for sex were not rated within a similar time frame. Instead it was left up to participants to declare reasons for sex that could span days or years resulting in inconsistent data.

Hill and Preston (1996) developed eight sexual motive scales that expanded upon previous literature to measure both situational and internal factors that motivate an individual to have sex. These researchers found that women were highly motivated to engage in sex to feel valued by their partner, and to show emotional value for their partner and less motivated by pleasure, power or relief from stress.

The first large scale study on sexual motives was conducted by Meston and Buss (2007). Using a nomination procedure, they gathered over 700 reasons for sex from 1,549 undergraduate

students who were asked to list all possible reasons why they, or their friends, would engage in, or had engaged in sex. This information was used to create a more comprehensive inventory of reasons to engage in sex. From the initial nomination list, Meston and Buss (2007) uncovered 237 distinct reasons to have sex; this information was used to develop a scale measuring sexual motives (YSEX). The YSEX? Questionnaire included four factors and 13 subfactors: (1) Physical reasons (*stress reduction, pleasure, physical desirability, experience seeking*), (2) Goal Attainment (*resources, social status, revenge, utilitarian*), (3) Emotional reasons (*love & commitment, expression*) and (4) Insecurity (*self-esteem boost, duty/pressure, mate guarding*).

Meston and Buss (2007) found women did not differ to a great degree from men in the reasons endorsed for sex, with the most frequent reasons for sex relating to pleasure, attraction, feeling desired, seeking new experiences and expressing love for their partner. The most infrequently endorsed reasons included harming another person, revenge, attaining resources or improving social status. Contrary to previous research (Carroll et al., 1985; Nelson, 1978; Patrick, Mags, & Abar, 2007) women did not often cite duty/pressure as a reason to engage in sex (Meston & Buss, 2007). This finding might be a function of the age and relationship status of the sample (i.e., the sample was largely young ( $M=19$ ) and unmarried).

The multitude of sexual motives presented in the literature highlight the physiological, psycho-social and contextual complexity of sexual motives for women. The combination of these findings demonstrate that reasons for sex are not always related to biology, as initially presumed, nor are they always related to sex. Depending on context, motivations for sex differ. Sex may not be driven by physical pleasure, but rather to avoid negative outcomes (e.g., an argument). Atypical motives for sex, such as for “revenge”, or to “pass on STIs” are cited by some as reasons to engage in sex (Meston & Buss, 2007).

## **Influences on Reasons for Sex**

**Age.** One of the most influential variables in the study of sexuality is age. Meston et al. (2009) found that differences in motivations for sex existed amongst age cohorts. Given that overall sexual functioning disturbances are more prevalent in older age cohorts (Dennerstein et al., 2006; Lieblum et al., 2006; Shifren et al., 2008), these differences could be partially due to health factors (Meston et al., 2009). Further, studies show disinterest in sex is more common in women in their early to mid-forties, while pain during intercourse, greater difficulty with lubrication, trouble achieving orgasm, as well as increased sexual anxiety, are more often reported by women in their late teens and early twenties (Laumann et al., 1994). It is possible that motivations for sex are also dependent on level of sexual experience, which is often associated with age (Meston et al., 2009). Meston et al., (2009) found that, while the importance of love, commitment and pleasure as sexual motivations did not vary across age cohorts, women between ages 31-45 were significantly more likely to endorse engaging in sex for stress reduction, physical desirability, experience seeking, resources, social status, revenge, expression, self-esteem boost, and mate guarding, compared to younger age groups. These results suggest women aged 31-45 have more motives to engage in sex than their 18-30 year old counterparts. It is likely that having sex for reproductive reasons is less prevalent among much older and much younger populations, in contrast to 30-40 year olds (Meston & Buss, 2007).

**Relationship duration.** Reasons for sex may also change depending on the duration of the relationship; or specifically, whether individuals are located within passionate or companionate love stages (Basson et al., 2003; Hatfield & Rapson, 1987; Sprecher & Regan, 1998). Hatfield and Rapson (1987) demonstrated a shift from passionate love to companionate love happens over the course of a relationship. They noted that passion is most intense in new

relationships when there is still excitement and uncertainty but, over time, relationships become more secure and desire wanes, often giving way to sexual boredom. Sprecher and Regan (1998) showed that passionate love was more strongly correlated with sexual excitement, whereas companionate love was more strongly associated with intimacy. They suggested that physiological motives (i.e. those related to sexual excitement and desire, such as release of sexual tension and pleasure) may be important factors in the passionate love experience, while intimacy motives such as those related to closeness, warmth and compassion may be important in the companionate love experience. Sprecher and Reagan further put forth that jealousy as a motive was related exclusively to passionate love. Basson et al., (2003) suggests that the novelty of a new relationship supports more attendance to sexual cues, whereas these cues may not be as apparent in longer-term relationships. These findings suggest reasons for engaging in sex may shift away from physical (such as attraction) in favour of more diverse psycho-social and emotional reasons (e.g. commitment, spousal duty) as a relationship progresses.

**Relationship satisfaction.** Results from a study on dyadic adjustment showed participants with less dyadic adjustment, defined as the consensus, satisfaction, affection and cohesion within the couple unit, held lower levels of sexual desire, and reported less relationship satisfaction compared to highly adjusted participants (Carvalho & Nobre, 2010). Relationship satisfaction is positively correlated with companionate love, especially for women, as well as passionate love, although to a lesser degree (Sprecher & Regan, 1998). Basson et al., (2003) posited that sexual motives may change depending on context of relationship, for example, a couple may have sex to avoid an argument.

Impett, et al., (2005) illustrated that relationship variables such as satisfaction may interact with reasons for sex using an approach-avoidance model of sexual motivation. Approach

motives focus on obtaining positive outcomes, such as physical pleasure or enhanced intimacy and avoidance motives center on evading negative outcomes, such as conflict in the relationship. They found a significant positive relationship between approach sex motives and relationship satisfaction, while avoidance sex motives were positively associated with conflict and negatively related to relationship satisfaction and closeness. These results reveal that couples who are in conflict or less happy in their relationship may have sex more for avoidance motives compared to happy couples who have approach sex motives. Further, they found motives for sex were more powerful predictors of personal and interpersonal well-being than sexual frequency or sexual desire.

### **Research Linking Sexual Functioning and Sexual Motivation**

There is a paucity of research directly linking sexual functioning and sexual motives in women, but due to evidence supporting this connection, further examination is warranted. Regardless of the prevalence of sexual problems, especially low sexual desire, and inability to achieve orgasm, research shows couples across all ages still regularly engage in sexual activity (Impett et al., 2005; McFarland, Uecker, & Regnerus, 2011). Basson (2000) specified that there may be many non-sexual motivations for sex. Traditional models of sexual response posited that women responded to sexual stimuli present in their environment and thus engaged in sexual activity based on this physiological response (Kaplan, 1977; Masters & Johnson, 1966). Cawood and Bancroft (1996) suggested that women's sexual arousal and desire occurs after they have chosen to engage in sexual activity as opposed to waiting for a sexual urge or hunger to present. Based on clinical observation, Basson (2000) noted that many women never experience this seemingly spontaneous sexual urge and further, that for some women, genital arousal may not always directly coincide with sexual response. She developed the model of female sexual

response to reflect these findings and suggested that women with sexual problems have numerous motives for sex.

Basson (2001) explains that, once women have made a decision to be sexual, they then seek out sexual stimuli to initiate an experience of sexual desire. She posits that the original decision to have sex may be motivated by reasons not always sexual in nature, but often related to emotional intimacy. Women with sexual problems may have numerous sexual motivations potentially to compensate for their lack of desire or missing physical cues of arousal and as such, seek other benefits and rewards provided by these additional motives. Additionally, Basson (2000) states that as relationships progress, women tend to move away from the initiation of sexual activity in response to desire, to initiation in search of other non-sexual rewards and gains, like emotional intimacy (Basson et al., 2003). Empirical research, however, is necessary to provide a definitive explanation of the relationship between reasons for sex and sexual functioning.

In their seminal study, Sand and Fisher (2007) asked 133 women to report on the accuracy of either Masters and Johnson's (1966) linear model or Basson's (2000) circular model of female sexual response as representing their current sexual response experience. Women were given short descriptions of each model and additionally asked to complete the FSFI to assess their level of sexual functioning. Women who had low FSFI total scores were significantly more likely to endorse Basson's model of female sexual response as representing their own experience while women with FSFI scores in the healthy range ( $>26.55$ ) were more likely to endorse the Masters and Johnson or Kaplan model. Further, these results were replicated in women with low FSFI domain scores in the areas of desire, arousal, and orgasm even when their overall FSFI scores were in the healthy range. This finding suggests that the Basson model of female sexual

response better represents women with sexual concerns.

Sand and Fisher (2007) found a similar pattern pertaining to sexual motives. The majority (79.4%) of sexually functional women (FSFI scores  $>26.55$ ) endorsed engaging in partnered sexual activity for the intrinsic value of sexual activity itself (e.g. physical experience, emotional closeness). Women with sexual dysfunctions, conversely, were five times more likely to report that their motives for sex were centered on non-sexual reasons. These statistically significant differences were also found across FSFI domains; women's scores for each domain decreased in a linear fashion, as women moved from motivation centering on sexual pleasure to motivation for emotional closeness, to finally, engaging in sex for other non-sexual reasons. However, Sand and Fisher (2007) found that overall, neither model was endorsed more than the other but rather an equal proportion of participants endorsed both the Basson and Masters and Johnson or Kaplan models.

Building on Sand and Fisher's (2007) study, Giles and McCabe (2009) used a sample of 404 participants to compare the fit of sexual response models in women with female sexual dysfunction (FSD) and sexually healthy women as assessed by the Female Sexual Function Index (FSFI). Their results mirrored those of Sand and Fisher (2007), showing overall, the Masters and Johnson model was a better reflection of the sexual experiences of women with sexual functioning in the normal range. Women with sexual dysfunction reported experiencing lower levels of spontaneous sexual desire, characteristic of the Kaplan model, but also reported lower levels of responsive sexual desire characteristic of the Basson model of female sexual response.

Giles and McCabe (2009) found that women with sexual dysfunctions endorsed seeking intimacy and well-being as important reasons for engaging in sex to a greater degree than did

women without sexual dysfunctions. They suggested that women with sexual dysfunctions have a stronger wish to feel attractive, loved and desired by their partner and may seek these feelings through sexual activity. They suggest that women with sexual problems find alternative reasons to engage in sexual activity aside from the intrinsic sexual experiences and pleasures sexual activity provides (Giles & McCabe, 2009). These findings are consistent with Basson's (2000) representation of non-sexual reasons to engage in sex. However, Basson's model of female sexual response was derived from clinical observation of women's sexual function (Basson, 2000) whereas the Masters and Johnson Model was derived from a sample of participants who were able to become aroused and achieve orgasm without difficulty. These methodological constraints could explain why more women with sexual dysfunctions endorsed Basson's model of sexual response, and more women without sexual dysfunctions endorsed the Masters and Johnson or Kaplan model.

### **Limitations of Past Research and Rationale for Current Study**

The aforementioned studies suggest a link between sexual motives and sexual functioning, however, research in this area is sparse (Meston & Buss, 2007). Further, research that has addressed this link is limited by methodological issues. The current study offers an examination of motivations for sex by levels of sexual functioning that a) improves upon the methodological limitations of previous studies and b) investigates whether or not women with sexual functioning concerns and women without may have different reasons for sex.

Meston et al., (2009) called for research on the link between motives and functioning. Past research suggests women still frequently engage in sexual behavior despite lack of sexual desire or experiencing difficulties with orgasm (Laumann, et al., 2005; Muehlenhard & Peterson, 2005; Vannier & O'Sullivan, 2010). Basson (2000) notes that women have sex despite absence

of sexual hunger do so for non-sexual reasons. Her model further reinforces the notion that orgasmic release is not a necessary stage of sexual response for women. These studies underscore the importance of motives on sexual behavior and further suggest that motivations are present regardless of sexual functioning status. The current study examines what reasons for sex might be among women experiencing sexual problems, and how these might differ from women who are not. This is the first study to pair both the FSFI and YSEX, two of the measures of sexual functioning and sexual motivations with the most theoretical and empirical support.

Basson (2000) suggests that women's sexual response stems from emotional or intimacy needs more so than physical needs. However, coming to this conclusion without a more thorough investigation of sexual motives in diverse samples of women is premature; research has indicated that Basson's circular model of female sexual response may be more indicative of sexual response in women with sexual dysfunction, while sexually healthy women still endorse physical/desire reasons for sex consistent with Masters and Johnson's original model (Giles & McCabe, 2009; Sand & Fisher, 2007). Despite the minimal empirical testing on samples of women with and without sexual dysfunction, Basson's model of female sexual response remains a standard of reference for women's sexual response (Basson et al. 2003; Sand & Fisher, 2007). The current study will explore the motivations for sex in women with and without sexual dysfunctions to test Sand and Fisher's (2007) and Giles and McCabe's (2009) hypothesis that women with sexual problems do endorse emotional/intimacy reasons for sex more often, consistent with Basson's model of female sexual response, while women with healthy sexual functioning are more likely to endorse physical reasons for sex consistent with the Masters and Johnson model.

While the suggestion that non-sexual motives may be more endorsed among women who

reject the traditional sexual response cycle is consistent with Basson's theorizing based on her experience with clinical samples, neither Basson (2001), Sand and Fisher (2007) nor Giles and McCabe (2009), captured the multitude of sexual motives in women as identified by Meston and Buss (2007). Further, the aforementioned studies did not empirically test the sexual motives of women with sexual functioning scores below the sexually functioning range (26.55 on the FSFI). A limited selection of sexual motives is unlikely to represent the spectrum of women's sexual experiences and thus may prime results to adhere to preconceived hypothesis. Sand and Fisher's use of statements such as "I do so for emotion", "I do so for pleasure" and "I do so for non-sexual reasons" to assess reasons women partake in sexual activity, and Giles and McCabe's inclusion of "intimacy, well-being, and a need to feel loved and attractive" offers limited sampling of women's possible reasons for engaging in sex. Further, in sexual motivation studies that do not incorporate a measure of sexual functioning, it is unclear whether women without sexual dysfunction may also report many of the nonsexual reasons for sex that have been typically thought to be exclusive to women with sexual functioning concerns. The current study improves the previous research by measuring women's sexual motivations using the YSEX questionnaire; a validated index of 142 distinct reasons for sex, with four categories that distinguish between physical, emotional, intimacy and goal based reasons for sex and also by including a validated measure of sexual functioning.

Past research has been limited by methodological and sampling concerns. For example, sexual motivation research is largely based on samples of undergraduate or college populations which may limit external validity (e.g. Carroll et al., 1985; Meston & Buss, 2007; Patrick et al., 2007). Both Hill (1997) and Carroll et al. (1985) sampled college students between the ages 18 and 23, while Patrick et al. (2007) sampled students transitioning to college, with a mean age of

19. Participants in the Meston and Buss (2007) study ranged in age from 16 to 42, however 96% fell between the ages of 18 to 22. Whereas these studies contributed significantly to the sexual motivation literature by suggesting numerous reasons individuals may have sex, the sexual functioning status of participants was not assessed. As such, their results may be more indicative of why healthy college students have sex and may not be applicable to broader, more diverse populations. Meston (2009) suggested that individuals who experience low levels of desire, for example, would be expected to have sex out of duty or guilt more often than college students who may have higher levels of sexual desire.

Research on sexual functioning has suffered similar sampling concerns. Basson (2000) derived her data from a clinical population of women which may not be representative of the sexual response of women in a larger community sample (Sand & Fisher, 2007). The current study rectifies these limitations by examining sexual motives by levels of sexual functioning using a community sample that offers a broader age range of women, recruited from multiple locations so as to not limit its findings to an undergraduate or clinical population.

In addition, past research suggesting links between sexual motivations and sexual functioning status has failed to control for factors which have been found to be associated both with sexual functioning and reasons for sex, such as age, relationship satisfaction and relationship duration. Controlling for the influence of these factors on the outcome measures enables the author to draw clearer conclusions regarding the effect of sexual functioning on sexual motivations. Thus, the current study has included age, relationship satisfaction and relationship duration as covariates.

As such, the results of the previous studies lack the ability to determine the relationship between a wide range of sexual motives endorsed by women with and without sexual functioning

concerns. By identifying the components of women's sexual experience using validated measures and controlling for associated factors, the current research will provide a base for understanding the complexity of mind/body interactions in sexual response (Basson, 2000; 2001b).

### **Objectives**

The purpose of the current study was to investigate motivations for sex in heterosexual women with and without sexual problems. The study was guided by the following questions.

1. What are the most frequently endorsed reasons for sex reported by women with healthy sexual functioning and women with sexual dysfunctions?
2. Are there significant differences in the reported reasons for sex between women with healthy sexual functioning and women with sexual dysfunctions after controlling for age, relationship duration and relationship satisfaction?
3. Are there significant differences in the reported reasons for sex between women with and without problems with desire and orgasm after controlling for age, relationship satisfaction and relationship duration?

### **Methods**

#### **Participants**

The sample consisted of 708 self-identified heterosexual females between the ages of 18 and 74 who indicated they were currently in a sexual relationship of at least one month's duration and had engaged in sex at least once in the past four weeks with their current partner. All participants had access to a computer.

#### **Procedure**

A total of 2700 participants comprised the original data set. Participants were recruited utilizing a number of strategies, as part of a larger study on reasons for engaging in sex in

relationships (Wood & Milhausen, 2010).

**Electronic methods.** A facebook group created for the study allowed interested individuals to click on the link to the “Group” homepage to view the study information sheet and the study questionnaire. An email invitation was sent out by the original researcher to their facebook “friends” list (see Appendix A), inviting anyone who was interested in participating in the study to join the group. Individuals were also invited to forward the invitation to anyone else they felt would also be interested in the study. The link located on the Facebook page allowed participants easy access to the study webpage. Other participants were contacted by the original researcher via personal emails and listserv announcements (see Appendix B) and invited to participate in a master’s thesis project. Links to the study information page and to the study website were provided.

Additionally, a listing was posted on the free classified website, Kijiji (see Appendix C). A brief summary of what the study entailed and the researcher’s contact information was given so that interested individuals could then contact the researcher and receive the link to the study website should they choose to participate. Finally, a link to the study was posted on the Kinsey Institute for Research in Sex, Gender and Reproduction website.

**Non-electronic methods.** In addition to electronic announcements, in-person announcements were made to graduate and undergraduate classes at the University of Guelph (See Appendix D). Posters were placed on boards around the University of Guelph campus (see Appendix E) summarising the study’s goals, the methodology, as well as providing the researcher’s contact information. Interested participants could contact the researcher and would be given the link to the study.

Clicking on the link to the survey took participants to a safe and secure website

(SurveyMonkey) where they were required to read the information-consent letter and then asked if they consented to participate (see Appendix F). The letter informed them that participation would consist of filling out the survey which would take an hour in duration to complete. If participants consented, and indicated they were over the age of 18 they were allowed to continue to the survey which included demographic questions, sexual motivation surveys, sexual and relationship satisfaction surveys and other questions relating to sexual behaviour.

Upon completing the survey, participants were asked if they were interested in being entered into a draw for one of four \$50 dollar Visa Gift Cards. If so, participants were forwarded to a secure website where their name, phone number and email address was entered in order to be contacted should they win the draw.

Eligibility criteria for the current study included having access to a computer, being at least 18 years of age, identifying as female and heterosexual, and having had sex at least once in the past month with current partner. Therefore, any males, transpersons and women who did not identify as exclusively heterosexual, or who were not currently engaging in a sexual relationship (though present in the original dataset) were excluded from the analytic data set.

## **Measures**

**Descriptive variables.** Participants reported on their age, racial/ethnic background, religiosity, current relationship, sexual history, prescribed medications, and education (see Appendix G). Participants were asked to report where they heard about the study. Forced choice questions were used to obtain the data.

**Relationship duration.** Relationship duration has been associated with differences in reasons for sex (Basson, 2000; Meston et al., 2009). To assess relationship duration, participants were asked to report, in years and months, the length of time they had been with their current

partner.

**Relationship satisfaction.** In order to be able to control for the effects of relationship satisfaction on reasons for sex (Carvalho & Nobre, 2010; Sprecher & Regan, 1998), participants were asked to complete a shortened 4-item version of the Dyadic Adjustment Scale (Appendix H). The 4-item shortened version demonstrated high reliability (Cronbach's alpha of .84) and good internal consistency (Sabourin, Valois & Lussier, 2005). The DAS-4 has been validated to classify individuals as distressed or not distressed with the cut-off score being a sum of 13. The Dyadic Adjustment Scale was used by the author as a measure to control for the effects of relationship satisfaction on sexual motivations (Basson, 2003; Carvalho & Nobre, 2010; Sprecher & Regan, 1998).

**Age.** Previous research has indicated that reasons for sex differ depending on age (Meston et al., 2009). Compared to women aged 18-30, women aged 31-45 endorsed more sexual motives beyond sexual pleasure. It is possible that menopause and decrements in sexual functioning and overall health which increasingly occur as one ages, may lead to differences in sexual motivations between older and younger women (Deeks & McCabe, 2001; Meston et al., 2009). As such, age was used as a covariate in the current study.

### **Outcome Variables**

**Reasons for engaging in sex.** The YSEX questionnaire was used to evaluate participants' reasons for engaging in sex and adapted to measure sexual activity over the last four weeks (see Appendix I). Developed by Meston and Buss (2007), this questionnaire is comprised of 142 items that measure the frequency with which men and women endorse different reasons for engaging in sex.

Using a sample of 1,549 undergraduate students, a total of 715 reasons for sex were

identified from the original questionnaire. Meston and Buss eliminated any repetition in reasons and conducted a Principle Component Analysis (PCA) on the remaining 237 items. A total of 142 items, with four factors were identified through their analysis: Physical reasons, Goal Attainment reasons, Emotional reasons and Insecurity reasons. Although confirmatory factor analysis was not used to determine a higher- and lower-order factor structure, the authors conducted PCA on the items within the original four factors to determine “sub-factors”. A total of 13 subfactors were identified. The Physical factor includes four subfactors; *stress reduction*, *pleasure*, *physical desirability and experience seeking*. The Goal Attainment factor also includes four subfactors; *resources*, *social status*, *revenge* and *utilitarian*. The Emotional factor contains two subfactors; *love and commitment* and *expression*, while the Insecurity factor is comprised of three subfactors; *self-esteem boost*, *duty/pressure* and *mate guarding*. Cronbach’s alpha values for the four factors were all above .85 indicating high reliability, while scores for the subfactors ranged from .75 to .94 indicating moderate to high internal reliability (Kline, 1999; Nunnally, 1978). The present study will be exclusively using the scores from the overall factors and not the subfactor scores.

For each item, the item stem is “I have had sex in the past because...” with sample reasons including: “I was attracted to the person”, “I wanted to improve my sexual skills”, “I wanted to express my love for the person” and “I wanted to keep my partner satisfied”. For the purposes of the proposed study, the item stem was modified to reflect the one month recall period consistent with the Female Sexual Functioning Index, and thus reads: “I have had sex over the past four weeks because...” Each item is rated on a 5-point Likert-type response format with 1 = *all of my sexual experiences* and 5 = *none of my sexual experiences*. To compute factor scores, scores from the items comprising each factor are summed.

## Predictor Variables

**Sexual functioning.** To assess overall sexual functioning, the current study used the Female Sexual Functioning Index (FSFI) developed by Rosen et al. (2000) (see Appendix J). The FSFI is a 19-item questionnaire that uses self-report to assess dimensions of sexual functioning in women 18 years of age and older. The following six domains are measured: desire, subjective arousal, lubrication, orgasm, satisfaction and pain. The item stem for each question is “over the past four weeks, how often did you...” with example questions including: “experience pain during intercourse”, and “feel sexual desire or interest”. Participants responded using a 5-point Likert-type scale ranging from 1 = *almost never or never* to 5 = *almost always or always*. Higher scores indicate higher levels of sexual functioning. Scores below 26.55 are used as a validated cut-off to differentiate women with and without sexual dysfunction (Weigel, Meston, & Rosen, 2005). The score of 26.55 as a clinical cut-point has demonstrated strong discriminant validity between clinical and non-clinical samples (Rosen et al., 2000). Further, in a comparison to a marital satisfaction survey, the FSFI demonstrated good divergent validity (Rosen et al., 2000).

In addition to providing an overall sexual functioning score, individual scores for the six FSFI domains (desire, arousal, lubrication, pain, satisfaction and orgasm) can be computed by summing women’s responses to questions in each domain. Overall scores are based on the summation of scores from each domain. Reliability was demonstrated for each domain score as well as the overall score. Cronbach’s alpha values of .82 and above indicate high internal consistency (Rosen et al., 2000). The FSFI was selected for the purposes of this study due to its wide acceptance in the field as an assessment of sexual functioning, and for its inclusion of separate domains of sexual functioning (Dundon & Rellini, 2010; Wallner, Sarma, & Kim,

2010). As the most commonly reported sexual concerns for women include lack of desire and inability to orgasm (Heiman, 2002; Lauman et al., 1999), the current study analysed women's scores on the desire and orgasm domains of the FSFI. To determine whether participants met the criteria for problems with orgasm or desire, a conservative cut-off was selected by the author. Participants who responded with "always" or "almost always" to all items assessing problems within the Orgasm or Desire domains were categorized as having "problems" in these domains (= 1). Individuals who experienced orgasm or desire problems less frequently than "always" or "almost always" were categorized as having "no problems" (= 0) in these domains.

### **Data Analysis**

Descriptive statistics were computed for demographic variables including participants' age, racial/ethnic background, religious affiliation, country/ province of residence, relationship status and relationship duration.

To establish which participants met the clinical cut-off for sexual dysfunction, overall FSFI scores were calculated. Participants scoring below 26.55 were considered to have a "sexual dysfunction" as per scoring guidelines proposed by Weigel et al., (2005). A clinical cut-off of less than five in the desire domain of the FSFI is used to indicate problems with desire (Weigel et al., 2005). However this cut-off is less conservative than the cut-off selected by the author. The clinical cut-off allows for an individual to score high on an item, but low on other items, while still enabling a domain score of less than five. In addition, the maximum score for this domain is six, thus anyone falling below the max score is considered to have a dysfunction. The author's more conservative cut-off ensures that desire problems are defined by low scores on every single item of the subscale. Weigel et al., (2005) have acknowledged that the desire domain of the FSFI was the least reliable of all domains to differentiate function from dysfunction, thus warranting a

conservative measure for this domain. Frequencies were computed to compare the percentage of the sample that met the criteria for problems with desire using the clinical cut-off and the conservative cut-off. Using the clinical cut-off, 76.4% ( $N = 356$ ) participants were classified as having a problem with desire. Using the author's cut-off, 9.7% ( $N = 45$ ) participants were classified as having a problem with desire. To be consistent, and to maintain the same conservative standard for defining a sexual problem, the same scoring method used to determine desire problems was used to determine orgasm problems.

To address the first question regarding the reasons women report for having sex, mean scores for each item of the four YSEX factors were calculated. Each item is rated on a scale from one to five and uses a recall period of one month. Higher scores indicate increased frequency of engaging in sex for the reason given in each item and lower scores indicate lower frequencies of engaging in sex for that item. Using descriptive statistics in SPSS, these mean response scores for each YSEX factor were then be used to rank these from least frequently endorsed to most frequently endorsed reasons for sex (Meston & Buss, 2007; Wood & Milhausen, 2010). Using the same method, the four YSEX factors were then ranked separately for women with and without sexual dysfunctions.

To analyze group differences in reasons for sex by levels of sexual functioning, Multivariate Analysis of Covariance (MANCOVA) was conducted using the overall FSFI score as the independent variable. This variable was dichotomized to represent the “sexual functioning” group and the “sexual dysfunction” group. To analyse group differences in reasons for sex among women with and without desire or orgasm problems, separate MANCOVAs were conducted using the desire and orgasm domains of the FSFI.

For both models the four YSEX factors (Physical, Goal Attainment, Insecurity,

Emotional) served as the dependent variables and age, relationship duration and relationship satisfaction were used as covariates.

Skewness and kurtosis, Kolmogorov-Smirnov statistics and histograms were used to test the normality of the data. All tests indicated that the distributions for the YSEX? Factor scores were non-normal. An examination of scatter plots revealed that the non-normality was due to the influence of a very few extreme scores. A Log-10 transformation of the data brought the distributions for the emotional, goal attainment and insecurity YSEX factors closer to normal, and normalized the distribution for the physical YSEX factor. The following results will thus reflect the analysis using the transformed data.

Equality of covariance matrices was examined using Box's M and Levene's test. For all four factors of the YSEX? Questionnaire, covariance matrices were homogenous when analyzed using overall FSFI scores. When analysed using scores on the Desire and Orgasm domains of the FSFI, equality of covariance matrices was not found for the Insecurity factor of the YSEX? Questionnaire. However, as indicated by Tabachnick & Fidell (2001), the probability of finding a significant result given the sample size is low. Thus, the possibility type 1 error is not a significant concern.

## **Results**

### **Data Screening**

Two thousand, seven hundred participants consented to participate in the original survey. Only cases which met the inclusion criteria of identifying as heterosexual, female, over the age of 18, currently being in a sexual relationship and having had sex with their current partner at least once within the past month were selected for data analysis. A small percentage, 26.22 % of those who responded to the survey ( $N = 708$ ) met these criteria (Table 1).

Table # 1

*Participants excluded from the analytic sample*

Criteria	Number of participants	Remaining Sample
Consented to participate in survey	2700	
Did not fill out the survey	647	2053
Were under 18 years of age	2	2051
Did not provide age	45	2006
Did not identify as female	585	1421
Did not identify as heterosexual	432	989
Not currently in a relationship	110	879
Did not have sex in the past month	92	787
Did not fit within recruitment streams	79	708

**Exclusions**

**Gender and sexual orientation.** Five hundred and eight participants were excluded because they identified as male, nine participants were excluded because they identified as Transgendered, 68 participants were excluded because they did not identify, or chose not to answer. Three hundred and ninety-eight participants did not identify as heterosexual and were thus excluded from further analysis. Twenty-nine participants were excluded who identified as heterosexual but with flexibility (e.g. heterosexual but curious, heteroflexible). Five participants chose not to answer.

**Age.** Two participants under the age of 18 and 45 participants who did not indicate their age or who provided errors in their response were excluded from analysis.

**Relationship and sexual status.** As shown in Table 1, 105 participants indicated they were currently single and were excluded. Five chose not to answer and were excluded. Thirty-

three participants who did not provide information about whether they had had sex in the past month were excluded along with 59 participants who reported not having sex in the past month or who chose “non-applicable” to this question.

**Recruitment stream.** The data set was then divided into three recruitment streams 1) online communication (Facebook, emails, listservs) 2) Class-related (class room announcements) and 3) Internet searches (Kinsey website, kijiji posting). Analysis for the current investigation was based on participants who fit within these three particular recruitment streams. Seventy-nine cases were removed because recruitment stream could not be easily classified. In these cases, participants did not answer questions regarding where they heard about the study, or gave multiple answers, or they did not fit within one of these three streams. Due to concerns with the sample size, all three streams were analyzed together (Table 2).

Table # 2

*Recruitment strategy through which participants heard about the study*

Recruitment Stream	Recruitment Strategy	Frequency	Percent
Online Communication	Facebook	71	8.0
	Email listserv	22	2.5
	Twitter	9	1.0
Class Related	Classroom announcements	206	23.3
Internet Searches	Kinsey Webpage	526	59.4
	Search Engines	24	2.7
	KIJJI Website	28	3.2

### **Missing Data**

Six hundred and forty-seven individuals consented to participate but did not fill out the

survey and were deleted. The exclusion process resulted in a final sample of 708 participants, however due to the missing data, the analytic sample size is significantly lower. Cases with partial missing data for the independent and dependant variables were left in the data set. However, analysis requires that scales be completed in full. Participants varied in the degree to which they completed each measure. Participants missing less than 10% of the responses to the YSEX measure had responses to those missing items added by calculating a mean of that participant's scores on other items on the same subscale (C. Meston, personal communication, October 17, 2011). Individuals who were missing 10% or more were not given scores on a measure and their data could not be used for subsequent analyses for that factor. It is possible that individuals who had more than 10% missing data on one factor still had complete data for all other factors and thus their data was not excluded in its entirety.

For each variable, the number of participants providing complete responses (or, in the case of the YSEX, those who were missing 10% and had those data imputed based on mean calculations) are presented below (Table 3).

Table # 3

*Number of participants with complete data*

Variable	<i>N</i>
Age	708
Relationship duration	702
Relationship satisfaction	507
FSFI total score	228
Orgasm score	453
Desire score	466
Physical reasons for sex	631
Emotional reasons for sex	626
Goal attainment reasons for sex	628

As can be seen, most missing data comes from participants who did not complete every item on the FSFI. Further investigation of the data shows that, of the participants who did partially fill out the FSFI, it was items in the “overall satisfaction” domain that remained blank. In particular, participants did not answer the following two questions: “in the past four weeks, how satisfied have you been with your sexual relationship with your partner” and “in the past four weeks, how satisfied have you been with your overall sex life”. As a default, SPSS includes data from participants who have a score for every variable in an analysis, thus, the analytic sample for each model is different. Specifically, the total number of participants for the total score outcome is 216, for the orgasm outcome is 430, and for the desire outcome is 430.

### **Participant Characteristics**

The sample included 708 heterosexual female participants ranging in age from 18-74 years, with a mean age of 27.25 ( $SD = 8.38$ ). The majority of the participants reported that they heard about the study through online searches and communication, with a smaller proportion of participants hearing about the study via classroom announcements, flyers or through friends.

One hundred and sixty-seven participants resided in Canada (23.6%) with 116 participants living in Ontario. One hundred and seventy-three participants indicated that they were currently living outside of Canada (24.4%). A small portion (6%) indicated they lived in Indiana, Indianapolis where the Kinsey Institute is located and a portion of the recruitment took place. The majority of the sample identified as Caucasian ( $N = 601$ , 88.60%) and 2.9% ( $N = 20$ ) identified as Latin American. The rest of the sample reported a variety of ethnic backgrounds ( $N = 82$ , 3.7%) and 0.7% ( $N = 5$ ) chose not to answer (Table 4). Over half of the sample was seriously dating one person ( $N = 391$ , 55.20%), while 169 participants indicated that they were

married (23.90%) (Table 5). Relationship duration ranged from one month to 44 years. The mean length of relationship was 4.5 years ( $SD = 6.2$ ). Dyadic adjustment scores range from zero (the lowest score of relationship satisfaction) to 21 (the highest score of relationship satisfaction). The mean dyadic adjustment score for the current sample was  $M = 15.65$  ( $SD = 3.6$ ).

Table # 4

*Ethnicity of Participants*

Ethnicity	Frequency	Percent
Caucasian	601	88.6
Latin American	20	2.9
Aboriginal	1	.1
Arab/ West Asian	2	.3
Black	7	1.0
Filipino	2	.3
Chinese	3	.4
Japanese	1	.1
Korean	2	.3
South Asian	2	.3
Southeast Asian	1	.1
Multi-racial	32	4.2
Chose not to answer	4	.6

Table # 5

*Relationship Status of Participants*

Relationship Status	Frequency	Percent
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Casually dating one or more partners	76	10.7
Seriously dating one or more people	10	1.4
Seriously dating one person	391	55.2
Engaged	44	6.2
Married	169	23.9
Common-Law	18	2.5

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### Reliability Analysis

**YSEX? Questionnaire.** Internal consistency was computed by calculating the Cronbach's coefficient alphas for the four YSEX factor scales. Scores ranged from .74 to .94 indicating high internal consistency for all four factors (Hudson, 1982) (Table 6)

Table # 6

#### *Reliability Scores for the YSEX? Questionnaire Factors*

Factor	Cronbach's alpha
Physical	.94
Goal Attainment	.74
Emotional	.89
Insecurity	.91

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**Female Sexual Functioning Index.** To calculate the internal consistency of the Female Sexual Functioning Index, Cronbach's alpha values were computed. The alpha score for the total scale was .90 indicating high internal consistency (Klein, 1999). High internal consistency was found for both the desire ( $\alpha = .87$ ) and orgasm ( $\alpha = .94$ ) domains of the FSFI.

### Ranking of Least to Most Frequently Endorsed YSEX Factor

To examine the first research question regarding the reasons women reported for engaging in sex, the four YSEX factors were ranked according to mean scores. Scores ranged from 1 to 5, with 1 indicating “none of my sexual experiences” and 5 indicating “all of my sexual experiences” (Meston & Buss, 2007). In the past month, women most frequently endorsed emotional reasons for sex ( $M = 2.10$ ) and physical reasons for sex ( $M = 2.08$ ). Women least frequently endorsed insecurity reasons for sex ( $M = 1.46$ ) and goal attainment reasons for sex ( $M = 1.08$ ).

When analyzed according to sexual functioning status, in the past month, women with healthy sexual functioning and women with sexual problems endorsed emotional reasons for sex most frequently, followed by physical reasons. The means differed by only 1/100<sup>th</sup> of a point. A paired samples t-test comparing physical and emotional reasons for sex revealed that differences in means were not statistically significant ( $t = -.752, p = .452$ ). Thus, physical and emotional reasons for sex are equally frequent motives for women with and without sexual problems. Women with and without sexual dysfunction reported engaging in sex for goal attainment and insecurity reasons the least often (Table 7). The means scores indicate that over the past four weeks, on average, women reported engaging in each reason for sex for “none of their sexual experiences” or a “few of their sexual experiences”. Therefore, on average women in this sample reported that overall in the past month, they did not engage in sex for any given reason with great regularity.

Table # 7

#### *Ranking of Most Frequently Endorsed YSEX Factor by Level of Sexual Functioning*

Without Dysfunction	Factor	Rank	<i>M</i>	<i>SD</i>
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	Emotional	1	2.21	.71
	Physical	2	2.20	.62
	Insecurity	3	1.40	.43
	Goal Attainment	4	1.08	.12
With Dysfunction				
	Emotional	1	2.07	.63
	Physical	2	1.92	.60
	Insecurity	3	1.64	.46
	Goal Attainment	4	1.09	.10

Means and standard deviations represent the untransformed data

### Analysis of Reasons for Sex and Sexual Functioning

A frequency analysis of sexual problems revealed the majority of participants met the criteria for healthy sexual functioning (68.0%). Scores ranged from 11.80 to the maximum FSFI score of 35. The mean score was  $M = 27.82$  ( $SD = 4.72$ ). Few participants met the criteria for problems with orgasm (15.0%) and even fewer met the criteria for problems with desire (9.7%). Both domains have a range of 1.20 to a maximum score of 6.0. The mean score for the desire domain of the FSFI was  $M = 4.30$  ( $SD = 1.11$ ) and the mean score for the orgasm domain of the FSFI was  $M = 4.42$  ( $SD = 1.58$ )

**YSEX questionnaire.** Correlations among the factors in the YSEX? Questionnaire (Physical, Emotional, Insecurity, Goal Attainment) indicated that all dependent variables were correlated in the low to moderate range (Table 8). Field (2009) states that multivariate analysis is best done when dependent variables are moderately correlated. Given there were no correlations among the dependent variables above .60, a multivariate analysis was appropriate.

**Female Sexual Functioning Index.** The Orgasm and Desire domains of the FSFI were significantly correlated ( $r = .17, p < .01$ ).

**Covariates.** A Pearson correlation was conducted to test whether age, relationship duration, and relationship satisfaction were related to the factors on the YSEX? Questionnaire. All correlations were in the low to moderate range (Cohen, 1988). Age was significantly negatively related to physical reasons for sex ( $r = -.08, p < .05$ ). Relationship duration was significantly negatively related to physical reasons for sex ( $r = -.21, p < .01$ ) and emotional reasons for sex ( $r = -.15, p < .01$ ). Relationship satisfaction was significantly related to all four factors; Physical ( $r = .11, p < .05$ ), Goal Attainment ( $r = -.11, p < .05$ ), Insecurity ( $r = .38, p < .01$ ), and Emotional ( $r = .18, p < .01$ ).

Table # 8

*Correlations Between Dependent Variables, Independent Variables and Covariates*

Variable	1	2	3	4	5	6	7	8	9	10
1. Physical	--									
2. Goal Attainment	.47**	--								
3. Insecurity	.17**	.52**	--							
4. Emotional	.46**	.33**	.26**	--						
5. FSFI Orgasm	-.10*	.07	.31**	.03	--					
6. FSFI Desire	-.31**	-.03	.13**	-.13**	.21**	--				
7. Total FSFI Score	-.23**	.05	.31**	-.03	.46**	.52**	--			
8. Age	-.08*	-.04	-.03	-.06	-.11*	.17**	-.01	--		
9. Relationship Satisfaction	.11*	-.11*	-.38**	.18**	-.19**	-.08	-.10	-.17**	--	
10. Relationship Duration	-.21**	-.05	.02	-.15**	-.07	.22**	.08	.66**	-.18**	--

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

It is known that MANCOVA is highly sensitive to outliers in the covariates, resulting in the

possibility of either a type 1 or type 2 error (Swanson, 2005). However, all models were run with and without outliers and no differences in terms of either significance of the models or variables or variance accounted for were found. For this reason, all participants were included in the final analysis.

### **Reasons for Sex by Levels of Sexual Functioning**

Box's test of equality of covariance matrices was non-significant Box's  $M = 44.31, F(30, 11566.96) = 1.38, p = .08$ ) thus equality of covariance can be assumed. Levene's test of equality of error variances was non-significant for all four YSEX factors: goal attainment ( $F(1, 214) = 1.70, p = .19$ ), physical  $F(1, 214) = .02, p = .90$ ), emotional ( $F(1, 214) = .15, p = .70$ ) and insecurity  $F(1, 214) = 2.31, p = .13$ ), thus homogeneity of variances can be assumed.

**Female Sexual Functioning Index Total Score.** Significant differences in reasons for sex were found across levels of sexual functioning (Wilks'  $D = .83, F(4,208) = 10.85, p < .01$ , eta squared = .17,  $B = 1.0$ ). The multivariate tests revealed a significant main effect of sexual function for physical ( $F(1, 211) = 12.70, p < .01$ , eta squared = .06,  $B = .94$ ) and insecurity ( $F(1, 211) = 21.01, p < .01$ , eta squared = .09,  $B = .99$ ) reasons for having sex. Thus, 6% of the variance in scores on the physical factor and 9% of the variance in scores on the insecurity factor can be attributed to differences in levels of sexual functioning. The estimated marginal means indicated that women with healthy sexual functioning engaged in sex for physical reasons ( $M = 1.97, SE = .01, CI = 1.95-1.99, n = 146$ ) more often than women with sexual dysfunctions. Women with sexual dysfunctions engaged in sex for insecurity reasons ( $M = 1.69, SE = .01, CI = 1.66-1.71, n = 70$ ) more often than women with healthy sexual functioning.

The multivariate analysis revealed significant main effects of age (Wilks'  $D = .95, F(4,208) = 2.80, p < .05$ , eta squared = .05,  $B = .76$ ), relationship duration (Wilks'  $D = .94, F$

(4,208) = 3.53,  $p < .01$ , eta squared = .06,  $B = .86$ ), and relationship satisfaction (Wilks'  $D = .85$ ,  $F(4,208) = 9.45$ ,  $p < .01$ , eta squared = .15,  $B = 1.0$ ). Including age as a covariate affected the goal attainment model, ( $F(1, 211) = 11.15$ ,  $p < .01$ , eta squared = .05,  $B = .91$ ), thus 5% of the variance in the goal attainment scores could be accounted for by the age of the participant. Age did not significantly affect the pleasure, insecurity or emotional factors. Relationship satisfaction (dyadic adjustment) significantly affected the emotional ( $F(1, 211) = 7.53$ ,  $p < .01$ , eta squared = .03,  $B = .78$ ), and insecurity ( $F(1, 211) = 18.45$ ,  $p < .01$ , eta squared = .08,  $B = .99$ ), factors of the YSEX, showing 8% variance in the scores on the insecurity factor and 3% of the variance in scores on the emotional factor, could be accounted for by participant's satisfaction in their relationship. Relationship satisfaction did not significantly affect the goal attainment or physical factors of the YSEX.

### **Reasons for Sex by Levels of Sexual Desire and Orgasm.**

Box's test of equality of covariance matrices was non-significant (Box's  $M = 44.31$ ,  $F(30, 11566.96) = 1.38$ ,  $p = .08$ ) thus equality of covariance can be assumed. Levene's test of equality of error variances was non-significant for three of the four YSEX factors: goal attainment ( $F(3, 426) = 1.76$ ,  $p = .16$ ), physical  $F(3, 426) = 1.38$ ,  $p = .08$ ) and emotional ( $F(3, 426) = .48$ ,  $p = .69$ ), however it was significant for the insecurity factor ( $F(3, 426) = 4.99$ ,  $p < .05$ ), thus homogeneity of variances is not assumed and results must be interpreted with caution. Significant differences in reasons for sex were found by levels of sexual desire and levels of orgasm functioning.

**Desire.** Multivariate analysis indicated a significant main effect of desire (Wilks'  $D = .92$ ,  $F(4, 420) = 9.7$ ,  $p < .01$ , eta squared = .09,  $B = 1.0$ ). Significant differences were found between women with and without desire problems for the physical ( $F(1, 423) = 27.66$ ,  $p < .01$ ,

eta squared = .06,  $B = .99$ ) and emotional ( $F(1, 423) = 5.06, p = .03$ , eta squared = .01,  $B = .61$ ) YSEX factors. Eta squared shows that 6% of the variance in scores for the physical factor and 1% of the variance in scores on the emotional factor is accounted for by differences in levels of sexual desire. The estimated marginal means indicated that women reporting problems with desire were significantly less likely to engage in sex within the past month for emotional reasons ( $M = 1.58, SE = .02, CI = 1.54-1.62, n = 41$ ) and physical reasons ( $M = 1.87, SE = .02, CI = 1.83-1.91, n = 41$ ) than women who reported no problems with desire ( $M = 1.64, SE = .01, CI = 1.61-1.66, n = 389$ ) and ( $M = 1.98, SE < .01, CI = 1.96-1.99, n = 389$ ) respectively.

**Orgasm.** Multivariate analysis indicated a significant main effect of orgasm difficulties on reasons for sex (Wilks'  $D = .97, F(4, 420) = 3.1, p = .02$ , eta squared = .03,  $B = .81$ ). Significant differences were found between women with and without orgasm problems for the insecurity factor of the YSEX ( $F(1, 423) = 8.13, p < .01$ , eta squared = .02,  $B = .81$ ), demonstrating that 2% of the variance in scores for insecurity reasons for sex is accounted for by differences in levels of orgasmic functioning. The estimated marginal means indicated that women reporting problems with orgasm were significantly more likely to engage in sex within the past month for insecurity reasons ( $M = 1.67, SE = .01, CI = 1.64-1.70, n = 64$ ) than women who reported no problems with orgasm ( $M = 1.62, SE = .01, CI = 1.60-1.64, n = 366$ ).

Significant main effects were found for age (Wilks'  $D = .98, F(4, 420) = 2.55, p = .04$ , eta squared = .02,  $B = .72$ ), relationship duration (Wilks'  $D = .96, F(4, 420) = 4.25, p < .01$ , eta squared = .04,  $B = .93$ ) and relationship satisfaction (Wilks'  $D = .79, F(4, 420) = 28.19, p < .01$ , eta squared = .21,  $B = 1.0$ ), indicating all covariates account for little variability in the reasons for sex. Including age as a covariate affected the insecurity factor model, ( $F(1, 423) = 5.02, p = .03$ , eta squared = .01,  $B = .61$ ), thus 1% of the variance in the insecurity scores could be

accounted for by the age of the participant. Age did not significantly affect the pleasure, goal attainment or emotional factors.

Relationship duration significantly affected the emotional factor model ( $F(1, 423) = 7.30, p < .01, \eta^2 = .02, B = .77$ ) and the physical factor model ( $F(1, 423) = 6.41, p = .01, \eta^2 = .02, B = .71$ ), thus 2% of the variance in scores on emotional reasons for sex and 2% of the variance in scores on physical reasons for sex can be accounted for by the length of participants' relationship. Relationship duration did not significantly affect the insecurity or goal attainment factors. Relationship satisfaction (dyadic adjustment) significantly affected the emotional ( $F(1, 423) = 11.39, p < .01, \eta^2 = .03, B = .92$ ), and insecurity ( $F(1, 423) = 64.71, p < .01, \eta^2 = .13, B = 1.0$ ), and goal attainment ( $F(1, 423) = 5.39, p = .02, \eta^2 = .01, B = .64$ ) factors of the YSEX. This finding shows that 3% variance in the scores on the emotional factor, 13% of the variance in scores on the insecurity factor and 1% of the variance in scores on the goal attainment factor could be accounted for by participant's satisfaction in their relationship. Relationship satisfaction did not significantly affect the physical factor of the YSEX.

See Table 9, Table 10 and Table 11 for a summary of significant group differences.

Table # 9

*YSEX Factor Scores Differences by Sexual Functioning*

Factor	Sexual Functioning				F	df
	Problems		No Problems			
	M	SE	M	SE		
Physical**	1.91	0.01	1.97	0.01	12.70	1/211
Emotional	1.60	0.02	1.60	0.01	0.01	1/211

Goal Attainment	1.69	0.01	1.68	0.01	0.31	1/211
Insecurity**	1.69	0.01	1.62	0.01	21.01	1/211

Mean scores and standard error scores represent scores from the Log10 transformed data

\*\*  $p < .01$

Table # 10

*YSEX Factor Scores Differences by Desire*

Factor	Desire				F	df
	Problems N = 41		No Problems N = 389			
	M	SE	M	SE		
Physical**	1.87	0.02	1.98	0.01	27.66	1/423
Emotional*	1.58	0.02	1.64	0.01	5.06	1/423
Goal Attainment	1.68	0.01	1.69	0.01	0.69	1/423
Insecurity	1.66	0.02	1.63	0.01	1.71	1/423

Mean scores and standard error scores represent scores from the Log10 transformed data

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

Table # 11

*YSEX Factor Scores Differences by Orgasm*

Factor	Orgasm				F	df
	Problems N = 64		No Problems N = 366			
	M	SE	M	SE		
Physical	1.91	0.02	1.93	0.01	1.00	1/423
Emotional	1.61	0.02	1.60	0.01	0.15	1/423
Goal Attainment	1.69	0.01	1.68	0.01	0.24	1/423
Insecurity**	1.67	0.01	1.62	0.01	8.13	1/423

Mean scores and standard error scores represent scores from the Log10 transformed data

\*\*  $p < .01$

The MANCOVA revealed no significant interactions based on levels of sexual desire or orgasm, therefore no follow up ANOVA tests were conducted.

Table # 12

*Summary Table of Relationships between Predictor Variables and Outcome Variables from MANCOVA Analysis*

	Physical	Emotional	Insecurity	Goal Attainment
Sexual Dysfunction	X		X	
Desire Problems	X	X		
Orgasm Problems			X	
Relationship Satisfaction		X	X	
Age			X	X
Relationship Duration	X	X		

### **Discussion**

This study analysed the sexual motivations of 708 heterosexual women with different levels of sexual functioning after controlling for age, relationship satisfaction and relationship duration. Specifically, differences in sexual motivations were analysed using FSFI total scores and again using scores indicating problems related to sexual desire and orgasm, as these are the most commonly reported sexual concerns among women (Shifren et al., 2008). Using multivariate analysis of covariance, it was found that significant differences in sexual

motivations existed across levels of sexual functioning and among women with and without desire and orgasm problems. Women with sexual problems were more likely to endorse insecurity reasons for sex, whereas women without problems were more likely to endorse physical reasons for sex. Women experiencing low desire were less likely to endorse emotional and physical reasons for sex than women reporting no concerns with levels of sexual desire. Women experiencing orgasm difficulties were more likely to endorse insecurity reasons for sex than women with no reports of orgasm difficulties. The variance accounted for by sexual functioning status on sexual motivations was low in all cases and never exceeded 9%. When reasons for sex were ranked from most endorsed to least endorsed, it was found that women most frequently endorsed emotional and physical reasons for sex and were least likely to endorse insecurity and goal attainment reasons for sex.

The results are both consistent with and in contrast to the expectations that guided the formation of the original research questions, which sought to investigate whether women with sexual functioning concerns, particularly those with desire and orgasm problems, would have reasons for sex that significantly differed from their non-concerned counterparts. The following discussion will explain the initial rationale and expectations that guided the research questions, explore possible interpretations of the results, and engage in a more in depth examination of women's sexual motives which will be guided by Hill and Preston's Incentive Motivation Model (1996).

Previous literature has suggested that women with no reports of sexual functioning concerns would be more likely to endorse physical reasons for sex while women with sexual functioning concerns would endorse more emotional, insecurity and goal attainment motives for sex (Basson, 2001; 2001a; Giles & McCabe, 2009; Sand & Fisher, 2007). Given that the current

sample was comprised mainly of women without sexual problems, it was expected that physical reasons would be the most frequently endorsed by the sample overall. These expected differences in sexual motivations can be best explained using models of sexual response. The Masters and Johnson/Kaplan (1966) model of sexual response includes desire and orgasm as two key stages, suggesting that physical motives largely drive sexual activity. Basson's model of female sexual response offers a contrasting perspective; Basson (2000) suggests women begin sexual activity from state of neutrality, often for emotional gains, while the experience of sexual desire and orgasm may or may not take place. Previous studies have identified that women with sexual concerns were more likely to endorse models of sexual response that incorporated multiple emotional motives and non-sexual goals (consistent with Basson's model of female sexual response), while women without concerns were more likely to endorse physiologically driven models of sexual response (consistent with the Masters & Johnson model) (Giles & McCabe, 2009; Sand & Fisher, 2007). Differences in sample characteristics may explain these findings; the Female Sexual Response model was developed based on Basson's observations of women from a clinical population, while Masters and Johnson required their participants to be willing and able to sexually perform and achieve orgasm in a laboratory setting (Basson, 2001; Lykins, Janssen & Graham, 2006; Masters & Johnson, 1966). Together, these studies suggest that physical motives may be more consistent with "healthy" sexual functioning, while emotional motives or non-sexual goals may drive sexual activity for women with sexual functioning concerns.

Additional research provides further support for a difference in sexual motives being found among women with and without sexual problems. Studies have indicated that, in the absence of desire and orgasm, women continue to engage in sexual activity for non-physical

reasons, like emotion, duty, compassion, or ambivalence (Carvalho & Nobre, 2010; McFarland et al., 2011; Meston et al., 2009; Vannier & O'Sullivan, 2010). Basson (2001; 2002a) suggests that non-sexual "spin-offs" such as emotional closeness, validation or achievement of goals gained by engaging in sex suggest may serve to positively reinforce sexual behaviour where motives closely tied to physical sexual functioning, like desire and orgasm, cannot. Combined, these findings underscore the expectation that that women with sexual problems, specifically low desire and inability to achieve orgasm, would be less likely to endorse physically based reasons for sex (such as the bodily sensations and endorphin rush that accompanies satisfying a sexual urge and experiencing orgasmic release) and more likely to endorse emotional, insecurity or goal attainment reasons for sex (Giles & McCabe, 2009; Sand & Fisher, 2007).

The current investigation revealed that sexual functioning explained very little regarding the motivations of women. While differences in reasons for sex existed by level of sexual functioning, the variance accounted for was small and the means were similar across functioning groups. Research demonstrating that women engage in sex despite sexual functioning concerns helps to support the present study's findings (McFarland et al., 2011; Vannier & O'Sullivan, 2010). It could be that differences in motivations are less likely due to sexual functioning and more likely due to other factors such as mood, personality, and even immediate circumstances such as time of day and energy levels. Previous research has also shown that sexual distress is less related to physical sexual response and more indicative of emotional states during sexual activity (Bancroft, 2002). Research on sexual inhibition/sexual excitation may be useful in explaining these findings. The dual control model puts forth that sexual inhibition and excitation are adaptive responses to circumstances like fatigue, depression and other relational and life events (Bancroft, Loftus, & Long, 2003). It is reasonable that sexual motives are similarly

inhibited or expressed in response to these varying contextual factors and dispositions. Overall, women have been found to be more vulnerable to sexual inhibition than men, and thus report more variability in both the type and strength of stimuli needed for arousal (Bancroft & Graham, 2011). It could be postulated that some women may similarly experience more variability in sexual motives as a result of the variability of moods, contexts and levels of sexual inhibition/excitation.

It was found that women did not frequently endorse physical, emotional, insecurity or goal attainment reasons for sex. When rated on a scale from 1 to 5 with *1 = none of my sexual experiences* and *5 = most of my sexual experiences*, the mean averages were all below 2.5, implying that women engaged in sex rarely for any particular reason. These findings are similar to Meston and Buss' (2007) study in terms of order of rank, however, the present investigation's scores are much lower than those found by Meston and Buss. In their original study, participants ranked emotional and physical reasons for sex as most frequently endorsed, with mean scores as high as 3.89. The current investigation's findings that scores ranked below 2.5 in all cases may be due to differences in the samples. Meston and Buss (2007) used an undergraduate sample with a mean age of 19 years, while the current study used an older and broader age range. Additionally the current study used a narrower time frame. The current study's results may also be a result of the measures. The YSEX? Questionnaire assesses women's frequency for endorsing sexual motives, but does not allow women to rate each motive in terms of importance to their sexual experiences. As a result, important and highly endorsed sexual motives may appear to be less salient when taken together with all possible motives experienced over the past four weeks. Likewise, Bancroft, Loftus, and Long (2003a) suggest that positive or negative sexual experiences can be reactions to circumstances and transient. It follows, then, that focusing

on sexual motivations over the course of the past month, may result in an over- or under-estimation of sexual motives as women might be inclined to average out their reasons for engaging in sex across this time period over the past month, thus reporting lower scores overall. Whereas some women may report that certain motives are paramount to their sexual activities, it is likely that other women vary in their reasons across and between encounters. That little variance was accounted for by sexual functioning in the current investigation, and that women did not endorse *any* reason for sex very frequently, suggests the need to examine women's sexual motivations at an event-level. Event-level measures, allowing women to report on their sexuality at each separate time they engage in sexual activity, would allow nuances in sexual experience relating to sexual function, context and sexual motives to be accurately captured rather than amalgamating sexual experiences over a specific duration of time.

Contrary to expectations, frequency of emotional and physical reasons for sex were not significantly different. This finding was consistent across overall levels of sexual functioning and in women with and without problems with desire and orgasm specifically, which may suggest that, regardless of sexual functioning concerns, women's bodies are not the sole focus of sexual activity. This finding is consistent with existing literature that demonstrates women's sexuality to be more relationally-focused (Graham, Sanders, Milhausen, & McBride, 2004) and The Female Sexual Response Model (Basson, 2000) which indicates women begin sexual activity from a state of neutrality, often for non-sexual rewards, like emotional closeness. However, an additional explanation is possible when considering research by Rellini, McCall, Randall and Meston (2005) and Chivers and Bailey (2005) that found women's genital arousal is not strongly related to their reported sexual preferences. The discordance between genital arousal and subjective sexual preference implies that women engage in sex for reasons not necessarily

predicated upon, or in reaction to, physiological response. Other research exploring the incentive value of sex for women has indicated that engagement in sexual activity was partially independent from the experience of physical desire (Cain et al., 2003; Meana, 2010). Taken together, these findings suggest that even when experiencing arousal or desire in a “normative” range, other non-physical or even non-sexual motivations, such as emotional motives, may take precedence among women.

It is also possible that a social desirability bias led to emotional reasons being ranked as highly as physical reasons among participants. Women may have felt inclined to report emotional reasons as a main motive for their sexual expression because of their internalized social and sexual scripts. It has been acknowledged that socio-political forces suppress and place restrictions on women’s expression of sexuality (Beaumeister, 2000; Tolman, 1994). Other researchers (Bancroft, 2002a; Lindgren, Schacht, Mullins, & Blayney, 2011) also indicated that women are more susceptible to the constraints placed on sexuality in general. Bancroft (2002) and Meana (2010) commented on the fact that culture provides scripts and guidelines to shape women’s appropriate sexual response. Traditional sexual scripts encourage women to express their sexuality within the confines of a loving, committed relationship, and studies show that women’s sexual choices are often grounded in relational elements like intimacy and commitment (Beaumeister, 2000; Diamond, 2006; Hynie, Lydon, Cote, & Wiener, 1998; Levant, Rankin, Hall, Smalley & Williams, 2011; Peterson & Lamb, 2012). As a result, women may be more inclined to report emotional reasons for sex on a questionnaire. In Meston and Buss’ (2007) study, participants were younger, college students who were not required to be in a relationship. While it is unlikely that the current sample experiences increased social desirability biases any more than in other samples, differences in scores between the two studies could be a reflection of

this relationship status and age. Young college age students who are not currently in a relationship may be more inclined to highly endorse physical reasons for sex as they engage in exploration with other students, while still experiencing pressure to report emotional reasons for sex due to social stigma. Older participants in longer term relationships may have more experience exploring multiple non-sexual motives for sex, thus resulting in lower endorsements of each reason for sex overall, while still most frequently endorsing physical reasons for sex, and feeling pressure to report emotional reasons for sex in addition.

### **Physical Motives**

Physical reasons for sex were more likely to be endorsed by women who met the criteria for “sexual functioning” as indicated by high scores on the FSFI, as well as women who reported no concerns with sexual desire. The physical nature of sexual activity, especially as interpreted using evolutionary theory (Buss & Schmidt, 1993), supports women without sexual functioning concerns associating sexual activity with a pursuit of physical pleasure. However, in contrast, women in the current study with orgasm difficulties reported no differences in physical reasons for sex compared to women without difficulties. This finding could suggest physical behaviors involved in erotic contact offer numerous pleasurable physical rewards even in the absence of orgasmic experience. A qualitative study by Nicholson & Burr, (2003) suggests that orgasm was not important to women but was rather a pressure imposed upon them by their partners provides support for this interpretation.

It is possible that, among some women, low desire and a decreased tendency to endorse physical reasons for sex are the result of physical stress, exhaustion or a depressed/anxious mood state. Research has indicated that mood – specifically anxiety and depression - were correlated with lower reports of desire and arousal (Lykins et al., 2006). Further, Herbert (1996) identified

that neural systems in the brain can be altered by the experience of stress, resulting in a suppression of sexual interest. Sims and Meana (2010) found that many women experience low desire as a result of the familial demands of maintaining a relationship, running a household, working and being a mother and Meana and Nunnick (2006) demonstrated that women experience more cognitive distraction than men during sexual activity, which may be a result of these familial demands. These findings may all be contextualised using Janssen and Bancroft's dual control model which suggests that low sexual desire can be an adaptive response to life circumstances (Bancroft, Graham, Janssen & Sanders, 2009). Sexual motives may similarly be an adaptive response to these altered life circumstances and demands. When experiencing multiple distractions, exhaustion and high levels of stress, the body's physical resources would be allocated to dealing with these processes rather than focused on sexual desire. Thus, there would be a decreased need to release sexual tension and no capacity for the physical exertion and mental attention required to achieve orgasm, rendering physical motives for sexual activity less likely.

It is possible that women with low sexual desire reported less frequent physical reasons for sex as a result of concerns regarding their body or a lack of perceived feelings of "sexiness". Woertman and Van den Brink, (2012) state that men place high importance on women's physical appearance. This statement is in line with evolutionary theory that purports men seek youth and attractiveness in order to determine women's reproductive success (Buss & Schmitt, 1993). Woertman and Van den Brink (2012) suggested that women have evolved to become conscious about their physical appearances as a result. Thus, the ways in which women feel about themselves as desired and sexy may be an important element in women's sexuality, particularly their desire for physical gratification. Meana and Nunnick (2006) explained that women have a

valence of self-focus whereby a positive self-focus results in increased levels of desire, while a negative self-focus results in decreased desire. Thus, women who stop seeing themselves as sexy, desired or sexualised would report a decrease in desire for sexual activity. In a study by Peplau et al.,(2009), almost half of the women reported a positive body image as important to their sexual experiences and women with positive body image reported more positive sexual outcomes, including increased pleasure. Woertman and Van den Brink (2012) also found that positive body image was associated with increased interest in engaging in sexual activity. It may be that poor body image, and a lack of “feeling sexy,” leads to a decreased experience of desire and a devaluing of physical reasons for sex. However, the current study did not include a measure of body image so it is impossible to determine the degree to which body image may have played a role in the current findings.

### **Insecurity Motives**

The current study found that women with sexual functioning concerns and women with orgasm problems were more likely to endorse insecurity motives for sex. Bancroft (2002a) pointed out that the experience of physical sexual enjoyment and orgasm are not well achieved through conventional vaginal intercourse. Additionally, the experience of sexual pain, low arousal and low satisfaction would significantly affect women’s ability to enjoy physical aspects of sex. Traditional models of sexual response are predicated upon having sexual desire for intercourse and achieving orgasm as a result (Masters & Johnson, 1966). The Masters and Johnson model is used to teach about normative and healthy sexuality thus the linearity and physiological underpinnings may contribute to a sexual narrative that perpetuates sex as “goal oriented” with a focus on the “euphoric” experience of orgasm, and downplays the other physical sensations that arise from sexual activity (Kleinplatz et al., 2009). Women who may be unable to

achieve orgasm or who are experiencing concerns with pain, lubrication or arousal, may feel inadequate and as if they are “missing out” or unable to “complete” a normative (a.k.a., “healthy”) sexual response cycle. A further explanation is offered by examining popular discourses around sexuality which do not highlight the possibility of non-penetrative sexuality or help foster sexual self-efficacy in women to speak up and explore other sides of their sexuality that may bring them more satisfaction (Kleinplatz, 1998; Tiefer, 1991; 2010). As a result, women experiencing problems may continue to try to engage in sex for physical sensations, only to experience frustration, and fall back on insecurity motives such as duty or a self-esteem boost.

The finding that women with sexual dysfunctions (i.e., FSFI < 26.55) were more likely to endorse insecurity motives is consistent with Meston’s suggestion that women experiencing low desire were more likely to have sex out of guilt (Meston et al., 2009). The same reasoning could apply to women with orgasm difficulties who continue to engage in sexual activity to please their partners. It is possible this finding could help contextualise why some women fake the experience of orgasm when engaging in partnered sexual activity. It is possible that insecurity motives like guilt arise in reaction to macro notions of “normative” sexual response, or, are more micro in nature, and result from the need to demonstrate orgasmic capacity in response to a partners continued efforts to sexually please. It is also possible that due to a culture that increasingly sexualises females through music, advertising, movies and even political commentary, women may assume they are responsible for pleasing their partners rather than attending to their own needs (Attwood, 2006). The motivation to satiate a partner’s needs above one’s own may serve to widen the dissonance between women’s bodies and their sexual experiences, while strengthening the relationship between women’s insecurity motives and their sexual experiences. Thus, in the absence of a physiological base for sexual activity, insecurity

motives may be invoked due to a need for validation of oneself as a sexual being. It may also be, however, that women who suffer from low self-esteem, or who are more insecure in their disposition, may have more difficulty allowing for the physical, emotional and mental vulnerability that helps to facilitate orgasmic release. Thus women who are more insecure may endorse insecurity motives as a result and additionally may have difficulty achieving orgasm.

### **Emotional Motives**

Emotional and physical reasons were ranked as most frequently endorsed by women in the sample overall. These results may be best explained within the context of Social Role Theory (Eagly, 1987). SRT explains that women are encouraged and expected to engage in sexual relations within the context of a relationship, while simultaneously being discouraged to engage in sex outside these parameters, such as with a casual or a variety of partners. Further, research indicates that a sexual double standard still exists (Kaeager & Staff, 2009). Along these lines, women begin to form associations between sex and the emotional experience of a partnership while additionally denying themselves the freedom to explore personal physical pleasures outside of emotional bonds, in fear of harmful labels like “promiscuous” or “slut” (Oliver & Hyde, 1993; Peterson & Hyde, 2010). These associations may encourage women to not be fully aware of their own biological urges and responses in isolation of emotions, or may additionally prevent women from answering truthfully in surveys. Research on subjective and physiological arousal may help explain these findings. Chivers & Bailey, (2005) found some women showed genital responses but did not experience subjective arousal. Likewise, it is postulated that the discrepancy between subjective and genital arousal could be due to “impression management”; women who are high in sex guilt, for example, are more reluctant to report feeling sexually aroused (Morokoff, 1985).

It must be noted that the mean length of relationship for the women in this sample was two years. Hatfield and Rapson (1987) characterise a shift from passionate to companionate love happening anywhere between six months and three years. In Meston and Buss' (2007) analysis of most frequently endorsed reasons for sex, participants were not required to be in a relationship. It is possible the average relationship length in the present study could account for the discrepancy between Meston and Buss's (2007) findings that physical motives were more frequently endorsed than emotional motives and the current study's findings that physical and emotional motives were ranked on par with each other. At the four year mark, women have entered the companionate stage in their relationship and may be less focused on passion but valuing more emotional bonds. It is possible that physical reasons for sex are always present in a sexual encounter, but are overshadowed by the strong emotions that facilitate maintaining a long term love relationship. Thus, emotional motives may have been ranked on par with physical reasons because of the bonds that are omnipresent during sex, and may serve to facilitate the expression of other sexual motives. For example, women who feel connected and emotionally close, and has sex for these reasons, may be freer or at least feel freer to also have sex for physical and pleasure reasons than women who don't feel "safe" to express these motives. Event-level analysis of sexual motives would be useful in investigating whether women experienced emotional and physical reasons for sex during the same encounter.

The finding that women with low desire reported less frequent endorsement of emotional reasons for sex is in contrast to Basson's model of female sexual response (2000). Yet, research showing women's sexual experiences are more emotionally driven than men (Hill & Preston, 1996; Leigh, 1989; Nelson, 1978) may still be useful in explaining this discrepancy. As emotional intimacy is important to women's sexuality, women who report low desire may not

wish to express love and commitment in their relationship and vice versa; women who are experiencing lower levels of love may be less inclined to engage in sex with their partners. Research on desire discrepancies in couples could lend support to this idea: Women who perceived their desire to be lower than their partners reported lower sexual satisfaction and lower relationship adjustment (Davies, Katz & Jackson, 1999). It is possible that women who perceive they have less desire than their partners may be feeling a pressure to engage sexually, thus the bond created through love, support and affection, may be replaced by a worry that their partner is desiring their body as opposed to their affection. As a result, the inclination to express love is lessened. Similarly, women may feel that they cannot match the desire for emotional closeness with their partner when they are experiencing desire problems, and thus feel at a loss for any reason to engage in sex. The associations formed between sexual and romantic relationship dynamics are likely to create a context whereby women who have less physical desire towards their partner or a weaker emotional connection, would be more inclined to report a reduction in sexual desire.

### **Goal Attainment Motives**

The finding that no significant differences existed in endorsement of goal attainment scores in women with and without sexual problems most likely is a reflection of the fact that goal attainment is a unique and unpopular reason for sex in general. It is important to consider, as well, that goal attainment reasons for sex are the least socially acceptable reasons to engage in sex which may prevent women from answering truthfully in surveys assessing these motives. Additionally, the lack of significant differences in endorsement of goal attainment reasons for sex by levels of sexual functioning may be a result of the measures used that did not account for a multitude of sexual motivations to be assessed for a single sexual encounter. Perhaps goal

attainment reasons are frequently endorsed by women however they remain tertiary or exist in conjunction with other motives that help facilitate their expression. For example, women may engage in sex to achieve a goal, but they do so only if other motivations like physical release, or emotional closeness, or validation will also be met. It may be that goal attainment reasons in isolation are intimidating, but are pursued when supported by other motives. Women may be similarly inclined to report the other motives in a survey given internalised notions of social propriety.

The current study's findings all point to a need to better understand the complexity of women's sexual motives. While sexual functioning appears to play a role in women's reasons for sex, it holds a limited and complicated influence. Given the low amount of variance accounted for by the models it is likely that differences in sexual motives can be explained by a multitude of contextual, personal, relational and social factors that were not assessed in the current investigation. The following section will consider more generally women's sexual motives. This section will begin with a cautionary comment regarding research on women's sexuality, which is followed by a discussion of the importance of studying women's sexual experiences at an event-specific level. Hill and Preston's Incentive Motivation Model will be used throughout to provide a broader framework for understanding the variability of women's reasons for sex.

There is a wealth of existing literature that details the politics surrounding research on women's sexuality, beginning with the pioneering work by Alfred Kinsey and colleagues in the 1950s and 1960s (Bancroft, 2004; Tiefer, 2010). Previous research has adopted a "problem-focused" paradigm that measures women's sexual "health" from an androcentric and medicalized standard. These lenses purport that women's sexual experiences are fixed and dichotomised as "healthy" or "not healthy", with standards of male sexual response determining

sexual health. Recently, however, numerous prominent researchers have established alternative discourses that have shifted the framework by which female sexuality is examined by encouraging acknowledgement of the complexity of many women's sexual experiences as more contextual and holistic (e.g. Basson, 2000; Bancroft, 2002; Brotto, 2010; Tiefer, 2010; The New View, 2002). Feminist researchers like The Working Group for a New View of Women's Sexual Problems, suggest that dominant notions of problematic sexuality merit further investigation. Further investigation is especially important with regard to the assumptions that surround "normative" sexual response/ functioning and which sexual motivations women endorse and why.

The current study supports the previous literature indicating women are fluid in their sexual expressions and needs (Bancroft, 2002a; Basson et al., 2003). In addition to identifying that women with sexual concerns were more likely to endorse different models of sexual response than women without sexual concerns, Sand and Fisher (2007) found an equal proportion of women endorsed both the physiologically-based and the emotionally-based sexual response models overall. Along these lines, Basson's suggestion that women begin from a place of sexual neutrality and that the experience of desire or orgasm are "optional", can be interpreted as applicable to women with normative sexual functioning just as it can represent women who do not regularly experience desire and orgasm as part of their sexuality. This suggestion disrupts the inclination to fit women's sexual experiences neatly into boxes based on statistical and clinical formulations. An assumption that women will naturally endorse physical reasons for sex if they have no sexual concerns, for example, dismisses the importance of the multitude of motives available to women who may endorse one sexual response model at one time and another at another time. It may be that women's endorsement of sexual response models as either

physiologically-based or emotionally derived is more related to their current sexual motivations and goals and less related to their experience of normative sexual response. The availability of both models demonstrates the multiple ways women may frame their sexual responses during sexual activity. It must be noted, therefore, that the initial objective of this study to strengthen the association between motives and sexual functioning may actually serve to make women feel that certain motivations for sex (for example physical versus emotional) are “healthier” than others. Thus, associations found between sexual function and sexual motives must be interpreted with caution.

The Incentive Motivation Model (Hill & Preston, 1996) can be used to explain the pursuit of sexual activity for nonsexual reasons, or reasons unrelated to physical pleasure. IMM proposes that sexual motives can be inherent within an individual, or emerge in response to the influence of outside incentives or goals. In this sense, an individual may have several goals or incentives at any given time that may provoke the desire to engage in sexual activity. For some women, sexual activity will satisfy the same external goal or internal drive over and over, while for other women goals or incentives will be specific to each sexual “event” due to the competing influences of life, relational, personal and situational factors.

While some women may report always endorsing certain motivations for sex, those reasons may be highly variable across women. Additionally, women may report multiple motives within and across their own sexual experiences. Beaumeister (2000) and Diamond (2006) have both documented the “erotic plasticity” or flexibility of women’s sexual motives. Examining sexual motives at an event-specific level (in contrast to the approach used in the YSEX which assesses sexual motivations over time) may help to capture this variability. Event-specific analysis of motivations for sex is important to pursue for three reasons: motives for sex may vary

across sexual encounters, a multitude of motives may be relevant at each sexual encounter, and motives may shift or be fluid during sexual activity.

It is likely that mood, energy levels, current sexual functioning concerns, and even personal and relational factors, like self-esteem or relationship dynamics will exert themselves and have more of an influence during some sexual encounters than others and will thus result in varying sexual motives from one event to another. Likewise, women may have varying and competing reasons for sex present at each specific sexual event. For example, some women may be experiencing a desire to satisfy a sexual urge or release sexual tension, but also looking to bond and express love to their partner. These motives may be underscored by a desire for validation, a desire to relieve the day's stress, or a feeling that they have not "performed their spousal duty" in some time. In these instances, women may be flexible in what motives are attended to throughout their sexual encounter or their sexual motives may shift or evolve throughout the sexual encounter to accommodate multiple motives or contextual circumstances like sexual functioning concerns. Flexibility of motives is consistent with Basson's model of female sexual response that purports women engage in sexual activity from a neutral starting point, but throughout the course of the act, they may seek out or respond to various sexual stimuli that increase her experience of desire and arousal (Basson, 2000).

Meana (2010) noted that desire exists on a continuum and that the stimuli necessary to evoke it may as a result, differ in terms of their saliency. Research on sexual inhibition/sexual excitation purports an "everything has to be just right" model of sexual desire/arousal whereby desire/arousal is a responsive mechanism. As a result women may compensate by shifting their motives or endorsing multiple motives when things are not "just right" (Graham, Sanders & Milhausen, 2006; Meana, 2010).

To account for such shifts, it is possible that the motivation as driven by multiple incentives may be the result of an adaptive evolutionary strategy to promote and ensure reproductive success. Due to women's level of desire or arousal in any given event, it is possible that reproduction or physical urge does not provide enough benefit for them to engage in sex. Thus they have evolved to widen their evaluation of the other incentive values of sexual activity (Hill, 1997). The possibility that women have multiple, shifting, motives during sexual encounters is further explained by incentive motivation. Incentive motivation may enable sexual activity to occur or progress even when inhibiting sexual situations are present or when sexual motives are not met by promoting a shift in incentives. However the current measures are not structured to capture variability across events and during specific sexual events thus further research is needed. Furthermore, current measures assess frequency of endorsing sexual motives, whereas the importance of each sexual motive to women must also be considered.

The finding that sexual functioning did not account for large variance in women's reasons for sex, though likely due in part to sample characteristics, could aid in shifting the current trajectory of sexuality research from problem-focused to a more balanced reporting of women's sexual experiences. It is likely that sexual functioning may be a part of the context that influences each sexual encounter and motivations for sex. The findings of this study were consistent with the existing literature that underscores the depth and complexity of women as sexual beings (Basson, 2005; Meana, 2010). Sexual experiences must be seen as a multi-faceted and evolving experience for women, whereby some women's initial reasons for sex may be met or shifted as the sexual event unfolds. The current study serves to support the existing literature that highlights women as complex, and who seek to balance the demands and pleasures of multiple motives. Previous research has elicited similar findings in that women appear to seek to

attain multiple sexual and non-sexual goals and that sexual pleasure, satisfaction, and emotional connection with a partner exist in unique ways and on multiple levels (Basson, 2000; 2005; Graham et al., 2004). In this sample women's motives were less dictated by their sexual functioning patterns than initially expected, suggesting that motivations for sex may be hindered or enhanced by a range of situational demands and experiences as well as dispositional, relational and cultural factors. It is possible that aspects of sexual functioning are at once part of the sexual context, and context-specific.

### **Limitations**

The current study was comprised of a community sample of heterosexual women in romantic relationships and the majority identified as Caucasian thus limiting the generalizability of the results to women from more diverse ethnic backgrounds and other sexual orientations, women in casual sexual relationships, women with clinically diagnosed sexual dysfunctions and to men and transpersons. However, unlike previous studies with results derived solely from undergraduate populations (Hill & Preston, 1996; Meston & Buss, 2007), having the current survey completed online allowed for a more diverse range of women. As a result, the mean age of participants was older ( $M = 27.25$ ) and the age range was broader than in previous studies (18-74). Previous research on sexual motivations did not require participants to be in a relationship or to have had sexual intercourse (Hill & Preston, 1996; Meston & Buss, 2007). The current analysis included only women who had recently engaged in sexual intercourse with a partner. It is possible that women experiencing sexual problems may not currently be in a relationship or sexually active and thus these women would be excluded from the current analysis, further limiting generalizability of the results. However, the approach used for the present investigation

may have resulted in more valid data, given that un-partnered or inexperienced women were not asked to respond based on distal or hypothetical sexual experiences.

An additional limitation of the study stems from a potential volunteer bias. Studies have shown that participants in sexuality research have more liberal attitudes towards sex than individuals who do not participate in sexuality research (Morokoff, 1986; Saunders, Fisher, Hewitt, & Clayton, 1985). The majority of the sample came from a posting on the Kinsey Institute website. It stands to reason that women who have knowledge of the research from the Kinsey Institute, or who seek out this information, or who read the blogs available on the website, may be more open to, interested in or curious about sexual issues which limits the findings to women with similar attitudes and dispositions.

Due to initial concerns regarding low response rates, participants were recruited from multiple online and community locations. Participants were grouped into three broad recruitment streams; online communication, class-related and internet searches. However, due to sample size concerns, all recruitment streams were analysed together. As a result, it is not possible to attribute or generalise the results to one particular recruitment stream or demographic.

A further limitation pertains to the imbalanced numbers of women reporting no sexual concerns compared to women reporting sexual concerns. The majority of women met the criteria for healthy sexual functioning (as determined by scores at or above 26.55 on the FSFI) and thus the sample is biased towards women without sexual concerns, potentially impacting the results by not evenly representing women with sexual concerns. It is possible this bias is due to the above noted limitations concerning relationship status, recruitment methods, or the nature of conducting sexuality research in general. However, it must be noted that the cut-offs selected to distinguish between women with and without concerns pertaining specifically to sexual desire

and orgasm, were not clinically validated. A clinically validated cut-off exists for determining problems with sexual desire (Gerstenberger et al., 2010). A preliminary analysis using the clinical cut-off identified almost 75% of the sample as having problems with sexual desire. This finding is not consistent with the existing literature on sexual desire concerns and sexual distress (Burri, Rahman & Spector, 2011; Bancroft et al., 2003; Shifren et al., 2008; Stephenson & Meston, 2010), and may be overestimating women who have sexual distress as a result of their levels of desire. Therefore a more conservative cut-off was selected so as to only capture women who reported sexual desire concerns always or most of the time. Problems with orgasm can range from inability to orgasm, difficulty achieving orgasm, unsatisfactory orgasms in terms of length or intensity, and in some rare cases painful orgasms (Matsushita, Raanan, & Mulhal, 2012; Rosen et al., 2000). The FSFI measures orgasm problems using frequency of orgasm, difficulty achieving orgasm and satisfaction with ability to achieve orgasm (Rosen et al., 2000). However a clinically validated cut-off for determining problems with sexual orgasm does not exist, thus the cut-off for distinguishing women with and without orgasm problems was derived in the same way as for women with and without desire concerns.

Missing data presented a challenge for the current investigation. A total of 60.7% of the initial sample was lost due to missing data. The majority of these participants dropped out after completing the demographic questions; however, a significant portion was lost due to incomplete responses on scales. The significant attrition rate lead to a decrease in sample size and resulted in a loss of statistical power to detect significant differences (Allison, 2001). To preserve as many cases as possible, data was imputed for participants with less than 10% missing data on the YSEX? Questionnaire. The individual means for each item of the YSEX? Questionnaire were calculated and used to replace each participant's missing responses. This calculation was not

possible for the FSFI as it contains too few items per domain; in contrast, the YSEX includes up to 45 different items per factor. While it is possible that this approach may lead to regression towards the mean, this approach has been used in previous studies (Rubin, Witkiweitz, Andre, & Weily, 2007; Wood & Milhausen, 2010) and was recommended by the author of the YSEX? Questionnaire (C. Meston, personal communication, October 17, 2011). Further, the imposed limit of 10% is consistent with previous literature (Donner, 1982 as cited in Roth, 1994).

Another limitation is that models in the study accounted for small amounts of variance (ranging from 1% to 9%). It is possible that differences in sexual motivations are influenced by many different factors not measured in the current study such as personality, mood, self-esteem, body image, relationship dynamics, gender and sexual scripts or sexual attitudes. Future research should investigate the effect of these variables on reasons for sex in addition to sexual functioning status.

The current study found a relationship between sexual functioning and sexual motives, however directionality was not assessed. It is possible that there is a concomitant relationship between sexual functioning and sexual motives whereby they exert a simultaneous or reciprocal influence. For example, women endorse certain motives if they are experiencing sexual functioning concerns, but that sexual motives may also impact a women's experience of sexual function. Future research should thus examine the influence of sexual motives on sexual functioning, as well as the components of sexual pleasure in women.

Finally, an important limitation involves the way sexual motivation was measured. The YSEX? Questionnaire is structured in such a way that does not address the possibility of multiple reasons for sex all influencing one sexual encounter. Additionally this model cannot account for shifts in women's sexual motives over the course of one sexual encounter. Basson (2001a;

2001b) suggests that women engage in sex from a neutral standpoint and either seek out or respond to sexual stimuli. As a result women may have multiple reasons for engaging in sex at any given time, and these reasons may change, shift or evolve over the duration of the encounter. For example, women may start in a state of sexual neutrality and engage in sexual activity in order to express love for their partner, but may continue because of an urge to release sexual tension that was triggered due to sexual stimuli. Likewise, they may not be able to satiate their need for orgasmic release, and continue to engage in sexual activity out of a “duty” so that their partner can finish, while focusing on the other pleasurable physical sensations that sexual activity brings. Thus, the reasons endorsed in the current study reflect the frequency with which each motive is endorsed, not necessarily what women rate as the most important sexual motive to them which may be the initial motive (e.g. to express love), the final resulting motive (e.g., duty), or the motive present throughout the majority of the activity (e.g., physical gratification).

Given the YSEX? Questionnaire is structured to assess the *frequency* women engaged in sexual intercourse for each of the 142 reasons, the level of importance women attribute to each sexual motive is based on speculation. Thus, future research should examine what reasons for sex women rate as most important to their sexual experience overall and by levels of sexual functioning. Previous researchers have examined sexual motives at an event-level using diary studies (Cooper et al., 1998; Impett, 2008; Muise, Desmarais, & Milhausen, 2011), however, there currently does not exist a validated measure of sexual motivation that can account for event-level ratings of sexual motivations or shifts in sexual motives across each event. To capture the complexity of sexual motives, Wood and Milhausen (2010) suggested a revised questionnaire that allows participants to select multiple reasons for sex for each sexual encounter. A measure that accommodates multiple choices would be useful in capturing each

reason for sex endorsed the last time an individual had sex. To see if changes in motives occur over the course of a sexual encounter, a diary style study is useful as it allows participants to detail the trajectory of their sexual experience including all the influential factors.

### **Implications**

The current study adds to a growing body of literature that considers the diversity of women's sexual experiences (e.g. Bancroft, 2002; Basson, 2005; Brotto, 2010; Meana, 2010), specifically regarding women's sexual motivations and sexual functioning. The criteria used in the current investigation to determine sexual functioning improves upon past research as it takes into account the frequency, duration, severity and overall satisfaction regarding sexual problems. Additionally, rigorous categorization methods were utilised to determine women with and without concerns regarding sexual desire and orgasm. Using more stringent criteria, the current study identified the majority of its participants as meeting the criteria for no sexual concerns. These results are lower than those identified in the existing literature (Laumann et al., 1999; Laumann et al., 2005; Mercer et al., 2003; Shifren et al., 2008) which is an important contribution as it counters previous research tendencies to medicalise and pathologise women's sexuality.

Studies examining differences in the endorsement of sexual response models by women with and without sexual functioning concerns suggested that differences in sexual motives might exist among these women (Giles & McCabe, 2009; Sand & Fisher, 2007). Women with sexual functioning concerns were more likely to endorse a circular model of sexual response that included multiple sexual and non-sexual motives while women without sexual functioning concerns were more likely to endorse linear, physiological models of sexual response that highlight sexual desire and orgasm as important stages in sexual encounters (Basson, 2000; Giles

& McCabe, 2009; Master & Johnson, 1966; Sand & Fisher, 2007). The current study found that differences in motives existed by levels of sexual functioning, suggesting sexual functioning may not be a confounding factor when understanding the impact of sexual motives. This research creates a foundation for future studies examining the relationship between sexual functioning and motivations for sex in multiple demographics (e.g., men, LGBT populations, clinical population, and individuals not currently in relationships).

While differences in reasons for sex existed among women with and without sexual problems, the margin was small. The current study identified sexual functioning as accounting for low amounts of variance in sexual motives. This finding is important as it suggests that sexual functioning may not be an important factor for women when deciding to engage in sexual activity. This finding supports previous research demonstrating that women engage in sex despite sexual functioning concerns (Vannier & O'Sullivan, 2010). It is possible that other potential factors could be influencing women's sexual motives such as personality, body image, sexual attitudes, relationship factors or self-esteem.

The current study further adds to the body of knowledge on reasons women engage in sex. Previous models of sexual response have suggested that motivations for sex were primarily limited to physiology (Masters & Johnson, 1966). However, Meston and Buss (2007) demonstrated that women have many reasons for sex, some of them non-physiological or even non-sexual in nature (e.g. emotional, social). The finding that women endorsed emotional and physical motives more frequently than insecurity and goal attainment motives is in support of existing research that has identified similar results (Leigh, 1989; Meston & Buss, 2007). However, women's endorsement of the frequency of *each* sexual motive was low. Perhaps, a physical focus is not as important to women as studies have shown it to be for men (Leigh,

1989), However it also implies that, for women, a focus on emotional, insecurity and goal attainment fails to capture their sexual variability.

It is known individuals have a multitude of reasons for sex (Meston & Buss, 2007), Women in this study did not endorse any motive with great regularity, thus it is likely women also have several motives for sex across sexual encounters and present during activity. A multiplicity of motives is an important consideration as some discourses ascertaining that women are not as “sexual” as men continue to persist (Kaeager et al., 2009). This consideration may help deconstruct sexual scripts that purport women to only engage in sex for relational and intimacy reasons. By broadening the scope when examining women’s sexuality, multiple levels of sexual desire, types of motivations and the variety of circumstances and settings that may cause fluctuations in these factors are acknowledged. Some women, as a result, may experience a loosening of what “normative sexuality” means for them, and a more welcoming culture them to express the multiple aspects of their sexuality. Interventions involving helping women identify ways they can shift their sexual motives across sexual encounters or during sexual activity may help to broaden the range of pleasures women may experience. It may also be helpful for women seeking sex therapy for low desire to learn to explore sexual motives that are not as heavily impacted by mood, stress, or exhaustion. For women experiencing sexual pain, it may be helpful to identify pleasurable motives that can be satisfied without the requirement of penetration or genital touch.

Previously, women’s sexuality was measured from an androcentric lens that identified women as sexually “healthy” when engaging in sex for similar reasons as men – specifically for physical pleasure and release of sexual tension. Further, research by Sand and Fisher (2007) and Giles and McCabe (2009) made connections between the models of sexual response women

endorsed and their sexual function. These findings may have served to dichotomise some sexual motives as “healthy” (e.g. physiological reasons) while others acted as potential “replacements” for women who were experiencing sexual problems (e.g. emotional reasons). The finding from the current study that women did not endorse any sexual motive with great regularity could imply a multiplicity of motives. Additionally, the finding that in a sample of women largely without sexual concerns, emotional and physical reasons for sex were endorsed most frequently serves to contrast assumptions that physical sexual motives are more representative of normative sexual functioning while emotional motives may serve as replacements. Given that women have multiple reasons for sex, it is likely that sexual pleasure is also a multifaceted construct and that women derive different pleasures, not just physical, from the unique expression of each of the multiple sexual motives. Additionally, it may be that emotional connection helps to facilitate the expression of other motives. By not designating particular motives as appropriate for “healthy” and satisfying sex, women may feel more at ease pursuing and asking for sexual activity that satisfies their sexual and non-sexual goals.

### **Future Research**

Future research should address the limited generalizability of the current study’s demographics, in particular the relationship between sexual motives and sexual functioning in a clinical population. Basson’s model of female sexual response was conceptualised using women from a clinical population, and thus the notion of women starting from a position of neutrality (i.e., an absence of sexual interest or arousal) and engaging in sex more for emotional/intimacy motives, may be more indicative of women with clinically diagnosed sexual problems (Basson, 2000). It is possible that women with clinically diagnosed sexual dysfunctions, specifically regarding sexual pain, will have very different reasons for engaging in sex than women in a

community sample. Women without clinical concerns may only report sexual problems at some times and not others, or that do not persist over long durations of time, or that do not cause sexual distress. As a result, they may have the benefit of having several, variable sexual motivations that are more fluid during and across sexual encounters which may not be the case for women with clinically diagnosed sexual dysfunctions.

In addition, while the current study asked about women's experiences with sexual pain, lubrication and satisfaction, due to the low prevalence of these problems in the current sample, this data was not analysed. However, given the current study's findings, it is possible that these domains of the FSFI also will show differences in sexual motivations among women with and without concerns. This information, as well as information from a clinical population, would be important to examine as it may provide insight for clinicians and therapists who are working with women who have sexual pain, difficulties with lubrication, women who are sexually dissatisfied and women who meet the DSM criteria of HSDD and anorgasmia.

There is limited research examining men's sexual motives exclusively. Given the pervasiveness of sexual scripts that purport men to be always in the mood for sex, and often driven by physical urges (Kaeager et al., 2009) future research is needed on men's motives for sex by levels of sexual functioning. An empirical examination of sexual difficulties in men, like inability to achieve or maintain an erection, low desire, pain, inability to achieve orgasm or low satisfaction, is warranted to understand whether men continue to engage in sexual activity in the face of these difficulties, and for what reasons. Studies are also needed to identify factors men rate as most important to them when engaging in sexual activity. This information may be helpful in contextualising current sexual scripts.

Likewise, future research should examine which factors are most salient to women when

engaging in or deciding to engage in sexual activity. Research has identified a multitude of factors that impact women's sexual motives including age, body image, stress, relationship duration, and relationship satisfaction (Browning et al., 2000; Gayler et al., 1999; Hatfield & Rapson, 1987; Meston et al., 2009; Wood & Milhausen, 2010). However, it should be acknowledged that motives are likely to shift as women develop sexually, learn from new sexual partners or experience increases or decreases in their self-esteem. In this sense sexual motives are a systemic experience that would be difficult to isolate from the numerous factors that influence women's daily personal, relational and sexual life. Current scales have women endorse frequency of motives, however given women's variability in sexual motives and variability in context, and the possibility that multiple motives may be present at any given time, these scales fail to capture any secondary motives and cannot account for why some motives take precedence over others.

Research should be conducted to examine the relationship between sexual motives and sexual satisfaction, pleasure, relationship satisfaction and general happiness. Links have been shown between sexual functioning and general well-being, happiness, and relationship satisfaction and duration (Heiman, 2002; Shifren, et al., 2008). It is likely that sexual motives also have a reciprocal or simultaneous relationship with all other factors that contribute to women's sexual experience. Future research is needed to determine the possible influence sexual motives have on these different factors.

Finally, little research has investigated the normal fluctuations in mood and sexual interest/arousal in women (Meana, 2010) and no validated measures of sexual motives at an event-specific level exist. It is likely that these fluctuations impact women's sexual motives and that in turn, women's reasons for sex fluctuate during and across sexual encounters. Given the

constant flux, it may be difficult to pinpoint exact sexual motives after a period of recall. The notion of capturing individual variability was introduced by Kinsey and colleagues over 60 years ago and remains an important consideration in sexuality research (Bancroft & Graham, 2011). Future research using qualitative interviews or diary-style methodologies which capture sexual motives and other variables like women's perceptions of their sexuality including life events, relational factors, moods, and current experiences of sexual concerns at an event-specific level would add considerable depth to the literature on sexual motivation and sexual functioning.

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## Appendix A: Facebook Invitation

Facebook Group Name: WHY HAVE SEX??? Sexual Motivation Study Group

Type: Student Groups- Academic Groups

Email: [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca)

Office: University of Guelph

Description: Hi everyone, I am currently looking to recruit participants for my Master's Thesis research study at the University of Guelph. I am studying the reasons that people engage in sexual activity and how these reasons change over the course of a relationship.

- Are you 18 or older?
  
- Do you want to learn more about your motivations for sex?

If so, you are eligible to participate in the Sexual Motivation Study! If you would like to participate we would ask you to complete an online questionnaire now and complete a follow-up questionnaire one year from now.

Here's the link!

[https://www.surveymonkey.com/s.aspx?sm=K2uQVwSk9eRmvwUPLDrxuA\\_3d\\_3d](https://www.surveymonkey.com/s.aspx?sm=K2uQVwSk9eRmvwUPLDrxuA_3d_3d)

At the end of the questionnaire, you will have the option to enter your email address to be entered into a draw for one of two \$50 Gift Cards. This email address will be stored in a database separate from your questionnaire responses.

A year from now, I will contact you at this email address, and ask you to complete a second questionnaire focusing on your motivations for having sex. You are not obligated to complete the questionnaire even if you complete the first one.

**We are also looking for couples who are willing to participate in this study together.** To do this, we have to link yours and your partner's questionnaires. If you are interested in participating as a couple email [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca) to receive your unique couple ID number. Chances of winning the Gift Card draw are 1/500 for an individual and 2/500 for a couple!

If you are interested please email Jessica at [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca) for more information.

This study has received clearance from the University of Guelph Research Ethics Board.

## Appendix B: Electronic Recruitment Ad

Email Subject Line: Participants Needed for Sexuality Study

Why Have SEX???

Hello!

I am currently seeking participants for my Master's Thesis research study at the University of Guelph.

We are conducting this study in order to gain a better understanding of the reasons individuals might engage in sex with a partner. We are particularly interested in learning if reasons for sex change over time. For this reason, we are looking for participants to complete the survey on two occasions – once now, and once a year from now.

- Are you over the age of 18?
  
- Do you want to learn more about your motivations for sex?

If so – you are eligible to participate!

Below you will find a link to the study website. You will be directed to the Study Information Page, and, after providing your consent to participate, you will be able to complete the first study questionnaire.

At the end of the questionnaire, you will have the option to enter your email address to be entered into a draw for one of two \$50 Gift Cards. This email address will be stored in a database separate from your questionnaire responses.

A year from now, I will contact you at this email address, and ask you to complete a second questionnaire focusing on your motivations for having sex. You are not obligated to complete this questionnaire even if you complete this one.

**We are also looking for couples who are willing to participate in this study together.** To do this, we have to link yours and your partner's questionnaires. If you are interested in participating as a couple – and doubling your chances for winning in the Gift Card Draw – email [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca) to receive your unique couple ID number.

Thanks for your interest in the study!

If you are participating WITHOUT your partner please follow this link to the Study Information Page.

[https://www.surveymonkey.com/s.aspx?sm=K2uQVwSk9eRmvwUPLDrxuA\\_3d\\_3d](https://www.surveymonkey.com/s.aspx?sm=K2uQVwSk9eRmvwUPLDrxuA_3d_3d)

This study has received clearance from the University of Guelph Research Ethics Board.

## Appendix C: Kijiji AD

AD Type: Research Study

Why Have SEX???

- Are you over the age of 18?
- Do you want to learn more about your motivations for sex?

If so – you are eligible to participate in the Sexual Motivation Study!

Below you will find a link to the study website. You will be directed to the Study Information Page, and, after providing your consent to participate, you will be able to complete the first study questionnaire.

At the end of the questionnaire, you will have the option to enter your email address to be entered into a draw for one of two \$50 Gift Cards. This email address will be stored in a database separate from your questionnaire responses.

A year from now, I will contact you at this email address, and ask you to complete a second questionnaire focusing on your motivations for having sex. You are not obligated to complete this questionnaire even if you complete this one.

**We are also looking for couples who are willing to participate in this study together.** To do this, we have to link yours and your partner's questionnaires. If you are interested in participating as a couple – and doubling your chances for winning in the Gift Card Draw – email [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca) to receive your unique couple ID number.

Thanks for your interest in the study!

If you are participating WITHOUT your partner please follow this link to the Study Information Page.

[https://www.surveymonkey.com/s.aspx?sm=K2uQVwSk9eRmvwUPLDrxuA\\_3d\\_3d](https://www.surveymonkey.com/s.aspx?sm=K2uQVwSk9eRmvwUPLDrxuA_3d_3d)

This study has received clearance from the University of Guelph Research Ethics Board.



### **Appendix D: Classroom Announcement Script**

Hi everyone,

We just wanted to take a moment to tell you about a really cool study that we're conducting here at the University of Guelph. It's called Why Sex? and it's a study about sexual motivation (i.e. investigating the reasons that people engage in sexual activity). We are looking for participants who are 18-30 years old, and have been in a relationship for less than 6 months. If you participate all that you would need to do is fill out an online questionnaire now and again in 12 months.

Anyone who participates will have a chance to win one of two \$50 Visa Gift Cards. If you are interested in participating or know of anyone who may be interested, please grab one of these flyers on your way out, or email Jessica at [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca).

Thank you!



## Appendix F: Information-Consent Form



### Department of Family Relations and Applied Nutrition

#### CONSENT TO PARTICIPATE IN RESEARCH

##### *Sexual Motivation Study*

You are asked to participate in a research study conducted by Dr. Robin R. Milhausen, Dr. Scott Maitland, and Jessica Wood (Masters Student) from the Department of Family Relations and Applied Human Nutrition, at the University of Guelph.

If you have any questions or concerns about the research, please feel free to contact Jessica Wood at (416) 953-2660 or via email at [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca), or Dr. Robin Milhausen at (519) 824-4120 ext. 54397 or via email at [rmilhaus@uoguelph.ca](mailto:rmilhaus@uoguelph.ca).

#### **PURPOSE OF THE STUDY**

The purpose of this study is to learn more about the reasons people engage in sexual activity (i.e. sexual motivation) and whether or not these reasons change over time within a couple relationship.

#### **PROCEDURES**

If you volunteer to participate in this study, we would ask you to complete the online questionnaire. This questionnaire can be completed at your convenience, and should take one hour or less to complete.

The time commitment for this study is approximately two hours (one hour now and one hour a year from now).

Your participation is entirely voluntary and you may withdraw from the study at any time. Although it would be greatly appreciated if you would answer all questions as honestly as possible, you are not obliged to answer any questions that make you uncomfortable in any way. If any question makes you uncomfortable, please feel free to leave it blank.

If you are interested in a summary of the results, please email Jessica Wood at [jwood03@uoguelph.ca](mailto:jwood03@uoguelph.ca).

### **POTENTIAL RISKS AND DISCOMFORTS**

Some participants may feel embarrassed answering questions related to sexual behaviour and motivation. You do not have to answer any question that makes you uncomfortable and you may stop the questionnaire at any time. You may also choose to withdraw from the study at any time without penalty and will still be eligible for the benefits described below.

### **POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY**

There are a number of benefits to participating in this study. You may benefit from reflecting on your own sexual motivations and whether these motivations change over the course of your relationship with your partner. You may also benefit from knowing that your participation in this research will contribute to the understanding of sexual motivation. Developing a better understanding of the reasons couples engage in sexual activity may lead to more effective therapeutic techniques for couples who are seeking to improve their sex life or romantic relationship.

### **COMPENSATION FOR PARTICIPATION**

You have the opportunity to be entered into a draw for one of four \$50 Visa Gift Cards for participating. This draw will occur once in April 2009, and again in April 2010. The chances of winning this draw are 2/500. To be entered into the draw, please follow the link at the end of the survey to the separate website where you can give your email address for the purpose of the draw.

## **CONFIDENTIALITY**

Every effort will be made to ensure confidentiality of any identifying information that is obtained in connection with this study. Your email address will be used to link your Time One and Time Two questionnaires. This information will be stored in a database. Only the research assistant and the primary researcher will have access to the database with your email address, which will be used to contact you to invite you to complete the second questionnaire in one year. All identifying info will be removed from findings when they are released. Data will be stored in a password protected file, on a password-protected computer, in a locked office.

## **PARTICIPATION AND WITHDRAWAL**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. If you complete the first questionnaire, you are not obligated to complete the second questionnaire in one year. You may exercise the option of removing your data from the study. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise that warrant doing so.

## **RIGHTS OF RESEARCH PARTICIPANTS**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. This study has been reviewed and received ethics clearance through the University of Guelph Research Ethics Board. If you have questions regarding your rights as a research participant, contact:

**Research Ethics Coordinator**

**Telephone: (519) 824-4120, ext. 56606**

**University of Guelph**

**E-mail: sauld@uoguelph.ca**

**437 University Centre**

**Fax: (519) 821-5236**

**Guelph, ON N1G 2W1**

**Do you consent to participate in this study?**

Yes

No

## Appendix G: Demographic Questions

### 1. Where did you hear about this study?

- Facebook
- Email Listserv
- Classroom Announcement
- Course Website
- KIJJI website
- Through a friend
- I choose not to answer

Other (please specify)

### 2. What year were you born in?

### 3. Please indicate how you identify yourself:

- Female
- Male
- Transgender- Female to Male
- Transgender- Male to Female
- I do not identify as any of the above
- I choose not to answer

**4. My racial/ethnic background is (please check all that apply):**

- Aboriginal (Inuit, Metis, North American Indian)
- Arab/West Asian (e.g. Armenian, Egyptian, Iranian, Lebanese, Moroccan)
- Black (e.g. African, Haitian, Jamaican, Somali)
- Chinese
- Filipino
- Japanese
- Korean
- Latin American
- South Asian
- South East Asian
- White (Caucasian)
- I choose not to answer

Other (please specify).

**5. Please indicate which province you are currently living in:**

- Alberta
- British Columbia
- Manitoba

- New Brunswick
- Newfoundland-Labrador
- North West Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon
- I choose not to answer

I live outside of Canada: Please indicate which state/province and country you are currently living in

**6. I would describe myself as:**

- Heterosexual
- Gay or lesbian
- Bisexual
- Queer
- Uncertain or questioning
- I choose not to answer

Other (please specify)

**7. To what extent do you consider yourself a religious person?**

- Not at all
- A little bit
- Sometimes
- A lot
- Very much
- I choose not to answer

**8. To what extent do you consider yourself a spiritual person?**

- Not at all
- A little bit
- Somewhat
- A lot
- Very much
- I choose not to answer

**9. How would you describe yourself?**

- Protestant

- Catholic
- Other Christian
- Jewish
- Islamic
- Hindu
- Buddhist
- Agnostic
- Atheist/Irreligious
- I choose not to answer

Other (please specify)

**10. My current relationship status is:**

- Single (not dating anyone)
- Casually dating one or more partners
- Seriously dating one or more people
- Seriously dating one person
- Engaged
- Married
- Common-law
- I choose not to answer

**11. Are you currently living with your partner?**

Yes

No

I choose not to answer

**12. How many months have you been with your current partner?**

**13. Are you and your partner currently in a long-distance relationship?**

**k** Yes

**k** No

**k** I choose not to answer

**k** Yes

**k** No

**k** I choose not to answer.

**14. How often do you see your current partner (on average)?**

**k** Once a week or more

**k** Twice a month

**k** Once a month

**k** Once every two months

**k** Once every four months

**k** Less than once every four months

**k** I choose not to answer

**15. Do you or your partner have children?**

**k** Yes

**k** No

**k** I choose not to answer

**16. Are there any children currently living with you at least one-half of the time?**

No

Yes, one child lives with me at least one-half of the time

Yes, two children live with me at least one-half of the time

Yes, three children live with me at least one-half of the time

Yes, four children live with me at least one-half of the time

Yes, five children live with me at least one-half of the time

Yes, six or more children live with me at least one-half of the time

I choose not to answer

**17. How many of the children currently living with you at least one-half of the time are under the age of 18?**

**n** None

**n** One child living with me is under the age of 18

**n** Two children living with me is under the age of 18

**n** Three children living with me are under the age of 18

**n** Four children living with me are under the age of 18

**n** Five children living with me are under the age of 18

Six or more children living with me are under the age of 18

**n** I choose not to answer

**18. How many of the children currently living with you at least one-half of the time are under the age of 4?**

- None
- One child living with me is under the age of 4
- Two children living with me is under the age of 4
- Three children living with me are under the age of 4
- Four children living with me are under the age of 4
- Five children living with me are under the age of 4
- Six or more children living with me are under the age of 4
- I choose not to answer

**19. How would you rate your overall health?**

- Very poor
- Poor
- Satisfactory
- Good
- Very Good
- I choose not to answer

**20. Are you currently taking any prescription medications?**

- Yes
- No
- I choose not to answer

If so, please list them

**21. Are you currently pregnant?**

**n** Yes

**n** No

**n** I don't know

**n** I choose not to answer

### Appendix H: Dyadic Adjustment Scale (DAS- 4)

*Item 16*

How often do you discuss or have you considered divorce, separation, or terminating your relationship?

All the time	Most of the time	More often than not	Occasionally	Rarely	Never
1	2	3	4	5	

*Item 18*

In general, how often do you think that things between you and your partner are going well?

All the time	Most of the time	More often than not	Occasionally	Rarely	Never
1	2	3	4	5	

*Item 19*

Do you confide in your mate?

All the time	Most of the time	More often than not	Occasionally	Rarely	Never
1	2	3	4	5	

*Item 31*

Please circle the dot which best describes the degree of happiness, all things considered, of your relationship

0	1	2	3	4	5	6
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

Note: The total score for the DAS-4 is the sum of the responses to the four items.

### Appendix I: YSEX?

People have sex (i.e., sexual intercourse) for many different reasons. Below is a list of some of these reasons. Please indicate how frequently each of the following reasons led you to have sex in the past. For example, if about half of the time you engaged in sexual intercourse you did so because you were bored, then you would circle “3” beside question 4. If you have not had sex in the past, use the following scale to indicate what the likelihood that each of the following reasons would lead you to have sex. I have had sex in the past because...

**1 = None of my sexual experiences**

**2 = A few of my sexual**

**3 = experiences**

**4 = Some of my sexual experiences**

**5 = Many of my sexual experiences**

**6 = All of my sexual experiences**

1. I was frustrated and needed relief.

2. I wanted to release anxiety/stress.

3. I wanted to release tension.

4. I was bored.

5. It seemed like good exercise.

6. I thought it would relax me.

7. I'm addicted to sex.

8. It would allow me to “get sex out of my system” so that I could focus on other things.

9. I am a sex addict.

10. I thought it would make me feel healthy.

11. I hadn't had sex for a while.
12. I wanted to satisfy a compulsion.
13. It feels good.
14. I wanted to experience the physical pleasure.
15. I was "horny."
16. It's fun.
17. I wanted the pure pleasure.
18. I wanted to achieve an orgasm.
19. It's exciting, adventurous.
20. I was "in the heat of the moment."
21. The person had an attractive face.
22. The person had a desirable body.
23. The person had beautiful eyes.
24. The person smelled nice.
25. The person's physical appearance turned me on.
26. I saw the person naked and could not resist.
27. The person was a good dancer.
28. The person was too physically attractive to resist.
29. The person wore revealing clothes.
30. The person was too "hot" (sexy) to resist.
31. I was curious about sex.
32. I was curious about my sexual abilities.
33. I wanted the experience.
34. I wanted to experiment with new experiences.
35. I wanted to see what all the fuss is about
36. I wanted to see what it would be like to have sex with another person.

37. I wanted the adventure/excitement.
38. I wanted to improve my sexual skills.
39. I was curious about what the person was like in bed.
40. I wanted to lose my inhibitions.
41. I wanted to get the most out of life.
42. I wanted to try out new sexual techniques or positions.
43. The opportunity presented itself.
44. I wanted to act out a fantasy.
45. I wanted to see whether sex with a different partner would feel different or better.
46. I wanted to get a raise.
47. I wanted to punish myself.
48. I wanted to get a job.
49. I wanted to hurt/humiliate the person.
50. I wanted to get a promotion.
51. I wanted to give someone else a sexually transmitted disease (e.g., herpes, AIDS).
52. Someone offered me money to do it.
53. I wanted to feel closer to God.
54. I wanted to make money.
55. I wanted to have a child.
56. I wanted to reproduce.
57. It was an initiation rite to a club or organization.
58. The person offered me drugs for doing it.
59. I wanted to end the relationship.
60. I wanted to be used or degraded.
61. I wanted to be popular.
62. I wanted to enhance my reputation.

63. I wanted to have more sex than my friends.
64. I was competing with someone else to “get the person.”
65. It would damage my reputation if I said “no.”
66. The person was famous and I wanted to be able to say I had sex with him/her.
67. I thought it would boost my social status.
68. My friends pressured me into it.
69. It was a favor to someone.
70. Someone dared me.
71. I wanted to impress friends.
72. I wanted to get back at my partner for having cheated on me.
73. I was mad at my partner so I had sex with someone else.
74. I wanted to get even with someone.
75. I wanted to even the score with a cheating partner.
76. I wanted to make someone else jealous.
77. I wanted to break up rival’s relationship by having sex with his/her partner.
78. I was on the “rebound” from another relationship.
79. I wanted to make someone else jealous.
80. I wanted to breakup another's relationship.
81. I wanted to hurt an enemy.
82. I wanted to get out of doing something.
83. I wanted to burn calories.
84. I wanted to keep warm.
85. The person had taken me out for an expensive dinner.
86. I wanted to get rid of a headache.
87. I wanted to change the topic of conversation.
88. I thought it would help me to fall asleep.

89. I wanted to become more focused on work – sexual thoughts are distracting.
90. I wanted to get a favor from someone.
91. I wanted to defy my parents.
92. I wanted to feel connected to the person.
93. I wanted to increase the emotional bond by having sex.
94. I wanted to communicate at a “deeper” level.
95. I wanted to express my love for the person.
96. I wanted to show my affection to the person.
97. I wanted to intensify my relationship.
98. I desired emotional closeness (i.e., intimacy).
99. I wanted to become one with another person.
100. It seemed like the natural next step in my relationship.
101. I realized I was in love.
102. It seemed like the natural next step in the relationship.
103. I wanted to get a partner to express love.
104. I wanted the person to feel good about himself/herself.
105. I wanted to welcome someone home.
106. I wanted to say “I’m sorry.”
107. I wanted to say “thank you.”
108. I wanted to say “goodbye.”
109. I wanted to celebrate a birthday or anniversary or special occasion.
110. I wanted to say “I’ve missed you.”
111. I wanted to lift my partner’s spirits.
112. I wanted to feel powerful.
113. I wanted to make myself feel better about myself.
114. I wanted to boost my self-esteem.

115. I wanted to feel attractive.
116. I wanted my partner to notice me.
117. I wanted the attention.
118. I wanted to “gain control” of the person.
119. I wanted to manipulate him/her into doing something for me.
120. I felt insecure.
121. I didn’t know how to say “no.”
122. I was pressured into doing it.
123. I felt obligated to.
124. I was verbally coerced into it.
125. I felt like it was my duty.
126. I wanted him/her to stop bugging me about sex.
127. My partner kept insisting.
128. I felt like I owed it to the person.
129. I was physically forced to.
130. It was expected of me.
131. I felt guilty.
132. I didn’t want to disappoint the person.
133. I wanted to be nice.
134. I wanted to keep my partner from straying.
135. I wanted to get my partner to stay with me.
136. I wanted to decrease my partner's desire to have sex with someone else.
137. I wanted to prevent a breakup.
138. I was afraid my partner would have an affair if I didn’t have sex with him/her.
139. I wanted to ensure the relationship was “committed.”
140. I didn't want to “lose” the person.

**141.** I wanted the person to love me.

**142.** I thought it would help “trap” a new partner.

## Appendix J: Female Sexual Functioning Index

The Female Sexual Functioning Index (FSFI; Rosen et al., 2000)

1. Over the past 4 weeks, how **often** did you feel sexual desire or interest?

- 5 = Almost always or always
- 4 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 2 = A few times (less than half the time)
- 1 = Almost never or never

2. Over the past 4 weeks, how would you rate your **level** (degree) of sexual desire or interest?

- 5 = Very high
- 4 = High
- 3 = Moderate
- 2 = Low
- 1 = Very low or none at all

3. Over the past 4 weeks, how **often** did you feel sexually aroused (“turned on”) during sexual activity or intercourse?

- 0 = No sexual activity
- 5 = Almost always or always
- 4 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 2 = A few times (less than half the time)
- 1 = Almost never or never

4. Over the past 4 weeks, how would you rate your **level** of sexual arousal (“turn on”) during sexual activity or intercourse?

- 0 = No sexual activity
- 5 = Very high
- 4 = High
- 3 = Moderate
- 2 = Low
- 1 = Very low or none at all

5. Over the past 4 weeks, how **confident** were you about becoming sexually aroused during sexual activity or intercourse?

- 0 = No sexual activity
- 5 = Very high confidence
- 4 = High confidence

- 3 = Moderate confidence
- 2 = Low confidence
- 1 = Very low or no confidence

6. Over the past 4 weeks, how **often** have you been satisfied with your arousal (excitement) during sexual activity or intercourse?

- 0 = No sexual activity
- 1 = Almost always or always
- 2 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 4 = A few times (less than half the time)
- 5 = Almost never or never

7. Over the past 4 weeks, how **often** did you become lubricated (“wet”) during sexual activity or intercourse?

- 0 = No sexual activity
- 5 = Almost always or always
- 4 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 2 = A few times (less than half the time)
- 1 = Almost never or never

8. Over the past 4 weeks, how **difficult** was it to become lubricated (“wet”) during sexual activity or intercourse?

- 0 = No sexual activity
- 1 = Extremely difficult or impossible
- 2 = Very difficult
- 3 = Difficult
- 4 = Slightly difficult
- 5 = Not difficult

9. Over the past 4 weeks, how often did you **maintain** your lubrication (“wetness”) until completion of sexual activity or intercourse?

- 0 = No sexual activity
- 5 = Almost always or always
- 4 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 2 = A few times (less than half the time)
- 1 = Almost never or never

10. Over the past 4 weeks, how **difficult** was it to maintain your lubrication (“wetness”)

until completion of sexual activity or intercourse?

- 0 = No sexual activity
- 1 = Extremely difficult or impossible
- 2 = Very difficult
- 3 = Difficult
- 4 = Slightly difficult
- 5 = Not difficult

11. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **often** did you reach orgasm (climax)?

- 0 = No sexual activity
- 5 = Almost always or always
- 4 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 2 = A few times (less than half the time)
- 1 = Almost never or never

12. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **difficult** was it for you to reach orgasm (climax)?

- 0 = No sexual activity
- 1 = Extremely difficult or impossible
- 2 = Very difficult
- 3 = Difficult
- 4 = Slightly difficult
- 5 = Not difficult

13. Over the past 4 weeks, how **satisfied** were you with your ability to reach orgasm (climax) during sexual activity or intercourse?

- 0 = No sexual activity
- 5 = Very satisfied
- 4 = Moderately satisfied
- 3 = About equally satisfied and dissatisfied
- 2 = Moderately dissatisfied
- 1 = Very dissatisfied

14. Over the past 4 weeks, how **satisfied** have you been with the amount of emotional closeness during sexual activity between you and your partner?

- 0 = No sexual activity
- 5 = Very satisfied
- 4 = Moderately satisfied

- 3 = About equally satisfied and dissatisfied
- 2 = Moderately dissatisfied
- 1 = Very dissatisfied

15. Over the past 4 weeks, how **satisfied** have you been with your sexual relationship with your partner?

- 5 = Very satisfied
- 4 = Moderately satisfied
- 3 = About equally satisfied and dissatisfied
- 2 = Moderately dissatisfied
- 1 = Very dissatisfied

16. Over the past 4 weeks, how **satisfied** have you been with your overall sexual life?

- 5 = Very satisfied
- 4 = Moderately satisfied
- 3 = About equally satisfied and dissatisfied
- 2 = Moderately dissatisfied
- 1 = Very dissatisfied

17. Over the past 4 weeks, how **often** did you experience discomfort or pain during vaginal penetration?

- 0 = Did not attempt intercourse
- 1 = Almost always or always
- 2 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 4 = A few times (less than half the time)
- 5 = Almost never or never

18. Over the past 4 weeks, how **often** did you experience discomfort or pain following vaginal penetration?

- 0 = Did not attempt intercourse
- 1 = Almost always or always
- 2 = Most times (more than half the time)
- 3 = Sometimes (about half the time)
- 4 = A few times (less than half the time)
- 5 = Almost never or never

19. Over the past 4 weeks, how would you rate your **level** (degree) of discomfort or pain during or following vaginal penetration?

- 0 = Did not attempt intercourse
- 1 = Very high

2 = High

3 = Moderate

4 = Low

5 = Very low or none at all

**Appendix K: Recruitment Stream Descriptives**

	Online Communication	Classroom Related	Internet Searches
Age	18 - 53 ( <i>M</i> = 28.86)	18 - 57 ( <i>M</i> = 22.90)	18 - 74 ( <i>M</i> = 28.16)
Relationship duration	1m - 35yr ( <i>M</i> = 5yr)	1m - 28yr ( <i>M</i> = 3yr)	1m - 44yr ( <i>M</i> = 4.5yr)
Dyadic adjustment score	16/21	15/21	15/21
Ethnicity	93% Caucasian	84% Caucasian	85% Caucasian