Individual Differences in Flirting and Attractivity Mating Strategies:

Sex, Gender, and the Menstrual Cycle

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Master's Thesis

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September 11, 2013

Abstract

Previous research suggests sex differences in mate preferences and mating strategies based on reproductive constraints (Buss, 2005). Furthermore, research has suggested that women's mating behaviours change across the menstrual cycle, with peaks in certain mating preferences and attraction strategies (i.e., short-term strategies) occurring when conception likelihood is highest. A goal of the current study was to develop a measure of flirting and mate attractivity behaviours that would allow for measurement of between- and within-sex differences in these behaviours. The study examined the relationship between gender identity (i.e., masculinity and femininity) and mating strategies, mating strategies in the context of the menstrual cycle, and sex differences in flirting "in person" versus "through technology" in 557 participants (463 women). After controlling for age, social desirability scores, and years of education, masculinity was positively associated with engagement in male-typical mating strategies in both sexes, while femininity was positively associated with engagement in female-typical mating strategies for women only. In women, engagement in overall mate attraction behaviours increased with conception likelihood, however, short-term (ST) mate attraction behaviours did not show stronger associations with fertility than long-term (LT) mate attraction behaviours. Finally, while women reported flirting more in person and through technology relative to men, there was no evidence that women engaged in relatively more flirting through technology than in-person as compared to men. These findings suggest that one's gender orientation and women's conception likelihood are associated with the choice and frequency of mate attractivity behaviours, and suggest value in examining within-sex individual difference variables in predicting mate attraction behaviours.

Acknowledgements

I would like to thank my supervisor, Dr. Kirsten Oinonen, for all her help and direction. Throughout this process, she has been a wonderful teacher and I particularly appreciate her commitment to making this manuscript the best it could be. Dr. Oinonen's editing skills and vast knowledge is something to be admired and I am proud to say it has helped me grow as a researcher and writer. I would also like to thank Dr. Josephine Tan and Dr. Mirella Stroink for their valuable feedback and suggestions and for taking the time to serve as my committee members.

On a personal note, I owe my husband, Tom Duchene, a huge thank you. He has been nothing but supportive and helpful throughout my entire education. I appreciate his endless love and patience more than he will ever know. I would like to dedicate this manuscript in his honour, as most of this would not have been possible without his support.

Finally, I would like to thank the Social Sciences and Humanities Research Council for the scholarship which has helped me immensely with obtaining my graduate training and research goals.

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Research has suggested that when people become romantically or sexually interested in another person, they sometimes change their physical appearance and behaviour in an effort to attract that person (Schmitt & Buss, 1996). Individuals may do the same in order to attract an unidentified mate in the future. A central component of heterosexual mate attraction is portraying oneself as more attractive to members of the opposite sex through self-enhancement, relative to same-sex others who are also trying to achieve the same goal (Buss & Dedden, 1990). (Given that the majority of research has focused on mate attraction in opposite-sex or heterosexual relationships, all references to relationships and attraction in the present thesis refer to heterosexual or opposite-sex relationships, unless stated otherwise). Several tactics that men and women use to make themselves appear more attractive to potential mates have been studied. For example, increasing one's exposure to potential mates, acting nice, giving compliments, touching, and displaying sophistication have all been used to increase one's attractiveness to members of the opposite sex (Buss, 1988a; 1988b). One short term (ST) or immediate mate attraction strategy that humans use to attract a mate is flirting. Flirting is a set of techniques used to indicate sexual attraction to another person and to figure out if that person is interested in the possibility of a relationship (Whitty, 2003). Flirting is most commonly defined as nonverbal signals, such as body language, which are used to engage in maintaining some suggestion or expectation of intimacy. In order to better understand factors that affect mate attraction, the general goal of the present study was to examine individual differences in flirting, and short term (ST) and long term (LT) mate attraction strategies as a function of sex, gender, and conception likelihood. In addition to further developing theories related to mating strategies, a potential practical benefit of this research includes providing knowledge about the factors affecting mating

strategies which may increase individual success in finding a partner. Furthermore, the

information obtained from the study may also help couples in counselling who struggle with

conflicts or extra-marital affairs to better understand what factors may influence their intra- and

extra-marital mating behaviours.

The type of attraction strategy people employ may depend on at least three important

features of the situation: (a) whether the person is interested in a ST or LT relationship, and a

present or future relationship (i.e., whether the person is seeking a present relationship right now

with a currently identified person or whether they are seeking a relationship in the future with a

currently unidentified partner); (b) the potential partner's mate preferences; and (c) whether there

are current rivals who are also interested in the partner (Schmitt & Buss, 1996). The degree to

which an individual uses these categories of strategies is affected by reproductive constraints that

include specific adaptive problems faced by men and women.

As suggested by Buss and Schmitt (1993), men have historically been constrained in their

reproductive success only by the number of fertile women they can successfully mate with (i.e.,

inseminate). This reproductive constraint is further separated into four distinct problems that men

have to solve in order to effectively pursue ST partners: (a) find a high number of partners, (b)

identify sexually accessible women (i.e., identify women who are willingly sexually available to

men; Clements-Schreiber, Rempel, & Desmarias, 1998), (c) identify fertile women, and (d)

minimize commitment and investment. Buss and Schmitt also identified that men's reproductive

constraints in pursuing LT partners can be separated into four adaptive challenges: (a)

identification of reproductively valuable women, (b) ensuring certainty in paternity to minimize

risk of cuckoldry, (c) identification of women with good parenting skills, and (d) identification of

women who are willing and able to commit to a LT relationship to minimize the likelihood of

cuckoldry. There may also be the problem of avoiding threat and danger if the potential mate already has a partner.

Women have also been faced with reproductive constraints which can be separated into two adaptive problems that need to be solved in order to pursue ST mates: (1) immediate resource extraction, including access to good genes and finances, and (2) access to potential LT mates through ST partnerships (Buss & Schmitt, 1993). For example, women may "try out" or date ST partners in order to see how good they would be as LT partners. Women's reproductive constraints in pursuing LT partners has also been divided into five adaptive challenges: (a) identification of men who have the *ability* to invest resources in her and their offspring on a LT basis; (b) identification of men who are *willing* to invest in her and their offspring on a LT basis; (c) identification of men with good parenting skills; (d) identification of men who are willing and able to commit to a LT relationship; and (e) identification of men who are able and willing to protect them from aggressive others. Arguably, identification of partners with good genes is also an important problem to solve when pursuing both long- and ST partners. Both men and women have evolved psychological and behavioural mechanisms that serve to solve these adaptive problems in order to effectively pursue long- and ST mateships.

Very little research has thoroughly examined the entire range of mate attraction and flirting strategies that men and women use, the characteristics of the individuals who employ specific strategies, and the extent to which various specific strategies are successful for certain individuals. A good deal of research over the past 15 years has found that women's mate preference and strategies differ across the menstrual cycle (e.g., Alvergne & Lummaa, 2009; Buss, 2005; Mikach & Bailey, 1999; Pillsworth et al., 2004; Pillsworth & Haselton, 2006; Thornhill & Gangestad, 2008), however, no studies have comprehensibly examined fluctuations in all attraction strategies across the cycle. The present study was focused on developing a

comprehensive measure of mate attraction strategies and examining the extent to which sex, gender, the menstrual cycle, and technology affect mate attraction strategies.

It is pertinent to explain what is meant by gender. Multifactorial gender identity theory has been put forward to explain the construct of gender identity, which encompasses attributes, attitudes, preferences, and behaviours that distinguish between men and women in a particular culture (Spence, 1993). There is also considerable variability within each sex as to the particular constellation of gender congruent qualities people display. However, most members of each sex develop a clear sense of gender identity. Within each sex, the set of gender-relevant characteristics one possesses and roles one lives out serve to define and verify one's personal sense of masculinity and femininity. Therefore, gender may be referred to as a sense of how one associates himself/herself with specific qualities that are described as either masculine or feminine by his/her culture. Just as sex is a method of examining hormonal influences on behaviour (e.g., Halpern, 2009), gender may be an interesting variable than can be used to examine the role of prenatal and postnatal hormone exposure on behaviour within the sexes (e.g., Hines, 2009).

Evolutionary Theories of Mating Strategies

Sexual selection. It is first important to explain what sexual selection is and how it relates to human mating. Darwin (1871) proposed a theory of sexual selection that describes the evolution of characteristics that give animals reproductive advantage, as opposed to survival advantage. Darwin proposed that there are two ways in which one can become reproductively advantaged: (a) having success at intrasexual competition (e.g., a male stag defeating another and having greater access to mates), and (b) having success at intersexual competition (e.g., a peacock showing its feathers and attracting a mate) (Buss & Schmitt, 1993). Specifically, Darwin described sexual selection as competition within one sex for access to members of the opposite

sex (i.e., competing with others to attract a mate) and differential choice by members of one sex for members of the opposite sex (i.e., choosing some mates rather than others) (Trivers, 1972). The characteristics that lead to successful competition or successful attraction evolve because they give a species a reproductive advantage. In the context of humans, individuals who successfully compete with a same sex opponent are more likely to be chosen as potential mates since their success demonstrates relative reproductive value (i.e., relative likelihood of survival and relative fitness). Likewise, individuals who possess indicators of "good genes" or physical attractiveness are also more likely to be chosen as potential mates since their appearance may signal gene quality and thus reproductive value.

Sexual strategies theory. Buss and Schmitt (1993) proposed sexual strategies theory (SST), which lends to Darwin's theory of sexual selection. SST suggests that men and women have evolved to use a complex repertoire of mating techniques, including two main strategies. One strategy within this repertoire is long term (LT) mating which is typically marked by extended courtship, heavy investment, the emotion of love, and the dedication of resources over a long period of time to the mating relationship and any offspring that result. The second strategy within the repertoire is short term (ST) mating which is defined as fleeting sexual encounters such as hookups or one-night stands. Between these two extremes on this relationship continuum are brief affairs, prolonged romances, and other intermediate-term relationships (Buss, 2005).

A core principle of SST is that human mating is inherently strategic such that humans seek certain mates to solve specific adaptive challenges faced by our ancestors, and human mate preferences and mating decisions are hypothesized to be strategic consequences of selection pressures functioning during ancestral environments (Buss & Schmitt, 1993). It is important to note that these strategies are not necessarily consciously planned, but instead represent the implicit goal-directed and problem-solving nature of human mating behaviour. The key premise

of SST is that mating behaviours are context dependent and highly sensitive to the differences in ST versus LT mateships. Since men and women have faced different adaptive mating challenges over their evolutionary history in at least some finite temporal contexts, the principles that govern the mating of women and men are predicted to be different in these contexts and as such, women and men have evolved some different mating mechanisms. SST suggests that both sexes pursue ST and LT mating but with different strategies and for various reasons. Specifically, men may pursue ST mateships in order to pass on their genes while women may pursue ST mateships in order to obtain a partner with high quality genes (e.g., physical attractiveness and health). Likewise, men may engage in LT mating in order to secure certainty in paternity while women may engage in LT mating in order to secure parental support.

Strategic pluralism theory. Strategic pluralism theory (SPT) suggests that mating strategies are more pluralistic or diverse within each sex, especially in women, rather than between the sexes (Gangestad & Simpson, 2000). Specifically, SPT suggests that ST and LT mating are divergent mating strategies rather than one leading to the other (i.e., ST mating to assess for LT potential). SPT posits that women ST mate independent of their LT desires in order to obtain genetic benefits for potential offspring. Furthermore, SPT suggests that men have evolved to pursue reproductive strategies that are contingent on their value on the mating market. Specifically, men with high genetic fitness (e.g., attractiveness) have a tendency to engage in ST mating (i.e., in order to pass on their good genes) while men's propensity to invest in single LT relationships is inversely related to their genetic fitness (e.g., unattractiveness), and men with low genetic fitness instead invest resources and parental support. This is due to the fact that unattractive men are less likely to find ST partners, and instead invest in LT relationships by providing resources. A study conducted by Gangestad and Simpson (2000) found that symmetrical men were less honest with their partners, sexualized other women more, and spent

less time with their partners than asymmetrical men. This suggests that attractive men may invest less into their LT relationships, and supports SPT.

SPT, which focuses on within sex differences in mating behaviours, differs from SST, which focuses more on within sex differences in mating behaviour. The main differences between SPT and SST is that SPT posits that women have evolved to evaluate men on two basic dimensions: (1) the degree to which a potential mate is likely to be a good provider/investor in offspring, and (2) the degree to which a potential mate shows evidence of good genetic quality (Gangestad & Simpson, 1990). Assuming that it would have been difficult for most individuals to attract and retain mates who scored high on both dimensions (given that such high quality mates should have been desired and may have been constantly pursued by other attractive people), SPT contends that most women in evolutionary history probably had to make "trade-offs" between the two dimensions when choosing mates. Conversely, according to SST, human mating is "strategic" in that people seek out mates to solve specific adaptive problems that our ancestors recurrently faced (Buss & Schmitt, 1993). Mate preferences and mating strategies, therefore, are believed to have been molded by specific selection pressures in evolutionary history. SST contends that mating strategies should be context-dependent, resulting in both ST and LT strategies in each sex.

Parental investment theory. Another theory that has been offered to explain sex differences in mating is the parental investment theory, which also relates to Darwin's sexual selection theory (Brand, Markey, Mills, Hodges, 2007; Trivers, 1972). This theory discusses how men and women have different obligatory investments in their offspring. Generally, women are required to invest a year or more in pregnancy and lactation in order for their offspring to have a chance of survival, while men only need to invest in the act of sexual intercourse and any behaviours that lead up to such an act. Due to the different levels of investment each sex makes,

the mating strategies of men and women are expected to differ (e.g., sex differences in ST versus LT mating and sociosexual orientation). The lesser investing sex, which in humans is men, are more likely to devote a large proportion of their mating efforts to ST mateships with multiple partners (Buss & Schmitt, 1993). However, the greater investing sex, which in humans is women, are more likely to engage in LT mating with higher quality mates in order to provide potential offspring with both healthy genes and resources (Simpson & Gangestad, 1991). Since the reproductive opportunities and reproductive constraints differ for each sex, the adaptive problems that women must solve when pursuing a ST versus LT strategy are different from those that men must solve (Buss & Schmitt, 1993). Based on the parental investment theory, each sex is hypothesised to pursue each mating strategy (i.e., ST and LT) for various distinct reasons. Since each sex will pursue each mating strategy for various reasons, it may affect the type of mate attraction strategy they use (e.g., physical self-enhancement for ST mating and promotion or advertisement of parenting skills for LT mating). Reproductive opportunities and constraints may also explain why there are sex differences in risk taking behaviour, which may be related to the type of mating strategy each sex pursues.

Sex Differences in Risk Taking

Men perceive risky events as less likely to occur than women, such as missing a bus and being struck by a car when crossing a busy road (e.g., Pawlowski, Atwal, & Dunbar, 2008). Evolutionary theories have suggested that this sex difference occurs because males have evolved in environments where they have not had to worry about their offspring as much as females have had to (Buss, 2005). Men can reproduce in a relatively short period of time, while women must go through a nine month period of gestation before giving birth as well as a minimum of two to five years of investment after birth to ensure offspring survival. Furthermore, men do not have to spend as much time around their children after birth and do not have to constantly monitor for

possible environmental factors that may harm their child. Conversely, women, especially those with children, would have been constantly exposed to situations which would have required them to monitor for risks in order to protect their offspring. Offspring of mothers who were good at monitoring for risk or who overestimated the likelihood of danger would be the ones who would have survived and inherited this tendency to avoid risk. This is one explanation for an evolved mechanism for greater cautiousness in women.

Evolutionary theories have also suggested that men are more likely to take risks in an effort to conceive successfully with women (Pawlowski et al., 2008). Young men are more likely than young women to take risks during conflicts and sexual behaviour, as well as in situations such as driving a car and playing sports. Women actually find risky situations more stressful than men do, which may suggest that risk taking by men is a method of attracting attention in order to attract potential mates, or a form of mate advertising, such as displaying one's strength and dominance. In the study conducted by Pawlowski and colleagues on sex differences in risk taking behaviours, the researchers observed that men were more likely to take risks than women, even in everyday situations that are unlikely to be life threatening. Specifically, men were more likely to initiate crossing a busy intersection and to arrive late for a departing bus. Furthermore, men were even more likely to engage in these behaviours when women were in close vicinity. The authors suggest that male risk taking may be a form of mating display that is comparable to other forms of mate advertising common in modern societies (e.g., displaying one's cell phone or expensive car). In this case, risk taking may reflect an aspect of gene quality (i.e., ability to use cognitive skills when in risky situations, and ability to compete and win against an opponent) rather than resource possession (e.g., expensive car).

Rape and violence are examples of possible consequences associated with a woman putting herself in a risky situation. Rape is the use of force or threat of force to achieve penile-

oral, penile-vaginal, and penile-anal penetration of a woman without her consent. This definition may seem restrictive, however, the majority of rapes are of women by men (Lalumie're, Harris, Quinsey, & Rice, 2005). Rape can cause psychological, physical, and reproductive harm (McKibbin, Shackelford, Minor, Bates, & Liddle, 2011). Examples of harm include death, physical injuries that may or may not affect future fertility or future parental care, a disruption of a woman's parental care, abandonment by her partner, emotional distress, and pregnancy with a child who inherits low quality genes from their father. Since women, relative to men, have a greater obligatory investment in their offspring, the possibility of rape may have strong selective pressures on women resulting in evolved psychological mechanisms designed to motivate rape avoidance behaviours (McKibbin et al, 2011). For example, women who did not avoid rape in the past may have been killed in rapes or may have had their fertility affected and thus not passed their genes on to offspring. Furthermore, women who were raped risked losing resources from their current partners, and their children may have been less likely to survive as a result. In these situations, women without mechanisms to avoid rape would not pass on their genes. The costs of rape, while great at any time, would be highest near ovulation when women are most likely to conceive and may conceive with less than ideal partner (i.e., a partner who possesses poor genes). However, from an evolutionary perspective, behaviours are adaptive if they enhance the survival of one's genes (Futuyma, 2009). In a field experiment conducted by Gueguen (2008), 18 to 25 year old women were approached by 20 year old male confederates who solicited them for their phone number. A survey was administered to the women solicited 1 minute later in order to obtain information about the number of days since the onset of their last menses. It was found that women in their fertile phase were more likely to agree to the request than women who were their non-fertile phases. Thus, behaviours that increase one's chances of conception may be

adaptive during high fertility times of the menstrual cycle as they are likely to lead to pregnancy and one's genes being passed on.

Near ovulation, which is when women are most likely to conceive (Dunson, Baird, Wilcox, & Weinberg, 1999; Hock, 2007; Schnatz, 1985), women are less likely to engage in behaviours that are associated with risk (e.g., competitive auction bidding) (Pearson & Schipper, 2009) or a higher likelihood of rape (e.g., walking alone in a dark alley) (McKibbin et al, 2011). Thus, research has suggested that women may vary risk taking and rape avoidance behaviours relative to their likelihood of conception (McKiddin et al, 2011). Broder and Hohmann (2003) conducted a study on risk taking behaviours across the menstrual cycle. The researchers asked 51 women, 26 of whom did not use hormonal contraceptives, to complete a risk taking activity questionnaire on four occasions at one week intervals. Using forward and reverse count methods to measure menstrual cycle day (refer to the Menstrual Cycle section of this paper), it was reported that women reduced risk taking behaviours that increased the risk of sexual assault (e.g., get drunk while going out, come home late alone, let a stranger into the house) at times near ovulation. Women who were using hormonal contraceptives did not show such cyclicity in their avoidance behaviour. This study provides evidence of the ability of women to perceive threat and adjust their behaviours to avoid risky situations during times of high fertility. A similar study on risk taking and rape avoidance behaviours during high fertility times in the cycle was conducted by Gueguen (2012). The researcher observed the sitting distance between women and a "shady" confederate (i.e., a man in messy clothing who adorned tattoos and scars). Gueguen found that near ovulation, as determined by a luteinizing hormone test, women sat further away from the confederate. This may suggest that when women are fertile, they display behaviour that decreases their risk of sexual assault.

Although research has suggested that men are more likely to take risks than women, which may be explained by men's highly intrasexual competitive nature for fertile women (Fetchenhauer & Rohde, 2002), sex differences in risk taking related to flirting and mate attractivity may be decreased more recently, given the advent of technology. Specifically, risk might be reduced with the use of cell phones and the internet to flirt as opposed to flirting in person. Women may perceive less risk when communicating with a potential partner via text messaging or online chat as the physical risks associated with flirting with someone face-to-face with direct immediate contact are removed. For this reason, women may be more likely to initiate conversations and engage in highly flirtatious behaviours with unacquainted individuals when communicating through technology as compared to when face-to-face. Given that the periovulatory phase is associated with increased sexual proceptivity (Buss, 2005) and reduced sexual risk taking, examination of the use of technology in mate attractivity may reveal a greater periovulatory peak in mate attractivity behaviour when compared to the use of the same flirting techniques in person. Thus, while previous research does not appear to have examined this question, use of technology in mate attractivity may reduce sex differences in mate attractivity behaviours that would be risky if done in person (e.g., sexually suggestive comments).

Sex Differences in Long-Term Mating

Men and women report differences in what they desire and how they pursue ST and LT mating strategies (Buss, 2005). In LT mating, for example, men and women are predicted to differ in their psychological adaptations related to mate choice. Men place greater value than women on signs of fidelity to ensure paternity certainty, and signals of fertility that may be evident from a woman's youth and physical appearance (Buss, 1989a). These characteristics may be a signal of a woman's mate value. Mate value is the degree to which an individual has the capacity to promote the reproductive success of another individual by mating with him or her

(Buss, 2005). In contrast, women place a greater premium on a man's social and economic status, resources, ambition, and maturity, which are all cues relevant to his ability for LT mating, and to his generosity and emotional openness (Buss & Barnes, 1986), all of which may signal his mate value. The characteristics of warmth (Bleske-Rechek & Buss, 2006), kindness, intelligence, dependability, and health (Buss, 1998) are universally valued attributes by both men and women who are interested in LT mating.

Both sexes have been suggested to pursue LT mateships, but only in certain contexts and for various reproductive reasons (Buss, 2005). Men may pursue LT relationships in order to secure a mate who will not risk cuckoldry by engaging in extra-pair mating as suggested by Camilleri and Quinsey (2009). Men want to be certain that they are investing in their own offspring and not someone else's who they have been falsely led to believe is their own. By engaging in LT mating with one partner, men have greater paternity certainty. Similarly, women engaging in LT mating are ensured long-lasting parental investment and resources from a partner (Gangestad & Simpson, 2000).

Since each sex has some different reasons why it has evolved to pursue LT strategies, each sex may use an assortment of specific mate attraction strategies to ensure they obtain the kind of relationship they desire. Men who are interested in LT mateships may display signs of high status, resource acquisition, ambition, maturity, and emotional openness in order to attract a potential mate who is also interested in LT dating. Conversely, women may show signs of fertility through enhancement of their physical appearances (e.g., clothing, hair style, make-up, etc.), and signs of fidelity and trustworthiness in order to attract a potential mate who is also interested in LT mating.

Sex Differences in Short-Term Mating

According to SST, both sexes also pursue ST mateships, but only in certain contexts and for different reproductive reasons (Buss & Schmitt, 1993). For women, their obligatory parental investment, which is not mirrored in men, leaves them with little to gain in reproductive output by engaging in indiscriminate ST sex with numerous partners. However, there are some benefits of ST mating, particularly extra-pair mating with partners who can provide access to immediate additional resources (Buss & Schmitt, 1993). Extra-pair partners, who are acquired through ST mating, may also serve as potential alternative mates if women decide to engage in mate-switching (Thornhill & Gangestad, 2008). The suggestion that women engage in mate-switching proposes that women cheat on their partners to find "better" mates and end their primary relationships when they do. The benefits of mate-switching include finding a more physically or emotionally desirable partner and the acquisition of better LT resources (Thornhill & Gangestad, 2008). Likewise, men may have potential reproductive benefits from promiscuous mating since they can produce as many as 100 offspring by mating with 100 different women over the course of a year (Buss, 2005). This allows men the ability to have several offspring with several women, and therefore the ability to maximally spread their genes throughout the gene pool. The ability to conceive with an indiscriminate number of women represents a strong selective pressure and makes it adaptive for men to desire sexual variety. The ability to mate with several women over the course of a year is likely to result in many more offspring than just mating with the same woman since women can usually only reproduce once per year.

It has been suggested that each sex will use a variety of mate attraction strategies to ensure they obtain a particular partner. Women who are interested in ST mating may primarily focus on displaying signs of youth and physical attractiveness in order to attract a potential mate who is also interested in ST dating (Buss, 2005). Conversely, men may attempt to display signs of "good genes" (e.g., strength, bodily symmetry, and physical attractiveness) (Buss, 2005) in

order to attract a woman who is also interested in ST mating. As such, each sex is hypothesized to pursue ST mating but use some different sex-specific mate attraction techniques to do so. Moreover, there may also be within sex differences in obtaining ST mateships such that more masculine women may use strategies that are more typical of men in pursuing ST sex while more feminine women may use strategies that are more typical of women whose best strategy is a LT relationship. Previous research has not yet examined whether gender (i.e., one's level of masculinity and femininity) can account for a significant amount of variance in within-sex mate attraction strategy differences. It is possible that hormonal differences or social factors involved in gender may underlie any links between gender and individual differences in mate attraction strategies.

The main differences between the characteristics that are most desired of ST versus LT partners appear to be that sexual availability and promiscuity are more valued in the ST, and fidelity, trustworthiness, and parental qualities are more valued in the LT. Youth, fertility, and attractiveness are all important in both LT and ST mating contexts since they provide cues to an individual's reproductive value.

Sociosexual Orientation

It has been suggested that another way to conceptualize individual differences in sexual strategies, particularly between men and women, relates to sociosexuality (Simpson & Gangestad, 1991). Sociosexuality refers to the interpersonal aspects of one's sexuality, specifically one's willingness to engage in sexual activity with a variety of partners without closeness, commitment, or other indicators of emotional bonding (Simpson & Gangestad, 1991). Unrestricted sociosexuality refers to the tendency to be relatively comfortable with ST mating with several different partners. Restricted sociosexuality refers to being relatively more comfortable with LT mating with few partners, usually in monogamous relationships (Simpson

& Gangestad). The Sociosexual Orientation Inventory (SOI) provides one measure of individual differences in mating strategy (Simpson & Gangestad). Interestingly, individuals who rate themselves as highly attractive tend to have a higher number of sexual partners, be sexually active earlier in life (Rhodes, Simmons, & Peters, 2005), and be sociosexually unrestricted (Mikach & Bailey, 1999). These individuals are usually rated by the opposite sex as being more attractive (Mikach & Bailey, 1999). Moreover, women who report having a relatively large number of sex partners have been found to have lower waist-to-hip ratios (WHR) than women with fewer sexual partners (Schmalt, 2006). Thus, physical features and attractiveness have been linked to sociosexuality.

Jackson and Kirkpatrick (2007) conducted a study using a multidimensional measure of mating strategies. Based on the authors' sample of 173 (94 men) participants, it was found that men and women differed more in their orientation toward casual sex than in their orientation toward LT committed mateships, with men having a more open attitude towards casual sex than women. In contrast to previous findings, Jackson and Kirkpatrick reported that, when men and women were considered together, LT mating orientation (LTMO) (i.e., restricted SOI) and ST mating orientation (STMO) (i.e., unrestricted SOI) were uncorrelated with mate preferences. However, among men, preference for parental and personal qualities significantly correlated with the LTMO scale ($r = .33$, $p < .01$) but not with the STMO scale ($r = -.02$, ns). Furthermore, men's preferences for attractiveness and social visibility in a mate was positively related to the STMO scale ($r = .24$, $p < .01$) and inversely related to LTMO scale ($r = -.24$, $p < .01$). Self-perceived mate value was positively correlated with the STMO scale and negatively correlated with the LTMO scale in men. Among women, however, self-perceived mate value was not significantly correlated with either scale. An interesting finding that emerged was that self-perceived mate value was significantly correlated with higher levels of previous sexual behaviour in men, and

this relationship was even stronger in women. Thus, it may be that individuals with more extensive sexual histories perceive themselves to be more desirable to members of the opposite sex, that individuals with high mate value attract more potential partners, or that individuals with high mate value are more unrestricted.

Based on research using the SOI, unrestricted women have been found to have less inherent and active motivation toward forming and maintaining primary relationships, which is in line with having a stronger orientation towards ST mating strategies (Jones, 1998; Simpson & Gangestad, 1991). Furthermore, women who use or previously used hormonal contraceptives are more likely than women who have never used hormonal contraceptives to be sociosexually unrestricted which may suggest that women who are unrestricted are more likely to use hormonal contraceptives (Oinonen, Jarva, & Mazmanian, 2008). Based on previous research (e.g., Penke & Asendorpf, 2008), it may be suggested that both men and women who are unrestricted may perceive themselves higher on attractiveness than individuals who are restricted. Furthermore, since sociosexual orientation (SO) has been found to relate to mating strategies that in turn may influence the enhancement efforts one uses to acquire a mate, sociosexuality may be associated with the use of specific enhancement efforts or mate attraction strategies. For example, men with unrestricted or high SO scores may be more likely to use ST mate attraction strategies, such as signals of high-status, dominance, and physical attractiveness to attract a mate than men who are interested in LT mating. Similarly, men who are more restricted and more interested in LT mating may engage in more behaviours designed to signal LT mate potential (e.g., strong parental skills, kindness, financial success).

Desired Characteristics of Short-Term Partners

This section examines the physical and personality traits individuals desire in their ST partners. Such qualities include physical attractiveness, physical strength, and immediate resource acquisition (Buss, 2005).

Attractive people are typically better liked and more highly sought after as group members, friends, companions, and romantic partners than people who are unattractive (Dion, Berscheid, & Walster, 1972; Leary & Allen, 2011). Facial symmetry and unblemished skin appear to be cross-culturally regarded as attractive physical attributes that may lead to greater mating opportunities due to their role in signalling genetic quality, and an absence of pathogens and illness (e.g., Buss, 2005; Grammer & Thornhill, 1994; Jasienska, Lipson, Ellison, Thune, & Ziomkiewicz, 2006; Leary & Allen, 2011; Scheib, Gangestad, & Thornhill, 1999).

Some cues to mate value differ between the sexes because of differences in what is deemed physically attractive for each sex (Buss, 2005). Sex hormones, specifically testosterone and estrogen, exert great influence on the sexually dimorphic features of men and women (e.g., jaw size, breast development, waist-to-hip ratio). Furthermore, male sexual dimorphisms in body size, strength, and physical weaponry (i.e., ability to defend or attack) have typically evolved due to high levels of intrasexual competition for survival and potential mates. However, sexual dimorphism in ornamentation (e.g., clothing, make-up) is usually the result of intersexual selection or mate choice. Therefore, sexually dimorphic traits provide a variety of possible cues to the mate value of both men and women, and the cues associated with each sex may differ in certain expected ways. Height, for example, provides some information about phenotypic quality, and women generally have partners who are taller than themselves and vice versa. Tall, strong, and athletic men are more desired as marriage partners than short, weak, and physically lazy men (Buss & Schmitt, 1993). Weight, body fat, and body-mass-index (i.e., weight scaled for

height) provides potential cues to women's mate value because fertility, pregnancy, and lactation are supported by fat stores (Buss, 2005).

WHR may be another indicator of physical attractiveness based on the evolved preference for physical features indicating fertility and health (Singh, 1993a). WHR is the ratio of waist circumference to hip circumference with the ideal ratio differing for each sex. A ratio of .67 to .80 for women indicates a reduced risk for primary infertility and various health concerns, such as cardiovascular disorders, carcinoma, and diabetes, regardless of overall levels of body fat (Buss, 2005). Conversely, men's WHR averages around .90 and this value is associated with a healthy androgen hormonal profile (Buss, 2005). Evolution has shaped men's mating psychology to prefer women with lower WHRs and women to prefer men with relatively higher WHRs. To test this hypothesis, Singh (1993a) had men rate 12 drawings of female figures depicting four levels of WHRs (.70, .80, .90, and 1.0) for attractiveness; youthfulness; healthiness; sexiness; and capability of, and desire for, reproduction. Figures with lower WHRs (i.e., .70) were preferred overall. This suggests that women with relatively larger hips than waists are viewed as the most attractive and are typically sought after as potential mates. However, the study's methodology utilized figure drawings instead of actual photographs of women, which may have implications for the results. However, these findings were replicated in a study that utilized realistic computer manipulated photographs of women (Sybil & McBurney, 2002). The authors asked 95 participants (57 men) to rate the attractiveness of 27 manipulated photographs of the same woman with various chest, waist, and hip sizes resulting in WHRs of 0.5, 0.6, 0.7, 0.9, and 1.2. The authors found that a WHR of 0.7 was the most preferred WHR and rated highest on attractiveness, compared to the other ratios. These findings are consistent with Singh's (1993a) finding, which suggests that the general population prefers a female body shape of relatively larger hips to waist.

For both men and women, upper body morphology (e.g., shoulders, chest, and breasts) may play an important role in their overall objective physical attractiveness (Buss, 2005). Broad shoulders are associated with the developmental effects of testosterone, such that men tend to have broader shoulders than women. Hughes and Gallup (2002) measured shoulder-to-hip ratios (SHR) in men and found that men with high ratios reported earlier age at first intercourse, more sex partners and extra-pair copulations, and more instances of being the extra-pair partner of a woman's extra-pair affair. Conversely, there was no association between women's SHRs and any of the sexual measures. However, breast size, shape, symmetry, and firmness may indicate a women's reproductive value. Specifically, it has been found that women with large breasts are judged to be most attractive, feminine, healthy, and desirable for both ST and LT relationships (Singh & Young, 1995).

These findings suggest that women find broad shoulders and chests to be attractive in men while men find large symmetrical breasts to be attractive in women and that these characteristics may be a signal of an individual's mate value. Furthermore, the fact that SHRs have been positively associated with number of sexual experiences, suggests that it is likely that men with the broadest shoulders are more likely to engage in ST mating strategies especially since the physical attribute of broad shoulders is valued by women (Hughes & Gallup, 2002), which may make these men highly desirable as ST mates (i.e., in order to pass on healthy genes to potential offspring). It may also be suggested that men find women with large symmetrical breasts to be desirable as ST or LT partners (Singh & Young, 1995). This likely explains why so many women enhance their breast size through the use of cosmetic surgery or enhancing undergarments (e.g., "push-up bras").

One's financial resources may also be important in the ST as indicated by women placing higher value on immediate resources rather than future prospects for ST partners (Buss, 2005). In

this context, women desire men who spend large amounts of money on them immediately, give them gifts early on in their relationship, and who live an extravagant lifestyle. They also value men who are physically attractive since attractiveness provides cues about the immunocompetence (Buss, 2005) and quality of genes that could potentially be passed onto offspring (i.e., "good genes" hypothesis) (Gangestad & Thornhill, 1994). They also prefer men who are high in dominance and masculinity, which is indicated by testosterone-related features such as prominent brows, large chins, and deep voices (Buss, 2005). Women interested in ST dating tend to dislike men who are financially stingy (Buss, 1998). Financial success is also a characteristic desired in LT mates.

Desired Characteristics of Long-Term Partners

There are a number of desired personality and physical traits women and men seek in LT partners, many of which are also desired in ST partners. These are discussed below.

Research suggests that one characteristic desired by women who are interested in LT partners is financial resources (Buss, 1998; Gueguen & Lubomir, 2012). In terms of LT mating, women are interested in men who show signs of LT career goals, likely future professional success, and financial prospects. Women interested in LT dating tend to dislike men who lack ambition, are financially poor, and who are uneducated (Buss, 1998).

Skin quality, such as unblemished and smooth skin, is also associated with one's mate value and subjective physical attractiveness. Skin that is smooth has been found to be linked with youth, fertility, reproductive value, and mate value in women (Buss, 2005). Clear skin in both men and women indicates the absence of skin-damaging diseases and the presence of "good genes" which may be inherited by offspring. Jones and colleagues (2004) found that participants rated men with clear skin as more attractive than men with blemished skin. Another study conducted by Grammer, Fink, Thornhill, Juette, and Runzal (2002) asked men to rate digital

photographs of 92 Caucasian women on 36 physical traits related to attractiveness. The researchers found that skin homogeneity predicted perceived attractiveness. It appears that skin quality may be a measure of physical attractiveness and as such, people may try to enhance the appearance of their skin in order to obtain potential mates (e.g., using make-up).

Hair quality has also been found to correlate with subjective measures of physical attractiveness, specifically female attractiveness (Grammer et al., 2002). Hair quality is believed to reflect heritable genotypic quality (Buss, 2005) and shiny, long, and strong hair provides cues to good health, developmental condition, and nutrition. Hinsz, Matz, and Patience (2001) collected hair samples and personal information from 230 women aged 13 to 73 and reported that long hair was usually found on younger higher reproductively valued women who may actually use the length of their hair to signal their mate value. Specifically, the authors found that women who were older had significantly shorter hair and poorer quality hair. Furthermore, women considered high in reproductive status (i.e., single, without children) had significantly longer and better quality hair. Moreover, women who were married and of child-bearing age had significantly shorter and poorer quality hair. The authors noted that although subjective ratings of health (i.e., researchers inquired about the participant's overall physical health compared to other women her age) did not correlate with hair length, better health, as measured on a five-point Likert-type scale ranging from *well below average health* to *well above average health* was correlated with better quality hair.

Based on evolutionary psychological research on physical attractiveness and mate choice, it may be suggested that anything people do to enhance their physical appeal is probably at least partly motivated by the desire to increase one's mate value (Leary & Allen, 2011). The motivation behind the behaviour may be either implicit (unconscious) or explicit (conscious). Nevertheless, it seems clear that there is strong adaptive value for individuals to have evolved to

engage in behaviours that enhance their attractiveness. One of the most deliberate ways that people try to enhance their physical appearance is through the use of clothing. Women may purchase more revealing clothing and men may purchase more structured clothing in order to show off or enhance their physiques. These efforts may pay off since it has been found that women who show more skin or "dress to impress" are considered more attractive (Durante, Li, & Haselton, 2008; Grammer, Renninger, & Fischer, 2004; Haselton, Mortezaie, Pillsworth, Bleske-Rechek, & Frederick, 2007). Thus, clothing choice appears to be a method of enhancing attractivity.

Clothing is just one of the many factors that affect attractiveness. As mentioned previously, height, WHR, SHR, BMI, body fat, and facial symmetry all play a role in the judgments of one's attractiveness. Research has suggested that those who are perceived as physically attractive have greater mating opportunities (Buss, 2005; Buss & Schmitt, 1993; Hughes & Gallup, 2002; Jasienska et al., 2006; Singh, 1993a; Tovée & Cornelisson, 2001). Therefore, it is possible that individuals who are perceived as less attractive may engage in more mating efforts that enhance their mate value, such as hair, beauty, and body enhancement techniques, to increase the quality and pool of potential mating partners. Furthermore, the mating strategies that one employs (e.g., ST and LT) may also be a function of one's overall physical attractiveness or pursued mating strategy.

The characteristics desired by men and women in ST and LT partners may persuade each sex to engage in mate value enhancement techniques in order to ensure they possess the kinds of attributes that the opposite sex desires. Furthermore, their preferences for certain mating contexts may be reflected in their overall mating strategies. For example, women who are more interested in ST mating may display signs of fertility and attractiveness by spending more time working to enhance their physical appearance than would someone less interested in ST mating. Similarly,

women who are more interested in LT mating may put more effort into displaying signs of trustworthiness and good parenting skills in order to be attractive as a LT partner. Alternatively, men may alter their mating strategy to display dominance, attractiveness, and high-status when they are interested in ST mateships; and signs of strong future financial prospects, warmth, and parental skills when interested in LT mateships in order to be attractive to potential mates.

The Mating Strategy of Flirting

Flirting can be used as a mating strategy to signal attraction to others and to draw attention from potential mates. Flirting utilizes body movements, facial expressions, and verbal behaviour to signal interest in the opposite sex (Givens, 1978). Both men and women use body language to flirt, however, women use it more often and more subtly (Grammer, 1990; Grammer, Kruck, Juette, & Fink, 2000; Grammer, Kruck, & Magnusson, 1998; McCormick & Jones, 1989). Women prefer to use less obvious tactics to communicate their interest in a potential partner due to their higher biological risk (Grammer, 1990). That is, since women carry a greater burden in terms of caring for their offspring, they are more careful and choosy about the mates they court. Furthermore, women face a dilemma when it comes to mate attraction; if they signal their availability directly they will only attract men who are interested in ST dating. Direct signalling might indicate general availability and men who are interested in LT relationships might interpret it as an indication of someone who is less likely to be faithful in a relationship (Grammer, 1990). To avoid creating this impression, women usually use subtle signs to convey interest, such as primping (i.e., ordering one's clothes without visible necessity, smoothing or flipping one's hair with one's hands), coy smiling (i.e., smiling followed immediately by turning away and lowering the head), looking through (i.e., looking at the other person but not fixating on him or her and looking away immediately), and short glances (i.e., looking at the potential partner for no more than 3 seconds) (Grammer, Kruck, Juette, & Fink, 2000). Women use these

subtle signs in order to communicate interest without engaging in actual behaviours that may lead to risk (e.g., getting too close to a potential partner who may grab them).

Givens (1978) proposed a five-stage model on courting to explain how flirting is used to indicate interest. The first stage is considered the attention phase where women usually use primping, object caressing, and quick glances to signal interest in a potential mate. The second phase is considered to be a recognition phase in which flirting consists of head cocking, pouting, primping, eyebrow flashes (i.e., raising of the eyebrows), and smiling. Interaction between the potential partners usually does not occur until the third stage where conversation begins. During this stage, individuals appear highly animated, and exhibit laughter and giggling. In the fourth stage, individuals will start to physically touch each other and sit or stand closer to one another. In the final stage, even more nonverbal behaviours occur, such as kissing, cuddling, hand-holding, and other affectionate movements that signal interest. Men are generally hesitant to approach women without some initial indication of interest from the woman (Whitty, 2004). For example, Moore (1985) identified 52 nonverbal displays that women use to signal and attract potential mates, which include smiling, laughing, touching, leaning, and primping. Givens' model and Moore's identification of nonverbal behaviour demonstrates the importance of nonverbal cues in the signalling of mate attraction which are essential features of flirting.

Abbey and Melby (1986) have suggested that men, more so than women, have difficulty recognizing or interpreting the signs of nonverbal behaviours that cue sexual interest from a woman since men find it difficult to distinguish flirtation from friendliness and are more likely to perceive the former. Abbey and Melby tested the effects of three nonverbal cues (e.g., interpersonal distance, eye contact, and touch) to examine the hypothesis that men attribute more sexuality to female targets than do females. The researchers found that men rated photographs of women who used eye contact, distance, and touch as nonverbal signs of interest as more

seductive, sexy, and promiscuous than women did. Men also expressed more sexual attraction to the women who displayed these signals. The findings suggest that men are more likely to perceive nonverbal cues of friendliness from potential mates as sexual. However, since the researchers utilized photographs rather than real face-to-face interactions to measure the perception of nonverbal behaviour, the generalizability of the results is unknown. Photographs may not display enough detail for individuals to perceive nonverbal behaviours, which may lead participants to rely on other forms of observation, such as emotion, in order to gauge the target's sexual interest.

A study that used more concrete methods to investigate flirting was conducted by Levesque, Nave, and Lowe (2006) who had men and women briefly interact with a member of the opposite sex to further examine whether men sexualize behaviour of the opposite sex more than women do. Participants were asked to discuss both positive and negative experiences of college life. The researchers' hypothesis was supported as men rated their female partner as more sexual than women rated their male partner. Furthermore, it was found that men generally think in more sexual terms than women as indicated by their tendency to give higher sexual ratings to their partners and themselves. However, the results did not support Abbey and Melby's (1986) misperception of friendliness hypothesis. Men appeared to be able to distinguish between judgments of friendliness, as indexed by agreeableness and positive behaviour ratings, and sexual interest. The only potential support for the misconception bias is that men associated smoothness of conversation as signalling sexual interest. Thus, this study suggested that men are able to discriminate between friendly behaviour and sexual flirting.

Some studies have found that men are more likely than women to use touch to show interest and that women usually respond positively to this kind of nonverbal behaviour (Gueguen, 2007; McCormick & Jones, 1989). Gueguen (2007) had a male confederate ask

women in a nightclub to dance with him during a period when slow songs were played. The confederate either touched or did not touch the women on their forearm for 1 to 2 seconds when making his request. In a second experiment, another male confederate approached women on the street and asked them for their phone numbers which either was or was not accompanied by a light touch on the women's forearms. In this second experiment, women also completed a survey on the perceived characteristics of the confederate. In both experiments, touch increased compliance to the confederate's requests. Furthermore, the women who completed the questionnaire and were lightly touched by the confederate during the second experiment scored the confederate higher on dominance than women who were not touched. Since dominance is a characteristic women desire more in LT partners rather than ST partners (Buss, 2005), it seems likely that touching is a useful mating strategy for men to employ when seeking LT mateships.

Women are usually the ones to initiate flirting while men are more likely to respond to women's nonverbal behaviours (Whitty, 2004). As an example of how women's nonverbal behaviour or flirting increases attractivity or approachability, Gueguen (2008) had a female confederate, who was rated to be of average physical attractiveness, either smile for 2 seconds and look away or not smile at men in a bar who were alone and seated at a table. After entering the bar, the confederate was instructed to sit at a table near the men and then either smile or not smile at them. Gueguen found that men who were smiled at approached the woman more often and considered her more favourably than men who were not smiled at. It is possible that smiling increased the attractiveness of the confederate or that men perceived smiling as signalling interest. It is also possible that smiling conveys warmth which is an attribute men seek in LT partners. Since warmth is an attribute men desire in LT partners (Buss, 2005), smiling appears to be a flirting or mate attractivity strategy that women can employ when trying to attract a ST or LT partner.

Flirting is a part of human nature since it is a technique, or perhaps an automatic response, which initiates contact and expresses interest in members of the opposite sex, behaviours that are essential for humans to reproduce (Fox, 2004). Men and women may use certain techniques, such as flirting, in order to advertise optimal mate characteristics. Individuals may choose to draw attention to or exaggerate certain physical features because they are features that are likely to attract a specific type of mate. Specific forms of flirting, such as touching, flexing arms, breast presentation (i.e., pushing chest out), primping, and sitting with legs open (Grammer et al., 2000), may reflect strategies used to meet ST mate selection standards. Other forms of flirting, such as smiling, laughing, looking down and away, and head tilting (Grammer et al., 2000), may reflect tactics used to attract a LT mate. These latter behaviours are ways to draw attention to oneself by advertising warmth and possible availability in a more modest, demure, and reserved manner that may signal current availability and future fidelity by not projecting sexuality. Depending on the type of relationship one is interested in, individuals may use an assortment of flirting techniques in order to achieve the characteristics desired in ST or LT partners.

For men and women who desire LT mateships, they may display warmth through smiling. Conversely, women who desire ST mateships may display their attractiveness by presenting their breasts and primping their clothes while men may display their high status and dominance through light touching. Essentially, the type of relationship one desires may determine the type of flirting behaviours one engages in. Furthermore, the degree to which women are interested in pursuing a ST or a LT relationship may actually fluctuate throughout their menstrual cycle (e.g., Pillsworth, Haselton, & Buss, 2004). Therefore, women may use more or less of certain flirting techniques depending on their conception likelihood or relative

fertility. As such, women's fertility, menstrual cycle phase, and hormone levels may be linked to their mating strategies. This is discussed in detail below.

Predictors of Individual Differences in Women's Mating Strategies

Several individual biological, social, and personal variables may affect women's mating psychology and behaviours. Personality, for instance, may interact with the type of partner women seek. For example, Welling, DeBruine, Little, and Jones (2009) reported that women's extroversion was positively correlated with preferences for masculinity in men's faces. The researchers asked 808 women to indicate which face they found to be more attractive between 40 pairs of faces (i.e., each pair consisting of a masculinized and feminized version of the same individual). Each participant also completed a personality inventory and rated their own attractiveness. Welling and colleagues found that both extroversion and attractiveness were positively correlated with preferences for masculinity. However, while the association between women's preferences for masculinity and extroversion remained significant when controlling for attractiveness, attractiveness and preferences for masculinity was not significantly correlated when controlling for the effects of extroversion. The authors suggest that extraversion may be an important psychological factor that affects mate preferences.

Self-rated attractiveness, however, may predict individual preferences for masculine men's voices. Vukovic and colleagues (2008) reported that in free cycling women (i.e., women who do not use hormonal contraceptives), self-rated attractiveness was positively correlated with preferences for masculine sounding male voices. Specifically, the researchers ask 123 women to rate their own attractiveness and choose which voice from 16 pairs of voices they found to be more attractive. Each pair consisted of a feminized and masculinized version. Both women who used and did not used hormonal contraceptives preferred masculine voices, however, the correlation between self-rated attractiveness and preferences for masculine voices in men was

only significant in women who did not use hormonal contraceptives. Vukovic and colleagues suggested that such differences in women's masculinity preferences may be adaptive if attractive women are better able to attract and/or retain masculine partners since masculinity may signal testosterone levels and "good genes". In hormonal contraceptive users, however, this adaptive mechanism may be disrupted.

Individual differences in masculinity and femininity may also influence women's mating strategies or preferences. Mikach and Bailey (1999) examined whether women who engaged in casual sex have low mate value, have experienced stressful family environments, and/or are masculine. Of the 39 women who completed the study, 20 had high numbers of lifetime sex partners ($M = 57.5$) while 10 had low numbers of lifetime sex partners ($M = 4.1$). Contrary to the researchers' hypothesis that women who engage in casual sex have low mate value, it was found that women from the high number of sexual partners group had lower WHR, thus indicating higher mate value. Furthermore, women in the high number of sexual partners group also reported slightly but not significantly less stress in their childhoods. They did however, report earlier age of sexual experience and sexual intercourse. Moreover, women in the high number of sexual partners group placed greater importance on partner physical attractiveness than women in the low number of sexual partners group. Finally, women with a high number of sexual partners were overall more masculine than women with the lower number ($t = 3.2, p < .05$), as indicated by interviewer-rated physical and behavioural masculinity ($t = 2.5, p < .05$), childhood gender nonconformity (i.e., degree to which one behaves like the opposite sex during childhood) ($t = 3.4, p < .05$), and continuous gender identity (i.e., how masculine and feminine one feels they look and behave) ($t = 3.2, p < .05$). The results suggest that interviewer-rated and self-perceived masculinity may predict individual differences in mating behaviour and preferences.

Scarbrough and Johnston (2005) also examined how femininity and masculinity are related to women's mating strategies. Specifically, the researchers asked 41 women to view movie clips of male faces that they could morph from extremely masculine to extremely feminine. The participants' fingers were then measured to assess 2D:4D (i.e., second to fourth finger digit ratio) and information based on their menstrual cycles was recorded. Participants also completed the BSRI as a measure of masculinity and femininity. It was found that less feminine women, as determined by low 2D:4D and the BSRI, showed a greater relative preference for masculine faces at ovulation. In contrast, women with high 2D:4D, as well as those high on femininity on the BSRI, shifted towards a diminished preference for masculine faces (i.e., more feminine women showed a lower relative preference for masculine faces at ovulation). The research suggests that women's biological, and perceived, masculinity and femininity may influence their mating preferences.

It appears that only three studies have specifically examined whether masculinity and femininity are associated with mating strategies. The lack of research in this area points to the need for further research to examine whether between-sex and within-sex individual differences in masculinity and femininity predict one's use of specific mate attraction strategies.

The Menstrual Cycle and Conception Likelihood

Phase or day of the menstrual cycle has also been linked to women's mating preferences and behaviours (e.g., Buss, 2005; Scarbrough & Johnston, 2005). The typical menstrual cycle length is between 21 and 35 days (e.g., Creinin, Keverline, & Meryn, 2004) with most women having a cycle length of roughly 28 days. The cycle can be delineated into a number of longer or shorter phases but it is commonly broken down into four phases: menstrual, mid-follicular, periovulatory, and luteal (Havez, 1979). During the menstrual phase (often described as days 1 to 5), the uterus sheds the uterine lining which is a layer of blood-enriched tissue that is used to

successfully established pregnancy through implantation. During this phase, all levels of hormones are low (i.e., estradiol, progesterone, luteinizing hormone [LH], and follicular-stimulating hormone [FSH]) (Carlson, 1991).

During the beginning of the second phase, the mid-follicular phase (days 6 to 12), estrogen, and progesterone are still at their lowest (Havez, 1979). Later on in the phase, FSH and estrogen levels rise, while progesterone levels remain low. The rise in FSH causes a number of "ripe" ovarian follicles to begin maturing. Some research has suggested that the follicular phase can be divided into the early (days 1 to 4, including menstruation), mid (days 5 to 8) and late (days 8 to 14) follicular phases (Roberts et al., 2004). The mid-follicular phase is sometimes called the postmenstrual phase and is characterized by low levels of all hormones, with the exception of estrodial and FSH being slightly elevated. The late part of this phase (i.e., days 10 to 16) corresponds to the periovulatory phase of the cycle.

During the beginning of the third stage of the menstrual cycle, the periovulatory phase (typically between days 10 to 14 or 15), a rise in LH occurs which triggers the follicle to begin secreting estradiol, which in turn inhibits the pituitary secretion of FSH. The follicle also stimulates other estrogens which signal the thickening of the uterine lining. Once the follicle is mature, it secrets enough estradiol to trigger the release of LH which matures the egg and weakens the wall of the ovary. There is then a FSH and estradiol surge, and ovulation occurs (Havez, 1979). Estradiol hits its peak level across the cycle during this phase. Ovulation is characterised by third stage growth, where the follicle wall ruptures and the ovum is released (Schnatz, 1985). Ovulation occurs 16 to 30 hours after the LH surge. The ovum then travels down the fallopian tube where it may be fertilized. The periovulatory phase contains the days of the highest conception likelihood (Wilcox et al., 2001).

Finally, the luteal phase (days 16 to 28), can be broken down into the early luteal phase (roughly days 16 to 19), the mid-luteal phase (days 20 to 24), and the late luteal phase (days 25 to 28). During the early luteal phase, estradiol falls to low-moderate levels and progesterone starts to rise. Progesterone peaks and plateaus at its highest levels (Speroff & Fritz, 2005) during the mid-luteal phase while estradiol rises slightly to moderate levels. Progesterone stimulates a blanket of blood vessels to prepare for egg implantation. If no fertilization occurs, hormone secretions break down the lining of the endometrium resulting in menstruation during the menstrual phase (Hock, 2007). This process occurs towards the end of the luteal phase, with the drop of progesterone and estradiol during the late-luteal phase signalling the beginning of menstruation and the reoccurrence of the cycle. During the entire luteal phase, LH and FSH are at low levels (Havez, 1979).

Alliende (2002) conducted a study to measure the hormone profiles of normal cycling women. Immunoassays were collected daily from 78 free-cycling women for estrone glucuronide, LH, and pregnanediol glucuronide, which have all been found to fluctuate throughout the menstrual cycle. Alliende reported that all of the women's cycles showed an ovulatory pattern configuring classic hormonal mean curves with hormone level peaks within cycle days 11 to 23: estrone glucuronide (mean cycle day was 14.5 using the forward count method), LH (mean cycle day was 16), and pregnanediol glucuronide (mean cycle day was 17). As discussed below, the likelihood of conception is highest during the periovulatory phase around the time when estradiol and LH are highest, decreases during the luteal and menstrual phases, and gradually increases again during the mid-follicular phase (Hock, 2007).

With conception likelihood being highest during the periovulatory phase, researchers have estimated that conception probability following a single act of intercourse is 0.04, 0.13, 0.08, 0.29, 0.27, and 0.08 for the six consecutive days ending with ovulation in women who

experience regular menstrual cycles (Wilcox, Dunson, Weinberg, Trussell, & Baird, 2001). Thus, conception likelihood is highest on the two days prior to the day of ovulation (the preovulatory period). Outside of the six day conception window, probability of conceiving is less than .01. However, on any given day, Wilcox and colleagues estimated that there is a 3.1% likelihood of conception for free cycling women who report regular menstrual cycles. Furthermore, the probability of conception is somewhat unlikely during the first three days of the cycle, but by day seven, the likelihood of pregnancy rises to 2%. Wilcox et al. (2001) reported that conception likelihood peaks on day 13 (forward count) of the cycle at 8.6% and declines thereafter but remains at around 1% in a combined sample of women who experience regular or irregular cycles. Women with regular cycles experienced a 9.3% likelihood of conception on day 13 while women with irregular cycles experienced a 4.5% likelihood on the same day. Women with irregular cycles experience later and more irregular ovulation, with their peak probability of pregnancy occurring later in their cycle (i.e., days 16 and 17 with a conception likelihood of 6.5%).

There are numerous counting methods that have been used in detecting menstrual cycle phase. The most commonly used method is that of Jöchle (1973), which estimates probabilities of conception based on the participant's cycle day. There are two ways in which the counting method is used, the forward count method and the backward count method. The forward count method uses the start date of a woman's last period to estimate the day of ovulation (e.g., Penton-Voak et al., 1999; Pillsworth, Haselton, & Buss, 2004), with day 1 being the first day of bleeding. The reverse count method adjusts for variability in menstrual cycle length which allows for an estimation of conception probability, and possible hormone levels, independent of cycle length. The reverse count method uses the onset of a woman's next period to estimate cycle day and predict the day of ovulation. The reverse count method involves using the following

formula to determine the length of the follicular phase: $F = L - 14$, where F is the last day of the follicular phase and L is the length of the cycle. The day before the first day of menstruation is then denoted as day -1 and a reverse count is used to determine cycle day. The reverse count is considered more accurate when attempting to estimate ovulation or the time of highest conception likelihood since most of the variation in cycle length occurs due to variation in the follicular phase. The advantage to the counting method is that it is fairly easy and non-invasive for participants. As long as the participant notes the start days of menstruation, one can use one of the counting formulas to reach an approximate day of ovulation and to determine their cycle day.

Changes in Mating Strategies across the Menstrual Cycle

As alluded to previously, a woman's menstrual cycle, or her conception likelihood, may have an effect on her sexual interest and strategies. Women's desire for sex tends to peak at or during ovulation (e.g., Buss, 2005; Van Goozen, Wiegant, Endert, & Helmond, 1997), which is when the odds of becoming pregnant are highest. However, research in this area is often conflicting, with some authors suggesting sexual desire peaks during days of non conception during the menstrual cycle (Pillsworth et al., 2004).

Several physical and biological changes have also been found to occur throughout the menstrual cycle. These changes include an increase in the brain's grey matter near ovulation (Hagemann et al., 2011), greater consumption of calories during the luteal and ovulatory phases as compared to the follicular phase (Chung, Bond, & Jarrett, 2010), and an increase in sleep onset latency as well as a significant decrease in sleep efficiency and sleep quality during the luteal phase (Manber & Bootzin, 1997). There have also been reported changes in mate preferences throughout the cycle such as a greater preference for all of the following near ovulation or when fertility is high: men with less body hair which is a culturally defined ideal of

male beauty (Rantala, Polkki, & Rantala, 2010), men with more symmetrical faces and a masculine body odour (Little, Jones, Burt, & Perrett, 2007; but see Oinonen & Mazmanian, 2007), potential ST partners who are physically attractive (Gangestad, Garver-Apgar, Simpson, & Cousins, 2007), more masculine male bodies (Johnson, Hagel, Franklin, Fink, & Grammer, 2001; Little, Jones, & Burriss, 2007), and ST partners who display social presence and direct intrasexual competitiveness (Gangestad, Simpson, Cousins, Garver-Apgar, & Christensen, 2004). Furthermore, research suggests that women with low 2D:4D (i.e., the more masculine phenotype), as well as those low in femininity, display a periovulatory shift towards greater attractiveness to masculine faces (i.e., less feminine women showed a greater relative preference for masculine faces at ovulation). In contrast, women with high 2D:4D, as well as those high on femininity, showed a shift towards a diminished preference for masculine faces (i.e., more feminine women showed a lower relative preference for masculine faces at ovulation) (Scarbrough & Johnston, 2005). Thus, a number of theories and studies have suggested that women's mating strategies change over the cycle, with characteristics more often desired, and behaviours more often engaged in, when pursuing ST mates being more likely to peak in the highly fertile days just before ovulation.

One theory that has proposed cyclical shifts in mating strategies is the "good genes" hypothesis. This theory suggests that women should show a greater preference for partners with indicators of "good genes" (e.g., attractiveness and facial symmetry) when they are fertile, particularly as ST mates (Gangestad et al., 2007; Little et al., 2007). Gangestad and colleagues (2007) found a strong relationship between menstrual cycle phase and partner preferences. It was observed that women's preferences for attractive men increased during high-fertility phases but only when these men were evaluated as ST partners. Similarly, Anderson et al. (2010) found that women in the high-fertility phase of their menstrual cycles paid more attention to attractive male

targets than did women in low-fertility phases. The researchers measured attention with a memory test containing 32 faces from a slide show participants had viewed and 32 distracter faces varying on gender and attractiveness. Participants indicated whether they had seen each face on a six-point rating scale ranging from *definitely did not see* to *definitely did see*. The tendency to pay more attention to attractive men may have evolved for adaptive reasons since women are best able to use the heritable genes of attractive men during high-fertility times. In contrast, at low fertility times in the cycle, other personal traits such as high parenting qualities and resources may be more, or equally, salient (Buss, 2005). Also, Pillsworth and colleagues (2004) reported that women in the high-fertility phase were more likely to experience desire for extra-pair partners. The relationship between fertility and extra-pair desire was moderated by relationship length, such that women in longer relationships reported more extra-pair desire during high-fertility times than women in shorter relationships and women in low-fertility phases. A reason for this finding, as suggested by the authors, is that if conception with a primary partner has not occurred, women may seek extra-pair partners. It is also possible that if conception has already occurred and offspring are old enough to survive with minimal physical care, it may be valuable for a woman to maximize the genetic heterogeneity of her offspring by seeking an extra-pair or a new LT partner in order to secure better genes or resources.

The ovulatory-shift hypothesis suggests that women seek extra-pair partners during high-fertility days, but that this is dependent on their primary partners' features (Gangestad et al., 2007). Only women whose mates lack the indicators of "good genes" (e.g., attractiveness) will be particularly attracted to extra-pair partners when fertile. Women can garner genetic benefits through extra-pair mating, but those whose primary partners already have "good genes" will not achieve as much benefit since there is a high risk of losing one's current desirable mate. The logic underlying this theory comes from the fact that women cannot benefit from a ST mate's

heritable fitness when they cannot conceive (i.e., during low-fertility days), and thus they should value indicators of heritable fitness less when genetic benefits cannot be gained and more when they can be gained (i.e., during high-fertility days) (Pillsworth & Haselton, 2006). If indicators of "good genes" are less evident in their primary partners, women would be more likely to look outside the primary relationship to seek partners with the quality attributes their partners' lack.

Another evolutionary perspective describes female sexuality throughout the menstrual cycle as a dual strategy. The dual strategy, similar to the ovulatory-shift hypothesis, implies that women copulate for two reasons. First, during high fertility, women copulate for direct genetic benefits. Second, during low fertility, they copulate to obtain indirect non-genetic material benefits (Alvergne & Lummaa, 2009; Thornhill & Gangestad, 2008). Direct benefits includes "good genes" while indirect benefits includes financial and parental support. This dual strategy can affect mate choice throughout the menstrual cycle, with ovulating women desiring men more for their physical attractiveness but desiring other attributes, such as security and certain emotional characteristics at other times of the menstrual cycle.

Oinonen, Klemencic, and Mazmanian (2008) found that restricted (i.e., those interested in LT mating) women are more likely to report greater interest in uncommitted sex when they are most fertile, while unrestricted (i.e., those interested in ST mating) women were more likely to be interested in uncommitted sex when they are least fertile. They labeled this finding the Periovulatory Sociosexuality Tactic Shift (PSTS). The periovulatory phase shift in sociosexual behaviour includes a shift towards more restricted sexual behaviour in unrestricted women and toward more unrestricted sexual behaviour in restricted women. This theory predicts that restricted women may show a greater periovulatory peak in seeking ST mates with high physical attractiveness (i.e., "good genes") during high-fertility phases, as compared to unrestricted women. The authors suggest that these two opposing cyclical tactic shift strategies may have

evolved in order to solve adaptive problems faced by women who pursue ST mating strategies. Specifically, it solves the problems of immediate resource extraction and the assessment of LT mates.

Research has found that women experience cyclical changes in their behaviours and preferences for specific mates. Since women experience such changes, their mating tactics, such as flirting and attractivity techniques, are likely to change across the cycle as well. When women are not fertile and have a low ability to conceive, they may be less likely to use mating strategies that maximally attract partners, especially ST partners. That is not to say that women will not use mate attraction strategies when they are not fertile, however, they may just invest less time in mate attraction , use fewer strategies, or use strategies aimed at attracting LT partners (e.g., displaying signs of fidelity). However, when women are fertile and have a significant chance of becoming pregnant, they may be more likely to use several mating strategies simultaneously in order to attract partners, especially ST partners with indicators of "good genes". Therefore, based on their likelihood of conception, past research suggests that women may differentially allocate their efforts at mate attraction in order to maximize their chances of obtaining the type of mate who would be most adaptive to attract at that particular time in the cycle.

Fertility may also affect individual differences in mating. Specifically, research suggests that women exhibit elevated preferences for behavioral dominance in potential mates on higher fertility days of the menstrual cycle (Lukaszewski & Roney, 2009). Lukaszewski and Roney asked 240 women to indicate their mate preferences for dominant personality traits (e.g., aggressive, bold, competitive, brave) and self-reported cycle day, which was used to estimate levels of hormones. The researchers found that women's preference for dominance in LT mates was elevated on cycle days when estrogen was particularly high. Preference for dominance in ST partners was highest on cycle days when LH and FSH were highest. These findings support the

existence of two types of hormone-regulated psychological mechanisms, (1) a between-cycle mechanism that increases preferences for dominance in LT mates during days (and thus cycles) characterized by higher estrogen, and (2) a within-cycle mechanism that combines preferences for dominance in ST mates, which may signal phenotypic quality, with timing of ovulation when conception is more likely (Lukaszewski & Roney, 2009). These findings suggest that the menstrual cycle may affect individual differences in mating strategy and choice.

As noted above, an additional consideration for women in their mate attraction efforts is the risk of sexual assault or rape. Thus, women may take fewer risks in their attractivity strategies, such as smiling at a stranger, when they are fertile due to a perceived threat to life (e.g., rape). However, in situations where the threat is reduced, such as sending an email containing a sexual comment as opposed to making the same comment in person, women may actually use more attractivity strategies when they are fertile. With the frequent advent of new technology, women may increasingly feel more secure about their own safety, and thus be more likely to initiate contact with a potential partner due to a decrease in perceived threat. Thus, examination of flirting strategies used both with and without technology may reveal stronger effects when technology is used as the risk of immediate rape or harm is reduced.

Use of Technology in Mate Attractivity

In modern societies, technology is a common means to communicate with other people (e.g., email, text messaging, telephone). Being able to communicate with someone through some form of technology decreases any immediate physical risks inherent in face-to-face interactions (e.g., a physical fight). Furthermore, for women, use of technology to communicate sexual interest or availability to a man can also decrease specific immediate physical risks inherent in communicating in person (e.g., unwanted sexual contact or rape). This is one likely explanation for the proliferation of women working in the sex industry who provide services to men using

technology such as the telephone or the internet. Risk has been defined as a chance of loss with probability greater than zero, while risky behaviours are actions or inactions that entail a chance of loss (Ben-Zur & Zeidner, 2009). Conversely, risk taking refers to "one's purposive participation in some form of behaviour that involves potential negative consequences or losses (i.e., social, monetary, interpersonal) as well as perceived positive consequences or gains" (Ben-Zur & Zeidner, 2009, p. 10). As mentioned previously, men are more likely to engage in risk taking than women, likely due to the greater reproductive responsibility that women bear (Pawlowski et al., 2008).

From an evolutionarily perspective, it makes sense that men are the sex most likely to approach potential mates, given the relative risks of each sex engaging in such behaviour. For physical safety reasons, it would be less adaptive for women to have evolved to be the sex most likely to approach. However, technology may decrease the risks of such approach behaviours for women and may serve as a buffer since approaching someone over the internet or text message involves almost zero immediate physical risks as compared with approaching someone at a bar or on the street. Using the internet to communicate also allows for a reduction in embarrassment and the fear of rejection (Whitty, 2003), possibly due to a greater sense of anonymity, as well as a decrease in the risk of physical assault. Cyberspace flirting has been argued to be a less dangerous way to flirt and attract a potential partner (Fox, 2004) since it is a space where disembodied communication can take place (Whitty, 2003). Cyberspace communication not only includes the Internet, but the use of cell phones as well since it captures any form of human communication where one's body is not present. Due to the actual and perceived decrease in risk taking when communication is mediated by technology, women may be just as likely as men to initiate conversation and present themselves in a dominant, aggressive, or sexual manner, particularly when attempting to attract a ST partner.

When flirting in cyberspace, women may behave in ways that they would be unlikely to if in direct face-to-face contact with a man due to the lower perceived risk. For example, women may be more likely to make a sexually seductive comment. Whitty (2004) conducted a study to examine sex differences in online flirting. A total of 5,679 (62% women) participants completed questions about their flirting behaviours in both face-to-face interactions and chatrooms using a 7-point Likert-type scale from *never* to *all the time*. It was reported that women flirted by displaying nonverbal signals, such as emoticons (e.g., smiles, winks), acronyms (LOL – laugh out loud), and descriptions of physical attractiveness, which were substitutes for nonverbal cues online used during face-to-face interactions (e.g., smiling, eye gaze, and primping), to a greater extent than men. Furthermore, in chatrooms men were more likely than women to initiate contact and make comments about their socioeconomic status. This study suggests that both sexes flirt through technology, but in gender specific ways. Women were more likely to flirt by talking about their attractiveness while men were more likely to flirt by talking about their financial success and status. While this study was limited in its capacity to measure flirting using self-report questionnaires since individuals are not always consciously aware they are flirting, the findings do suggest that women feel safer flirting online or through some form of technology (e.g., text message).

Present Study

Previous research has examined mate attraction strategies (e.g., Buss & Schmitt, 1993; Fisher & Cox, 2010; Rechek & Buss, 2006; Schmitt & Buss, 1996). Buss (1988) created the questionnaire, Mate Attraction Tactics, which has been used in this research. However, the questionnaire does not include activities and behaviours that individuals engage in throughout their lifetime that enhance their LT attractivity, such as getting an education and participation in sports. Thus, there is not one questionnaire that comprehensively evaluates the full range of mate

attraction strategies in terms of behaviour, and both ST and LT mate value enhancement techniques. For example, applying lipstick or wearing a revealing outfit might enhance a woman's immediate chances of finding a ST partner while spending time learning to cook, babysitting, or getting an education might enhance her future chances of finding a LT partner. Behaviours that enhance attractivity for LT relationships may do so because of the direct skills those behaviours reflect (e.g., babysitting may reflect the acquisition and reflection of care giving or parenting skills) or the personal characteristics those behaviours reflect (e.g., pursuing educational goals or practicing in a sport could reflect persistence, responsibility, and fidelity in addition to other personal characteristics such as intelligence or athleticism). The current study involved the creation of a questionnaire, which was created through the use of a pilot study described below, that allowed for a more comprehensive examination of the ST and LT strategies individuals consciously or unconsciously utilize to attract mates. This questionnaire was then used in the main study to examine the associations between sex, gender, the menstrual cycle and the likelihood of using, and the frequency of using, various mating strategies.

As well, it appears that this is the first study to examine gender identity (i.e., male-typical and female-typical gender traits) as a mating strategy. A majority of mating strategy research has focused on sex differences (i.e., Bleske-Rechek & Buss, 2006; Buss, 1988; Buss & Schmitt, 1993; Jackson & Kirkpatrick, 2007) with a limited focus on within sex differences (Bailey et al., 1994). The current study is one of a few studies (i.e., Gangestad & Simpson, 2000) to examine within sex differences in mating behaviours. One correlate of within sex differences in mating strategies may be gender identity as previous research has suggested that gender identity is associated with sexual orientation and mating psychology (Bailey et al., 1994). One could speculate that prenatal or postnatal hormone exposure may play some role in shaping both gender identity and mating strategies. In fact, some studies have found associations between digit

ratio, an indicator of prenatal hormone exposure, and gender identity (i.e., Csathó et al., 2003) as well as mating strategies such as sexual orientation and sociosexuality (e.g., Charles & Alexander, 2011; Putz et al., 2004). Furthermore, research has also suggested that masculine gender identity in women is associated with an unrestricted sociosexual orientation, which is the mating strategy of engaging in casual sex (Mikach & Bailey, 1999). Taken together, it is possible that one's gender identity (whether it is sex-typical or atypical) may be associated with one's mating behaviours. Thus, the current study sought to examine whether there was an association between gender identity and mating strategies.

The main study involved recruiting 557 participants (94 men and 463 women) to complete the Relationship and Background Questionnaire twice, two weeks apart. This allowed for assessment of the psychometric properties of the Flirting and Attractivity Mating Strategies (FAMS) questionnaire, between- and within-sex differences, and assessed attractivity strategy changes based on conception likelihood. The present study added to the existing literature on human mating strategies and tactics both between and within the sexes.

The objective of the pilot study was to determine which items would make up the FAMS questionnaire subscales used to measure the main study's hypotheses. For the pilot study, participants [15 men and 94 women; 78.2% Caucasian; $M_{age} = 26.82$ ($SD_{age} = 9.45$)] completed an anonymous online questionnaire where they were asked basic demographic questions (i.e., age, sex, years of education, ethnicity, and sexual orientation using the Kinsey Heterosexual-Homosexual Rating Scale). Participants were then asked to indicate the extent to which they believe each of the FAMS questionnaire behaviours/items increase ST partner attractiveness and LT partner attractiveness in the opposite sex. Each behaviour/ item was asked about for both ST and LT partner attractiveness (i.e., the same questions were asked twice, once for ST partner attractiveness and once for LT partner attractiveness). For ST partner attractiveness, participants

were asked whether each behaviour increases an individual's attractiveness as *a one night stand or fleeting sexual encounter partner*. For LT partner attractiveness, participants were asked whether each behaviour increases one's attractiveness as *a marriage or common-law partner*. These two forms of partner attractiveness were asked about separately and each item used a three response option scale (e.g., *not at all*, *somewhat*, and *a lot*).

Goal of the Pilot Study. The overall goal of the pilot study was to develop the FAMS questionnaire, which encompassed 11 scales (i.e., In-Person Flirting, Technology Flirting, Sports, Social Activities, Household Skills, Attractivity Knowledge, Grooming, Education and Work Responsibilities, Body Modification, Remote Communication, and Self-Presentation Behaviours). The questionnaire was then used to create three sets of scales. (1) The Gender-Related Attractivity subscales reflect attraction strategies that increase one's attractiveness and are used more frequently by men or women: the Masculine Attractivity Strategy Scale (MASS) and the Feminine Attractivity Strategy Scale (FASS), and both measure engagement throughout one's life. (2) The Overall Women's Attractivity Strategies Scale (OWASS) reflects engagement in strategies that increase women's overall attractiveness to men and measures engagement during the last 48-hours. (3) The Short-Term Attractivity Strategies Scale for Women (STASS-W) and the Long-Term Attractivity Strategies Scale for Women (LTASS-W) reflect engagement in strategies that increase women's overall attractiveness to men for either ST relationships or LT relationships and both measure engagement in behaviours during the last 48-hours. All of these scales were constructed based on a pilot study described above.

For the purposes of the present study, the following hypotheses were related to the main study.

Hypothesis 1. Within-sex differences in the frequency of use of male-typical and female-typical mate attraction strategies can be explained by measures of masculinity and femininity (e.g., gender identity).

Hypothesis 1a. Men with higher masculine gender, as defined by male-typical traits, will score higher on the masculine attractivity strategies subscale (MASS) and lower on the feminine attractivity strategies subscale (FASS) as compared to men with lower masculine gender; while women low and high in masculine gender will show the same pattern.

Hypothesis 1b. Men with higher feminine gender, as defined by female-typical traits, will score higher on the feminine mate attraction strategies subscale (FASS) and lower on the masculine mate attraction strategies subscale (MASS) when compared to men with lower feminine gender; while women low and high in feminine gender will show the same pattern.

Hypothesis 2. Mate attraction strategy engagement shows menstrual cyclicity with increased engagement in mate attraction effort during high conception-likelihood times.

Hypothesis 2a. There will be a peak in overall mate attraction strategy use and flirting behaviours during high-conception likelihood times in the menstrual cycle as compared with low conception-likelihood times.

Hypothesis 2b. Women will show more frequent or higher levels of mate attractivity behaviours that are likely to attract a ST partner (i.e., behaviours that reflect, advertise, or increase qualities that men want in a ST partner such as physical attractiveness) at points in the menstrual cycle when conception likelihood is high as compared to times of lower-conception likelihood. The menstrual cyclicity effect sizes for the behaviours more likely to attract a ST partner will be stronger than effect sizes for behaviours more likely to attract a LT partner.

Hypothesis 3. Relative to their face-to-face flirting strategy use, women will show a greater frequency of use of the same strategies using technology (e.g., using the internet, texting,

etc.) as compared to men. The rationale is that women will perceive cyberspace flirting or mate attractivity strategies as relatively less risky than in-person strategies as compared to men.

Method

Participants

Participants were recruited to participate in a study on "Flirting and Relationship Behaviours". Participants included 557 (94 men and 463 women) volunteers aged 16 and over (M_{age} = 21.42, SD_{age} = 5.23, 81.4% Caucasian). Participants who were 16 and 17 years of age were only recruited from Lakehead University given the low risk nature of the study (n = 21). No upper limit for age was used for recruitment purposes, however, to examine hypotheses 1 and 3 participants were limited to those under the age of 26 to examine a more homogenous sample. Furthermore, to test the menstrual cycle hypothesis, women were limited to their fertile years (e.g., ages 16 to 45). Specific information about the samples examined in each hypothesis is provided below in the results section. Participants were recruited from Lakehead University, the Thunder Bay region, and through the Internet. The recruitment process included posters displayed across the Lakehead University campus (Appendix A), class-wide e-mails (Appendix B), in-class announcements (Appendix C), personal emails to interested participants (Appendix D), and online advertisements on social networking websites (e.g., www.facebook.com), classifieds websites (e.g., www.kijiji.com), and psychological research websites (Appendix E). There were no initial inclusion or exclusion criteria other than the lower age limit. Introductory Psychology students at Lakehead University were eligible to receive up to two bonus points toward their course mark for participation (i.e., one for each session). The research project was approved by the Lakehead University Research Ethics Board.

Materials and Measures

Relationship and Background Questionnaire. The main questionnaire, the

Relationship and Background Questionnaire, included information regarding demographics (e.g.,

sex, age, years of education, occupation, ethnicity, sexual orientation using the Kinsey

Heterosexual-Homosexual Rating Scale, masculinity, femininity, and attractiveness) (see

Appendix F); reproductive status (e.g., menstrual cycle day, age at menarche, pregnancy,

lactation, menopausal status, hormonal contraceptive use, and sleep, appetite and food intake in

the last 48 hours) (see Appendix G); general relationship status and history; and general sexuality

status and history (see Appendix H). Many of these items and questions were ones that had been

developed within the Health, Hormones, and Behaviour Laboratory (HHABLAB) for use in

previous studies. A question pertaining to regularity of menstrual cycles was taken from Wilcox

and colleagues (2001). The questions regarding sleep, appetite, and food intake were specifically

designed for use in this study based on previous research suggesting that individuals may lower

their thresholds for ingestive satiation and sleep in order to free up more time for mating

activities, such as seeking and attracting a mate at high conception-likelihood times (Fessler,

2003). The present study also included five main scales: Personal Attributes Questionnaire

(PAQ) (Spence & Helmriech, 1978), the FAMS questionnaire, the Multidimensional SOI

(Jackson & Kirkpatrick, 2007), the Perceived Relationship Quality Component (PRQC) scale

(Fletcher, Simpson, & Thomas, 2000), the BSRI (Bem, 1974), and the Marlowe-Crowne Social

Desirability Scale (MCSD) short version (Strahan & Gerbasi, 1972). These are discussed below.

PAQ. The Personal Attributes Questionnaire (PAQ) (Spence & Helmriech, 1978) was

created to measure gender specific personality characteristics (see Appendix I). The PAQ is a 24

item self-report questionnaire in which participants are asked to indicate the extent to which they

would characterize themselves in terms of various personal qualities (Spence & Helmriech,

1978). The questionnaire includes 3 scales, each containing 8 characteristics; masculinity (e.g.,

independent, active, competitive), femininity (e.g., emotional, gentle, kind), and androgyny (e.g., worldly, confident, need for security). Participants are asked to place themselves along a 5-point continuum (i.e., *A* through *E*) between two extremes (e.g., *not at all aggressive* and *aggressive*) (Hill, Fekken, & Bond, 2000). Each extreme masculine response on the masculinity scale and extreme feminine response of the femininity scale is scored 4, the next most extreme scored 3, etc. For the purposes of the current study, only items on the masculinity and femininity subscales (i.e., 16 items) were included in order to measure one's gendered attitudes and perceived masculinity and femininity.

The PAQ has been found to have good psychometric properties. Hill and colleagues (2000) examined the factor structure of the PAQ by administering the questionnaire to 637 (378 men) participants. The researchers found that the internal consistency of the masculinity and femininity scales were acceptable (alphas = .74 to .84, respectively). However, it was found that there was no difference between the sexes on the masculinity scale, $t(635) = .82, p = .20$, but a significant difference between men and women was observed on the femininity scale in the expected direction, $t(635) = 2.05, p = .02$.

FAMS questionnaire. The FAMS questionnaire was developed for the purpose of this study to measure a number of different immediate and future-oriented mate attraction strategies that increase one's ST and LT mate value (see Appendix J). The scale allowed for the measurement of the degree to which one's strategies are more typical of men (i.e., more masculine) or more typical of women (i.e., more feminine). This scale also allowed for the examination of within- and between-sex differences in mating strategies. One goal of the scale was to examine behaviours that people engage in that may increase their attractivity, regardless of whether or not the individual is consciously or purposely engaging in them to attract a mate or to increase their mate value (i.e., an individual may not report that they engage in the behaviour

as a means of attracting potential mates). Given that some of these strategies may be implicitly or

unconsciously engaged in for mate attractivity purposes, mate attractivity behaviours were

initially defined based on what past research indicates people find attractive in potential mates as

well as brainstorming sessions designed to include an array of behaviours that may reflect LT

mate attraction strategies. As a part of the final item selection process for the scale, items were

chosen for final inclusion based on findings of past studies and from a pilot study where men and

women reported finding the behaviours attractive in potential mates.

The FAMS questionnaire consisted of 29 questions, 22 of which were asked using the

following timeframes (i.e., the questions were asked twice, once for each timeframe): (a) the last

48 hours, and (b) lifetime engagement since age 12. The 48 hour timeframe questions asked

participants to indicate their frequency of engagement in the behaviour along a 6-point Likert-

type scale ranging from 0 (*never/almost never)* to 6 (*extremely frequently*) or by selecting either

yes or *no* response options. The lifetime timeframe required individuals to think about how often

they have engaged in the behaviour throughout their life, or to think about a six month or one

year time period in their life where they engaged in the behaviour the most and to indicate the

frequency with which they engaged in the behaviour from age 12 onwards during that timeframe

using a 6-point Likert-type scale [e.g., 0 (*never/almost never*) to 5 (*extremely frequently*)], an 8-

point Likert-type scale for the six month time period [e.g., 0 (*never/almost never*) to 7 (*seven or*

more times a week), or 8-point Likert-type scale for the one year time period [e.g., 0

(*never/almost never*) to 7 (s*ix or more times a week*)].

The 22 questions that required participants to indicate their engagement frequency using

one of the two timeframes covered the following types or categories of mate attraction strategies:

(1) In-Person Flirting (i.e., flirting techniques used while in direct contact with a potential

partner), (2) Technology Flirting (i.e., flirting while using technology to communicate), (3)

Sports (e.g., hockey, dance), (4) Social Activities (e.g., going to a bar, coffee shop), (5)

Household Skills (e.g., cooking, making repairs), (6) Attractivity Knowledge (e.g., reading about

how to mix drinks, give massages, or flirt), (7) Grooming (e.g., applying make-up or hair

products), (8) Education and Work Responsibilities (e.g. going to work, completing school

related activities outside regular school hours), (9) Body Modification (e.g., plastic surgery,

cosmetic injections, piercings), (10) Remote Communication (e.g., texting, instant messaging,

email), and (11), Self-Presentation Behaviours (i.e., making an effort to appear to possess

personality traits or behaviours such as responsibility or being open to sexual behaviour while

spending time with a potential partner).

An additional seven questions were included as a part of the FAMS questionnaire. These

questions asked about: (1) how many opposite sex individuals one has flirted with in the past 48

hours, (2) current hair length using an 11-point Likert-type scale (e.g., ranging from *bald* to

around lower back and longer), (3) bra size (women only), (4) number or percent of friends one

communicates with via social networking websites and text messaging, (5) amount of time one

has had romantic and sexual partners using an 11-point Likert-type scale (*never/almost never* to

100% of the time), (6) selecting the highest level of sports participation during one's lifetime

using a 7-point Likert-type scale (*never participated in any organized sporting activity or event*

to *winner of an international-level sporting event such as a world championship or Olympic*

event), and (7) whether or not one has ever used specific forms of technology (e.g., text

messaging, email, Facebook/Myspace/Twitter) by selecting either *yes* or *no* response options.

The In-Person Flirting and Technology Flirting subscales were included in the FAMS

questionnaire since they both measure a number of flirting behaviours and mate attraction

strategies used to signal interest in the opposite sex (Givens, 1978). By asking about similar

behaviours on both the In-Person Flirting and Technology Flirting subscales, it was possible to

examine whether sex differences in reported flirting strategies were affected by the level of risk, given that in-person behaviours would tend to be more risky for women. The Sports subscale was included since sport participation develops skills and strengths that may be attractive, may advertise "good genes" if one is successful or looks good doing it, as well as good health, and can also provide increased social opportunities or opportunities to "show off" or "be seen" which should increase mating opportunities. A high level of sport participation can also advertise personal qualities that may be important in LT partners (e.g., high motivation, focus and conscientiousness, dedication and fidelity to an activity). Sports participation may also be attractive to a potential mate as success in sport can take up such a significant amount of one's time and energy that the athlete may have less time available to pursue other potential mates. Thus, there may be some security in knowing one's mate is highly occupied with such a past-time. The scale included sports that have been categorized in previous research as being more engaged in by women (e.g., dance, ballet, gymnastics) or more engaged in by men (e.g., rugby, football, hockey) (Koivula, 2001). The Social Activities subscale was included since it measures the extent to which one engages in social opportunities to meet a potential mate. The Household Skills and Attractivity Knowledge subscales were included because having the skills and knowledge to care for oneself and others provides indications of LT mate value and success as well as ST mate attractiveness. The Grooming and Body Modification subscales measured behaviours designed to enhance physical attractiveness which advertise "good genes" and health, and important attributes in potential partners, particularly ST partners. These behaviours may also be used to attract attention from potential mates. The Education and Work Responsibilities subscale was included in the FAMS questionnaire since education is a potential factor in career success and LT earning potential, and possessing a career or job is a valued characteristic in a LT partner since it helps to ensure LT financial success or ST indulgence (Buss, 1998). The Remote

Communication subscale was included in the FAMS questionnaire as it measured communication via cyberspace or through forms of technology, which are common forms of communication that may offer buffers again physical harm when trying to pursue a potential partner. Finally, the Self-Presentation Behaviours subscale was included because it allowed for the measurement of various behaviours that one engages in to enhance, to advertise, or to appear (i.e., pretend) to possess specific personal attributes (e.g., kindness, warmth, dominance) in order to attract a mate.

Many mate attraction strategies were included in the FAMS questionnaire, however, it is acknowledged that all possible strategies may not have been included. The goal was not to be exhaustive, but to capture many possible types or categories of strategies.

Multidimensional SOI. The second main scale included in the Relationship and Background Questionnaire, the Multidimensional SOI, created by Jackson and Kirkpatrick (2007), was used to assess mating psychology and behaviour with regards to ST and LT mating (see Appendix K). This SOI scale is a 25 question scale that consists of two subscales that measure long-term mating orientation (LTMO) and short-term mating orientation (STMO). The new SOI by Jackson and Kirkpatrick was developed to fix the original SOI's unitary dimension of sociosexuality, which may not reflect individual differences, and the psychometric issues inherent in the scale by Simpson and Gangestad (1991) (Jackson & Kirkpatrick, 2007). The scale includes seven items from the original SOI (Simpson & Gangestad, 1991), five items from the Interest in Uncommitted Sex scale (Bailey et al., 1994), a question about lifetime number of sexual partners, nine items used to assess attitudes towards LT committed relationships, and three items used to assess ST mating attitudes. Participants respond to the items using a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Factor analysis indicates that items are strongly correlated within each scale. The items within the LTMO scale were reported to have a Cronbach's alpha of .95 in a sample of 328 participants (167 men) while the items within the STMO scale had a Cronbach's alpha of .88 (Jackson & Kirkpatrick, 2007). The LTMO and STMO scales are only modestly correlated, r = -.42, which supports the authors contention that the scale measure two distinct attitudes. The authors also correlated the subscales with the original SOI and reported that only the STMO scale significantly positively correlated with the SOI, suggesting that the original SOI only measures ST sexual attitudes or mating orientation.

PRQC. The third main scale included in the Relationship Questionnaire, the PRQC (Perceived Relationship Quality Components scale), was created by Fletcher, Simpson, and Thomas (2000) to assess satisfaction, commitment, intimacy, passion, trust and love in one's relationship (see Appendix L). The PRQC includes 18 questions on six romantic relationship components. As mentioned previously, the six components include relationship satisfaction, commitment, intimacy, trust, passion, and love. Each component has three questions, which were measured on a 7-point Likert-type rating scale from 1 (*not at all*) to 7 (*extremely*). The items were adapted for the purposes of this study to allow participants to answer the questions based on either their current or most recent relationship. The PRQC was included in the current study to measure relationship success through perceived satisfaction with one's current or most recent relationship.

The PRQC items have been found to hold face validity and a confirmatory analysis confirmed good internal reliabilities for each first order construct and a good fit for the model in which the indicator variables loaded on the six items with alphas of .88 and .85, which in turn loaded on a second-order factor representing overall perceived relationship quality (Fletcher, Simpson, &Thomas, 2000).

BSRI. The fourth main scale included in the Relationship Questionnaire, the BSRI (Bem

Sex Role Inventory) Short Form, was created by Bem (1974) (see Appendix M). The BSRI is an

instrument used to measure traditional or stereotypical gender role perceptions and identity (i.e.,

how masculine or feminine one sees oneself; self-concept; stereotypes) and androgyny (i.e.,

gender neutrality) (e.g., Holt & Ellis, 1998). The inventory contains 30 items that are subdivided

into 10 masculine items (i.e., items more commonly found in men such as being aggressive,

independent, willing to take risks), 10 feminine items (i.e., items more commonly found in

women such as being affectionate, compassionate, eager to soothe hurt feelings), and 10 neutral

items (e.g., secretive, adaptable, conventional). These items make up the masculine, feminine,

and gender neutral scales, respectfully. The BSRI Short Form asks participants to indicate on a

7-point Likert-type scale how well each of 30 personality characteristics describes himself or

herself ranging from 1(*never or almost never true*) to 7 (*always or almost always true*). For the

purposes of the current study, only the masculine and feminine items from the BSRI were

included in the Relationship Questionnaire in order to assess differences in participants' self-

perceived femininity and masculinity, as related to their mating and attractivity strategies. These

scores were used in testing Hypothesis 1 in addition to other measures of masculinity and

femininity.

The BSRI has been reported to possess high internal consistency and test-retest reliability

(Bem, 1974). Coefficient alphas computed for the masculinity and femininity scales revealed

high internal reliability for the original scale (e.g., Masculinity alpha = .86; Femininity alpha =

.82). The BSRI test-retest reliability within a sample of 28 males and 28 females demonstrated

high reliability over a four week period (e.g., Masculinity $r = .90$; Femininity $r = .90$; Gender

Neutral $r = .93$). In a more recent analysis of the BSRI short form that utilized 536 participants,

the internal reliability of the scales were moderate (i.e., Cronbach's alphas of .80 for the

Masculinity scale, and .73 for the Femininity scale) (Ozkan & Lajunen, 2005). These are lower reliabilities than the one's found in the original scale but are still acceptable. Furthermore, Choi, Fuqua, and Newman (2009) examined the internal consistency of the 20-item short form BSRI and reported that the results from the short version were comparable (alphas = .82 and .89 for the Masculinity and Femininity scales, respectively) to the original longer version (i.e., 40-item BSRI) (alphas = .85 and .81). Gender differences on the Femininity scale were also observed, $t(310) = 3.72$, $p = .0001$, with female participants exhibiting higher scores. The result of the t-test for the Masculinity scale were not statistically significant, $t(310) = 1.65$, $p = .101$, indicating no difference between men and women on this dimension. The finding that men and women do not differ on measured masculinity but do differ on femininity is similar to what has been reported on the PAQ (e.g., Hill et al., 2000).

Other researchers have found significant differences between men and women on masculinity and femininity. For example, Ozkan and Lajunen (2005) examined sex differences in items and scale scores both within and between men and women. It was found that men scored lower on masculinity than on femininity and women scored higher on femininity than on masculinity. Comparisons between men and women showed no statistically significant difference on the masculinity scale of the BSRI, $p = .096$, whereas there was a significant difference on the femininity scale of the BSRI. The items *aggressive* and *willing to take a stand* were the only items on the masculinity subscale to show significant sex differences. However, 8 items on the femininity subscale showed significant sex differences. The results of the study should be interpreted with caution when comparing them to North American populations since the authors examined gender differences on BSRI in a Turkish sample. Similar results may not be found in Western societies where gender differences may persist on a greater or lesser variety of items from the BSRI.

MCSD. The final main scale included in the Relationship Questionnaire, the MCSD

(Marlowe-Crowne Social Desirability Scale) short-form (Strahan & Gerbasi, 1972) (see

Appendix N) is a 10-item true or false scale that measures positive self-presentation and

responding (e.g., I am always willing to admit it when I make a mistake). The MCSD short form

was included in the current study to measure social desirability bias. Social desirability is the

tendency of individuals to project favourable views of themselves that are consistent with social

norms and expectations (Loo & Thorpe, 2000). The scale was included in the study to ensure that

individuals are truthful about their behaviours and attitudes, and are not trying to present

themselves as how they wish to be. Scores on this scale were used as a covariate to control for

participants with strong response biases.

The MCSD has been reported to have strong psychometric properties. The internal

consistency of the full length version of the MCSD was estimated to have a Cronbach's alpha of

.72 in a sample of 232 Canadian men and women (Loo & Thorpe, 2000) and .86 to .84 for

various short form versions (Fischer & Fisk, 1993). The MCSD short form used in the current

study has been found to have high internal consistency (Cronbach's alpha = .79) and a high

correlation with the standard 33-item original scale ($r = .96, p < .01$) in a sample of 390

Canadian university participants (Fischer & Fisk, 1993). Fischer and Fisk examined several short

forms of the MCSD and concluded that the 10-item short form developed by Strahan and

Gerbasi (1972) seems to be the scale of choice due to its short length and good psychometric

properties.

Measures of hormonal status. Items that assess women's reported menstrual cycle

length, cycle regularity (e.g., Oinonen, Klemencic, & Mazmanian, 2008), first day of last

menstruation, and predicted start day of next menstrual period were used along with published

data on conception likelihood and probability of being in the fertile window (e.g., Wilcox et al.,

2001) to determine fertility at the time of completing the two questionnaires. Two additional questions were used to verify cycle phase: "*How confident are you that your next period will start on the day indicated above?*" and "*Are you menstruating (i.e., on your period) today?*" Information pertaining to medical and psychiatric diagnoses as well as medication use and pregnancy was also used to determine hormonal status (e.g., women with hormonal conditions or taking hormonal medications were excluded from some analyses such as menstrual cycle analyses). Women were asked to report their current hormonal contraceptive use (e.g., "*yes*" or "*no*") for the purpose of grouping participants into users and nonusers. Current hormonal contraceptive users were also asked to provide the type and brand of hormonal contraceptive.

Women and men were also asked to complete the Polycystic Ovarian Syndrome Questionnaire (PCOSQ) which measured clinical and subclinical symptoms of polycystic ovarian syndrome (PCOS) (see Appendix O). Participants, and specifically women, were asked to complete this questionnaire in order to measure androgenicity and masculinity as women, and arguably men, who experience PCOS symptoms have higher levels of testosterone and may be more masculine. The items were from Oinonen, Bong, and Mazmanian (2012), who created a subclinical measure of PCOS symptoms based on another measure of PCOS (Pederson et al., 2008).

Women's conception likelihood estimates were based on Wilcox's and colleagues (2001) likelihood of conception with a single act of intercourse. The probability of women being in the fertile window was based on Wilcox, Dunson, and Baird (2000), which was also used as a measure of women's fertility on specific days. The fertility estimates were used to examine cyclical changes in women's mate and attractivity strategies (Hypothesis 2).

Conception Likelihood Determination. As mentioned above, conception likelihood was based on the estimates reported by Wilcox's and colleagues (2001) where estimates were based

on cycle regularity and day of cycle. In order to estimate free cycling women's conception likelihood, a forwards count method was first used to determine cycle day. The conception likelihood estimates described by Wilcox and colleagues also utilized the forward count method, thus a forward count method was needed to ensure estimate integrity. Based on Wilcox's and colleague's estimates, each woman received a conception likelihood estimate based on their current cycle day (ranging from day 1 to 40) and whether they had a regular or irregular cycle (i.e., women with regular cycles received conception likelihood estimates that differed from women with irregular cycles based on criteria from the main study). Women who were beyond day 40 of their cycles did not receive any conception likelihood estimates and were excluded from analyses.

Probability of Fertile Window Determination. Probability of being in the fertile window was also used to estimate fertility for free cycling women based on estimates provided by Wilcox's and colleagues (2000). These probabilities were based on based on cycle length and current day of cycle. The fertile window typically lasts six days, including the five days before ovulation and day of ovulation itself. To measure women's probability of being in the fertile window, cycle length was first determined as being either less than 28 days, 28 days, 29 days, or 30 days and greater in length. Estimates of being in the fertile window were then given to each woman based on their current cycle day. Using reports of cycle length can improve the accuracy of women's fertility (Wilcox et al., 2000). Furthermore, it has been found that women who report that their cycles usually last 27 days or less tend to ovulate earlier and therefore have earlier fertile windows than women with longer cycles. Based on the sample reported by Wilcox and colleagues (2000), an estimated one third of women with short cycles had reached their fertile window by the end of the first week, compared with only 7% women with longer cycles. Thus,

estimates of being in the fertile window may be more accurate when determining one's fertility status, particularly when there is a lot of variability in menstrual cycle lengths in a sample.

Procedure

For the pilot study, potential participants were able to complete the pilot questionnaire (see Appendix P for the questionnaire given to women and Appendix Q for the questionnaire given to men) online by clicking an Internet link that led them to a secure SurveyMonkey website. Following this, participants were asked to read the electronic Cover Letter and Consent Form (see Appendix R). Each participant was then required to indicate that they had read and agreed with the information in the consent form in order to participate in the study. The questionnaire took approximately 30 to 45 minutes to complete. Completing the questionnaire allowed for Lakehead University Psychology Research Pool students to receive one bonus point towards their final grade. The questionnaire was completely confidential as the identifying information provided to obtain a bonus point was completed in a separate SurveyMonkey link. Once the questionnaire was completed by a participant, a printable online Debriefing Form (see Appendix S) was presented. As noted above, data from the pilot study were used to identify behaviours/items showing relevant sex differences in mate attractivity behaviours in order to create the FAMS subscales, which were used to test the hypotheses in the main study.

For the main study, potential participants were able to complete the questionnaire in the lab or were able to access the questionnaire online by clicking on an Internet link leading them to a secure SurveyMonkey website. Following this, the participants were first asked to read the electronic Cover Letter and Consent Form (see Appendix T). Each respondent was required to indicate that they had read and agreed with the information in the consent form in order to participate in the study. The questionnaire took approximately 45 to 60 minutes to complete. The questionnaire was confidential but not initially anonymous as all participants were asked to

provide an email address at the beginning of the questionnaire in order to be contacted for participation in the second phase and to link responses from session I to session II. Also, participants who indicated that they are Lakehead University Psychology Research Pool students were given the option of providing information necessary to award their bonus points toward their course grade (i.e., name, student number, course code, course name, and instructor name) at the end of the questionnaire (see Appendix U). All identifying information was removed from all data files, and all data was kept in an anonymous form once bonus points were awarded and the data from both sessions were connected to each other. Once the questionnaire was completed by a participant, a printable online Debriefing Form for Phase I was presented (see Appendix V). Participants who provided an email address were asked to complete the FAMS questionnaire twice, two weeks apart. The participants were contacted through their email 12 days after they completed the first phase. At that time, participants were given 48 hours to complete session II. If they did not complete the questionnaire within the designated time frame, a second email was sent to remind participants about completing session II, in which they had two days to complete the questionnaire for a second time. For participants who were unable to complete the questionnaire within that timeframe, a final opportunity was provided by email four weeks later which was again to ensure that the two questionnaires were completed at two different menstrual cycle phases that were approximately 14 days apart. This was also to partially control for any day of week effects (i.e., going out a lot on the weekends versus working or going to school during the week). A final Debriefing Form for session II was provided after completing the second questionnaire (see Appendix W).

Data Reduction and Subscale Development

      MASS and FASS. By examining sex differences in frequency of mate attractivity strategy use, the FAMS questionnaire allowed for the creation of two scales based on sex-related

engagement frequency: the MASS (i.e., mate attraction behaviours more commonly and frequently engaged in by men) and the FASS (i.e., mate attraction behaviours more commonly and frequently engaged in by women) (refer to Tables 1 and 2 for initial and final scale items). The scales were created in order to examine whether gender traits (i.e., masculine or feminine gender identity) are associated with mating behaviours as previous research has suggested that high masculinity within women is associated with unrestricted sociosexual orientation (Mikach & Bailey, 1999). The criteria used to determine whether items made up either the masculine or feminine strategy scales included the following: (a) data from the pilot study described above must have indicated that there was a sex difference in the attractiveness of the behaviours/items (i.e., men and women must differ in the degree to which they perceive the behaviour as attractive in the opposite sex), and (b) at least 50% of the opposite sex must have reported that the behaviour increased attractiveness of that sex (e.g., for an item to be on the FASS, at least 50% of men had to indicate that they perceived the behaviour to be something that makes women more attractive). The frequency of engagement in the behaviour/item for the relevant sex was also examined and reported in Tables 1 and 2, in order to ensure that it was a strategy that was employed by the population. However, given that some strategies are relevant but used only infrequently in this population (e.g., breast implants, laser hair removal on body), frequency of engagement was not a criteria in determining scale items. This allows maximal generalizability in the use of these scales in the future.

For the MASS and FASS, scores for the ST and LT attractiveness questions were added together and divided by two in order to compute a mean attractiveness score for items that increase men's and women's overall attractiveness. Independent samples *t*-tests with sex as the grouping variable and each behaviour/item as the dependent variable were then computed to determine if the behaviour/item significantly differed between the sexes ($p < .05$) (i.e., Did men

Table 1

Initial and Final Items for Masculine Attractivity Strategies Scale (MASS) Based on Sex Differences in Degree of Attractiveness Increase and Frequency of Women who Find the Behaviour Attractive

Items	Mean (*SD*) Increase in Women's Attractiveness	Mean (*SD*) Increase in Men's Attractiveness	*t*-Value (*p*-value)	Women Reporting it as Attractive (%)	Lifetime Engagement in Men (%)
1. Was the first to initiate a conversation just after meeting them	1.19 (0.51)	1.59 (0.49)	-2.97 (.00)	98.1	91.9
2. Gave the person a compliment in person	1.33 (0.59)	1.70 (0.44)	-2.84 (01)	97.7	97.6
3. Gave the person a compliment through the use of technology	1.27 (0.62)	1.67 (0.52)	-2.73 (.01)	98.8	89.4
4. BMX biking	0.37 (0.58)	0.76 (0.66)	-2.18 (.03)	61.4	42.4
5. Fishing	0.53 (0.55)	1.00 (0.75)	-2.34 (.02)	61.4	42.4
6. Hockey	0.80 (0.80)	1.32 (0.76)	-2.44 (.02)	100	45.9
7. Rugby	0.47 (0.72)	0.92 (0.73)	-2.20 (.03)	60.7	8.2
8. Outdoor work (e.g., cutting the grass, shovelling snow, etc.	0.40 (0.54)	1.38 (0.49)	-7.08 (.00)	88.4	81.1
9. Woodworking	0.17 (0.24)	1.08 (0.57)	-10.31 (.00)	73.8	34.9
10. General repairs around the house (e.g., electronics/mechanical devices)	0.23 (0.32)	1.42 (0.47)	-9.34 (.00)	89.5	58.3
11. Carpentry around the house (e.g., home renovations)	0.30 (0.53)	1.35 (0.49)	-7.60 (.00)	89.6	33.3
12. Shaved hair on face	0.96 (0.89)	1.52 (0.57)	-2.26 (.04)	87.8	99.6
13. Completed work related activities outside of regular work hours	0.77 (0.46)	1.12 (0.64)	-2.03 (.05)	73.8	62.7
14. Made an effort to appear that other's goals may come before yours	0.40 (0.51)	0.84 (0.57)	-2.75 (.01)	59.8	89.0
15. Made an effort to appear masculine	0.14 (0.31)	1.64 (0.49)	-15.19 (.00)	59.8	93.9
16. Made an effort to appear tough, 17. strong-minded, or street smart	0.90 (0.66)	1.31 (0.54)	-2.64 (.01)	86.2	87.8
18. Made an effort to appear wealthy and financially well-off	0.60 (0.57)	1.05 (0.56)	-2.84 (.01)	97.8	73.5

Note. Mean increase in women's and men's attractiveness was determined using a 3-point Likert-type scale (i.e., *not at all*, *somewhat*, and *a lot*). The *t*-test was based on sex differences in the degree to which men and women perceive the behaviour as increasing the opposite sex's attractiveness. Women Reporting it as Attractive (%) = frequency of women who reported the behaviour "*somewhat*" or more increased the attractiveness of men based on the pilot study. Lifetime Engagement of Men (%) = percentage of men who have engaged in the behaviour at some point throughout their lifetime based on the population from the main study. After internal consistency analyses, the total number of items on the MASS remained at 18 as all contributed to the internal consistency of the scale.

Table 2

Initial and Final Items for Feminine Attractivity Strategies Scale (FASS) Based on Sex Differences in Degree of Attractiveness Increase and Frequency of Men who Find the Behaviour Attractive

Item	Mean (*SD*) Increase in Women's Attractiveness	Mean (*SD*) Increase in Men's Attractiveness	*t*-Value (*p*-value)	Men Reporting it as Attractive (%)	Lifetime Engagement in Women (%)
1. Licked your lips in person	1.09 (0.52)	0.47 (0.57)	4.07 (.00)	87.5	71.3
2. Made a sexual comment in person	1.16 (0.60)	0.73 (0.60)	2.62 (.01)	87.5	75.4
3. Licked your lips while looking at them through webcam	1.10 (0.51)	0.40 (0.58)	4.42 (.00)	93.3	36.7
4. Made a sexual comment through the use of technology	1.10 (0.47)	0.76 (0.64)	2.42 (.02)	98.8	66.1
5. Ballet	1.10 (0.60)	0.22 (0.45)	6.68 (.00)	33.3	15.2
6. Cardio Class (e.g., aerobics, step, bootcamp)	1.17 (0.56)	0.59 (0.61)	2.43 (.00)	86.7	42.5
7. Cheerleading	1.10 (0.57)	0.11 (0.32)	9.69 (.00)	86.6	17.3
8. Gymnastics	1.39 (0.53)	0.30 (0.50)	7.59 (.00)	85.7	19.1
9. Figure skating	0.80 (0.62)	0.17 (0.43)	4.89 (.00)	60.0	27.0
10. Dance (i.e., classes)	1.60 (0.51)	0.49 (0.64)	6.41 (.00)	93.3	37.6
11. Swimming*	1.23 (0.70)	0.76 (0.65)	2.55 (.01)	80.0	62.3
12. Tennis*	1.13 (0.70)	0.54 (0.58)	3.57 (.00)	66.7	22.7
13. Volleyball*	1.23 (0.65)	0.77 (0.70)	2.40 (.02)	80.0	40.7
14. Yoga	1.33 (0.45)	0.45 (0.62)	5.27 (.00)	100	30.3
15. Learned about how to apply make-up	0.96 (0.57)	0.14 (0.41)	5.17 (.00)	64.3	76.1
16. Learned about how to style hair	1.00 (0.62)	0.44 (0.59)	3.25 (.00)	64.3	79.9
17. Waxed or bleach hair on face	1.18 (0.75)	0.19 (0.37)	4.84 (.00)	71.4	25.2
18. Shaved or waxed hair on underarms or arms	1.75 (0.43)	0.20 (0.40)	13.26 (.00)	100	93.5
19. Shaved or waxed hair on legs	1.75 (0.43)	0.17 (0.40)	13.46 (.00)	100	93.9
20. Shaved or waxed hair on groin or bikini area	1.64 (0.50)	0.87 (0.75)	3.69 (.00)	92.9	84.7

Table 2 continues

Table 2 continued

21. Applied lip gloss	1.04 (0.69)	0.07 (0.92)	5.12 (.00)	71.5	93.4
22. Applied lipstick/lip liner	1.04 (0.66)	0.07 (0.29)	5.23 (.00)	69.0	53.4
23. Applied mascara	1.00 (0.44)	0.08 (0.30)	9.89 (.00)	78.6	89.1
24. Applied eyeshadow	0.65 (0.43)	0.08 (0.33)	4.64 (.00)	53.8	81.1
25. Applied eyeliner	0.93 (0.39)	0.09 (0.33)	8.59 (.00)	78.6	81.3
26. Applied concealer	0.71 (0.47)	0.10 (0.30)	4.72 (.00)	57.1	70.3
27. Applied foundation	0.82 (0.46)	0.08 (0.31)	5.73 (.00)	64.3	76.8
28. Applied blush	0.82 (0.50)	0.06 (0.28)	5.50 (.00)	64.2	65.1
29. Styled hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	1.18 (0.46)	0.81 (0.63)	2.06 (.04)	85.7	91.4
30. Had your hair dyed or highlighted	1.07 (0.55)	0.34 (0.49)	5.05 (.00)	71.5	64.4
31. Wore tight or revealing clothing	1.23 (0.26)	0.32 (0.48)	11.08 (.00)	100	78.9
32. Wore in-style, current fashionable clothing	1.39 (0.59)	1.05 (0.61)	1.97 (.05)	85.8	88.9
33. Wore jewellery (e.g., necklace, ring, bracelet, earring)	1.18 (0.58)	0.52 (0.56)	4.01 (.00)	78.6	92.2
34. Applied body moisturizer	1.32 (0.42)	0.93 (0.62)	2.25 (.03)	92.9	91.2
35. Applied anti-aging creams, gels, or ointments	0.79 (0.32)	0.47 (0.61)	2.88 (.01)	64.3	24.1
36. Painted nails or received a manicure or pedicure	1.04 (0.50)	0.21 (0.47)	6.03 (.00)	71.5	85.1
37. Wore a push-up bra	1.04 (0.41)	0.04 (0.19)	8.86 (.00)	85.8	76.5
38. Wore your most attractive or sexy underwear or lingerie	1.43 (0.43)	0.51 (0.67)	6.68 (.00)	100	77.8
39. Pierced your ears or face	1.07 (0.68)	0.43 (0.59)	3.65 (.00)	71.4	91.5

Table 2 continues

Table 2 continues

40. Pierced a body part other than ears or face	0.89 (0.71)	0.35 (0.53)	3.35 (.00)	57.2	45.5
41. Breast/pectoral implants*	0.75 (0.58)	0.14 (0.36)	3.81 (.00)	49.9	1.8
42. Had laser hair removal on your face*	0.82 (0.64)	0.28 (0.47)	3.05 (.00)	50.0	2.5
43. Had laser hair removal on your body*	1.00 (0.58)	0.52 (0.60)	2.66 (.01)	61.5	3.8
44. Made an effort to appear innocent	1.00 (0.46)	0.64 (0.54)	2.39 (.02)	73.3	86.0
45. Made an effort to appear youthful	1.27 (0.56)	0.90 (0.65)	2.04 (.04)	80	84.1
46. Made an effort to appear feminine	1.73 (0.37)	0.10 (0.27)	16.20 (.00)	100	94.4
47. Made an effort to appear sexually available	1.73 (0.42)	1.45 (0.54)	1.93 (.05)	100	75.5
48. Asked them for a ride	0.77 (0.46)	0.49 (0.46)	2.17 (.03)	53.3	63.8

Note. Mean increase women's and men's attractiveness was determined using a 3-point Likert-type scale (i.e., *not at all*, *somewhat*, and *a lot*). The *t*-test was based on sex differences in the degree to which men and women perceive the behaviour as increasing the opposite sex's attractiveness. Men Reporting it as Attractive (%) = percentage of men who reported the behaviour to "*somewhat*" or more increase the attractiveness of women based on the pilot study. Lifetime Engagement in Women (%) = percentage of women who have engaged in the behaviour at some point throughout their lifetime based on the population from the main study. The total number of items on the final scale was 42.

* These items were removed due to low internal consistency (described below) but are included here because they met the initial criteria (i.e., data from the pilot study indicated that there was a sex difference in the attractiveness of the behaviours/items and at least 50% of the opposite sex reported that the behaviour increased attractiveness of that sex) and may be relevant to other populations (e.g., non-student populations, or populations residing outside of Northern Ontario).

and women differ in the degree to which they perceived the behaviour as attractive in the opposite sex?). Once the items were determined to fit with the criteria of the MASS or FASS subscales (i.e., data from the pilot study indicated that there was a sex difference in the attractiveness of the behaviours/items), the second criterion was examined whereby at least 50% of men or women from the pilot study had to report that the behaviour/item "*somewhat*" or "*a lot*" increased the opposite sex's attractiveness. Tables 1 and 2 list all of the items that met the above criteria for these scales as well as the final scale items. Final items were determined based on the above criteria as well as estimates of the resulting scales' internal consistency using Cronbach's alpha. The procedures of Tabachnik & Fidell (2007) were followed to maximize the internal consistency of the scales using Cronbach's alpha.

OWASS. The pilot study was also used to determine the OWASS (refer to Table 3 for initial and final scale items). This scale included behaviours/items that increase overall attractiveness in women regardless of whether they increase ST versus LT partner attractiveness. Thus, scores for the ST and LT attractiveness questions were used to compute a mean score of overall attractiveness for each item. This was based on men's ratings of ST and LT attractiveness of women from the pilot study. Items included on the scale were those where 50% or more of men reported that the behaviour "*somewhat*" or more increased women's attractiveness (based on the item's mean score). It is important to note that the OWASS included items that may increase both male and female attractiveness but the items chosen were chosen based on the fact that they increased female attractiveness based on men's report. They differ from items on the FASS as the FASS only includes items that significantly increased women's attractiveness more than men's attractiveness.

STASS-W and LTASS-W. The items that made up the STASS-W and LTASS-W were also determined during the pilot study (refer to Tables 4 and 5 for initial and final scale items)

Table 3

Initial and Final Items for Overall Women's Attractivity Strategies Scale (OWASS) Based on the Percentage of Men who Find the Behaviour Attractive

Item	Mean (*SD*) Increase in Women's Attractiveness	Men Reporting it as Attractive (%)	48-Hour Engagement for Women (%)
1. Giggled a lot while with them	1.38 (0.43)	93.7	47.2
2. Touched their shoulder, arm, leg, and/or face	1.47 (0.39)	100	44.6
3. Made eye contact with them	1.63 (0.47)	93.7	86.4
4. Pointed your body directly at them when talking	1.13 (0.59)	68.7	55.7
5. Fixed your clothing, hair, or make-up when you saw them	0.84 (0.47)	68.7	33.3
6. Smiled at them	1.88 (0.29)	100	85.0
7. Purposely stood or sat close to them	1.53 (0.5)	93.7	33.7
8. Licked your lips	1.09 (0.52)	87.5	17.1
9. Played with your hair	0.94 (0.60)	74.9	37.2
10. Raised your eyebrows when looking or talking with them	0.88 (0.65)	62.5	40.0
11. Teased them or made a joke about them	1.28 (0.36)	100	56.9
12. Was the first to initiate a conversation just after meeting them	1.19 (0.51)	81.2	18.9
13. Initiated subsequent contact just after meeting them (e.g., asked them to contact you again)	1.41 (0.52)	93.7	6.3
14. Made a sexual comment	1.16 (0.60)	81.2	29.0
15. Bought or gave them an alcoholic drink	0.84 (0.51)	68.7	5.1
16. Sent "lol" or an emoticon involving a happy face	1.07 (0.84)	60.0	63.5
17. Sent an emoticon involving a heart, kiss, or hug	1.00 (0.60)	73.4	25.7
18. Fixed your clothing, hair, or make-up when you saw them over webcam	0.93 (0.56)	60.0	7.6
19. Smiled at them over webcam	1.47 (0.58)	86.7	9.4
20. Licked your lips while looking at them through webcam	1.10 (0.51)	86.6	3.9
21. Played with your hair while looking at them through webcam	0.80 (0.59)	66.6	6.7
22. Teased them or made a joke about them	1.03 (0.48)	73.3	40.8
23. Was the first to initiate a conversation just after meeting them	1.37 (0.55)	86.7	9.9
24. Initiated subsequent contact just after meeting them (e.g., asked them to contact you again)	1.53 (0.52)	100	8.1
25. Made a sexual comment	1.10 (0.47)	86.6	23.8
26. Gave the person a compliment	1.27 (0.62)	86.6	41.1
27. Ballet	1.10 (0.60)	66.6	1.2
28. Basketball	0.77 (0.62)	53.3	2.8
29. Cardio class (e.g., aerobics, step, bootcamp)	1.17 (0.56)	86.6	14.8
30. Cheerleading	1.10 (0.57)	80.0	1.4
31. Cycling	0.80 (0.64)	53.3	4.9
32. Dance (i.e., classes)	1.60 (0.51)	93.3	9.2
33. Figure skating	0.80 (0.62)	60.0	0.9
34. Gymnastics	1.40 (0.53)	85.7	1.4
35. Hockey	0.80 (0.80)	53.3	5.1
36. Running	1.40 (0.44)	93.3	30.7
37. Sailing [c]	0.97 (0.52)	66.7	0.2

Table 3 continues

Table 3 continued

38. Snowboarding [c]	0.70 (0.68)	53.3	0.7
39. Soccer	0.83 (0.72)	60.0	3.8
40. Speed skating [b]	0.90 (0.60)	66.7	0
41. Tennis	1.23 (0.70)	80.0	0.5
42. Track and field	1.13 (0.69)	66.7	0.7
43. Ultimate fighting [b]	1.00 (0.65)	66.7	0
44. Walking	1.23 (0.65)	60.0	82.0
45. Yoga	1.33 (0.45)	100	10.6
46. A large social party (i.e., party at a friend's, family, or your house with more than 10 people)	1.23 (0.42)	86.7	18.0
47. A small social party (i.e., party at a friend's, family, or your house with less than 10 people)	1.50 (0.46)	93.3	40.9
48. A small outdoor social gathering involving less than 10 people (did not take place at a house or building)	1.37 (0.48)	86.7	11.6
49. A large outdoor social gathering involving 10 or more people (did not take place at a house or building)	1.23 (0.5)	80.0	3.5
50. Bar/Pub	1.10 (0.51)	80.0	20.5
51. Club/Disco tech	0.93 (0.53)	53.3	6.8
52. Restaurant with friends and/or family for breakfast, lunch, or dinner	1.10 (0.51)	73.3	44.8
53. Shag/Jack&Jill/Buck&Doe/pre-wedding celebration	0.97 (0.48)	66.6	0.07
54. Coffeehouse	0.97 (0.55)	53.3	27.0
55. Music concert	1.17 (0.52)	80.0	0.9
56. Movie theatre	0.83 (0.49)	60.0	3.7
57. Live sporting event or game as a spectator	1.13 (0.64)	80.0	3.7
58. Travelling or going on tours	1.25 (0.61)	78.6	3.3
59. Exercised in a public place (e.g., in a public gym or an outside area where others might see you)	1.00 (0.6)	66.7	32.9
60. Cooked	1.33 (0.45)	93.3	64.0
61. Baked	1.18 (0.61)	78.6	21.1
62. Took care of someone (e.g., an elder, someone who is sick, a child or infant)	1.07 (0.59)	60.0	75.6
63. Cleaned around the house or your bedroom (e.g., vacuuming, dusting, tidying up, dishes)	1.00 (0.38)	73.3	75.6
64. Decorated your house or bedroom	0.83 (0.52)	53.4	15.5
65. Sang or played a musical instrument	1.17 (0.79)	66.7	25.8
66. Performed in front of others (e.g., dancing, playing a musical instrument, singing)	1.17 (0.75)	66.7	3.3
67. Sexual techniques (e.g., kissing, oral sex, intercourse)	1.71 (0.38)	100	17.3
68. Flirting techniques	1.61 (0.53)	92.9	10.7
69. Dating techniques	1.23 (0.44)	92.3	8.9
70. How to give body massages	1.54 (0.46)	92.9	5.2
71. How to apply make up	0.96 (0.57)	64.3	20.6
72. How to style hair	1.00 (0.62)	64.3	27.1
73. Latest trends in clothing/fashion	0.96 (0.69)	64.3	27.1
74. Showered or bathed	1.82 (0.46)	92.9	96.5
75. Shaved hair on face	0.96 (0.89)	57.1	3.3
76. Waxed or bleached hair on face	1.18 (0.75)	71.4	5.2
77. Shaved or waxed hair on underarms or arms	1.75 (0.43)	100	78.1

Table 3 continues

Table 3 continued

78. Shaved or waxed hair on legs	1.75 (0.43)	100	57.8
79. Shaved or waxed hair on groin or bikini area	1.64 (0.50)	92.9	50.2
80. Shaved or waxed back [b]	1.07 (0.87)	57.1	0
81. Shaved or waxed chest [b]	1.07 (0.87)	57.1	0.2
82. Applied chapstick	1.07 (0.70)	71.5	81.4
83. Applied lip gloss	1.04 (0.69)	71.5	47.8
84. Applied lipstick/lip liner	1.04 (0.66)	69.2	23.5
85. Applied mascara	1.00 (0.44)	78.6	77.4
86. Applied eyeshadow	0.65 (0.43)	53.8	48.3
87. Applied eyeliner	0.93 (0.39)	78.6	58.4
88. Applied concealer	0.71 (0.47)	57.1	45.5
89. Applied foundation	0.50 (0.44)	64.3	62.7
90. Applied blush	0.82 (0.50)	64.2	41.6
91. Applied hair styling products (e.g., gel, mousse)	0.93 (0.51)	64.3	53.5
92. Styled hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	1.18 (0.46)	85.7	67.8
93. Had a haircut	1.14 (0.63)	71.5	2.6
94. Had your hair dyed or highlighted	1.07 (0.55)	71.5	2.4
95. Brushed your teeth	1.75 (0.47)	92.9	98.8
96. Flossed your teeth	1.42 (0.61)	84.6	55.0
97. Used at-home teeth whitening	0.93 (0.58)	64.3	5.5
98. Tanned (e.g., under the sun or at a tanning salon)	0.82 (0.46)	64.3	3.5
99. Wore tight or revealing clothing	1.29 (0.26)	100	40.8
100. Wore "in-style", current fashionable clothing	1.39 (0.59)	85.8	69.6
101. Wore jewellery (e.g., necklace, ring, bracelet, earring)	1.18 (0.58)	78.6	81.6
102. Wore perfume, cologne, or scented body lotion	1.32 (0.42)	92.9	78.8
103. Wore deodorant/antiperspirants	1.64 (0.50)	92.9	96.5
104. Applied body moisturizer	1.32 (0.42)	92.9	73.4
105. Applied anti-aging creams, gels, or ointments	0.79 (0.32)	64.3	13.1
106. Painted nails, or received a manicure or pedicure	1.04 (0.50)	71.5	30.1
107. Wore a push-up bra	1.04 (0.41)	85.8	58.9
108. Wore your most attractive or sexy underwear or lingerie	1.43 (0.43)	100	36.2
109. Went to work	1.47 (0.44)	100	39.1
110. Completed work related activities outside of regular work hours	0.77 (0.46)	53.4	20.3
111. Went to college/	1.50 (0.46)	100	87.4
112. university to attend class			
113. Completed homework	1.30 (0.53)	86.7	88.8
114. Taught a sport/activity/skill to another person or group	1.33 (0.56)	86.7	12.1
115. Attended a workshop for upgrading skills	1.00 (0.44)	64.3	3.7
116. Did volunteer work	1.13 (0.55)	73.3	13.1
117. Tattoo	0.89 (0.74)	64.3	1.6
118. Pierced ears or face	1.07 (0.68)	71.4	4.4
119. Pierced a body part other than ears or face	0.89 (0.71)	57.2	1.6
120. Breast/pectoral implants [a][b]	0.75 (0.58)	50.0	0
121. Laser hair removal on your face [a][b]	0.82 (0.64)	50.0	0
122. Laser hair removal on your body [a][b]	1.00 (0.58)	61.5	0
123. Salon, spa, or dentist teeth whitening [b]	1.04 (0.43)	84.6	0.5

Table 3 continues

Table 3 continued

124. Purposely changed or restricted food habits in order to lose weight	0.71 (0.51)	50.0	23.1
125. Purposely changed or restricted food habits in order to improve your body's appearance	1.07 (0.58)	71.5	30.8
126. Purposely changed exercise habits in order to lose weight	0.82 (0.54)	64.3	20.0
127. Changed your exercise habits in order to improve your body's appearance	1.14 (0.57)	78.6	25.0
128. Made an effort to appear educated and intelligent	1.53 (0.44)	100	80.4
129. Made an effort to appear creative and artistic	1.4 (0.39)	100	63.7
130. Made an effort to appear funny (e.g., telling jokes)	1.7 (0.46)	93.3	82.4
131. Made an effort to appear friendly, nice, and kind	1.77 (0.32)	100	89.9
132. Made an effort to do something special for him/her	1.57 (0.5)	93.3	68.7
133. Made an effort to appear alluring, coy, or open to sexual behaviour (e.g., open to kissing, oral sex, intercourse)	1.7 (0.41)	100	52.4
134. Made an effort to appear trustworthy	1.53 (0.4)	100	83.1
135. Made an effort to appear faithful and monogamous	1.30 (0.46)	86.7	72.2
136. Made an effort to appear loyal to others	1.37 (0.58)	80.0	80.8
137. Made an effort to appear reliable	1.33 (0.49)	86.7	85.3
138. Made an effort to appear independent	1.50 (0.57)	86.7	85.1
139. Made an effort to appear goal-oriented	1.33 (0.49)	86.7	80.3
140. Made an effort to appear confident	1.63 (0.35)	100	86.9
141. Made an effort to appear charming	1.53 (0.48)	93.3	77.5
142. Made an effort to appear flirtatious	1.4 (0.54)	93.3	65.0
143. Made an effort to appear bubbly	1.03 (0.77)	53.3	70.2
144. Made an effort to appear innocent	1.00 (0.46)	73.3	66.2
145. Made an effort to appear youthful	1.27 (0.56)	80.0	65.8
146. Made an effort to appear feminine	1.73 (0.37)	100	71.2
147. Made an effort to appear moralistic	0.97 (0.58)	66.7	71.8
148. Made an effort to appear nurturing	1.14 (0.53)	71.4	77.3
149. Made an effort to appear responsible	1.43 (0.51)	85.7	73.8
150. Made an effort to appear social	1.46 (0.57)	85.7	84.7
151. Made an effort to appear popular	0.80 (0.62)	60.0	65.4
152. Made an effort to appear generous, charitable, or altruistic	1.07 (0.65)	60.0	72.8
153. Made an effort to appear adventurous or open to new experiences	1.57 (0.50)	93.3	76.7
154. Made an effort to appear that you have similar values, beliefs, and interests	1.17 (0.45)	80.0	73.9
155. Made an effort to appear that you want children	0.90 (0.57)	60.0	42.2
156. Made an effort to appear like a good parent or potential parent	1.07 (0.50)	73.3	47.1
157. Made an effort to appear healthy	1.50 (0.50)	93.3	81.6
158. Made an effort to appear emotionally stable and mature	1.60 (0.47)	93.3	82.7
159. Made an effort to communicate my positive feelings	1.53 (0.52)	93.3	82.7
160. Made an effort to spend time alone with them	1.75 (0.38)	100	62.8

Table 3 continues

Table 3 continued

161. Made an effort to appear genuine	1.47 (0.48)	93.3	82.1
162. Made an effort to appear to not appear jealous	1.47 (0.52)	93.3	64.0
163. Made an effort to appear that you like the person	1.67 (0.45)	93.3	66.9
164. Made an effort to appear sexually available	1.73 (0.42)	100	40.7
165. Offered them a ride	0.87 (0.52)	60.0	35.9
166. Asked them for a ride	0.77 (0.46)	53.3	29.1
167. Made an effort to show affection	1.54 (0.50)	85.7	69.0
168. Telephone call	1.57 (0.53)	93.3	25.0
169. Text using cell phone (e.g., texting, BBM, IM)	1.57 (0.50)	93.3	30.8
170. Email	1.03 (0.55)	80.0	25.6
171. Social networking websites (e.g., Facebook, MySpace, Twitter)	1.03 (0.52)	80.0	52.9
172. Online video communication (e.g., Skype)	1.07 (0.56)	73.3	9.3

Note. Mean increase in women's attractiveness was determined using a 3-point Likert-type scale (i.e., *not at all*, *somewhat*, and *a lot*). Men Reporting it as Attractive (%) = percentage of men who reported the behaviour "*somewhat*" or more increases the attractiveness of women based the pilot study. Percentage of Women (%) = percentage of women who have engaged in the behaviour in the last 48-hours from the main study. The final scale consisted of 163 items as 9 items were removed for the below reasons.
[a] Items that are attractive in a partner but have a very low likelihood of occurring in 48-hour time frame. These items were removed given the use of a 48-hour time frame but could be used with other time frames for the OWASS.
[b] Items removed from internal consistency analyses due to zero variance, therefore they have been removed from the final calculation of the OWASS.
[c] Items that are weather and/or season dependent, therefore they have been removed from the final calculation of the OWASS.

Table 4

Initial and Final Items for Short-Term Attractivity Strategies Scale for Women (STASS-W) Based on Differences in the Degree to which men perceive the behaviour as increasing Short-Term versus Long-Term Attractiveness in Women and Frequency of Men who Find the Behaviour Attractive in Short-Term Partners

Item	Mean (*SD*) for ST	Mean (*SD*) for LT	*t*-Value (*p*-value)	Men Reporting it as Attractive (%)	48-Hour Engagement of Women (%)
1. Licked your lips while in person	1.44 (0.73)	0.75 (0.58)	3.47 (.00)	87.5	17.1
2. Made a sexual comment in person	1.38 (0.72)	0.94 (0.68)	2.41 (.03)	87.5	29.0
3. Licked your lips while looking at them through webcam	1.40 (0.63)	0.80 (0.68)	2.81 (.01)	68.7	3.9
4. Made a sexual comment through the use of technology	1.33 (0.62)	0.87 (0.52)	2.82 (.01)	75.0	23.8
5. Cheerleading	1.40 (0.63)	0.80 (0.77)	2.81 (.01)	93.3	1.4
6. Diving	1.00 (0.76)	0.60 (0.83)	2.45 (.03)	73.3	2.3
7. Gymnastics	1.57 (0.51)	1.21 (0.70)	2.11 (.05)	57.1	1.4
8. Volleyball	1.47 (0.64)	1.00 (0.85)	2.43 (.03)	93.3	2.8
9. A large social party (i.e., party at a friend's, family, or your house with more than 10 people)	1.60 (0.51)	0.87 (0.64)	3.56 (.00)	100	18
10. Bar/pub	1.40 (0.63)	0.80 (0.56)	3.67 (.00)	93.3	20.5
11. Club/discotheque	1.40 (0.63)	0.47 (0.52)	7.90 (.00)	93.3	6.8
12. Strip/Erotic/Adult Club[b]	1.00 (0.76)	0.40 (0.74)	2.55 (.02)	73.3	0
13. Shag/Jack&Jill/Buck& Doe/pre-wedding celebration*	1.27 (0.59)	0.67 (0.62)	3.15 (.01)	93.3	0.7
14. Learned about sexual techniques (e.g., kissing, oral sex, intercourse)	1.93 (0.27)	1.50 (0.65)	2.48 (.03)	100	17.3
15. Learned about flirting techniques	1.93 (0.27)	1.29 (0.91)	2.86 (.01)	100	10.7
16. Learned about how to mix alcoholic beverages	0.93 (0.73)	0.50 (0.76)	2.12 (.05)	71.4	9.6
17. Learned about how to give body massages	1.86 (0.36)	1.21 (0.70)	3.80 (.00)	100	5.2
18. Shaved or waxed hair on groin or bikini area	1.79 (0.43)	1.50 (0.65)	2.28 (.04)	100	50.2
19. Applied lip gloss	1.21 (0.80)	0.86 (0.66)	2.69 (.02)	78.6	47.8
20. Applied mascara	1.21 (0.58)	0.79 (0.58)	2.12 (.05)	92.9	77.4
21. Wore fake eyelashes	0.79 (0.58)	0.36 (0.63)	2.12 (.05)	71.4	3.7
22. Applied eyeliner	1.21 (0.58)	0.64 (0.50)	2.83 (.01)	92.9	58.4

Table 4 continues

Table 4 continued

Behaviour					
23. Styled hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	1.36 (0.50)	1.00 (0.55)	2.69 (.02)	100	67.8
24. Wore tight or revealing clothing	1.79 (0.43)	0.79 (0.43)	5.51 (.00)	100	40.8
25. Wore "in-style", current fashionable clothing	1.64 (0.63)	1.14 (0.66)	3.61 (.00)	92.9	69.6
26. Wore jewellery (e.g., necklace, ring, bracelet, earring)	1.36 (0.63)	1.00 (0.68)	2.11 (.05)	92.9	81.6
27. Wore perfume, cologne, or scented body lotion	1.57 (0.51)	1.07 (0.47)	2.61 (.00)	100	78.8
28. Applied body moisturizer	1.50 (0.52)	1.14 (0.53)	2.11 (.05)	100	73.4
29. Painted nails or received a manicure or pedicure	1.36 (0.63)	0.71 (0.47)	4.84 (.00)	92.9	30.1
30. Wore a push-up bra	1.36 (0.63)	0.71 (0.47)	3.23 (.01)	92.9	58.9
31. Wore your most attractive or sexy underwear or lingerie	1.71 (0.47)	1.14 (0.77)	2.28 (.04)	100	36.2
32. Tattoo	1.21 (0.89)	0.57 (0.85)	2.59 (.02)	71.4	1.6
33. Pierced a body part other than ears or face [b]	1.14 (0.77)	0.67 (0.84)	2.46 (.03)	78.6	1.6
34. Laser skin treatment (e.g., laser skin resurfacing, laser acne treatment, laser scar treatment) [a]	0.79 (0.58)	0.29 (0.47)	2.88 (.01)	71.4	0
35. Breast implants [a][b]	1.07 (0.73)	0.43 (0.65)	3.23 (.01)	78.6	0
36. Laser removal on your face [a][b]	1.07 (0.73)	0.57 (0.76)	2.46 (.03)	78.6	0
37. Made an effort to appear coy or open to sexual behaviour (e.g., open to kissing, oral sex, intercourse)	1.93 (0.26)	1.47 (0.74)	2.43 (.03)	100	52.4
38. Made an effort to appear flirtatious	1.67 (0.49)	1.13 (0.83)	2.48 (.03)	100	65.0
39. Made an effort to appear dominant	1.07 (0.70)	0.73 (0.59)	2.09 (.05)	80.0	64.4
40. Used dating websites to contact them*	0.87 (0.93)	0.53 (0.74)	2.90 (.05)	60.0	0.9

Note. Mean increase in attractiveness for women and for men was determined using a 3-point Likert-type scale (i.e., *not at all*, *somewhat*, and *a lot*). The *t*-test was based on partner differences in the degree to which men perceive the behaviour as increasing women's short-term attractiveness. Men Reporting it as Attractive (%) = percentage of men who reported the behaviour "*somewhat*" or more increases attractiveness of women based on the pilot study. 48-Hour Engagement of Women (%) = percentage of women who have engaged in the behaviour at some point in the last 48-hours based the main study. ST = short-term attractiveness. LT = long-term attractiveness. The final scale consisted of 33 items as 7 were removed for the below reasons.
* These items were removed due to low internal consistency (described earlier) but are included here because they met the initial criteria and may be relevant to other populations.
[a] Items are attractive in a short-term partner but detract from the actual time one is able to put into finding a partner in the last 48-hours, therefore these items were removed from the final calculation of the STASS-W.
[b] Items removed due to zero variance when calculating the internal consistency of the scale, therefore the items were removed from the final scale calculation.

Table 5

Initial and Final Items for Long-Term Attractivity Strategies Scale for Women (LTASS-W) Based on Differences in the Degree to which men perceive the behaviour as increasing Long-Term versus Short-Term Attractiveness in Women and Frequency of Men who Find the Behaviour Attractive in Long-Term Partners

Items	Mean (*SD*) for ST	Mean (*SD*) for LT	*t*-Value (*p*-value)	Men Reporting it as Attractive (%)	48-Hour Engagement of Women (%)
1. Downhill skiing [a]	0.60 (0.63)	0.93 (0.80)	-2.09 (.05)	66.7	0.7
2. Restaurant with friends and/or family for breakfast, lunch, or dinner	0.73 (0.70)	1.47 (0.64)	-3.21 (.01)	93.3	44.8
3. Coffeehouse	0.73 (0.70)	1.20 (0.56)	-2.82 (.01)	93.3	27.0
4. Theatrical play, ballet or opera	0.47 (0.64)	0.93 (0.80)	-2.82 (.01)	66.7	0.7
5. Cooking	0.93 (0.80)	1.73 (0.59)	-2.86 (.01)	93.3	64.0
6. Taking care of someone (e.g., an elder, someone who is sick, a child or infant)	0.60 (0.83)	1.53 (0.64)	-4.09 (.00)	93.3	21.1
7. Cleaning around the house or your bedroom for at least 30 minutes (e.g., vacuuming, dusting, tidying up, dishes)	0.47 (0.52)	1.53 (0.64)	-4.68 (.00)	93.3	75.6
8. Decorating your house or bedroom	0.53 (0.52)	1.13 (0.74)	-3.15 (.01)	80.0	15.5
9. Completing work related activities outside of regular work hours	0.47 (0.52)	1.07 (0.70)	-2.81 (.01)	80.0	20.3
10. Completing homework related to a course	0.87 (0.83)	1.73 (0.59)	-3.89 (.00)	93.3	88.8
11. Teaching a sport/activity/skill to another person or group	1.00 (0.85)	1.67 (0.62)	-2.65 (.02)	93.3	12.1
12. Attending a workshop for upgrading skills	0.57 (0.51)	1.43 (0.65)	-4.16 (.00)	92.9	3.7

Table 5 continues

Table 5 continued

13. Doing volunteer work	0.80 (0.77)	1.47 (0.64)	-2.87 (.01)	93.3	13.1
14. Did something special for them	1.27 (0.87)	1.87 (0.52)	-2.55 (.02)	93.3	68.7
15. Made an effort to appear trustworthy	1.20 (0.77)	1.87 (0.52)	-2.47 (.03)	93.3	83.1
16. Made an effort to appear faithful and monogamous	0.87 (0.64)	1.73 (0.70)	-3.39 (.00)	86.7	72.2
17. Made an effort to appear loyal to others	1.00 (0.85)	1.73 (0.59)	-3.21 (.01)	93.3	80.8
18. Made an effort to appear reliable	0.87 (0.74)	1.80 (0.56)	-4.09 (.00)	93.3	85.3
19. Made an effort to appear goal-oriented	0.93 (0.80)	1.73 (0.59)	-3.06 (.01)	93.3	80.3
20. Made an effort to appear like you want to be taken care of	0.40 (0.51)	1.00 (0.65)	-3.67 (.00)	80.0	56.7
21. Made an effort to appear pure	0.50 (0.52)	0.86 (0.77)	-2.11 (.05)	66.7	55.9
22. Made an effort to appear stable-minded	1.07 (0.59)	1.53 (0.74)	-2.43 (.03)	86.7	88.9
23. Made an effort to appear nurturing	0.79 (0.70)	1.50 (0.65)	-3.24 (.01)	93.3	77.3
24. Made an effort to appear responsible	1.07 (0.73)	1.79 (0.58)	-3.24 (.01)	93.3	73.8
25. Made an effort to appear generous, charitable, or altruistic	0.80 (0.77)	1.33 (0.72)	-2.78 (.02)	86.7	72.8
26. Made an effort to appear to have similar values, beliefs, and interests to a potential partner's	0.80 (0.68)	1.53 (0.64)	-2.96 (.01)	93.3	73.9
27. Made an effort to appear like you want children	0.33 (0.62)	1.47 (0.74)	-5.91 (.00)	86.7	42.2
28. Made an effort to appear like a good parent or potential partner	0.53 (0.43)	1.60 (0.63)	-6.96 (.00)	93.3	47.1

Table 5 continues

Table 5 continued

29. Made an effort to communicate your positive feelings	1.27 (0.80)	1.80 (0.56)	-2.26 (.04)	93.3	82.7
30. Made an effort to spend time alone with a potential partner	1.57 (0.65)	1.93 (0.27)	-2.11 (.05)	93.3	62.8
31. Made an effort to appear genuine	1.13 (0.74)	1.80 (0.56)	-2.87 (.01)	93.3	82.1
32. Made an effort to appear that you like the person	1.47 (0.64)	1.87 (0.52)	-2.10 (.05)	93.3	66.9
33. Made an effort to appear like you have similar religious values as a potential partner	0.33 (0.62)	0.93 (0.96)	-2.36 (.03)	53.3	32.2

Note. Mean increase in attractiveness for ST and LT was determined using a 3-point Likert-type scale (i.e., *not at all*, *somewhat*, and *a lot*). The *t*-test was based on partner differences in the degree to which men perceive the behaviour as increasing women's short-term attractiveness. Men Reporting it as Attractive (%) = percentage of men reported the behaviour "*somewhat*" or more increased attractiveness of women based on the pilot study. 48-Hour Engagement of Women (%) = percentage of women who have engaged in the behaviour at some point throughout the last 48-hours based the main study. ST = short-term attractiveness. LT = long-term attractiveness. The final scale consisted of 32 items as 1 item was removed for the below reason.

[a] Items that are weather and/or season dependent, therefore they have been removed from the final calculation of the LTASS-W.

based on two criteria. First, paired sample *t*-tests were used to determine whether men perceived a behaviour/item as significantly increasing women's ST attractiveness greater than it increased women's LT attractiveness (STASS-W items), or whether the behaviour significantly increased women's LT attractiveness greater than it increased women's ST attractiveness (LTASS-W items). Second, items were chosen for the STASS-W if there was a high agreement among men that the behaviour increased women's ST attractiveness while items that had a high agreement rate for increasing women's LT attractiveness made up the LTASS-W subscale (i.e., all items must have received a rating of "*somewhat*" or "*a lot*" by 50% of male participants in terms of the degree to which it increased women's attractiveness in the relevant context).

Results

Scale Development and Reliability

Items on the FAMS subscales (i.e., MASS, FASS, OWASS, STASS-W, and LTASS-W) were determined based on the pilot study and criteria described above. Final subscale items were determined based on the internal consistency or appropriateness of each item on the scale for use when examining behaviour over a 48 hour time period. Specifically, some behaviours/items were removed as they can only be engaged in during certain seasons of the year (e.g., snowboarding), or some behaviours were removed because they increased women's attractiveness as a ST partner in the future yet they do not increase the chances of finding a ST partner while one is engaging in the behaviour (e.g., getting breast implants). As shown in Table 6, the Cronbach's alphas of the scales using the original scaling (i.e., the actual scaling used in the questionnaires) ranged from .74 to .95 based on a combined sample of men and women, .66 to .95 within women only, and .70 to .96 within men only, thus indicating moderate to good internal consistency. These estimates of internal consistency were based on the full sample of individuals who participated in the main study. Two versions of the MASS and FASS were created: the MASS

Table 6

Internal Consistencies of the Flirting and Attractivity Mating Strategies (FAMS) Questionnaire Scales Based on a Combined Sample of Men and Women, Women-Only, and Men-Only in the Main Study

Scale	Internal Consistency in Combined Sample	Internal Consistency in Women-Only	Internal Consistency in Men-Only
Original Scaling			
FASS (lifetime)	.94 (n = 391) [a]	.91 (n = 321) [a]	.86 (n = 70) [a]
MASS (lifetime)	.74 (n = 438) [a]	.66 (n = 364) [a]	.94 (n = 74) [a]
STASS-W (48 hours)	.80 (n = 445)	.80 (n = 365) [a]	.70 (n = 80)
LTASS-W (48 hours)	.94 (n = 459)	.94 (n = 380) [a]	.94 (n = 79)
OWASS (48 hours)	.96 (n = 273)	.96 (n = 223) [a]	.97 (n = 50)
Dichotomous Scaling			
FASS (lifetime)	.93 (n = 391) [a]	.88 (n = 321) [a]	.86 (n = 70) [a]
MASS (lifetime)	.70 (n = 438) [a]	.61 (n = 364) [a]	.71 (n = 74) [a]
STASS-W (48 hours)	.80 (n = 445)	.79 (n = 365) [a]	.71 (n = 80)
LTASS-W (48 hours)	.91 (n = 459)	.91 (n = 380) [a]	.91 (n = 79)
OWASS (48 hours)	.95 (n = 273)	.95 (n = 223) [a]	.96 (n = 50)
Frequency Scaling			
FASS (lifetime)	.83 (n = 391)	.78 (n = 321) [a]	.73 (n = 70) [a]
MASS (lifetime)	.74 (n = 439)	.67 (n = 365) [a]	.75 (n = 74) [a]

Note. Internal consistency is based on Cronbach's Alpha (α). FASS = Feminine Attractivity Strategies Scale based on behaviours engaged in over one's lifetime. MASS = Masculine Attractivity Strategies Scale based on behaviours engaged in over one's lifetime. STASS-W = Short-Term Attractivity Strategies Scale for Women based on behaviours engaged in during a 48-hour timeframe. LTASS-W = Long-Term Attractivity Strategies Scale for Women based on behaviours engaged in during a 48-hour timeframe. OWASS = Overall Women's Attractivity Strategies Scale based on behaviours engaged in during a 48-hour timeframe. Original Scaling refers to the actual scales used in the questionnaires. These internal consistency values may represent the best estimate of internal consistency for the frequency scales calculated using the following formula: each item with an 8-point Likert scale was added to 1.33 times each item with a 6-point Likert scale option, and to 8 times each item with a dichotomous (0/1) response option. Dichotomous Scaling refers to the scales where internal consistency was based on the following scaling formula: item response options were recoded as either 0 and 1, with 0 representing individuals who have never engaged in the behaviour and 1 representing individuals who have engaged in the behaviour at some point either over their lifetime or in the past 48-hours.
[a] Estimates of internal consistency for scales and populations that are the most relevant to the hypotheses.

Dichotomous (MASS-D), and the FASS Dichotomous (FASS-D), and the MASS Frequency (MASS-F) and FASS Frequency (FASS-F). The MASS-D and the FASS-D scales refers to the scales where item response options were recoded as either 0 and 1, with 0 representing individuals who have never engaged in the behaviour and 1 representing individuals who have engaged in the behaviour at some point throughout their lifetime. MASS-F and FASS-F scales, which measure frequency of behavioural engagement, were calculated using the following formula: each item with an 8-point Likert scale was added to 1.33 times each item with a 6-point Likert scale option, and to 8 times each item with a dichotomous (0/1) response option. This formula allowed each item to have an equal weighting with possible response options ranging from 0 to 8. This method is similar to the method used by Simpson and Gangestad (2000) to measure sociosexuality (i.e., SOI). The authors multiplied the item scores by 5, 4, 2, or 1 depending on the response options given for each question, and added them together to create an aggregated total SOI score.

After internal consistency analyses, the final items on the MASS remained at 18, the same number determined from the pilot study criteria (refer to Table 6 for Cronbach's alphas for scales and Table 7 for Cronbach's alphas for subscales). No items were removed as all 18 enhanced the reliability of the overall scale (see Table 1 for the list of initial and final scale items).

The two week test-retest reliability of the MASS-D and the MASS-F scales were high in combined sample of 294 heterosexual (based on the Kinsey Heterosexual-Homosexual Rating Scale indicating they were more than incidentally homosexual) men and women, ($r = .72, p < .001, n = 272$ and $r = .74, p < .001, n = 272$, respectively). The measures were completed a mean of 15.94 days apart ($SD = 7.07$) with 15.4% completed between 12 and 16 days apart, with 5.3% completing the second session 6 weeks after the first session. Correlations between both the

Table 7

Means (Standard Deviations) of Feminine Attractivity Strategies Scale (FASS) and Masculine Attractivity Strategies Scales (MASS) and Subscales, and Internal Consistency of Subscales

	Both Sexes (*n* = 257)	Men Only (*n* = 44)	Women Only (*n* = 213)	Internal Consistency (*n* = 288)
FASS Dichotomous	23.05 (8.80)	9.86 (5.95)	25.70 (6.82)	
FASS Frequency	148.52 (47.99)	79.11 (22.52)	162.38 (39.30)	
FASS Subscales				
In Person Flirting	5.35 (2.46)	4.94 (2.11)	5.44 (2.54)	.61
Technology Flirting	4.49 (2.44)	4.29 (1.83)	4.52 (2.58)	.58
Sports	10.50 (3.93)	8.27 (1.96)	10.92 (4.04)	.48
Attractivity Knowledge	5.44 (3.31)	2.87 (1.96)	5.95 (3.27)	.92
Grooming	90.67 (36.61)	36.49 (16.32)	101.46 (29.42)	.94
Body Modification	1.16 (0.74)	0.22 (0.53)	1.33 (0.61)	.50
Self Presentation Behaviours	10.19 (4.92)	7.49 (.384)	10.63 (5.02)	.74
MASS Dichotomous	7.76 (2.91)	10.67 (3.11)	7.20 (2.43)	
MASS Frequency	41.02 (11.78)	53.35 (13.37)	38.59 (9.37)	
MASS Subscales				
In Person Flirting	7.38 (2.23)	7.57 (2.18)	7.33 (2.32)	.69
Technology Flirting	3.78 (1.40)	3.78 (1.37)	3.73 (1.44)	[a]
Sports	6.98 (3.01)	9.25 (5.08)	6.55 (2.13)	.44
Household Skills	7.11 (3.42)	9.85 (4.77)	6.50 (2.60)	.63
Grooming	1.82 (1.84)	5.15 (1.85)	1.17 (0.84)	[a]
Education & Work Responsibilities	2.31 (1.88)	2.98 (2.35)	2.19 (1.80)	[a]
Self Presentation Behaviours	6.89 (3.81)	9.28 (4.04)	6.51 (3.62)	.69

Note. FASS Dichotomous and MASS Dichotomous scales refers to the scales where item response options were recoded as either 0 and 1, with 0 representing individuals who have never engaged in the behaviour and 1 representing individuals who have engaged in the behaviour at some point over their lifetime. FASS Frequency and MASS Frequency scales calculated using the following formula: each item with an 8-point Likert scale was added to 1.33 times each item with a 6-point Likert scale option, and to 8 times each item with a dichotomous (0/1) response option. Internal consistency is based on Cronbach's Alpha (α).
[a] Subscale only included one variable, therefore internal consistency could not be computed.

MASS-D and the MASS-F and the BSRI and PAQ Masculinity subscales were calculated in order to measure the scales' construct validity. Using the same sample that was used to measure the scale's test-retest reliability, the MASS-D and the MASS-F scales were positively correlated with the BSRI Masculinity ($r = .33, p < .001, n = 339$, and $r =.41, p < .001, n = 339$, respectively) and PAQ Masculinity subscales ($r = .23, p < .001, n = 342$, and $r =.25, p < .001, n = 342$, respectively). This supports the validity of the scales in measuring masculine mating strategies.

The final items on the FASS were reduced from the original 48 (based on pilot study criteria) to 42. Six items were removed as they reduced the internal consistency of the scale. These items included three sports (i.e., *swimming, tennis, and volleyball*) and three body modification techniques (i.e., *breast implant surgery, laser hair removal on one's body, and laser hair removal on one's face*) (refer to Table 2 for the list of initial and final scale items). Though these items showed sex differences in attractivity based on the pilot study, the items were removed due to their low lifetime frequency of engagement by women and the associated reduction in internal consistency within the overall FASS scale (refer to Table 6 for Cronbach's alphas and Table 7 for Cronbach's alphas for subscales). The two week test-retest reliability (*mean days between* $=16.08, SD = 7.32$) of the FASS Dichotomous and the FASS Frequency scales were high, ($r = .88, p < .001, n = 260$ and $r =.88, p < .001, n = 260$, respectively). To measure the construct validity of the FASS-D and FASS-F scales, correlations with the BSRI Femininity and PAQ Femininity subscales were computed. Using a combined sample of heterosexual men and women, results revealed that the FASS-D and FASS-F scales were positively correlated with both the BSRI Femininity subscales ($r = .24, p < .001, n = 297$ and $r =.27, p < .001, n = 297$, respectively) and PAQ Femininity subscales ($r = .18, p < .01, n = 310$ and $r =.21, p < .001, n = 310$, respectively). This implies validity of the scales as it suggests that

the scales are capturing aspects of femininity. Interestingly, 100% of men (population based on the pilot study) reported that "femininity" increased women's attractiveness as both a ST and LT partner while 7.1% of men reported that "masculinity" increased women's attractiveness as a ST partner and 26.7% reported it increased women's attractiveness as a LT partner. This is worth noting as it provides empirical support for the idea that acting "feminine" makes women attractive to men in the ST. The idea that acting feminine makes women attractive to men is part of the rationale for creating the FASS to measure the extent to which one uses behaviours consistent with a female gender identity as a mating strategy. Therefore, displaying femininity may attract a potential partner, regardless of one's specific mating goal (i.e., attracting a ST partner versus LT partner).

Based on the pilot study, 172 items met criteria for the OWASS (refer to Table 3 for the list of initial and final scale items). However, three items were removed as they describe behaviours that are attractive in a partner but have a very low likelihood of occurring in 48-hour time frame. These items were removed given our use of a 48-hour time frame but could be used with other time frames (i.e., *breast implant surgery, laser hair removal on one's body,* and *laser hair removal on one's face*). Furthermore, an additional five items were removed from the final calculation of the OWASS due to their zero variance during the calculation of the subscale's internal consistency (i.e., *received salon, spa or dentist teeth whitening; shaved or waxed back; shaved or waxed chest; ultimate fighting;* and *speed skating*). This occurred because very few women engaged in these behaviours 48-hours prior to completing the questionnaire. Finally, an additional item was removed as it was weather- and/or season- dependent and could only be engaged in during certain times of the year (i.e., *snowboarding*). The final calculation of the OWASS included 163 items, which showed good internal consistency (see Table 6 for Cronbach's alphas). Using a sample of 116 women from the main study, the two week ($M =$

14.36 days, *SD* = 4.94) test-retest reliability of the OWASS was moderate, *r* = .57, *p* < .001.

Given that this scale is based on behaviour over the past 48 hours, it is not expected to have high

test-retest reliability when different time periods are measured.

Based on the pilot study, 40 items met the criteria for the STASS-W (see Table 4 for the

list of initial and final scale items). However, three items were removed as engaging in these

behaviours does not actually increase one's ability to immediately attract a ST partner, despite

the fact that they likely increase the chance of attracting a ST partner in the future (i.e., *laser skin

treatment, breast implant surgery, and laser hair removal on one's body*). Given that the goal of

this scale in the present study is to examine women's behaviour over the last 48 hours that

immediately increase their likelihood of attracting a ST mate, these behaviours were not

included. Furthermore, four additional items were removed due to their zero variance when

calculating the internal consistency of the scale (i.e., *attended a strip/erotic/adult club*; *pierced a

body part other than face or ears; used dating websites to contact a potential partner;* and

attended a Shag/Jack&Jill/Buck&Doe/pre-wedding celebration) (refer to Table 6 for Cronbach's

alphas). This was due to the fact that very few women engaged in these behaviours 48 hours

prior to completing the questionnaire. The final STASS-W included 33 items. Using a sample of

287 women from the main study, the two week (*M* = 14.97 days, *SD* = 5.77) test-retest reliability

of the STASS-W was moderate, *r* = .68, *p* < .001. To measure the construct validity of the

STASS-W, correlations with measures of ST and LT mating orientations (i.e., STMO and

LTMO scales) were computed. Convergent and divergent validity was demonstrated by the fact

the STASS-W was positively correlated with STMO (*r* = .22, *p* < .001, *n* = 334) and not

correlated with LTMO (*r* = -.01, *p* = .16, *n* = 331).

For the LTASS-W, the scale consisted of 33 items after the criteria were applied from the

pilot study (refer to Table 5 for the list of initial and final scale items). However, one item was

removed as it was weather- or season-dependent and could only be engaged in during certain times of the year (i.e., *downhill skiing*). This resulted in a final total of 32 items (refer to Table 6 for Cronbach's alphas). Using a sample of 290 from the main study, the two week (*M* =15.34, *SD* = 6.75) test-retest reliability of the LTASS-W was moderate, *r* = .59, *p* < .001. To measure the convergent and divergent validity of the LTASS-W, correlations with STMO and LTMO scales were computed. Surprisingly, results demonstrated that the LTASS-W was not associated with LTMO (*r* = .01, *p* = .94, *n* = 345). However, it was also not associated with STMO (*r* = -.02, *p* = .70, *n* = 349). This suggests a need for further exploration of differences between these two measures of long-term mating strategies.

Examination of Statistical Test Assumptions

Prior to analyses, the data were screened for errors at entry, missing values, and univariate outliers. As recommended by Tabachnick and Fidell (2007), scores that were three deviations above or below the mean were treated as outliers (i.e., ± *z* ≥ 3.29). Outliers were changed to one unit above or below the last score that was not an outlier.

A few outliers were detected in the distributions of variables used in Hypothesis 1. For men low on femininity, one FASS-D score was changed to one unit above the last score that was not an outlier, which resulted in it no longer being considered an outlier. No other outliers were found among men. For women low in masculinity, one score on the MASS-D scale remained as an outlier (*z* = 3.41) as the next score was only one unit above outlier status. For women high in masculinity, one score on the MASS-D scale remained as an outlier (*z* = 3.34) since the next score was only one unit above outlier status. For women low in femininity, one MASS-D scale score and one MASS-F scale score were changed to one unit above the last score that was not an outlier, which resulted in them no longer being considered outliers. Finally, for women high in femininity, one MASS-D scale score and one MASS-F scale score were changed to one unit

above the last score that was not an outlier, which resulted in them no longer being considered outliers.

For women included in the analyses for Hypothesis 2, one outlier was detected on each of the following scales and subscales: the STASS-W scale, the STASS-W Technology Flirting subscale, the STASS-W Grooming subscale, the LTASS-W Self-Presentation Behaviours subscale, the OWASS scale, the OWASS Sports and Activities subscale, the OWASS Social Activities subscale, the OWASS Attractivity Knowledge subscale, the OWASS Grooming subscale, and the OWASS Self-Presentation Behaviours subscale. Each outlier was changed to one unit above or below the last score that was not an outlier, which resulted in them no longer being considered outliers on their respective scales or subscales. Furthermore, two scores on the OWASS Technology Flirting subscale were identified as outliers and changed to one unit above or below the last score that was not an outlier, which resulted in them no longer being considered outliers. One score remained as an outlier on each of the following scales or subscales: the STASS-W Sports subscale ($z = -3.32$), the STASS-W Attractivity Knowledge subscale ($z = -4.08$), the STASS-W Body Modification subscale ($z = 8.89$), the OWASS Attractivity Knowledge subscale ($z = -3.51$), and the OWASS Education and Work Responsibilities subscale ($z = 3.55$). These scores remained as outliers as the next scores were only one unit above or below outlier status. No other outliers were detected. The reason the z-score for the outlier on the Body Modification subscale was so high was due to the fact that only one individual reported a change from Session I to Session II (e.g., pierced a body part). Given that a few outliers remained in the distributions, please note that all relevant analyses were conducted with and without the outliers, resulting in similar findings using both methods. As such, results have been reported with the inclusion of the outliers.

Scatterplots were used to examine linearity of the relationship between the variables. Linearity appeared to be satisfactory. Skewness and kurtosis were calculated for each scale by dividing the item statistic by the standard error. Items with a *z*-score above three were considered to be skewed or kurtosed (i.e., $\pm z \geq 3$). As such, within men no scales were considered to be skewed or kurtosed. For women low in masculinity, both the FASS-D and MASS-D scales were slightly positively skewed (i.e., $\pm z \geq 4$). For women high in masculinity, the FASS-D scale was also slightly positively skewed. Finally, for women low in femininity, the FASS-D scale was slightly positively skewed. For women included in the menstrual cycle analyses, the STASS-W In-Person Flirting and STASS-W Technology Flirting subscales were both slightly positively kurtosed. The STASS-W Sports and Activities, STASS-W Body Modification, and STASS-W Attractivity Knowledge subscales were slightly positively skewed and kurtosed. The OWASS Technology Flirting, the OWASS Attractivity Knowledge, and the OWASS Education and Work Responsibilities subscales were all slightly positively kurtosed. Since the scales were only slightly skewed or kurtosed, transformations were not conducted as this may have resulted in a loss of meaningful results (Tabachnick & Fidell, 2007).

For the purposes of the main analyses, $p < .05$ were considered significant results while $p < 0.1$ were considered nonsignificant trends. Furthermore, all means reported in the text were unadjusted while means depicted in figures were adjusted for covariates where relevant.

Main Analyses

Hypothesis 1: Relationships between Gender and Sex-Typical Mate Attractivity Strategies. The first hypothesis suggests that (a) more masculine men, as defined by male-typical gender traits, will score higher on the MASS and lower on the FASS than less masculine men; with the same pattern occurring for more versus less masculine women, and (b) more feminine men, as defined by female-typical gender traits, will score higher on the FASS and

lower on the MASS than less feminine men; with more versus less feminine women showing the same pattern.

Individuals with the following demographics were excluded from analyses given a need to focus on a homogenous heterosexual population and evidence that these variables were associated with masculine and feminine mating strategies (see Table 8 for correlations with overall scales and Table 9 for correlations with subscales): (a) individuals who indicated a sexual orientation score of three or greater on the Kinsey Heterosexual-Homosexual Rating Scale (i.e., indicating they were more than incidentally homosexual) ($n = 56$) or (b) individuals over 25 years of age ($n = 65$). A total of 111 individuals were excluded, leaving a maximum sample of 441 ($M_{age} = 19.79$, $SD_{age} = 2.00$). In this sample, 73% had a minimum of some university education, 88.4% were Caucasian or European, and 58.7% described themselves as single. Another reason for excluding individuals who are not heterosexual was that the wording of the questionnaires also meant low validity of responses for individuals with low interest in the opposite sex. Age, social desirability, and years of education were used as covariates given significant correlations with the MASS and FASS in the final sample of women. Sexual orientation was not included as a covariate given that it was not significantly correlated with the MASS or FASS for either men or women in the final restricted sample ($r = -.11$ to $.07$). In order to explore the first hypothesis, two group analyses of covariance (ANCOVAs) were used, with age, social desirability (i.e., based on MCSD scores), and years of education as covariates.

In order to create an overall masculine gender score and an overall feminine gender score with maximum reliability (e.g., Cane & Kase, 2004), composite scores were calculated by creating a standardized composite score of the PAQ masculinity (or femininity) and BRSI masculinity (or femininity) subscales (i.e., the subscales were added together and divided by

Table 8

Correlations between the Lifetime Feminine Attractivity Strategies Scale (FASS) and Lifetime Masculine Attractivity Strategies Scale (MASS), and the Masculine and Feminine Traits Composite Scores, and the Covariates (Hypothesis 1)

	Partial Correlations		Bivariate Correlations for Possible Covariates			
	Masculine Traits Composite	Feminine Traits Composite	Age	Social Desirability	Sexual Orientation	Education
Men						
FASS Dichotomous	-.03	.02	.24 (*n* = 51)	-.23 (*n* = 50)	-.10 (*n* = 51)	.09 (*n* = 51)
FASS Frequency	-.03	.13	.24 (*n* = 50)	-.25 (*n* = 49)	-.11 (*n* = 50)	.14 (*n* = 50)
MASS Dichotomous	.18	-.13	.11 (*n* = 55)	-.19 (*n* = 53)	-.01 (*n* = 55)	-.19 (*n* = 55)
MASS Frequency	.17	.04	.07 (*n* = 55)	-.22 (*n* = 53)	-.08 (*n* = 55)	-.22 (*n* = 55)
Women						
FASS Dichotomous	.15*	.16*	.13* (*n* = 262)	-.10 (*n* = 255)	.06 (*n* = 262)	.16* (*n* = 262)
FASS Frequency	.21**	.21**	.11 (*n* = 256)	-.12 (*n* = 249)	.04 (*n* = 256)	.15* (*n* = 256)
MASS Dichotomous	.21**	.05	.06 (*n* = 294)	-.09 (*n* = 285)	.03 (*n* = 294)	.03 (*n* = 293)
MASS Frequency	.33**	.22**	.01 (*n* = 294)	-.11* (*n* = 285)	.04 (*n* = 294)	.04 (*n* = 293)

Note. FASS Dichotomous and MASS Dichotomous scales refers to the scales where item response options were recoded as either 0 and 1, with 0 representing individuals who have never engaged in the behaviour and 1 representing individuals who have engaged in the behaviour at some point over their lifetime. FASS Frequency and MASS Frequency scales were calculated using the following formula: each item with an 8-point Likert scale was added to 1.33 times each item with a 6-point Likert scale option, and to 8 times each item with a dichotomous (0/1) response option. Masculine Traits Composite was calculated by creating a standardized composite score of the PAQ masculinity and BRSI masculinity subscales (i.e., the subscales were added together and divided by two) for men and women separately. Feminine Traits Composite scores were calculated similarly using PAQ femininity and BSRI femininity. Social Desirability was based on scores on the Marlowe-Crown Social Desirability Scale Short Version (Strahan & Gerbasi, 1972). Sexual Orientation was based on the Kinsey's Heterosexual-Homosexual Rating Scale (Kinsey, Pomeroy, & Martin, 1948). A higher score on the scale indicates a more homosexual orientation. Sample size for partial correlations was *n* = 44 for men and *n* = 213 for women.
* $p < .05$.
** $p < .01$.
*** $p < .001$.
[t] $p < 0.1$.

Table 9

Correlations between the Lifetime Feminine Attractivity Strategies (FASS) and Lifetime Masculine Attractivity Strategies (MASS) Subscales and Composite Masculine and Feminine Traits Scores, as well as Correlations between the Masculine Attractivity Strategies Scale and Feminine Attractivity Strategies Scale and Covariates (Hypothesis 1)

	Partial Correlations		Bivariate Correlations		
	Masculine Traits Composite	Feminine Traits Composite	Age	Social Desirability	Education
			Men		
FASS Subscales					
In Person Flirting (2) (items 1-2)	-.03	.24	.15 ($n = 64$)	-.12 ($n = 59$)	.12 ($n = 64$)
Technology Flirting (2) (items 3-4)	-.03	.35*	.16 ($n = 65$)	-.13 ($n = 60$)	.04 ($n = 65$)
Sports (7) (items 5 -10, 14)	-.01	-.08	.24 ($n = 60$)	-.13 ($n = 56$)	.04 ($n = 60$)
Attractivity Knowledge (2) (items 15-16)	-.11	.26	.20 ($n = 63$)	-.30* ($n = 60$)	.02 ($n = 63$)
Grooming (22) (items 17-38)	-.20	.05	.12 ($n = 57$)	-.21 ($n = 56$)	.13 ($n = 57$)
Body Modification (2) (items 39-40)	.16	-.09	.12 ($n = 63$)	.04 ($n = 60$)	.17 ($n = 63$)
Self Presentation Behaviours (5) (items 44-48)	.15	.12	.13 ($n = 61$)	-.29* ($n = 58$)	.01 ($n = 61$)
MASS Subscales					
In Person Flirting (2) (items 1-2)	.09	.33*	.25* ($n = 63$)	-.06 ($n = 59$)	.15 ($n = 63$)
Technology Flirting (1) (item 3)	-.31*	.45**	.14 ($n = 64$)	-.09 ($n = 59$)	-.01 ($n = 64$)
Sports (5) (items 4-8)	.17	-.23	-.05 ($n = 63$)	-.01 ($n = 59$)	-.11 ($n = 63$)
Household Skills (4) (items 9-12)	.04	-.22	.07 ($n = 62$)	-.16 ($n = 60$)	-.14 ($n = 62$)
Grooming (1) (item 13)	-.35*	.33*	.17 ($n = 62$)	-.04 ($n = 59$)	-.03 ($n = 62$)
Education & Work Responsibilities (1) (item 14)	.01	-.17	.27* ($n = 63$)	-.26* ($n = 60$)	.06 ($n = 63$)
Self Presentation Behaviours (4) (items 15-18)	.32*	.12	-.07 ($n = 60$)	-.12 ($n = 57$)	-.21 ($n = 60$)

Table 9 continues

Table 9 continued

	Masculine Traits Composite	Feminine Traits Composite	Age	Social Desirability	Education
			Women		
FASS Subscales					
In Person Flirting (2) (items 1-2)	.15*	.23**	.02 (*n* = 331)	-.15** (*n* = 312)	.02 (*n* = 329)
Technology Flirting (2) (items 3-4)	.14*	.24*	.06 (*n* = 328)	-.12* (*n* = 310)	.09 (*n* = 326)
Sports (7) (items 5 -10, 14)	.19**	.04	.05 (*n* = 314)	-.04 (*n* = 299)	.06 (*n* = 312)
Attractivity Knowledge (2) (items 15-16)	.04	-.00	.01 (*n* = 324)	-.06 (*n* = 311)	.11* (*n* = 322)
Grooming (22) (items 17-38)	.15*	.16*	.14* (*n* = 288)	-.07 (*n* = 280)	.15* (*n* = 288)
Body Modification (2) (items 39-40)	.05	-.03	-.02 (*n* = 323)	-.05 (*n* = 311)	.01 (*n* = 321)
Self Presentation Behaviours (5) (items 44-48)	.16*	.29**	.01 (*n* = 310)	-.13* (*n* = 301)	.04 (*n* = 308)
MASS Subscales					
In Person Flirting (2) (items 1-2)	.19**	.31**	-.01 (*n* = 331)	-.11 (*n* = 312)	.03 (*n* = 329)
Technology Flirting (1) (item 3)	.11	.33**	.01 (*n* = 334)	-.09 (*n* = 313)	.09 (*n* = 332)^t
Sports (5) (items 4-8)	.14*	-.12 ^{t}	-.08 (*n* = 319)	.03 (*n* = 304)	.06 (*n* = 317)
Household Skills (4) (items 9-12)	.07	-.08	.09^t (*n* = 323)	.02 (*n* = 308)	-.04 (*n* = 321)
Grooming (1) (item 13)	.07	-.06	-.02 (*n* = 317)	-.05 (*n* = 306)	.02 (*n* = 316)
Education & Work Responsibilities (1) (item 14)	.30**	.06	.09 (*n* = 321)	.07 (*n* = 310)	.17** (*n* = 316)
Self Presentation Behaviours (4) (items 15-18)	.26**	.19**	.02 (*n* = 311)	-.17** (*n* = 302)	.02 (*n* = 309)

Masculine Traits Composite was calculated by creating a standardized composite score of the PAQ masculinity and BRSI masculinity subscales (i.e., the subscales were added together and divided by two) for men and women separately. While Feminine Traits Composite scores were calculated similarly using PAQ femininity and BSRI femininity. Social Desirability was based on scores on the Marlowe-Crown Social Desirability Scale Short Version (Strahan & Gerbasi, 1972). Sexual Orientation was based on the Kinsey's Heterosexual-Homosexual Rating Scale (Kinsey, Pomeroy, & Martin, 1948). A higher score on the scale indicates a more homosexual orientation. Total number of items per subscale is indicated in brackets beside each subscale name. Items that belong to each subscale are listed based on the main scales in Tables 1-5. Scores were based on the original scoring from the FAMS. Partial correlations controlled for age, years of education, and social desirability scores. Sample size for partial correlations: (men: *n* = 44) and (women: *n* = 213).

* $p < .05$.
** $p < .01$.
*** $p < .001$.
^{t} $p < 0.1$.

two) for men and women separately. Composite scores of gender were created in order to assess a more reliable measure of gender identity.

Before conducting the ANCOVAs, partial correlations between gender and the mating strategies scales, with age, years of education, and social desirability scores controlled for, were examined. Partial correlations indicated that within men, overall masculine gender traits were not significantly correlated with either FASS scale or either MASS scale (i.e., dichotomous scored or frequency scored) (see Table 8 for correlations with overall masculine traits, overall feminine traits and scales, and Table 9 for correlations of the scales and subscales with covariates). Similarly, the composite feminine traits scores were also not significantly correlated with either the FASS scales or the MASS scales in men.

Within women, feminine traits composite scores were positively correlated with the FASS-D scale ($p < .05$), the FASS-F scale ($p < .01$), the MASS-D scale ($p < .01$), and the MASS-F scale ($p < .01$) (see Table 8). All of these correlations showed small effect sizes (e.g., small, medium, and large effect sizes are respectively .10, .30, and .50; Cohen, 1992). The masculine traits composite scores were also significantly positively correlated with the FASS-D scale ($p < .05$), the FASS-F scale ($p < .01$), and the MASS-F scale ($p < .01$). The relationship between the masculine traits composite scores and the FASS-D and FASS-F scores showed small effect sizes while the relationship with the MASS-F scale showed a medium effect size (see Table 9 for correlations between the masculine traits scores, feminine traits scores and the mating behaviour scales, and Table 7 for means and standard deviations of the scales within the sample of combined men and women, and for men and women separately). The stronger partial correlations, which controlled for age, years of education, and social desirability scores, found when using the frequency scores as opposed to the dichotomous scores suggest that frequency of

engagement, as opposed to ever engagement (yes/no), may be a more sensitive indicator of the

relationship between gender-typical traits and engagement in sex-related mating strategies.

Hypothesis 1a: examining associations between masculine gender and sex-typical

attraction strategies. In order to compare masculine and feminine mating strategy use in men

who were low versus high in masculine traits, the median split method was used to create low

and high masculine gender traits groups using masculine traits composite scores. Group

equivalency for the two groups was examined (see Table 10) and only years of education

differed between any of the groups. Two-group ANCOVAs were then conducted with age, years

of education, and social desirability scores as covariates. Given that age, years of education, and

social desirability differed between at least one grouping of low versus high femininity or

masculinity comparison groups for men and women (see Tables 10 to 12), these three covariates

were used for all four ANCOVAs across hypotheses 1a and 1b in order to be both consistent and

conservative.

Analyses revealed that men who were high in masculine traits showed a nonsignificant

trend to use more masculine mate attraction strategies ($M = 11.59$, $SD = 3.05$) than men who

were low in masculine traits ($M = 9.65$, $SD = 2.59$) based on the MASS-D scale, $F(1, 53) = 3.68$,

$p = .06$. The same result was found using the MASS-F scale, with men scoring high in masculine

traits reporting a nonsignificant trend for greater masculine strategy use ($M = 56.32$, $SD = 13.89$)

than men scoring low in masculine traits ($M = 48.74$, $SD = 10.18$), $F(1, 53) = 3.62$, $p = .06$ (see

the top left panels of Figure 1a for adjusted means and standard errors of the means for men low

or high in masculine traits and masculine mating strategy use using MASS-F scores). These

findings suggest a trend towards men high in masculine gender traits engaging in more

masculine mating strategies than men low in masculine gender traits. However, men high in

masculine traits did not differ in their scores on the FASS-D scale ($M = 9.44$, $SD = 3.72$) from

Table 10

Unadjusted Means (Standard Deviations) Used to Assess Group Equivalency between Men who are Low and High on Composite Masculine Traits Scores (Hypothesis 1a)

	Age	Sexual Orientation	Education	Social Desirability
FASS Dichotomous				
Low ($n = 23$)	20.69 (2.16)	1.04 (0.21)	7.65 (1.61)*	3.48 (1.81)
High ($n = 27$)	20.00 (2.02)	1.04 (0.19)	6.55 (2.03)*	3.26 (1.68)
FASS Frequency				
Low ($n = 23$)	20.55 (2.09)	1.05 (0.21)	7.50 (1.47)	3.48 (1.81)
High ($n = 27$)	20.00 (2.02)	1.04 (0.19)	6.55 (2.03)	3.26 (1.68)
MASS Dichotomous				
Low ($n = 27$)	20.62 (2.08)	1.04 (0.19)	7.55 (1.65)	3.50 (1.70)
High ($n = 27$)	20.11 (2.04)	1.04 (0.19)	6.70 (1.98)	3.18 (1.71)
MASS Frequency				
Low ($n = 27$)	20.62 (2.08)	1.04 (0.19)	7.55 (1.65)	3.50 (1.70)
High ($n = 27$)	20.11 (2.04)	1.04 (0.19)	6.70 (1.98)	3.18 (1.71)

Note. Group equivalency was examined for four different groupings as group sample size and membership differed slightly for each of the four dependent measures. Unadjusted means do not reflect corrections for covariates used in the ANCOVAs. FASS Dichotomous and MASS Dichotomous scales refer to the scales where item response options were recoded as either 0 or 1, with 0 representing individuals who have never engaged in the behaviour and 1 representing individuals who have engaged in the behaviour at some point over their lifetime. FASS Frequency and MASS Frequency scales calculated using the following formula: each item with an 8-point Likert scale was added to 1.33 times each item with a 6-point Likert scale option, and to 8 times each item with a dichotomous (0/1) response option.
* $p < .05$.
** $p < .01$.
*** $p < .001$.
[t] $p < 0.1$.

Table 11

Unadjusted Means and (Standard Deviations) Used to Assess Group Equivalency between Women Low and High in Composite Masculinity Scores and Composite Femininity Scores (Hypothesis 1a & b)

	Age	Sexual Orientation	Education	Social Desirability
Overall Masculinity				
Low ($n = 105$)	19.40 (1.76)	1.14 (0.35)	7.08 (1.81)	3.66 (1.59)^t
High ($n = 108$)	19.67 (2.00)	1.16 (0.37)	6.98 (1.76)	3.31 (1.36)^t
Overall Femininity				
Low ($n = 106$)	19.41 (1.82)	1.16 (0.37)	7.07 (1.80)	3.60 (1.49)
High ($n = 107$)	19.76 (1.96)	1.12 (0.32)	7.05 (1.74)	3.40 (1.51)

Note. Unadjusted means do not reflect corrections for covariates used in the ANCOVAs. No significant differences were found between any of the groups; however, there was a trend for women low in masculinity to report higher social desirability scores.
* $p < .05$.
** $p < .01$.
*** $p < .001$.
^{t} $p < 0.1$.

Table 12

Unadjusted Means (Standard Deviations) Used to Assess Group Equivalency between Men who are Low and High on Overall Femininity (Hypothesis 1b)

	Age	Sexual Orientation	Education	Social Desirability
		FASS Dichotomous		
Low ($n = 25$)	19.72 (2.21)*	1.00 (0.00)	6.76 (2.20)	3.64 (1.41)
High ($n = 23$)	20.95 (1.85)*	1.08 (0.28)	7.48 (1.44)	3.17 (1.95)
		FASS Frequency		
Low ($n = 24$)	19.54 (2.06)*	1.00 (0.00)	6.58 (2.06)	3.64 (1.41)
High ($n = 23$)	20.95 (1.85)*	1.08 (0.28)	7.48 (1.44)	3.17 (1.95)
		MASS Dichotomous		
Low ($n = 26$)	19.69 (2.19)*	1.00 (0.00)	6.81 (2.17)	3.76 (1.30)
High ($n = 26$)	21.04 (1.75)*	1.08 (0.27)	7.54 (1.36)	3.04 (1.91)
		MASS Frequency		
Low ($n = 26$)	19.69 (2.19)*	1.00 (0.00)	6.81 (2.17)	3.76 (1.30)
High ($n = 26$)	21.04 (1.75)*	1.08 (0.27)	7.54 (1.36)	3.04 (1.91)

Note. Unadjusted means do not reflect corrections for covariates used in the ANCOVAs. FASS Dichotomous and MASS Dichotomous scales refers to the scales where item response options were recoded as either 0 or 1, with 0 representing individuals who have never engaged in the behaviour and 1 representing individuals who have engaged in the behaviour at some point over their lifetime. FASS Frequency and MASS Frequency scales calculated using the following formula: each item with an 8-point Likert scale was added to 1.33 times each item with a 6-point Likert scale option, and to 8 times each item with a dichotomous (0/1) response option.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

^{t} $p < 0.1$.

(a)

(b)

Figure 1. Adjusted mean mating strategy frequency scores for men and women low and high on masculine traits. The frequency scores represent frequency of engagement in: (a) masculine mate attractivity strategies [Masculine Attractivity Strategies Subscale - Frequency (MASS-F) scores], and (b) feminine mate attractivity strategies [Feminine Attractivity Strategies Frequency Subscale (FASS-F) scores]. Women high in masculine traits had higher masculine mating strategy scores ($p < .001$; top right panel) and higher feminine mating strategy scores ($p < .001$; right lower panel) than women low in masculine traits. Men showed a similar trend for masculine mating strategy scores ($p = .06$), but not feminine mating strategy scores ($p = 0.78$). Means were adjusted for the covariates age, years of education and social desirability scores. Standard errors are represented in the figure by the error bars attached to each column.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

[t] $p < 0.1$.

men low in masculine traits ($M = 10.09$, $SD = 7.87$), $F(1, 50) = 0.12$, $p = .73$. The same

nonsignificant result was found using the FASS-F scale with men low in masculine traits not

scoring significantly different on the FASS-F scale ($M = 79.98$, $SD = 29.17$) than men high in

masculine traits ($M = 77.58$, $SD = 15.71$), $F(1, 49) = 0.08$, $p = 0.78$ (see bottom left panels of

Figure 1b for adjusted means and standard errors of the means for feminine mating strategy use

using FASS-F scores for men low versus high in masculine gender traits).

In order to examine whether women low and high in masculine traits differed in

masculine and feminine mating strategy use, the median-split technique was used to compare

women low and high in masculine traits (see Table 11 above for women's group equivalency).

Two-group ANCOVAs were conducted with age, years of education, and social desirability

scores as covariates. Analyses revealed that women high in masculine gender traits used more

masculine mating strategies ($M = 7.58$, $SD = 2.25$) than women low in masculine traits ($M =$

6.79, $SD = 2.52$) using the MASS-D scale, $F(1, 213) = 4.60$, $p = .03$. Please note that a similar

result was found when the one outlier was removed from the MASS-D scale. The same result

was found using the MASS-F scale with women high in masculine traits using more masculine

strategies ($M = 41.00$, $SD = 9.61$) than women low in masculine traits ($M = 36.06$, $SD = 7.94$),

$F(1, 213) = 15.03$, $p < .001$ (see top right panels of Figure 1a for corrected means and standard

errors of the means for masculine mating strategy use using MASS-F scores for women low

versus high in masculine traits). Similarly, women high in masculine traits scored higher on the

FASS-D scale ($M = 27.04$, $SD = 5.59$) than women low in masculine traits ($M = 24.51$, $SD =$

7.76), $F(1, 213) = 6.80$, $p = .01$. The same result was found using the FASS-F scale with women

high in masculine traits scoring higher on the scale ($M = 171.99$, $SD = 36.73$) than women low in

masculine traits ($M = 153.75$, $SD = 39.94$) , $F(1, 213) = 10.81$, $p < .001$ (see bottom right panels

of Figure 1b for a visual representation of this relationship).

Hypothesis 1b: examining associations between feminine gender traits and sex-typical attraction strategies. In order to compare masculine and feminine mating strategy use in men who were low versus high in feminine traits, the median split method was used to create low and high feminine gender traits groups. Group equivalency for the groups was examined (see Table 12 above) and only age differed between any of the groups. Two-group ANCOVAs were then conducted with age, years of education, and social desirability scores as covariates (see rationale above).

Within men, no significant differences were found with regard to the use of masculine mating strategies using the MASS-D scale between men high in feminine traits (M = 10.69, SD = 2.96) and men low in feminine traits (M = 10.36, SD = 2.87), $F(1, 51)$ = 0.04, p = 0.85. The same result was found using the MASS-F scale with men high in feminine traits not scoring significantly different on the MASS-F scale (M = 54.17, SD = 10.94) than men low in feminine traits (M = 50.62, SD = 13.06) , $F(1, 51)$ = 0.30, p = 0.59 (see top left panel of Figure 2a). Furthermore, no significant differences were found with regard to feminine mating strategy use on the FASS-D scale between men high in feminine traits (M = 9.13, SD = 3.53) and men low in feminine traits (M = 9.24, SD = 6.42), $F(1, 48)$ = 0.35, p = 0.56. The same result was found using the FASS-F scale with men high in feminine traits not scoring significantly different on the FASS-F scale (M = 75.61, SD = 13.62) than men low in feminine traits (M = 75.79, SD = 19.59), $F(1, 47)$ = 0.64, p = .43 (see bottom left panel of Figure 2b). Thus, men who were low versus high in feminine gender traits did not differ in their frequency of use, or history of engagement, in male-typical or female-typical mate attraction strategies.

In order to compare masculine and feminine mating strategy use in women who were low versus high in feminine gender traits, the median split method was used to create low and high feminine trait groups. Group equivalency for the groups was examined (see Table 11) and only

(a)
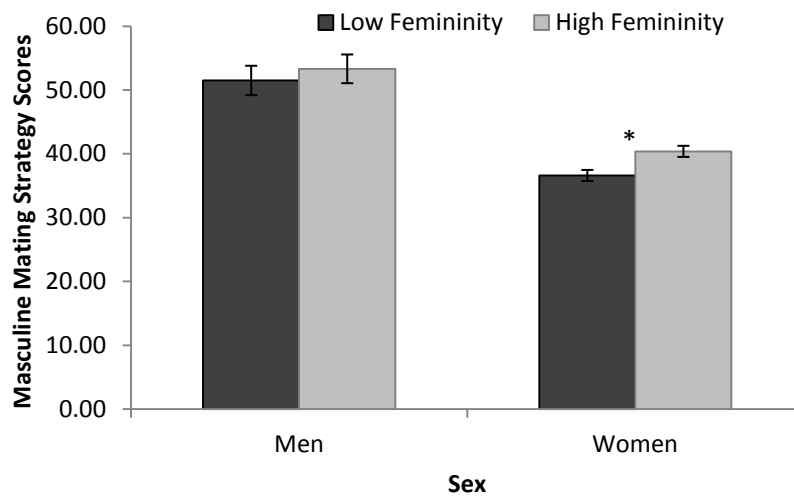
(b)
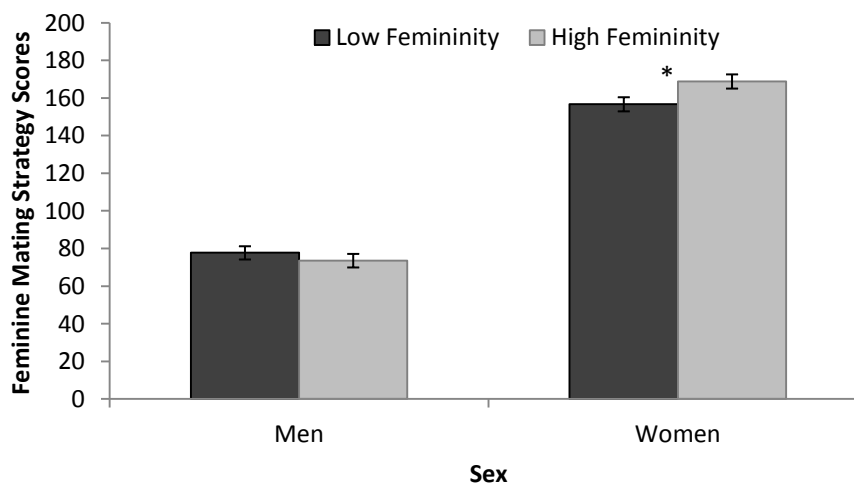
Figure 2. Adjusted means for frequency of mating attractivity strategy use in men and women who are low versus high on feminine traits. The adjusted means are presented for: (a) masculine mating strategy use based on the Masculine Attractivity Strategies Subscale - Frequency (MASS-F) scores, and (b) feminine mating strategy use based on Feminine Attractivity Strategies Frequency Subscale (FASS-F) scores. Women high in femininity had a higher frequency of use of masculine mating strategies ($p = .01$; top right panel) and feminine mating strategies ($p = .02$; right lower panel) than women low in femininity. Men did not show the same trend for use of masculine mating strategies ($p = 0.59$) or feminine mating strategies ($p = 0.56$). Means were adjusted for the following covariates: age, years of education and social desirability scores. Standard errors are represented in the figure by the error bars attached to each bar.

* $p < .05$.
** $p < .01$.
*** $p < .001$.
$^t p < 0.1$.

age differed between the groups. Two-group ANCOVAs were then conducted with age, years of

education, and social desirability scores as covariates (for reasons described above).

In terms of women's feminine traits, women high in feminine traits did not significantly

differ on the MASS-D scale ($M = 7.51$, $SD = 2.20$) compared to women low in feminine traits (M

$= 6.86$, $SD = 2.59$), however, there was a nonsignificant trend towards a relationship opposite to

what was predicted, $F(1, 213) = 3.44$, $p = .06$. Furthermore, when using the MASS-F scale,

results revealed that women high in feminine traits used more masculine mating strategies ($M =$

40.47, $SD = 9.50$) than women low in feminine traits ($M = 36.53$, $SD = 8.32$), $F(1, 213) = 9.34$, p

$= .01$ (see top right panel of Figure 2a). As noted, these findings were in the direction opposite to

the hypothesis.

With respect to female-typical mate attraction strategies, women high in feminine traits

tended to score higher on feminine mating strategy use based on the FASS-D scale ($M = 26.90$,

$SD = 5.72$) than women low in feminine traits ($M = 24.63$, $SD = 7.73$), $F(1, 213) = 5.29$, $p = .02$.

When using the FASS-F scale, the results were consistent as women high in feminine traits also

scored higher on feminine mating strategy use ($M = 169.34$, $SD = 39.10$) than women low in

feminine traits ($M = 156.21$, $SD = 38.73$), $F(1, 213) = 5.16$, $p = .02$ (see bottom right panel of

Figure 2b).

Additional analyses were conducted to explore hypothesis 1 further. Since there was a

trend for men low and high in masculine gender to differ in masculine mating strategy use, a

multiple regression within men was conducted to examine whether masculine or feminine

genders were unique predictors of masculine mating strategy use using the MASS-F scale. Age,

years of education, and social desirability scores were entered on step 1 and gender scores (i.e.,

masculinity and femininity scores) were entered on step 2. The overall model with all predictors

significantly predicted masculine mating strategy use and explained 20.1% of the variance

(adjusted R^2), $F(3, 50) = 4.23$, $p = .01$. In step 2, masculine and feminine genders did not add significant additional variance to the model beyond the covariates entered on step 1, R^2 change = .068, $F(2, 45) = 2.14$, $p = 0.13$. However, in step 2, masculine gender ($p = .05$) showed a trend as a unique predictor of masculine mating strategy use. Age ($p = .05$) and years of education ($p = .01$) were also unique predictors of masculine mating strategy use. The results of the regression analysis suggest that masculine gender, but not feminine gender ($p = 0.76$), is uniquely associated with masculine mating strategy use in men. That is, high masculine gender identity is independently associated with greater use of male-typical mate attraction strategies in men, and there is no relationship for feminine gender identity.

Furthermore, since women high in masculine gender reported engaging in significantly more masculine mating strategies than women low in masculine gender, a multiple regression within women was conducted to examine whether masculine or feminine genders were unique predictors of masculine mating strategy use using the MASS-F scale. Age, years of education, and social desirability scores were entered on step 1 and overall masculine and feminine gender scores were entered on step 2. The overall model with all variables included significantly predicted masculine mating strategy use (adjusted $R^2 = .136$), $F(5, 212) = 7.68$, $p < .001$. In step 2, overall masculine and feminine genders added significant variance to the model beyond the variables entered on step 1, R^2 change = .142, $F(2, 207) = 17.44$, $p < .001$, and masculine ($p < .001$) and feminine genders ($p = .004$) were both unique predictors of masculine mating strategy use (with none of the covariates being unique predictors). These findings suggest that masculine and feminine genders both account for unique variance in the frequency of masculine mating strategy use in women. That is, both high masculine and high feminine genders traits are independently associated with greater use of male-typical mate attraction strategies in women.

Another multiple regression within men was also conducted to examine whether masculine or feminine gender traits were unique predictors of feminine mating strategy engagement using the FASS-F scale. Age, years of education, and social desirability scores were entered on step 1 and masculine and feminine gender scores were entered on step 2. The overall model did not significantly predict feminine mating strategy use but did explain 9.9% of the variance (adjusted R^2), $F(5, 43) = 0.84$, $p = 0.53$. In step 2, overall masculine and feminine gender scores also did not add significant additional variance to the model beyond the variables entered on step 1, R^2 change $= .019$, $F(2, 38) = 0.39$, $p = 0.68$; and neither were unique predictors.

Since women high in feminine gender traits used significantly more feminine mating strategies than women low in feminine gender traits, a multiple regression within women was also conducted to examine whether masculine or feminine gender traits were unique predictors of feminine mating strategy use using the FASS-F scale. Age, years of education, and social desirability scores were entered on step 1, and masculine and feminine gender scores were entered on step 2. The overall model with all predictors significantly predicted frequency of feminine mating strategy use (adjusted R^2), $F(5, 212) = 5.18$, $p < .001$. In step 2, masculine and feminine gender traits added significant variance to the model beyond the variables entered on step 1, R^2 change $= .078$, $F(2, 207) = 9.09$, $p < .001$; and masculine ($p = .004$) and feminine ($p = .004$) gender traits were both unique predictors of feminine mating strategy use. The overall model explained 9.0% of the variance in feminine mating strategy use. The results of the regression suggest that both masculine and feminine gender traits account for unique variance in the use of feminine mating strategies in women. That is, both high masculine and high feminine gender traits are independently associated with greater use of female-typical mate attraction strategies in women.

Hypothesis 2: Mate Attraction Strategy Use and Conception Likelihood. The second hypothesis examined whether mate attraction strategy engagement shows menstrual cyclicity with changes in probability of being in the fertile window and conception likelihood. Specifically, two hypotheses were examined: (a) increased mate attraction strategy use and flirting behaviours were predicted during high fertile times of the menstrual cycle as compared with low fertile times using the OWASS, and (b) mate attractivity behaviours that were likely to attract a ST rather than a LT partner (i.e., on the STASS-W versus LTASS-W) were predicted to occur more frequently at points in the menstrual cycle when fertility was highest as compared to times of lower fertility.

Women with the following demographics were excluded from the analyses given a need to focus on a homogenous heterosexual population (see Table 13 for participant demographics): (a) individuals who indicated a sexual orientation score of three or greater on the Kinsey Heterosexual-Homosexual Rating Scale (i.e., indicating they were more than incidentally homosexual) ($n = 45$), (b) individuals over 44 years of age ($n = 6$), (c) individuals who were currently using hormonal contraceptives ($n = 209$), (d) individuals who previously used hormonal contraceptives less than two months prior to completing the questionnaire ($n = 7$), (e) individuals who were currently pregnant or believed they could be pregnant ($n = 5$), (f) individuals who were lactating ($n = 3$), and (g) individuals who believed they were going through menopause ($n = 3$). A total of 278 women were excluded, leaving a maximum sample of 101 (86.2% Caucasian).

In order to examine the two related hypotheses, change scores (i.e., difference scores) were computed between the two testing sessions for the OWASS and subscales, STASS-W and subscales, LTASS-W and subscales, probability of being in the fertile window, and conception

Table 13

Demographics of Free Cycling Women and Internal Consistencies of Scales based on Change Scores (Hypothesis 2a)

	Mean	SD	Internal Consistency
Age ($n = 78$)	19.32	2.47	
Education Score ($n = 101$)	6.83	1.83	
STMO ($n = 67$)	24.79	12.97	.92 ($n = 100$)
LTMO ($n = 68$)	42.71	7.48	.87 ($n = 100$)
OWASS Change Scores ($n = 29$)	-3.93[a]	15.46	.86 ($n = 106$)
In Person Flirting ($n = 67$)	1.63	4.22	.83 ($n = 107$)
Technology Flirting ($n = 69$)	0.41	1.79	.59 ($n = 88$)
Sports ($n = 55$)	0.33	1.04	.48 ($n = 110$)
Social Activities ($n = 72$)	0.33	1.76	.58 ($n = 110$)
Household Skills ($n = 71$)	0.10	1.49	.65 ($n = 114$)
Attractivity Knowledge ($n = 74$)	0.14	1.48	.81 ($n = 99$)
Grooming ($n = 64$)	0.16	3.77	.31 ($n = 113$)
Education & Work Responsibilities ($n = 72$)	0.19	1.11	.72 ($n = 111$)
Body Modification ($n = 73$)	0.25	1.61	.97 ($n = 101$)
Self Presentation Behaviours ($n = 61$)	3.69	32.23	.47 ($n = 109$)
Remote Communication ($n = 73$)	0.12	1.18	.86 ($n = 106$)
Fertile Window Estimate Change Scores (n = 78)	.0192	.35194	
Conception Likelihood Change Scores ($n = 77$)	-.0004	.04651	

	Frequency	Percentage
Relationship Status ($n = 78$)		
Single	50	64.1
Casually Dating	11	14.1
Married or Living with Partner	5	6.4
One Partner but Living Apart	12	15.4

Note. OWASS = Overall Women's Attractivity Strategies Scale. STMO = Short-Term Mating Orientation (Jackson & Kirkpatrick, 2007). LTMO = Long-Term Mating Orientation (Jackson & Kirkpatrick, 2007). OWASS, OWASS Subscales, and Conception Likelihood means and standard deviations are based on change scores.
[a] The reason the OWASS is negative while all subscales are positive can be explained by differences in the scoring of the Self-Presentation Behaviours subscale between the full scale (i.e., OWASS) and subscale.

probability estimates. Session I scores were subtracted from Session II scores for all the variables.

In the maximum sample of women who were included in hypothesis 2, the mean fertile window probability estimate for Session I was 0.189 ($SD = 0.213$, range: 0.000 to 0.710, $n = 110$) while the mean for Session II was 0.193 ($SD = 0.189$, range: 0.000 to 0.710, $n = 78$). The mean change in fertile window probability estimates was 0.019 ($SD = 0.352$, range: -0.630 to 0.680, $n = 78$). For conception likelihood, the mean score for Session I was 0.025 ($SD = 0.027$, range: 0.000 to 0.094, $n = 111$) and 0.093 for Session II ($SD = 0.029$, range: 0.000 to 0.093, $n = 77$). The mean change in conception likelihood was -0.004 ($SD = 0.047$, range: -0.090 to 0.090, $n = 77$).

Hypothesis 2a: overall mate attraction strategy use and fertility. In order to examine whether there was a peak in overall mate attraction strategy use and flirting behaviours during high fertile times of the menstrual cycle as compared with low fertile times, linear regressions were conducted. Change in fertile window estimates or change in conception likelihood scores were entered as predictors while change in OWASS scores or change in subscale scores were entered as the outcome variable.

Before conducting the linear regressions, bivariate correlations between relationship status, age, years of education, social desirability, the OWASS and subscale change scores, and change scores for fertile window probability estimates and conception likelihood were examined (see Table 14 for correlations). Correlations indicated that the Attractivity Knowledge subscale change scores were negatively correlated with age ($p < .05$); the Self-Presentation Behaviours subscale change scores were negatively correlated with years of education, social desirability scores, and relationship status ($p < .05$); and the Remote Communication subscale change scores were negatively correlated with age ($p < .05$). Furthermore, correlations between the OWASS

and subscale change scores, and fertile window probability estimates and conception likelihood were computed. Results revealed that conception likelihood was positively correlated with the Self-Presentation Behaviours and Remote Communication subscales ($p < .05$), while fertile window probability estimates showed a trend with the same subscales as well as the Education and Work Responsibilities subscale ($^t < 0.1$). Furthermore, change in fertile window probability estimates and change in conception likelihood were positively correlated ($p < .001$), as would be expected.

Given that age, years of education, social desirability, and relationship status correlated with at least one OWASS subscale (see Table 14), these four covariates were used in all regressions used to test hypotheses 2a in order to be both consistent and conservative.

Analyses were first conducted using the change in one's fertile window probability estimates as the main predictor variable. Relationship status, age, years of education, and social desirability scores were entered on step 1 and change in fertile window probability estimates (i.e., change in the probability of being in the fertile window) were entered on step 2. The overall model did not significantly predict change in women's use of overall mating strategies (i.e., OWASS scores), (adjusted R^2), $F(5, 25) = 1.67$, $p = 0.19$. However, in step 2, change in fertile window probability estimates did add significant variance to the model beyond the variables entered on step 1, R^2 change $= .175$, $F(1, 20) = 4.96$, $p = .04$ (see Figure 3). The overall model explained 29.5% of the variance in women's overall mating strategies. Furthermore, change in fertile window probability estimates was a unique predictor ($p < .05$) of change in women's use of overall mating strategies. This analysis suggested that as probability of being in the fertile window increased, so did women's engagement in overall mate attraction strategies and behaviours.

Table 14

Correlations Between Possible Covariates (Age, Years of Education, Social Desirability, Relationship Status), the Change scores of Overall Women's Attractivity Strategies Scale (OWASS) and Subscales, and Fertile Window, and Conception Likelihood Change Scores (Hypothesis 2a)

Scale and Subscales	Age	Years of Education	Social Desirability	Relationship Status	Fertile Window Δ	Conception Likelihood Δ
OWASS Δ (163)	-.08 (*n* = 33)	-.18 (*n* = 33)	.18 (*n* = 29)	.12 (*n* = 33)	.29 (*n* = 30)	.33 (*n* = 29)
In Person Flirting Δ (15) (items 1-15)	.13 (*n* = 72)	-.11 (*n* = 72)	-.16 (*n* = 67)	.06 (*n* = 72)	-.06 (*n* = 67)	.01 (*n* = 66)
Technology Flirting Δ (11) (items 16-26)	.06 (*n* = 75)	.02 (*n* = 74)	-.06 (*n* = 70)	.09 (*n* = 75)	.04 (*n* = 68)	-.03 (*n* = 67)
Sports Δ (15) (items 27-36, 39, 41, 42, 44, 45)	.03 (*n* = 75)	-.01 (*n* = 60)	-.06 (*n* = 56)	.06 (*n* = 61)	.06 (*n* = 55)	-.04 (*n* = 55)
Social Activities Δ (14) (items 46-59)	-.14 (*n* = 78)	-.10 (*n* = 77)	.04 (*n* = 73)	.09 (*n* = 78)	-.09 (*n* = 71)	.01 (*n* = 70)
Household Skills Δ (7) (items 60-66)	-.10 (*n* = 77)	.04 (*n* = 76)	.19 (*n* = 72)	-.09 (*n* = 77)	-.01 (*n* = 70)	-.07 (*n* = 69)
Attractivity Knowledge Δ (7) (items 67-73)	-.22(*n* = 80)*	-.12 (*n* = 79)	-.03 (*n* = 75)	-.16 (*n* = 80)	.03 (*n* = 73)	-.17 (*n* = 72)
Grooming Δ (34) (items 74-79, 82-108)	-.10 (*n* = 69)	-.12 (*n* = 68)	.07 (*n* = 65)	-.09 (*n* = 69)	.11 (*n* = 63)	.14 (*n* = 62)
Education & Work Responsibilities Δ (8) (items 109-116)	-.13 (*n* = 78)	-.01 (*n* = 77)	-.07 (*n* = 73)	-.02 (*n* = 78)	.23 (*n* = 71)[t]	.19 (*n* = 70)
Body Modification Δ (7) (items 117-120, 125-127)	-.11 (*n* = 79)	.04 (*n* = 79)	-.03 (*n* = 74)	-.05 (*n* = 79)	.14 (*n* = 72)	.05 (*n* = 71)

Table 14 continues

Table 14 continued

Self Presentation Behaviours Δ (40) (items 128-167)	-.11 ($n = 67$)	-.24 ($n = 66$)*	-.27 ($n = 62$)*	-.26 ($n = 55$)*	.22 ($n = 71$)^{t}	.27 ($n = 60$)*
Remote Communication Δ (5) (items 168-172)	.26 ($n = 79$)*	-.10 ($n = 78$)	-.09 ($n = 74$)	-.09 ($n = 79$)	.22 ($n = 71$)^{t}	.26 ($n = 70$)*
Fertile Window Δ	.02 ($n = 78$)	-.06 ($n = 78$)	.12 ($n = 69$)	.01 ($n = 78$)	-	.78 ($n = 76$)***
Conception Likelihood Δ	.01 ($n = 77$)	-.01 ($n = 77$)	.06 ($n = 68$)	.09 ($n = 77$)	.78 ($n = 76$)***	-

Note. OWASS = Overall Women's Attractivity Strategies scale. Total number of items per scale or subscale is indicated in the brackets beside each subscale name. Items numbers that belong to each subscale are indicated based on the main scale in Table 3. Scores were based on the original scoring from the FAMS. OWASS, subscales, Conception Probability, and Fertile Window are based on change scores (Δ).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

$^{t} < 0.1$.
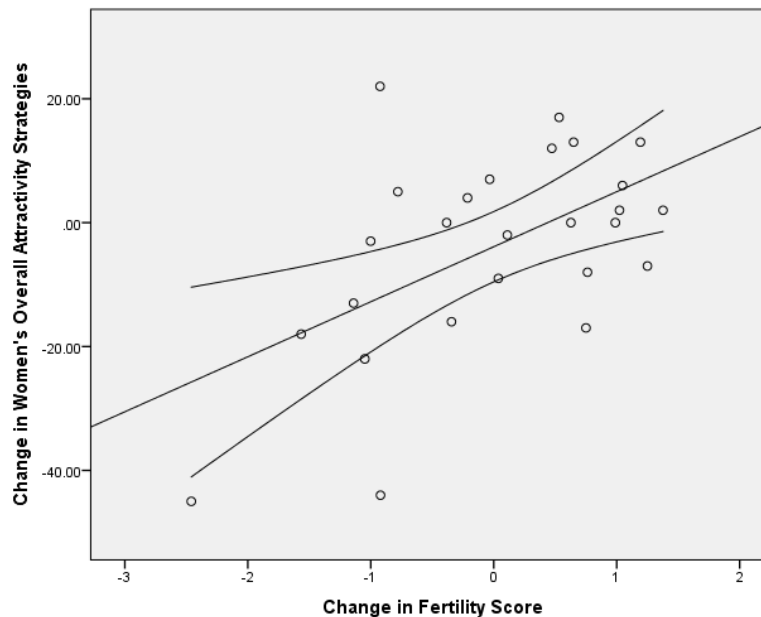
Figure 3. Scatterplot Indicates Positive Relationship between Change in Fertile Window Estimate Probabilities and Change in Women's Engagement in Overall Mate Attraction Strategies (i.e., Overall Women's Attractivity Strategies Scale (OWASS) scores), partial *r* (*n* = 26) = 0.45, *p* = .04. Data points are adjusted for the following covariates: age, years of education, social desirability scores, and relationship status. The adjustment explains the wide range of change in fertility scores. The graph reflects the 95% confidence intervals of the mean. The positive relationships suggest that increases in fertility are associated with significant increases in overall mate attraction behaviours.

Since change in women's overall mating strategies was a significant predictor of change in the probability of being in the fertile window, further exploratory analyses were conducted on the subscales of the OWASS to determine which strategies significantly change over the menstrual cycle. Relationship status, age, years of education, and social desirability scores were entered on step 1 and change in fertile window probability estimates were entered on step 2. Change in fertile window probability estimates showed a significant unique effect for the Education and Work Responsibilities subscale. The overall model did not significantly predict change in women's engagement in education and work responsibilities, (adjusted R^2), $F(5, 65) = 1.43$, $p = 0.23$. However, change in fertile window probability estimates did add significant variance to the model beyond the variables entered on step 1, R^2 change = .065, $F(1, 60) = 4.39$, $p = .04$ (see Figure 4a) (with the one outlier removed, the second step was similar but showed a significant trend, $p = .08$. The overall model explained 10.7% of the variance in women's mating behaviours. Moreover, change in fertile window probability estimates was the only unique predictor ($p < .05$) of change in women's engagement in educational and work responsibilities. This suggested that as probability of being in the fertile window increased, so did engagement in educational and work responsibilities.

In another analysis with relationship status, age, years of education, and social desirability scores entered on step 1 and change in fertile window estimates entered on step 2, the overall model showed a trend for all the variables to predict change in the use of remote communication (i.e., Remote Communication subscale), (adjusted R^2), $F(5, 65) = 2.29$, $p = 0.06$. Change in fertile window probability estimates added some variance to the model beyond the variables entered on step 1, R^2 change = .055, $F(1, 60) = 3.91$, $p = .05$ (refer to Figure 4b). The overall model explained 16.0% of the variance in women's use of remote communication. Moreover, age ($p = .04$) and change in fertile window probability estimates ($p = .05$) were the

(a)
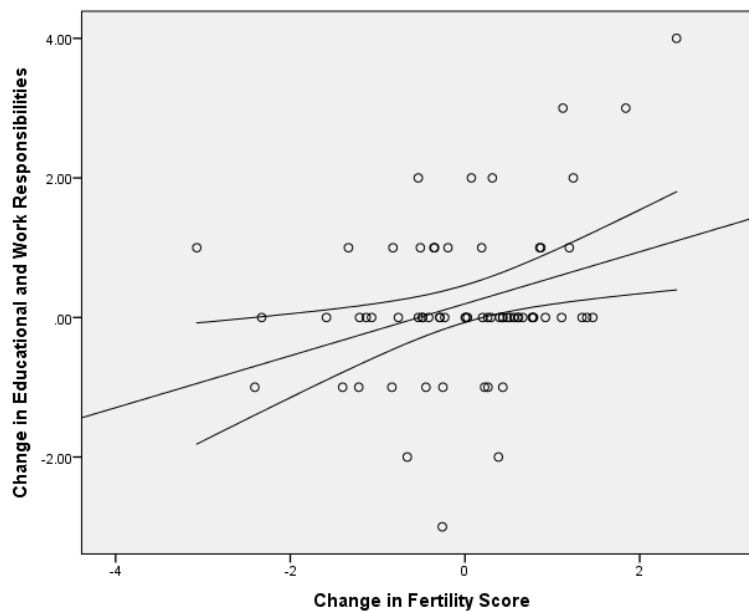
(b)
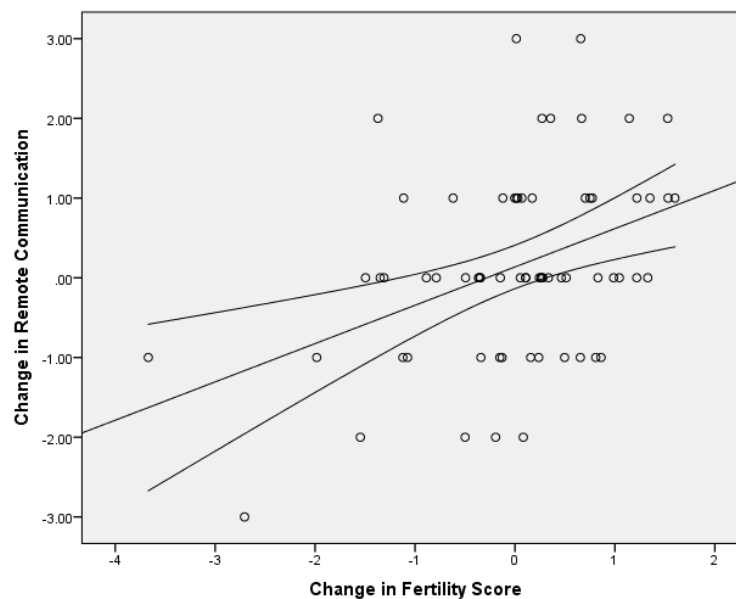
Figure 4. Scatterplots indicate positive relationships between Change in Fertile Window Estimate Probabilities and: (a) change in Women's Engagement in Education and Work Responsibilities (i.e., Education and Work Responsibilities subscale (scores), partial *r* (*n* = 66) = 0.26, *p* = .04, and (b) change in Women's use of Remote Communication (i.e., Remote Communication subscale scores) partial *r* (*n* = 66) = 0.25, *p* = .05. Data points are adjusted for the following covariates: age, years of education, social desirability scores, and relationship status. This explains the wide range of change in fertility scores. The graphs reflect the 95% confidence intervals of the means. The positive relationships suggest that increases in fertility are associated with significant increases in education and work-related behaviours that suggest responsibility, and in the use of remote communication to contact potential partners.

only unique predictors of change in women's use of remote communication. This suggested that as probability of being in the fertile window increased, so did women's use of remote communication to contact a potential partner. No other regressions between change in the probability of being in the fertile window and change on the OWASS subscales were significant or approached significance (see Appendix X for the results from the regressions used to explore hypothesis 2a using change in the probability of being in the fertile window).

The second set of analyses utilized change in conception likelihood as a predictor of change in women's overall mating strategy use. Relationship status, age, years of education, and social desirability scores were entered on step 1 and change in conception likelihood was entered on step 2. The overall model did not significantly predict change in women's use of overall mating strategies (i.e., OWASS scores), (adjusted R^2), $F(5, 24) = 1.19$, $p = 0.35$. In step 2, change in conception likelihood showed a nonsignificant weak trend to add unique variance to the model beyond the variables entered on step 1, R^2 change $= .105$, $F(1, 19) = 2.62$, $p = 0.12$, however, no unique predictors were detected.

Since change in conception likelihood showed a nonsignificant trend to predict change in women's use of overall mating strategies, further exploratory analyses were conducted on the subscales of the OWASS to determine if changes in specific strategies were predicted by change in conception likelihood over the menstrual cycle (see Appendix Y for these exploratory analyses). Relationship status, age, years of education, and social desirability scores were entered on step 1 and change in conception likelihood was entered on step 2. Interesting findings emerged for two of the subscales: Self-Presentation Behaviours and Remote Communication. The overall model significantly predicted change in women's use of self-presentation behaviours (i.e., the Self-Presentation Behaviours subscale) (adjusted R^2), $F(5, 54) = 2.79$, $p = 0.03$. In step 2, change in conception likelihood added significant variance to the model beyond the variables

entered on step 1, R^2 change = .086, $F(1, 49) = 5.40$, $p = .02$ (see Figure 5a), with change in conception likelihood being the only unique predictor ($p = .02$) of change in women's use of self-presentation behaviours. This suggested that as conception likelihood increased, use of self-presentation behaviours increased as well.

Furthermore, with relationship status, age, years of education, and social desirability scores entered on step 1 and change in conception likelihood entered on step 2, the overall model significantly predicted change in women's use of remote communication (i.e., Remote Communication subscale) (adjusted R^2), $F(5, 64) = 2.41$, $p = 0.04$. In step 2, change in conception likelihood added significant variance to the model beyond the variables entered on step 1, R^2 change = .068, $F(1, 59) = 4.81$, $p = .03$ (see Figure 5b), with change in conception likelihood being the only unique predictor ($p = .03$) of change in women's use of remote communication. This suggested that as conception likelihood increased, use of remote communication also increased. No other regressions between change in conception likelihood and change on the OWASS subscales were significant (see see Table Z for the results from these exploratory regressions for hypothesis 2a using conception likelihood).

Since the change in fertile window probability estimates and change in conception likelihood were significant predictors of OWASS subscale change scores (i.e., Educational and Work Responsibilities subscale, Self-Presentation Behaviours subscale, and Remote Communication subscale), partial correlations were explored to determine which items from the subscales were influencing the results of the regressions. With relationship status, age, years of education, and social desirability scores as covariates, change in engagement of going to work (i.e., *went to work*) and change in attending a workshop for upgrading skills (i.e., *attended a workshop for upgrading skills*) were positively correlated with change in fertile probability

(a)
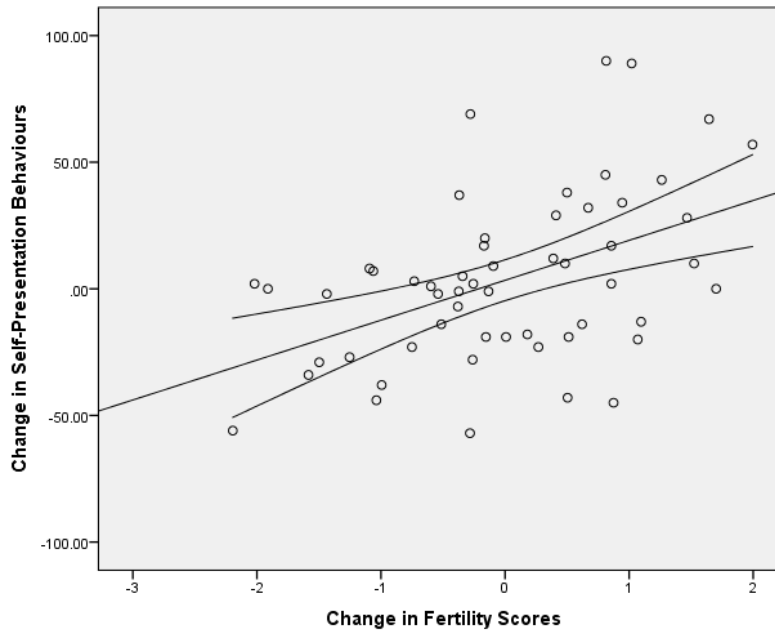
(b)
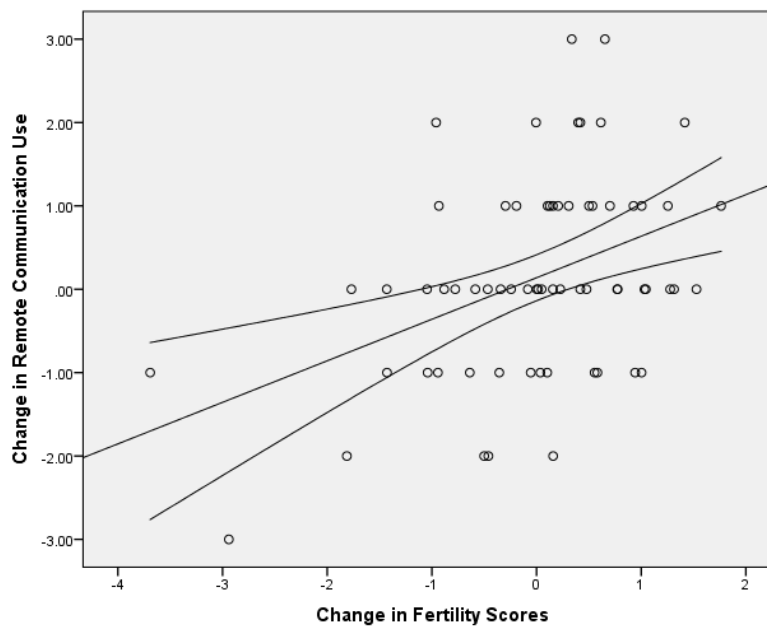
Figure 5. Scatterplots Indicate Positive Relationships between Change in Conception Probability (Fertility Scores) and change in: (a) women's self-presentation behaviours (i.e., Self-Presentation Behaviours subscale scores), partial *r* (*n* = 55)= 0.32, *p* = .02; and (b) women's engagement in remote communication (i.e., the Remote Communication subscale scores), partial *r* (*n* = 65) = 0.28, *p* = .03. Data points are adjusted for the following covariates: age, years of education, social desirability scores, and relationship status. This explains the wide range of change in fertility scores. The graphs reflect the 95% confidence intervals of the means. The positive relationships depicted in the figure suggest that increases in fertility are associated with significant increases in self-presentation behaviours and in the use of remote communication to contact potential partners.

window estimates ($p < .05$) and showed nonsignificant trends with change in conception likelihood ($p = .08$ and $.07$, respectively).

Furthermore, change in the use of social networking websites to communicate with potential partners (i.e., *used social networking to contact them*) was the only form of remote communication that was significantly correlated with change in conception likelihood ($p < .05$) and showed a significant trend with change fertile probability window estimates ($p = .07$). In terms of self-presentation behaviours, changes in making an effort to appear confident (i.e., *made an effort to appear confident*), youthful (i.e., *made an effort to appear youth*), social (i.e., *made an effort to appear social*), and generous, charitable or altruistic (i.e., *made an effort to appear generous, charitable or altruistic*) correlated positively with both change in fertile window probability estimates and change in conception likelihood ($p < .05$) (see Table 15 for mate attractivity items showing significant correlations or trends with change in fertile window probability estimates or change in conception likelihood).

Subsequent exploratory analyses examined whether change in fertile window probability estimates and change in conception likelihood positively correlated with women's reports of change in how many men they flirted with in the past 48 hours [i.e., *in the last 48 hours (last 2 days), how many adults or teens who are of the opposite sex and not biologically related to you did you flirt with in any way?*]. Results revealed that change in fertile window probability estimates positively correlated with change in the number of men women reported flirting with ($r = .35$ $n = 60$, $p = .01$) (see Figure 6a). Likewise, change in conception likelihood also positively correlated with change in the number of men women reported flirting with ($r = .30$, $n = 59$, $p = .02$) (see Figure 6b). These results further emphasize the fact that women's flirting behaviours increase with fertility status.

Table 15

Correlations between Change in Self-Presentation Behaviours Subscale Items and Change in the Probability of Being in the Fertile Window and Change in Conception Likelihood (Hypothesis 2a)

Items Used for Behavioural Change Score	Change in Fertile Window	Change in Conception Likelihood
Made an effort to appear funny	.25^t	.13
Made an effort to appear friendly, kind, or nice	.27^t	.23
Made an effort to appear confident	.36*	.29*
Made an effort to appear flirtatious	.26^t	.30*
Made an effort to appear bubbly	.40**	.27^t
Made an effort to appear innocent	.36*	.19
Made an effort to appear youthful	.45**	.43**
Made an effort to appear feminine	.24^t	.23
Made an effort to appear nurturing	.27^t	.12
Made an effort to appear responsible	.32*	.21
Made an effort to appear social	.32*	.28*
Made an effort to appear popular	.27^t	.21
Made an effort to appear generous, charitable, or altruistic	.33*	.30*
Made an effort to appear adventurous or open to new experiences	.29*	.20
Offered a potential partner a ride[a]	.21	.30*

Note. Only correlations for behaviours where change scores showed significant correlations (or trends) with fertility change scores are reported here. ($n = 49$).
[a] Please note that this behaviour may not reflect a self-presentation behaviour but is a behaviour that individuals engage in order to attract a potential partner.
* $p < .05$.
** $p < .01$.
*** $p < .001$.
$^t < 0.1$.

(a)
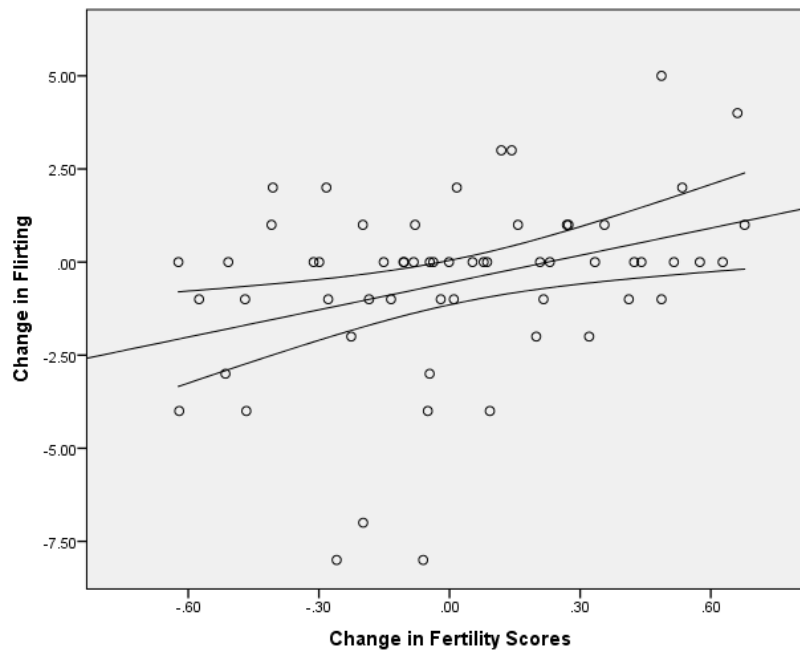
(b)
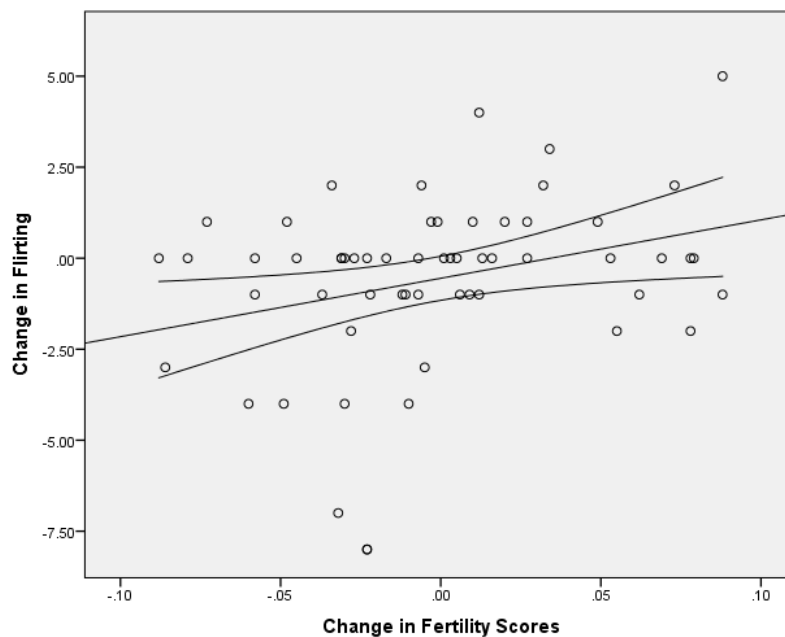
Figure 6. Scatterplots Indicate Positive Relationships between: (a) Change in Fertile Window Estimate Probabilities (Fertility Scores) and change in women's reported number of men they flirted with in the last 48 hours, partial r $(n = 60) = 0.35$, $p = .01$; and (b) Change in Conception Likelihood and change in women's reported number of men they flirted with in the last 48 hours, partial r $(n = 59) = 0.30$, $p = .02$. The graphs reflect the 95% confidence intervals of the means. The positive relationships suggest that increases in fertility are associated with significant increases in the number of men women flirt with.

Hypothesis 2b: short-term and long-term mate attraction strategy use and fertility. In

order to examine whether women would show more frequent or higher levels of mate attractivity

behaviours that were likely to attract a ST partner (i.e., behaviours that reflect, advertise, or

increase qualities that men desire in a ST partner such as physical attractiveness) as opposed to

behaviours that were likely to attract a LT partner (i.e., behaviours that reflect, advertise, or

increase qualities that men desire in a LT partner such as good parenting skills) at points in the

menstrual cycle when fertility was high as compared to times of lower fertility, correlations

between change on the STASS-W and LTASS-W, and change in the fertile window estimates

and change in conception likelihood were computed.

Before conducting the correlations, bivariate correlations between change on the STASS-

W, change on the LTASS-W, change in probability of being in the fertile window and change in

conception likelihood, and relationship status, age, years of education and social desirability

scores were examined (see Table 16 for correlations). No significant correlations were detected.

As a result, no covariates were controlled for in the correlational analyses.

Bivariate correlations indicated that change on the STASS-W did not significantly

correlate with change in fertile window probability estimates ($r = .14$, $p = .28$, $n = 62$) or change

in conception likelihood ($r = .17$, $p = .20$, $n = 61$). Furthermore, bivariate correlations indicated

that change on the LTASS-W did not significantly correlate with change in fertile window

probability estimates ($r = .23$, $p = .07$, $n = 61$) or change in conception likelihood ($r = .20$, $p =$

$.14$, $n = 60$). However, again, both correlations were positive, and the correlation between change

on the LTASS-W and change in fertile window probability estimates approached significance.

This suggested that when probability of being in the fertile window (or conception likelihood)

increased, there was a trend for LT mate attractivity behaviours (i.e., scores on the LTASS-W) to

increase as well.

Table 16

Correlations between Change on the Short-Term Attractivity Strategies Scale for Women (STASS-W), Change on the Long-Term Attractivity Strategies Scale for Women (LTASS-W), Change in Probability of being in the Fertile Window, Change in Conception Probability, and Relationship Status, Age, Years of Education, and Social Desirability Scores (Hypothesis 2b)

Covariate	Main Variables			
	STASS-W Δ	LTASS-W Δ	Fertile Window Probability Δ	Conception Probability Δ
Relationship Status	.01 ($n = 69$)	-.13 ($n = 67$)	.01 ($n = 78$)	.09 ($n = 77$)
Age	-.01 ($n = 69$)	-.16 ($n = 67$)	.02 ($n = 78$)	.01 ($n = 77$)
Years of Education	.01 ($n = 68$)	-.23($n = 66$)^t	-.06 ($n = 78$)	-.01 ($n = 77$)
Social Desirability Scores	.13 ($n = 65$)	-.06 ($n = 62$)	.12 ($n = 69$)	.06 ($n = 68$)

Note. Scores are based on change scores (Δ) for the STASS-W, LTASS-W, Conception Probability, and Fertile Window Probability.
* $p < .05$.
** $p < .01$.
*** $p < .001$.
^{t} $p < 0.1$.

In order to examine whether there are stronger associations between fertility and ST strategy engagement than LT strategy engagement, the significance of the difference between the two correlation coefficients (i.e., STASS-W versus LTASS-W) was examined using a Fisher r-to-z transformation. Results revealed that the correlation between change in fertile window probability estimates and change on the STASS-W was not significantly different than the correlation between change in fertile window probability estimates and change on the LTASS-W, $z = -0.53$, $p = 0.60$ (see Figure 7a). Results also revealed that the conception likelihood and STASS-W change score correlation was not significantly different from the conception likelihood and LTASS-W change score correlation, $z = -0.16$, $p = 0.44$ (see Figure 7b). These analyses suggested that both ST and LT mate attractivity behaviours change roughly the same amount with equivalent changes in fertility across the menstrual cycle. Furthermore, as is apparent from the negative r-to-z transformation (i.e., LTASS-W correlation coefficient subtracted from STASS-W correlation coefficient) and the significant trend between change on the LTASS-W and change in fertile window probability estimates, there is no evidence to suggest that ST mate attractivity behaviours are more strongly associated with increased fertility across the menstrual cycle than are LT mate attractivity behaviours.

Since the correlations between change on the LTASS-W and change in fertility (i.e., fertile window probability estimates or change in conception likelihood) approached significance, correlations between change on the LTASS-W subscales and change in fertility were examined for exploratory purposes in order to determine which specific LT mate attraction behaviours significantly increased with fertility. First, bivariate correlations between change on the LTASS-W subscales, and relationship status, age, years of education, and social desirability scores were examined to determine if any covariates were present. Relationship status and years

(a)
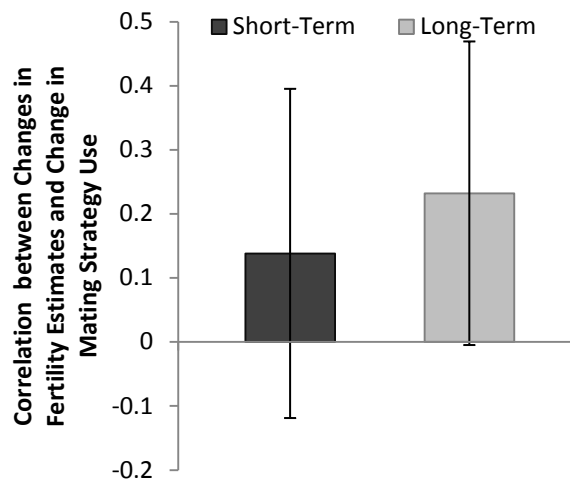
(b)
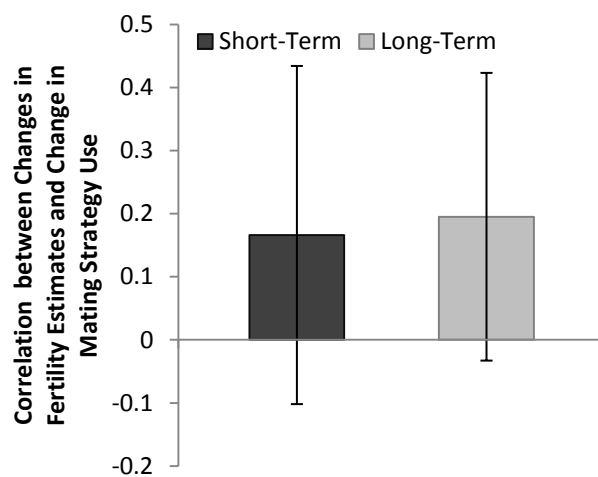
Figure 7. The bar graph illustrates the positive but nonsignificant correlations between changes in fertility between sessions and changes in use of short-term or long-term attractivity strategies. The two figures represent two different measures of fertility change: (a) changes in the probability of being in the fertile window, and (b) change in conception likelihood. Short-term strategies were measured using the Short-Term Attractivity Strategies Scale for Women (STASS-W) and long-term mate attraction strategies were measured using the Long-Term Attractivity Strategies Scale for Women (LTASS-W). The correlations for ST versus LT strategies do not differ with either estimate of fertility. Standard errors are represented in the figure by the error bars attached to each bar using 95% confidence intervals.

of education were negatively correlated with the LTASS-W Self-Presentation Behaviours subscale. As result, these variables were controlled for in the subsequent correlations. Overall, partial correlations revealed that change on the LTASS-W Self-Presentation Behaviours subscale significantly correlated with change in conception likelihood ($r = 0.27$, $n = 63$, $p = .03$). This suggested that as conception likelihood increased, so did LT mate attractivity self-presentation behaviours. No other significant correlations were detected between the change on the subscales and change in fertile window estimates or change in conception likelihood.

For exploratory purposes, partial correlations were computed (i.e., controlling for relationship status and years of education) in order to determine the specific LT mate attraction self-presentation behaviours were associated with fertility (i.e., change in behaviours were examined in relation to both change in fertile window probability estimates and change in conception likelihood). The results indicated that increases in fertility based on fertile window probability estimates and change in conception likelihood were positively associated with increased efforts to appear loyal ($r = .28$, $n = 58$, $p =.03$; $r = .33$, $n = 58$, $p = .029$, respectively); and generous, charitable and altruistic ($r = .27$, $n = 58$, $p = .04$; $r = .37$, $n = 58$, $p = .004$, respectively). Furthermore, increased conception likelihood estimates were also positively associated with an increased effort to appear nurturing ($r = .28$, $n = 58$, $p = .03$) and responsible ($r = .34$, $n = 58$, $p = .007$). No other significant correlations were detected. These results suggest that as fertility increases, so did many of women's self-presentation behaviours that attract potential LT partners.

Hypothesis 3: Sex Differences in Flirting Face-to-Face versus through Technology. The third hypothesis examined whether women will show a greater frequency of use of flirting strategies using technology (e.g., using the internet, texting, etc.) relative to their face-to-face

(i.e., in-person) flirting strategy use, as compared to men. The rationale was that women would perceive cyberspace flirting or mate attractivity strategies as less risky.

Individuals with the following demographics were excluded from analyses given a need to focus on a homogenous heterosexual population: (a) individuals who indicated a sexual orientation score of three or greater on the Kinsey Heterosexual-Homosexual Rating Scale (i.e., indicating they were more than incidentally homosexual since wording of the questionnaires also meant low validity of responses for individuals with low interest in the opposite sex) ($n = 56$) or (b) individuals over 25 years of age (i.e., age was negatively correlated with flirting through technology, $r = -.12$, $n = 472$, $p = .01$, and individuals over the age of 25 used less technology than individuals who were 25 years of age or younger) ($n = 65$). A total of 111 participants were excluded, leaving a maximum sample of 441. In order to examine hypothesis 3, analyses of variance (ANOVAs) were conducted in order to determine whether women, relative to men, flirt more through the use of technology than in-person.

Before conducting the ANOVA, group characteristics were measured to determine whether the groups (i.e., men versus women) differed in age, years of education, relationship status, and social desirability scores (see Table 17 for group equivalency descriptive data and analytical results). Since men and women significantly differed in age, age was controlled for in the subsequent analysis.

Ratio scores were computed for men and women, with technology flirting scores divided by in-person flirting scores in order to determine whether women flirt more when using technology compared to flirting when in-person, relative to men. After controlling for age, women did not engage in more technology flirting than in-person flirting ($M = 0.77$, $SD = 0.24$) relative to men ($M = 0.81$, $SD = 0.20$), $F(1, 364) = 1.41$, $p = 0.24$. The results suggested that, relative to men, women did not engage in more flirting through the use of technology than

Table 17

Means and (Standard Deviations) or Frequencies (Percentages) Used to Assess Group Equivalency between Men and Women in Hypothesis 3

	Means (SD)	
	Men (*n* = 71)	Women (*n* = 370)
Age*	20.25 (2.07)	19.71 (1.97)
Education Score	7.06 (1.84)	7.16 (1.72)
Social Desirability Scores	3.38 (1.68)	3.46 (1.54)
	Frequencies (%)	
Relationship Status		
Single	35 (49.3)	145 (39.2)
Casually Dating	11 (15.5)	68 (18.4)
Married or Living with Partner	5 (7.0)	37 (10.0)
One Partner but Living Apart	19 (26.8)	120 (32.4)

*$p < .05$.
**$p < .01$.
***$p < .001$.
$^t p < 0.1$.

flirting in in-person situations. Further analyses revealed that within women, use of in-person flirting ($M = 36.51$, $SD = 9.36$) was greater than technology flirting ($M = 28.37$, $SD = 12.17$), $t(307) = -16.26$, $p < .001$; with similar results found within men ($M = 31.72$, $SD = 8.31$ and $M = 25.65$, $SD = 9.04$, respectively), $t(56) = -7.02$, $p < .001$. These results suggested that both women and men engaged in more in-person flirting than flirting through the use of technology, as assessed by the behaviours examined here (see Figure 8).

Discussion

Summary of Findings

The results of the present study revealed that men with more masculine traits reported engaging in more masculine mating strategies (i.e., male-typical mating strategies) than men with less masculine traits. Similarly, women with more masculine traits reported engaging in more masculine mating strategies than women with less masculine traits. Surprisingly and inconsistent with the hypothesis, it was found that men with more feminine traits did not use more feminine mating strategies (i.e., female-typical mating strategies) than men with less feminine traits. However, women with more feminine traits did use more feminine mating strategies than women with less feminine traits. Most surprisingly and opposite to the hypothesis, it was also found that women with more masculine traits used more feminine mating strategies than women with less masculine traits, and women with more feminine traits used more masculine mating strategies than women with less feminine traits (and there were no differences for men for either of these comparisons). This suggests mixed support for hypothesis 1. In terms of menstrual cyclicity in mate attraction, women's overall mate attractivity behaviours increased at times of higher fertility during the menstrual cycle. Similarly, as fertility increased over the cycle, women reported an increase in the number of men that they had flirted with over the last 48 hours, indicating support for hypothesis 2a. However, there was no evidence that strategies
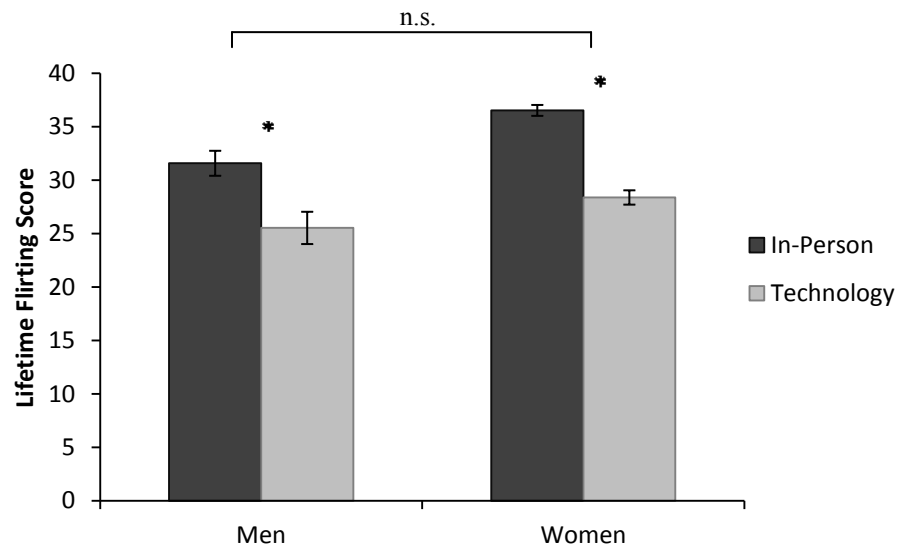
Figure 8. Men and women's lifetime flirting scores for in-person versus technology flirting. Relative to men , women did not engage in more technology flirting than in-person flirting (ratios: *M* = 0.81, *SD* = 0.20 and *M* = 0.77, *SD* = 0.24, respectively). Standard errors are represented in the figure by the error bars attached to each bar using 95% confidence intervals.

that attract ST partners were more strongly associated with high fertility periods than those that attract LT partners (no support for hypothesis 2b). Finally, contrary to hypothesis 3, there was no evidence that women engaged in relatively more flirting through technology than in-person flirting in comparison to men.

Hypothesis 1: Associations between Gender and Sex-Typical Mating Strategies

   Hypothesis 1a: Masculine Gender Traits and Sex-Typical Mating Strategies.

Hypothesis 1a found that men and women with more masculine traits, as defined by gender-typical traits (i.e., BSRI and PAQ masculinity subscale composite scores) engaged in more masculine mating strategies (i.e., male-typical attractivity and mating behaviours) compared to men and women with less masculine traits. The relationship between masculine gender traits and masculine mating strategy use was positive and significant within women and approached significance in men. The latter finding may be due to low power as the group of men may have been too small to detect significant differences between the groups (i.e., high masculine versus low masculine men). However, this finding was consistent with hypothesis 1a. Conversely, not all of the relationships fit with the predictions; women with more masculine gender traits also engaged in higher levels of feminine mating strategies than women with less masculine gender traits. The relationship between masculine gender and feminine mating strategy use was only positive and significant within women and not within men. This suggested that women with more masculine gender traits used more feminine mating strategies than women with less masculine traits but that men high or low in masculine traits did not differ in their use of feminine mating strategies. It appears that this is the first study to examine whether gender-related traits predict sex-typical mating strategy use in men and women as previous research has not yet examined whether gender identity accounts for a significant amount of variance within the sexes in male-typical and female-typical mate attraction strategy use.

Hypothesis 1b: Feminine Gender Traits and Sex-Typical Mating Strategies. As predicted, women with more feminine traits engaged in more feminine mating strategies than women with less feminine traits. This finding was consistent with hypothesis 1b. However, men with more feminine traits did not engage in more feminine mating strategies than men with less feminine traits. This suggested that women with more feminine traits engage in more feminine mating strategies than women with less feminine traits, but men high or low in feminine traits do not differ in their use of feminine mating strategies. Again, this latter finding may be due to the small sample size and inherent lack of power as correlations between female-typical traits and feminine mating strategies were in the hypothesized positive direction (see Table 9 for correlations with gender-typical traits and masculine and feminine mating strategies subscales).

Though not predicted, feminine gender traits and masculine mating strategy use were also significantly positively related to each other within women but not in men. This suggested that women with more feminine traits used more masculine mating strategies than women with less feminine traits but men high or low in feminine traits did not differ in their use of masculine mating strategies. Taken together with the above findings, these results suggest that within women, having more female-typical traits results in engaging in more masculine and more feminine (i.e., male-typical and female-typical) mating behaviours.

Explanations for hypothesis 1. One explanation for the positive associations between masculine gender traits and masculine mating strategy use (for both sexes) and feminine gender traits and feminine mating strategy use (for women) involves the Similarity-Attraction Hypothesis". According to the Similarity-Attraction Hypothesis, individuals feel most attracted to potential mates who are similar to themselves (Dijkstra & Barelds, 2008). Furthermore, similar partners are assumed to be attractive because they validate one's beliefs about the world and oneself, and reduce risks of conflict. Similarity between partners actually enhances

relationship satisfaction, which increases one's own and one's offspring's chances of survival by helping maintain the quality and length of the partnership. Moreover, research has reported that partners with similar personalities are at a reduced risk of marital dissatisfaction and divorce (Lutz-Zois et al., 2006). Individuals who identify with a highly masculine gender identity may use more masculine (or feminine) mating strategies in order to attract a similar partner. This is relevant here as our measures of gender identity reflect personal traits. As reported in the current study, masculine traits (i.e., composite BSRI and PAQ masculinity subscale scores) were positively correlated with the MASS and FASS Self-Presentation Behaviours subscales, which measure one's effort to appear to possess certain gender-typical traits that increase one's mate attractivity. As such, appearing to possess similar personal traits to a potential partner may increase one's chances of attracting that partner, thus maximizing partner attainment and mating success. Therefore, it may be ideal for individuals high in masculinity to use a masculine (or feminine) mating strategy in order to attract a similar partner.

One difficulty with the above explanation is that high levels of masculine gender traits and high levels of feminine gender traits were both unique predictors of both masculine and feminine mating strategy use in women. As such, women with high levels of gender-related traits (i.e., not necessarily female-typical traits) engage in more sex-related mating strategies. As indicated earlier, this was not reported within men.

The finding that high levels of male-typical and female-typical traits result in high levels of overall feminine and masculine mating behaviours in women, but not in men, may be explained from a social psychological perspective. It follows that women may engage in more diverse forms of mating behaviours (e.g., both feminine and masculine) due to the social sanctioning of women to engage in various forms of behaviour and mating. In other words, it is more acceptable for women to behave both in masculine and feminine ways than it is for men.

For example, it is not as socially acceptable for men to display emotion (e.g., Bem, 1974; Parkins, 2012; Prentice & Carranza, 2002) and to perhaps engage in some feminine mating strategies. Due to societal pressure to behave in stereotypical masculine ways, men may not show as much variability in their mating behaviours. The greater variability in women than men can also be observed in the correlations in Tables 8 and 9. Moreover, stereotypical masculinity in both sexes is more highly valued by society than feminine characteristics in both sexes (Rosenkrantz, Vogel, Bee, & Broverman, 1968). As such, society values masculinity more, no matter who is practicing it. Even though women are admonished for acting outside of gender roles, they often have more freedom to be masculine than men do to be feminine. Since women may not have experienced as much social punishment for deviating from their femininity (that is not to say that women have not been socially repressed for displaying "too much" masculinity), women have more freedom to exercise greater variability in their gender-typical traits, and thus behaviours and mating efforts (i.e., women are "allowed" to behave in masculine ways). However, this explanation may not fully capture the reason why women with more masculine traits used more feminine mating strategies than women with less masculine traits, and why femininity and feminine mating strategy use was associated in women but not in men.

Feminine gender traits and feminine mating strategy use may also be explained by men's and women's mate preferences. It is possible that men are more accepting of partners with a range of attractivity strategies whereas women are less accepting and more selective. For example, the Parental Investment Theory posits that men, who arguably invest less time into their offspring, are more likely to devote a large proportion of their mating efforts to mateships with multiple partners (Buss & Schmitt, 1993). However, women, who arguably invest greater time into their offspring due to pregnancy, are more likely to engage in mating with higher quality mates in order to provide potential offspring with both healthy genes and resources

(Simpson & Gangestad, 1991). As such, men may be less discriminate in their mate choice while women may be more selective. Furthermore, women value dominance and physical strength in their partners more so then men (which may be indicated by one's masculinity) while men value physical attractiveness more so then women (which may be indicated by one's facial masculinity or femininity as both have been found to be attractive depending on the mating context, ST versus LT) (e.g., Little, Jones, Feinberg, & Perrett, 2013). Since men may be less fastidious in their mate choice, women who display either masculine or feminine traits may be chosen as mates, while men who display femininity have a lower probability of being chosen as partners as women are much more selective in their partner choice. Furthermore, perhaps the lack of association between high femininity and feminine mating strategy use in men is that women are not attracted to feminine mating strategies when displayed by men and such men have either been punished or not rewarded for such behaviours (i.e., they have been selected against in sexual selection by not being chosen as partners). Thus, it might be suggested that women show greater variety in their mating strategies than men, however, this may be due to men being more accepting of a larger range of mating strategies whereas women are only open to a small range of attraction tactics. Since men are more open to sex in order to pass on their genes, it may be that all mating behaviours women engage in are reinforced whereas men are much less likely to be reinforced for different mate attraction strategies given that women need to be more selective in their partner preferences (i.e., women bare the maternal obligation of pregnancy and therefore must chose mates who possess indicators of good genes or are able to provide security and resources).

Another possible explanation for the finding that high levels of gender-typical identity traits (i.e., high masculine and feminine traits) result in higher levels of masculine and feminine mating strategies within women is that women may engage in behavioural attempts to maximize

their mating pool by compensating for physical features associated with specific sex hormones. Sex hormones, specifically testosterone and estrogen, exert great influence on the sexually dimorphic features of men and women (e.g., jaw size, breast development, waist-to-hip ratio). Though not measured in this study, women may feel they possess more male-typical or female-typical physical characteristics (e.g., broad shoulders versus full lips), which may influence their mating efforts. Individuals who feel they possess more male-typical or female-typical physical characteristics than their peers may feel the need to use the greatest variety of mating efforts (i.e., both masculine and feminine) in order to attract a potential partner. In other words, a masculine-looking woman may feel that she must compensate for her lack of female-typical physical characteristics by portraying female-typical gender traits. Similarly, a highly feminine-looking woman may feel that she must compensate for her lack of masculine physical features by portraying male-typical gender traits and mating strategies. These strategic compensations for physical features caused by hormone levels would be adaptive as it would maximize the number of potential partners. However, it is noted that this explanation does not explain why men do not compensate for their lack of gender-typical characteristics by engaging in opposite sex mating strategies as it should be beneficial for men to do so in order to maximize their mating success. Again, this may be explained by society's stereotypical view of male masculinity. Lastly, it is possible hormonal changes across the menstrual cycle may have an effect on women's sex-typical mating behaviours. Women's cyclical hormone levels across the menstrual cycle may play a role in activating both masculine and feminine mating behaviours. This kind of an explanation might explain why men do not show as much variability, as men do not experience the same cyclicity in the same hormones (e.g., progesterone, estradiol, and testosterone).

It is important to mention that the BSRI and PAQ have not been consistent in finding sex differences on measured masculinity but consistent sex differences have been found for

femininity (Hill et al., 2000). This issue is interesting and in some ways actually opposite to the findings reported in the current study. Taken together with the current study's findings, this seems to suggest a few possibilities. First, the current study's failure to find support for the hypothesis that high feminine men engage in more female-typical mating strategies than low feminine men is not due to problems with the femininity composite scale as both scales making up the composite showed sex differences. Second, although the BSRI and PAQ's measures of masculinity do not always show sex differences, in the present study they did distinguish between men and women who scored low and high in male-typical mating strategies. Third, the latter point may suggest that traditional measures of masculinity such as those on the BSRI and the PAQ might better reflect masculine gender if they were to incorporate male-typical mating behaviours into the scales, rather than relying only on gender traits. Thus, previous work on the scales making up the composite measures of masculinity and femininity provide validity for the current findings.

In summary, several explanations have been offered to explain the results of hypothesis 1 and each of these may have some validity. First, masculine gender traits may be linked to male-typical mating behaviours in both men and women, and feminine gender traits may be linked to female-typical mating behaviours in women since individuals may employ them in order to attract their ideal partner (i.e., Similarity-Attraction Hypothesis). However, this explanation does not account for the reason why femininity and feminine mating strategy use were not significantly associated within men. This may be explained by society valuing masculinity in both men and women more than femininity. As such, women are more likely to display both forms of gender and engage in masculine and feminine mating strategies more so than men. Furthermore, feminine traits and feminine mating strategy use may also be explained by men's and women's mate preferences such that men may desire various qualities in their mates

including masculinity and femininity while women are more selective due to their reproductive

obligations. Furthermore, within women, hormones may exert influence on their mating

strategies as possessing more masculine or feminine physical characteristics may result in

individuals compensating for their lack of female- or male-typical characteristics by engaging in

masculine or feminine mating strategies. However, it is acknowledged that this explanation does

not account for the lack of association between gender-typical traits and sex-typical mating

strategy use in men. However, menstrual cyclicity may explain why women show more

variability in their mating efforts than men, as men do not experience the same cyclicity in

hormones. Lastly, it appears that this study is unique as this is the first study to examine

associations between gender-related identity traits and sex-typical mating strategy use.

Hypothesis 2: Mate Attraction Strategies and Fertility Across the Menstrual Cycle

  Hypothesis 2a: Overall Mate Attraction Strategy Use and Fertility across the

Menstrual Cycle. Hypothesis 2a found that there was a peak in attractivity and mating strategies

during high fertility times of the menstrual cycle compared to low fertility times. Thus, the

findings from hypothesis 2a were consistent with predictions (i.e., a peak in mate attraction

strategy use and flirting behaviours during high-conception likelihood times in the menstrual

cycle as compared with low conception-likelihood times).

  Several studies have documented women's behavioural changes across the menstrual

cycle which are consistent with the findings from hypothesis 2a. For example, it has been

reported that women engage in greater self-ornamentation through self-grooming and attractive

choice of clothing (e.g., fashionable or revealing) when their ovulation probability increases

(Haselton et al., 2007). This is similar to the finding that women perceive themselves and are

perceived by men to dress more provocatively during high fertile compared to low fertile phases

of the menstrual cycle (Schwarz & Hassebrauck, 2008). Likewise, it has also been found that

women report feeling more attractive and desirable, experience an increase in sexual interest, and engage in more appearance related styling at days near ovulation than on other days of the menstrual cycle when fertility is low (Roder, Brewer, & Fink, 2009). Furthermore, when women are fertile, they report greater interest in attending social gatherings where they might meet men (Haselton & Gangestad, 2006). Women have also been found to be more attracted to and flirt more with men other than their primary partner near ovulation, however, this effect is exhibited primarily by women who perceive their partners to be low in sexual attractiveness. Women also display more intrasexual competition when they are ovulating, such that women rate pictures of other women as less attractive when they are fertile compared to when they are low in fertility (Fisher, 2004). This indicates that women's sexual motivations and confidence increase when they are fertile as women derogate their same-sex rivals as a tactic to make the rival appear inferior relative to oneself. Together, these findings suggest that women engage in several behaviours aimed at attracting potential partners as the probability of fertility increases. The findings of the current study are consistent with all of these findings as women's overall mating behaviours (i.e., OWASS scores), including those reported in previous research, increased during high conception likelihood times of the menstrual cycle. Thus, several previous studies are consistent with the present study's findings.

As mentioned previously, individuals engage in several strategies that make them appear more attractive to potential mates (e.g., increasing one's exposure to potential mates, acting nice, giving compliments, touching, and displaying sophistication and physical attractiveness) (Buss, 1988a; 1988b). Several of these personal characteristics were reflected in the OWASS Self-Presentation Behaviours subscales, such as making an effort to appear loyal, making an effort to appear generous, charitable or altruistic, making an effort to appear nurturing, making an effort to appear responsible, and making an effort to appear confident. These personal characteristics

arguably display one's sophistication, while making an effort to appear youthful demonstrates one's physical attractiveness. As well, the Self-Presentation Behaviours subscales was the most strongly linked to conception likelihood of all the OWASS subscales, suggesting that women may actively highlight or alter their personal qualities when they are most likely to conceive in order to attract potential mates who desire these characteristics in their partners. Likewise, it was found that women's use of social networking websites to contact potential partners also increased with fertility. This may suggest that women use social networking websites to increase their exposure, their contact with potential partners, and their likelihood of finding a partner near ovulation. Such a strategy would increase one's chance of finding a potential mate in a safer context where there is reduced risk of rape (e.g., Broder & Hohmann, 2003) and when conception likelihood is highest.

Several theories may be used to explain the results of hypothesis 2a. For instance, the ovulatory-shift hypothesis suggests that women seek extra-pair partners during high fertility days, however, this is dependent on their primary partners' features (Gangestad et al., 2007). If women are partnered with mates who lack indicators of good genes (e.g., attractiveness), they are more likely to look outside the primary relationship to seek partners with the attributes their current partners' lack. As such, women will engage in several mate attractivity strategies during high conception likelihood times of the menstrual cycle in order to attract a potential new partner. However, this theory indicates that only women who are partnered with "unattractive" men will seek extra-pair mates during high fertility times of the menstrual cycle. As such, it does not explain why women who are not partnered or those partnered with "attractive" men engage in greater mate attractivity efforts during high conception likelihood times. Therefore, another evolutionary theory that is similar to the ovulatory-shift hypothesis may be used to explain the results of hypothesis 2a. The dual strategy theory suggests that women copulate for two reasons;

during high fertility for direct genetic benefits (i.e., good genes) and during low fertility to obtain indirect non-genetic material benefits (i.e., financial and parental support) (Alvergne & Lummaa, 2009; Thornhill & Gangestad, 2008). The dual strategy suggests that women desire men more for their physical attractiveness and engage in ST mating behaviours when conception-likelihood is high but desire security and parental support, and engage in LT mating behaviours at other times of the menstrual cycle. This theory suggests that women's mating behaviours change across the menstrual cycle, however, it also suggests that only women's ST mating behaviours increase with conception likelihood. Thus, it does not explain why women's overall mate and attractivity behaviours increase with fertility. However, one more theory may lend support for the results of hypothesis 2a; the Periovulatory Sociosexuality Tactic Shift (PSTS) theory (Oinonen et al., 2008). PSTS theory suggests that restricted women (i.e., those interested in LT mating) shift towards a more unrestricted sociosexual orientation near ovulation, while unrestricted women (i.e., those interested in ST mating) become interested in uncommitted sex when they are least fertile (Oinonen et al., 2008). This theory predicts that restricted women may show a greater periovulatory peak in seeking ST mates with high physical attractiveness (i.e., good genes) during high fertility phases, as compared to unrestricted women. Thus, it may be suggested that depending on one's general sociosexual orientation, women will engage in various forms of mate attractivity behaviours during different points of the menstrual cycle. However, unless the women sampled in the current study were restricted, this PSTS theory does not fully explain why women's overall use of mating strategies peaked with conception likelihood. Furthermore, PSTS theory primarily suggests that women's ST strategies (e.g., one night stand likelihood) change with conception-likelihood and it does not explain changes in women's LT mating behaviours. Thus, it appears that no one theory explicitly explains or

predicts that women's overall (i.e., ST and LT) mating behaviours change across the menstrual cycle, making the findings of the current study rather unique.

The present study is unique from previous studies as it examined many mating strategies that women may employ in order to attract a potential partner while previous studies have tended to be more narrow in scope by examining, for example, only mate preferences (e.g., Gangestad et al., 2004; Gangestad et al., 2007; Little, Jones, & Burriss, 2007; Little et al., 2007; Rantala et al., 2010), clothing choice (e.g., Haselton et al., 2007; Roder et al., 2009), vocal attractiveness (e.g., Pipitone & Gallup, 2008), extra-pair desire (e.g., Pillsworth & Haselton, 2006), facial attractiveness (e.g., Roberts et al., 2004; Schwarz & Hassebrauck, 2008), body scent attractiveness (e.g., Kuukasjarvi et al., 2004; Rikowski & Grammer, 1999), receptivity (e.g., Gueguen, 2009; Gueguen, 2009), interpersonal styles (e.g., Markey & Markey, 2011), or gait (e.g., Provost, Quinsey, & Troje, 2008). The current study examined attractivity behaviours that likely increase women's attractiveness in the ST and LT. This study was the first to examine the following behaviours as a function of fertility: (a) one's tendency to advertise certain personality traits, (b) one's use of remote communication to contact potential partners, (c) one's sports participation, (d) one's household skills (e.g., cooking, cleaning, general household repairs), (e) one's attractivity knowledge (e.g., reading about how to mix drinks, give massages, or flirt), (f) one's engagement in education and work responsibilities (e.g. going to work, completing school related activities outside regular school hours), and (g) one's in-person and technology flirting. Thus, the current study uniquely examined many attractivity and mating strategies that women engage in during high conception likelihood periods of the menstrual cycle all in one study. Furthermore, no one theory can be purposed to explain such results as the present study's results appear unique in nature.

Hypothesis 2b: Short-Term Mate Attraction Strategy use, Relative to Long-Term, and Fertility across the Menstrual Cycle. Contrary to predictions, there was no evidence to support a peak in ST behaviours with conception likelihood or fertile window probability estimates. However, it is noteworthy that there was a trend for behaviours that attract LT partners to show such peaks. Although hypothesis 2b was not supported, there was an association in the predicted direction ($r = .14$ and .17) and the correlation would likely be significant in a study with more participants and greater power. However, the findings do suggest that at high conception likelihood times, women engaged in more mate attractivity behaviours that were likely to attract both ST and LT partners. The results of hypothesis 2b may suggest that women engage in several general mate attractivity behaviours when ovulation increases, and there is not a selective focus on engaging in behaviours that attract ST partners. Confidence in these findings comes from the fact that the measures of ST and LT strategy use (i.e., STASS-W and LTASS-W) showed strong test-retest reliability and internal consistency. Furthermore, there was evidence of convergent and divergent validity for the STASS-W. It is important to note that the LTASS-W was not correlated with the LTMO scale, which may appear to suggest a lack of convergent validity. This may be explained by the fact that LTMO measures a different construct than LT mating behaviours. For example, LTMO measure one's sociosexual attitudes (i.e., LT sexual and mating attitudes) while the LTASS-W measures one's actual conscious and unconscious mating behaviours. As such, unconscious mating behaviours, such as those reflected on the LTASS-W, may not relate to one's conscious LT mating attitudes, such as those measured on the LTMO. One's actual engagement in LT mating behaviours, which arguably are more implicit than ST mating behaviours, therefore may not correlate with one's explicit LT mating attitudes.

As pointed to above, there was no evidence to suggest that behaviours that attract ST partners peak with conception likelihood more so than behaviours that attract LT partners. This finding does not fit with modern theories, such as Strategic Pluralism Theory (i.e., women ST mate at high fertility times independent of their LT desires in order to obtain genetic benefits for potential offspring), the ovulatory shift hypothesis (i.e., women whose primary partners' lack indicators of good genes are particularly attracted to extra-pair partners at high conception likelihood phases), dual strategy theory (i.e., women mate during high fertility for direct genetic benefits and during low fertility to obtain indirect non-genetic material benefits), or PSTS theory (i.e., restricted women show a greater periovulatory peak in seeking ST mates with high physical attractiveness). However, the current findings are consistent with Parental Investment Theory (Trivers, 1972). According to Parental Investment Theory, women need to invest more time in their offspring (e.g., during pregnancy and lactation) in order for their offspring to have a chance of survival, while men only need to invest in the act of sexual intercourse and any behaviours that lead up to such an act. Due to this misbalance in parental investment, women are thought to be more conscientious in their mate choice. Therefore, women are likely to become romantically involved with partners who possess "high quality" characteristics such as those present in LT partners (e.g., financial success, parental qualities, and physical attractiveness). It is pertinent to mentioned that Parental Investment Theory may also consistent with the findings from hypothesis 2a, suggesting the value of the theory in explaining mating strategies. Furthermore, individuals are also likely to mate with partners who are similar to themselves (i.e., Similarity-Attraction-Hypothesis; Dijkstra & Barelds, 2008). As such, women may not differ in the degree to which their efforts at attracting a ST versus LT partner are linked to conception likelihood. Furthermore, it is even possible that women may show peaks in behaviours that attract LT partners during times of high fertility (as reflected by the trend noted in the present study). Given

that women tend to be more oriented towards LT relationships than men (Simpson & Gangestad, 1991), it makes sense that they would engage in behaviours that maximally attract a LT partner when most fertile (i.e., people are attracted to those who are similar to themselves and desire partners with high quality traits such as those present in long-term partners).

In many respects it appears most adaptive for women to engage in high levels of both ST and LT mate attractivity behaviours when conception likelihood is highest as this would maximize a woman's chances of finding the "ideal" partner and getting pregnant. Many men may have both good genes and be a "good provider", thus some women with very high mate value may be able to find the ideal partner who satisfies both the "good provider" and good genes role by maximally using all mate attraction strategies available to her. However, for most women it may be difficult to find these two sets of traits in the same man. As a result, it has been suggested that women may take on a dual mating strategy, ST and LT mating (Pillsworth & Haselton, 2006). The dual strategy implies that women copulate for two reasons, first, during high fertility, for genetic benefits, and second, during low fertility, to obtain non-genetic material benefits (Alvergne & Lummaa, 2009; Thornhill & Gangestad, 2008). The present study's results are not consistent with this dual strategy model. However, as noted above, displaying both ST and LT attractivity behaviours when conception likelihood is highest may in fact be most adaptive as it may increase one's overall probability of attaining a partner.

Furthermore, Markey and Markey (2011) reported that women tend to become more interpersonally warm (measured using the Interpersonal Adjective Scale) around high fertility and that men prefer this quality in their partners. As noted earlier, interpersonal warmth is a universally valued characteristic in both men and women regardless of relationship type (ST versus LT) (Buss, 2005). Moreover, the characteristics of kindness, consideration, affection, dependability, understanding, extraversion, and agreeableness (which arguably are displayed by

LT partners more so than ST partners) are all characteristics men reported to desire in their female partners (Markey & Markey, 2006). Understanding the link between mate preferences and various interpersonal characteristics provides insight into the types of interpersonal behaviours men tend to find most attractive in potential mates and the behavioural styles women might express during periods of high fertility in order to attract potential partners. Thus, women alter their behaviours during periods of high fertility to match the desires of men regardless of whether the behaviours attract ST or LT partners. In other words, our findings suggest that women are likely to engage in both ST and LT attractivity and mating strategies in order to maximize their chances of attaining a partner.

The results of hypothesis 2b are unique in that the findings suggest that women's ST mating strategies do not increase with fertility more so than LT mating strategies. Instead, it appears that women's overall mating behaviours peak with conception likelihood. Though the findings regarding ST mating strategies do not fit with newer theories of women's mating behaviours (e.g., SPT, ovulatory shift-hypothesis, dual strategy theory, and PSTS), they do fit with older theories (e.g., Parental Investment Theory) which may be more generalizable to the female population. The present findings suggest that it may be most adaptive for women to engage in high levels of both ST and LT mating behaviours when conception likelihood is highest as this can maximize a woman's chances of attaining an ideal partner (e.g., one who possesses both physical attractiveness and good parenting skills) and her likelihood of conception.

Hypothesis 3: Sex and Flirting Strategies (Face-to-Face versus Through Technology)

Though exploratory, the third hypothesis suggested that relative to their face-to-face (i.e., in-person) flirting strategy use, women would show a greater frequency of use of the same flirting strategies through technology (e.g., using the internet, texting, etc.) as compared to men.

The rationale was that women would perceive cyberspace flirting or mate attractivity strategies as less risky. However, the findings from the current study were not consistent with this hypothesis. That is, there was no evidence that women reported relatively more flirting through technology than in face-to-face interactions as compared to men. Although women tended to flirt more than men using the assessed techniques, there was no evidence to suggest that they tended to use the potentially less-risky strategy of flirting through technology (e.g., email, mobile phone text, social networking websites, etc.) more frequently than men when overall frequency of both types of flirting behaviour were considered.

Research has reported that women flirt, on average, more than men, but that women use it more subtly (Grammer, 1990; Grammer, Kruck, Juette, & Fink, 2000; Grammer, Kruck, & Magnusson, 1998; McCormick & Jones, 1989). Researchers have identified several nonverbal displays of flirting that women use to signal and attract potential mates, including smiling, laughing, touching, leaning, and primping (Moore, 1985). Furthermore, women are usually the sex to initiate flirting while men are more likely to respond to women's nonverbal behaviours (Whitty, 2004). Consequently, the finding that women flirted more in-person is supported by previous research.

Surprisingly, women reported flirting more during face-to-face interactions than when flirting through the use of technology, despite the fact that there was not a sex difference in the ratios of these two types of flirting. Originally, the hypothesis stated that women would feel more comfortable flirting (i.e., due to the lesser degree of risk of rape or assault) when using technology to communicate with a potential partner than when communicating with the same partner through face-to-face interactions. However, examination of sex differences and levels of flirting within women do not provide any evidence to support this. Previous research has reported that women feel safer initiating sexual relationships through the medium of technology

(Fox, 2004; Whitty, 2003). Despite the safety that technology might provide, the current study's sample reported greater flirting efforts during physical interactions. This may be due to the immediate access to a partner provided by physical interactions. It is possible that proximity to a potential partner overrides safety precautions. Furthermore, it might be more practical to invest one's time in trying to attract a potential partner during face-to-face interactions than through the use of technology, as face-to-face interactions may result in more immediate partnerships. These explanations suggest that physical safety is not as important as other considerations when choosing a mating strategy for women. Another possibility is that support for the hypothesis may not have been found simply because our society has not progressed to a place where people feel as comfortable with technology as to use it in this manner. If this is the case, one would predict that future investigations of this hypothesis (e.g., in ten years) would be more likely to find the predicted sex differences.

Hypothesis 3 was not supported and there was even evidence to suggest that women engage in more frequent flirting in-person than through technology. Women reported flirting significantly more than men during physical interactions but only showed a trend to flirt more when using technology to attract a potential partner. It has been suggested that using the internet to communicate allows for a reduction in embarrassment and the fear of rejection (Whitty, 2003). Leigh (1989) reported that men are more likely than women to limit sexual activity due to fear of rejection. In consideration of this finding, men may feel more comfortable pursuing a potential partner when face-to-face contact is avoided. This possibility may have served to reduce sex differences when flirting in performed "online".

To summarize, the third hypothesis provided no evidence to suggest that women engage in relatively more flirting through technology than in-person, relative to men. Thus, there is no support for the idea that women may use technology to flirt in order to increase the safety of

flirting interactions. Furthermore, there was evidence that women tend to flirt more during physical interactions than through technology which may be due to the immediate benefits that in-person contact may provide to newly developing relationships.

Strengths and Limitations

A strength of this study was that it was one of the first to measure a large range of flirting and attractivity strategies individuals employ, and likely the first to do so in the context of the stated hypotheses. Although the list was not exhaustive, the overall goal was to capture many possible types or categories of strategies that individuals may consciously or unconsciously employ in order to attract potential partners. A similar yet less comprehensive measure of mate attractivity was developed by Buss (1988) (i.e., Mate Attraction Tactics). However, that questionnaire lacks some specific categories of mate attractivity strategies such as behaviours that individuals engage in throughout their lifetime that enhance their LT attractivity (e.g., getting an education and being employed). Furthermore, it also only measures lifetime engagement (e.g., *How often have you done this to attract a member of the opposite sex?*) while the FAMS measures lifetime and 48 hour engagement. Thus, the questionnaire developed for the present study appears to be the most comprehensive in terms of evaluating the full range of mate attraction strategies in terms of behaviour, and both ST and LT mate value enhancement techniques. For example, applying make-up or wearing a revealing outfit might enhance a woman's immediate success of obtaining a ST partner while spending time learning to cook, clean, or obtain an education might enhance her future chances of finding a LT partner. Through the creation of the FAMS questionnaire, the current study was able to comprehensively measure the effect of sex, gender, and the menstrual cycle on mating strategies that individuals consciously or unconsciously utilize to attract mates.

An additional strength of the current study included the examination of within sex differences rather than between sex differences. A majority of mating strategy research focuses on sex differences (i.e., Bleske-Rechek & Buss, 2006; Buss, 1988; Buss & Schmitt, 1993; Jackson & Kirkpatrick, 2007) with a limited focus on within-sex differences. The current study is one of a few studies to examine within sex differences (i.e., Gangestad & Simpson, 2000).

Measuring change in conception likelihood or change in probability of being in the fertile window may be a more accurate or inclusive measure of women's fertility as compared to placing them into menstrual cycle phases or groups with low versus high fertility categories. This method allowed for all women to be included in the study (e.g., women of moderate conception likelihood) as opposed to selecting only those who are low and high. Furthermore, this study appears to be the first study to examine whether *change* in these fertility estimates is associated with *changes* in mating behaviours over the cycle. Previous within-subject studies have not employed difference scores. Moreover, the current study included measures of fertility using both methods which resulted in more meaningful results since each measure considered different important characteristics of a woman's menstrual cycle. For example, conception likelihood estimates took into account a woman's cycle regularity (e.g., regular versus irregular) while probability of being in the fertile window took into account a woman's cycle length. Therefore, the methods used by the current study to detect fertility included sensitive individual difference indicators of ovulation probability which would enhance the accuracy of the fertility estimates.

Another strength of the current study was the use of the internet through a secured website (i.e., SurveyMonkey) to distribute the questionnaire. Online questionnaires inherently possess respondent anonymity as the researcher does not have to meet the participant in order for the participant to participate in the study (Bowie, Hergenrather, & Rhodes, 2003; Temple & Brown, 2011). As such, researchers are unable to identify individual participants who have

completed their study. When participants feel a sense of anonymity, they may feel more comfortable answering personal questions (i.e., regarding one's sexuality, previous relationships, and menstrual cycle) and may answer in a more forthright and honest fashion (Bowie et al., 2003). In the current study, participants were asked to provide an email address in order to complete session II. However, once the study was closed online, all identifying information was removed from the data to ensure participants' anonymity. Thus, given the personal nature of some of the questions in this study, the use of an online format likely increased anonymity and honesty.

Furthermore, the present study included a measure of social desirability (i.e., the Marlowe-Crown Social Desirability scale short-form) which was used to control for response biases in all the analyses. Responses from individuals who indicated a strong social desirability bias were controlled for in the analyses, thus limiting their effects on the overall results.

The study included a composite measure of masculinity and femininity which combined the scores of two separate measures of gender identity (i.e., scores from the BSRI and PAQ Masculinity and Femininity subscales). Composite scores tend to be much more reliable than noncomposite scores because longer tests (e.g., the composite) tend to be more reliable than shorter tests (e.g., the subtests) (Cane & Kase, 2004) and because inevitable error associated with measurement become averaged out when scores are combined (Ossenkopp & Mazmanian, 1985). As such, having measured gender identity from various perspectives yielded more psychometrically sound measures of masculinity and femininity. The study's measurement of gender identity may also be considered a limitation in that it only measured gendered attitudes (e.g., BSRI and PAQ). Gender also includes one's physical attributes, preferences, and behaviours (Spence, 1993). Pereria and colleagues (2012) measured anthropometrical indicators of masculinity and femininity (i.e., hand grip strength, WHR, 2D:4D, vocal tone, etc.) and found

that specific anthropometric features of gender identity predict mating behaviour. Therefore, measuring gender identity in the current study through anthropometric methods might have increased the validity of the gender measures and may have yielded greater support for hypothesis 1.

Another potential limitation of the current study included reliance on women's predictions of next and last menstruation to determine menstrual cycle phase. It is possible that some women were inaccurate in their predictions, which may have led them to be excluded or miscategorized into conception likelihood and fertile window probability estimates. A more accurate method to measure conception likelihood may have included ovulation detection kits or the use of hormone samples to confirm ovulation and menstrual cycle phase (Streuli et al., 2009). In addition, there were a small number of women included in the menstrual cycle analyses thereby reducing the likelihood of finding true effects (e.g., Wallwiener et al., 2010). The small samples sizes were due to strict inclusion criteria needed to eliminate possible biases in hypothesis 2.

Future Directions

It may be beneficial for future studies to continue to examine men and women separately by measuring within sex differences as opposed to between sex differences. As mentioned above, previous studies have focussed on differences in mating behaviours between men and women rather than differences within men and women. By measuring what differentiates men and women who engage in masculine mating strategies from men and women who engage in feminine mating strategies, researchers are better able to examine mate attraction strategies from a broader scope and to look at predictors of mating strategy that are both common and distinctive within the sexes. Instead of focussing solely on sex differences, research should focus on what occurs within each sex in order to apply such findings to specific populations (i.e., masculine

versus feminine men and women). Future research may also benefit from examining the possible role of gonadal steroid hormones (e.g., estrogen, progesterone, and testosterone) in the relationships between gender and mating behaviours within each sex as gonadal steroid hormones have been shown to influence one's gender identity (Hines, 2009).

Exploring the specific changes in mating strategies throughout the menstrual cycle points to the need for future research to not only focus on how behaviours that attract ST partners change over the menstrual (e.g., wearing seductive clothing; Haselton et al., 2007), but also on how behaviours that attract LT partners change over the menstrual cycle as well. As mentioned previously, it may be that women's overall mating behaviours (i.e., behaviours directed towards attracting both ST and LT partners) increase as conception likelihood increases. Another important variable to consider is the relative role of an individual's overall mating orientation (e.g., STMO versus LTMO). If an individual is generally interested in attracting LT partners, then their LT attractivity behaviours may be more likely to peak at high fertility times than their ST attractivity behaviours (and vice versa). Therefore, future research should also include a measure of women's mate orientation in order to explore this question.

Exploring the specific reasons why men and women engage in specific flirting and mate attractivity behaviours may have implications for relationships. Individuals may seek partners who possess specific characteristics (e.g., someone who is attractive, has resources, offers emotional support, is similar to one's self in terms of gender identity) because they feel this is the most desirable "type" of partner. However, it may be beneficial to analyze the reasons why people choose the partners they do to help those who feel like they "always" end up in the wrong relationships.

Last but not least, continued research in the area of attractivity and mating behaviours may also help individuals or couples receiving relationship counseling to better understand their

behaviours, thoughts, and emotions through the use of empirical research, which may result in better therapeutic outcomes.

Summary

Overall, the results of the present study indicated that individuals high on masculinity tended to use more masculine mating strategies than individuals low on masculinity. Moreover, women high on femininity engaged in more feminine mating strategies than women low on femininity. This finding was not replicated in men. Although not hypothesized, women high in both gender identities engaged in more overall (i.e., masculine and feminine) mating strategies than women low in these gender identities. Investigation of the second hypothesis indicated that women's overall mating strategies increased as conception probability increased. However, there was no evidence to suggest that behaviours focussed on attracting ST partners were significantly associated with conception probability more so than behaviours aimed at attracting LT partners. Lastly, contrary to predictions, there was no evidence of sex differences in the tendency to flirt using technology versus in-person strategies.

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Appendix A

Recruitment Poster

Psychology Study

Researchers in the department of Psychology are looking for **Men and Women** to participate in a study on

FLIRTING AND RELATIONSHIP BEHAVIOURS

Participants will complete a questionnaire twice (2 weeks apart) that will take 45 to 60 minutes.

This study has received ethical approval by the Lakehead University Ethics Board (807-343-8283).

For more information and details on how to participate please email:

flirtingstudy@lakeheadu.ca

Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca	Flirting Study flirtingstudy@lakeheadu.ca

Appendix B

Class-Wide Email Announcement

Study on <u>**Flirting and Relationship Behaviours**</u>

You are invited to participate in a psychology study looking at **Flirting and Relationship Behaviours.** We are seeking both **Female and Male** participants to complete a 45-60 minute questionnaire twice (2 weeks apart) that can be taken electronically online (see link below) or by completing a hard copy using paper and pencil. If you wish to complete the questionnaire using a hard copy, please contact the researchers at flirtingstudy@lakeheadu.ca. If you would like to complete the questionnaire online, please click on the link listed below.

Introductory Psychology students will receive one bonus point for participation in each phase of the study (for up to 2 bonus points). You do not need to be in a current relationship to complete the questionnaire.

Please be informed that the questionnaire includes personal questions about your background including your sexual history and romantic relationships.

This study has been reviewed and approved by Lakehead University Research Ethics Board.

Please follow the link below to participate in the online questionnaire:

https://www.surveymonkey.com/s/flirtingstudy

If you have any questions regarding this study please email Katelyn Duchene at flirtingstudy@lakeheadu.ca.

Thank-you, your time and participation is greatly appreciated.

Sincerely,

Katelyn Duchene, H.B.A.   Dr. Kirsten Oinonen Ph.D., C. Psych.
M.A. Student   Associate Professor
Lakehead University   Department of Psychology
955 Oliver Road   Lakehead University
Thunder Bay, Ontario P7B 5E1   955 Oliver Road
email: flirtingstudy@lakeheadu.ca   Thunder Bay, Ontario P7B 5E1
                                           email: koinonen@lakeheadu.ca

Appendix C

In-Class Announcement

Hello,

My name is Katelyn Duchene and I am a Clinical Psychology student completing my Master's thesis under the supervision of Dr. Kirsten Oinonen in the Lakehead University Psychology Department. The main goal of our study is to examine flirting and relationship behaviour in men and women. The data may also be used to examine other exploratory hypotheses. We are looking for as many people to participate as possible. Everyone can participate as you do not have to be in a current relationship. The questionnaire will take between 45 and 60 minutes to complete and will be asked to filled it out twice, 2 weeks apart. For completing the first phase of the study you will earn one bonus point and another bonus point for completing the second phase. All the data will be completely confidential. The study can be completed online or in the lab. The questionnaire includes personal questions about one's relationship behaviours and sexual history.

I am going to forward a message onto your instructor to pass on to you which will contain a link to this study.

Thank-you very much for your time. We appreciate you taking the time to participate in our study.

If you have any questions regarding this study please email Katelyn Duchene at flirtingstudy@lakeheadu.ca.

Appendix D

Personal Email Announcements to Non-Lakehead Student Individuals

Study on Flirting and Relationship Behaviours.

You are invited to participate in a psychology study being conducted at Lakehead university looking at **Flirting and Relationship Behaviours.** We are seeking both **Female and Male** participants to complete a 45-60 minute online questionnaire twice (2 weeks apart) (see link below). You do not need to be in a relationship to complete the questionnaire. Anyone who is 18 years or older can participate.

Please be informed that the questionnaire includes personal questions about your background including your sexual history and romantic relationships.

This study has been reviewed and approved by Lakehead University Research Ethics Board.

Please follow the link below to participate in the online questionnaire:

https://www.surveymonkey.com/s/flirtingstudy

If you have any questions regarding this study please email Katelyn Duchene at flirtingstudy@lakeheadu.ca.

Thank-you, your time and participation is greatly appreciated.

Sincerely,

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Appendix E

Social Networking Recruitment or Online Recruitment Site Advertisement

<u>Study on Flirting and Relationship Behaviours:</u>

Researchers in the Department of Psychology at Lakehead University are conducting an online study investigating factors affecting flirting and relationship behaviour. We are looking for men and women who are 18 years of age or older, to complete an online questionnaire twice (2 weeks apart) that would take between 45 and 60 minutes. You will be asked to answer personal questions including questions about your relationship and sexual history. All responses will be completely anonymous and confidential. You do not need to be in a relationship to complete the questionnaire.

This study has been approved by Lakehead University's Research Ethics Board (research@lakeheadu.ca or 807-343-8283).

For full details and/or to participate please click: https://www.surveymonkey.com/s/flirtingstudy

Appendix F

Demographics

1. Today's date: (day/month/year)   ___/___/___

2. How old are you (in years)? ____**years**

3. Please choose the response that best represents your ethnic background. If you need to select more than one response , then select "other" and please specify.

Caucasian/White	_____	Middle Eastern	_____
African-Canadian/American/Black	_____	East Indian	_____
First Nation/Aboriginal/American Indian	_____	European	_____
Hispanic/Latino	_____	Asian	_____
Other (please specify) _____			

4. What is **your** highest level of education?
[ ] some elementary   [ ] completed high school   [ ] some university
[ ] completed grade 8   [ ] some college   [ ] completed a university degree
[ ] some high school   [ ] completed college certificate [ ] some graduate studies
                         [ ] completed college diploma   [ ] completed a graduate degree

5. Do you have biological/step/foster children who are living in your home part-time or full-time? (please circle)
YES   NO
If YES, how many children do you have? _____

6. What is your height? _____ (feet & inches) or _____ (cm)

7. What is your weight? _____ (pounds) or _____ (kg)

8. Are you currently taking any medications? (please circle)   **YES   NO**
If YES, how many medications are you taking? _____
IF YES, please check which ones you are taking.
[ ] Anti-anxiety (e.g., Celexa, Ativan, Inderal)
[ ] Anti-depressants (e.g., Paxil, Zyban)
[ ] Anti-psychotics (e.g., Abilify, Clozaril)
[ ] Antibiotics (e.g., penicillin)
[ ] Allergy medication (e.g., Aerius, Claritin, Reactine)
[ ] Asthma medication (e.g., inhalers)
[ ] Hormone replacement therapy for menopause
[ ] Pain medication (e.g., Tylenol, Aspirin, Ibuprofen)
[ ] Thyroid medication (e.g., Methimazole)
[ ] Other (please list) _____

9. For each of the following, please check the box if you think that you have been **diagnosed with or treated** for this medical problem.

```
Yes    No
[  ]   [  ] breast cancer
[  ]   [  ] ovarian cancer
[  ]   [  ] cervical cancer
[  ]   [  ] autism
[  ]   [  ] fertility problems
[  ]   [  ] heart disease
[  ]   [  ] thyroid disorder
[  ]   [  ] polycystic ovarian syndrome
[  ]   [  ] diabetes
[  ]   [  ] endometriosis
[  ]   [  ] bipolar disorder (manic-depression)
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10. Please rate how masculine **you** perceive yourself to be:

1   2   3   4   5   6   7   8   9
Not at all   Extremely
Masculine   Masculine

11. Please rate how feminine **you** perceive yourself to be:

1   2   3   4   5   6   7   8   9
Not at all   About   Extremely
Feminine   the same   Feminine

12. Please rate how masculine you think you are when **compared to other people of the same sex and age as you**:

1   2   3   4   5   6   7   8   9
A lot less   About   A lot more
Masculine   the same   Masculine

13. Please rate how feminine you think you are when **compared to other people of the same sex and age as you**:

1   2   3   4   5   6   7   8   9
A lot less   A lot more
Feminine   Feminine

14. Please rate yourself on the following scale of sexual orientation:

1	2	3	4	5	6	7	8	9
I am only attracted to people of the same sex as me				I am equally attracted to to people of both sexes				I am only attracted to people of the opposite sex as me

15. Please rate yourself on the following rating scale:
   1   Exclusively heterosexual
   2   Predominantly heterosexual, only incidentally homosexual
   3   Predominantly heterosexual, but more than incidentally homosexual
   4   Equally heterosexual and homosexual
   5   Predominantly homosexual, but more than incidentally heterosexual
   6   Predominantly homosexual, only incidentally heterosexual
   7   Exclusively homosexual

16. Please indicate your degree of **sexual attraction** to women.

1	2	3	4	5	6	7	8	9
Not at all attracted to women								Extremely attracted to women

17. Please indicate your degree of **sexual attraction** to men.

1	2	3	4	5	6	7	8	9
Not at all attracted to men								Extremely attracted to men

18. Some people describe themselves as "asexual". This means that one does not feel any sort of sexual attraction or sexual desire towards any men or any women. Do you think   this   describes you?
   [ ] Yes   [ ] No   [ ] Maybe

19. Check the box that best describes your current relationship status:
   [ ] single (no partner)   [ ] married or living with partner
   [ ] casually dating   [ ] one partner but living apart
   [ ] more than one partner   [ ] other (please specify): _____

If you are in a current relationship, how long have you been together?
   _____ **years** and/or _____ **months**

20. How many romantic relationships have you been in that have lasted more than 3 months?
_____

21. Have you ever been divorced or been in a co-habitating relationship that one or both of you ended (i.e., were you ever living with a partner, but then broke up)?   **YES**   **NO**

22. What is the longest romantic relationship you have been in? ____ **years** and/or ____ **months**

23. If you currently have a partner, please rate how attractive they are in comparison to you.

1	2	3	4	5	6	7	8	9
I am much				My partner				My partner
more attractive				and I are				is much more
than my partner				equally attractive				attractive

24. Please rate how good-looking **you** perceive yourself to be:

1	2	3	4	5	6	7	8	9
Not at all								Extremely
Good looking								Good-looking

25. Please rate how attractive you think you are when **compared to the general population**:

1	2	3	4	5	6	7	8	9
Significantly								Significantly
less attractive								more attractive

26. Please indicate your biological sex.
Male ___
Female ___
Other ___

Appendix G

Hormonal/Reproductive Questions
(Women Only)

1. Are you currently pregnant? (please circle)   **YES   NO   MAYBE**

2. Are you currently lactating (i.e., breast feeding)?   **YES   NO   MAYBE**

3. Which statement below best describes you
[ ] I am currently taking oral contraceptives ("the pill")
[ ] I previously used the pill but I am no longer using it
[ ] I have never taken oral contraceptives ("the pill")

4. If you previously took oral contraceptives/the pill, how long ago did you stop taking it?
 _____ **months** and _____ **years**

5. If you are currently taking any type of hormonal contraceptive (e.g., the pill, the patch, injections, IUD, the ring), select the type of hormonal contraceptive you are currently taking.

*Oral Contraceptive***:**

[ ] Alesse	[ ] Levora	[ ] Mircette	[ ] Ortho-Novum 1/50	[ ] Triquilar
[ ] Apri	[ ] Linessa	[ ] Next Choice	[ ] Ovral	[ ] Yasmin
[ ] Aviane	[ ] Loestrin	[ ] Norinyl	[ ] Portia	[ ] Yaz
[ ] Brevicon 0.5/35	[ ] Lo-Femenal	[ ] Norlestin 1/50	[ ] Seasonale	
[ ] Brevicon 1/35	[ ] Loestrin 1.5/30	[ ] Norlevo	[ ] Seasonique	
[ ] Cyclen	[ ] Lybrel	[ ] Ortho 0.5/35	[ ] Select 1/35	
[ ] Demulen 30	[ ] Marvelon	[ ] Ortho 1/35	[ ] Synphasic	
[ ] Demulen 50	[ ] Micronor	[ ] Ortho 7/7/7	[ ] Tri-Cyclen	
[ ] Diane 35	[ ] Minestrin 1/20	[ ] Ortho 10/11	[ ] Tri-Cyclen Lo	
[ ] Femcon	[ ] Min-Ovral	[ ] Ortho-Cept	[ ] Triphasil	

[ ] Other (please specify): _____

Injected Contraceptive: *Contraceptive Patch:*

[ ] Depo-Provera   [ ] Evra

[ ] Lunelle   [ ] Other (Please specify): _____

[ ] Other (Please specify): _____

Intrauterine Device (IUD):   *Vaginal Ring:*

[ ] Mirena (hormonal)   [ ] NuvaRing

[ ] Nova-T (non-hormonal; copper)   [ ] Other (Please specify): _____

[ ] Flexi-T (non-hormonal; copper)

[ ] Other (Please specify): _____

6. If you are taking a hormonal contraceptive, what phase of your hormonal contraceptives are you currently in?

___ Week 1 of active pills/patch/ring
___ Week 2 of active pills/patch/ring
___ Week 3 of active pills/patch/ring
___ I take or use my pills/Depo-Provera injection/patch/ring continuously so I don't get my period
___ Pill/patch/ring-free/Inactive/Sugar pill/ week (when most women have their period)
___ I don't know

7. If you are currently taking a hormonal contraceptive, how long have you been taking the above stated hormonal contraceptive? _____ **Years** and _____ **Months**

8. What is the average length of your menstrual cycle right now (i.e., How many days are there from the first day of one period to the day before your next period. Most people range between 25 and 35 days)?
   a)_____ **DAYS**
   b) _____ I have gone through menopause and I do not have a period

9. How many days does your period/menses/bleeding usually last?
   a) _____ **DAY(S)**
   b) _____ I have gone through menopause and I do not have a period

10. Which statement best describes your menstrual cycle **right now**?
  [ ] I have gone through menopause and do not have a period
  [ ] I am not currently menstruating because I am currently lactating/breast feeding
  [ ] I never have my period.
  [ ] Some months I get my period and some months I don't.
  [ ] I usually get my period every month, but it is irregular and I cannot predict when it will start.
  [ ] I usually get my period within two or three days of when I expect it.
  [ ] My period is like clockwork and the same number of days elapse between periods each month.

11. Generally speaking, are your periods regular or irregular? That is, is the length of time between your periods about the same each cycle?
  [ ] My periods are generally regular
  [ ] My periods are generally irregular
  [ ] I don't know

The next few questions pertain to your last and next period. Please refer to the following calendar.

July 2012

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August 2012

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September 2012

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

October 2012

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November 2012

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December 2012

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

January 2013

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February 2013

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

12. When did your last/current period start? That is, when was your first day of bleeding (month/day/year)? _____

13. How confident are you that the first day of your last/current period is accurate? (Circle the best response)

0%		25%		50%		75%		100%
0	1	2	3	4	5	6	7	8

14. When did/will your last/current period end. That is, when was/is your last day of bleeding (month/day/year)? _____

15. How confident are you that the last day of your last/current period is accurate?

0%		25%		50%		75%		100%
0	1	2	3	4	5	6	7	8

16. When do you expect your next period to start. That is, what do you think will be the first day of bleeding? (month/day/year)?_____

17. How confident are you that your period will start on that day? (Circle the best response)

0%		25%		50%		75%		100%
0	1	2	3	4	5	6	7	8

18. Are you currently menstruating or having your period?   **YES   NO**
If **YES**, how many days have you been bleeding (e.g., 1 day if this is your first day of bleeding)?
_____ **DAY(S)**

19. What day of your menstrual cycle are you on today? (Day 1 of the menstrual cycle is on the first day of bleeding. If your period started on January 1st, and today is January 25th, you would be on day 25 of your menstrual cycle. Please refer to the calendar above.)
DAY _____

20. How old were you when you first started menstruating (i.e., when you first got your period)?
_____ years old

21. Do you think that you have started to go through menopause?   **YES   NO   MAYBE**

22. Relative to your normal/typical appetite, how hungry have you been in the last 48 hours?

1	2	3	4	5	6	7
A lot less hungry			Same amount of hunger			A lot more hungry

23. Relative to the normal/typical amount of sleep you get, how much sleep have you had in the last 48 hours?

1	2	3	4	5	6	7
A lot less sleep			Same amount of sleep			A lot more sleep

24. Relative to the normal/typical amount of food you eat, how much food have you eaten in the last 48 hours?

1	2	3	4	5	6	7
A lot less food			Same amount of food			A lot more food

Appendix H

General Sexuality Questions

1. Have you ever had sexual intercourse?   **YES   NO**
    If **NO**, please go to item 4.

2. At what age did you first have consensual sexual intercourse (i.e., both partners were willing)?
    _____

3. Think about the first person you had sexual intercourse with. How long did you and your partner date/know each other for before having sexual intercourse? Please indicate units of time such as minutes, hours, days, weeks, months or years.
    We dated for _____ before having sex
    We knew each other for _____before having sex

4. How many men have you performed oral sex on (your mouth on his genitals)?
    _____

5. How many men have performed oral sex on you (his mouth on your genitals)?
    _____

6. How many women have you performed oral sex on (your mouth on her genitals)?
    _____

7. How many women have performed oral sex on you (her mouth on your genitals)?
    _____

8. How many men and women have you had sexual contact with that involved touching their genitals (i.e., your hand on their naked genitals)?
    _____

9. Have you ever deep/tongue/French kissed another person when you were in a steady relationship with someone else (please circle)?
                YES   **NO**

10. Have you ever engaged in oral sex (performed or received) with someone when you were in a steady relationship with someone else?
                YES   **NO**

11. Have you ever had sex with someone when you were in a steady relationship with someone else?
                YES   **NO**

12. How often do you masturbate (please circle the most appropriate response)?

1. Never
2. Once every two or three months
3. Once a month
4. Once every two weeks
5. Once a week
6. A few times each week
7. Nearly every day
8. At least once a day

13. What percentage of the time do you reach orgasm when you masturbate?

0%		25%		50%		75%		100%
0	1	2	3	4	5	6	7	8

14. How difficult/easy is it for you to reach orgasm when you masturbate?

Extremely   Extremely
 Difficult   Easy
   1   2   3   4   5   6   7   8

15. What percentage of the time do you reach orgasm when you have sexual relations with a partner?

0%		25%		50%		75%		100%
0	1	2	3	4	5	6	7	8

16. How difficult/easy is it for you to reach orgasm with a partner?

Extremely   Extremely
 Difficult   Easy
   1   2   3   4   5   6   7   8

17. How often do you fake orgasms with a partner?

Never   Always
   0   1   2   3   4   5   6   7   8

18. In your lifetime, with how many different people have you had skin-to-skin penis-vagina contact that may or may not have involved sexual intercourse? _____

19. Have you had sexual intercourse in the last 48 hours?   **YES**   **NO**
      How many times have you had sexual intercourse in the last 48 hours? _____
      How many of those times did you initiate the sexual activity? _____
      How many of those times did your partner initiate the sexual activity?_____
      How many of those times did you and your partner equally initiate the sexual activity?
      _____

Appendix I

Personal Attributes Questionnaire (PAQ)

The items below inquire about what kind of person you think you are. Each item consists of a PAIR of characteristics, with the numbers 1-5 in between.

For example, Not at all artistic 1......2......3......4......5 Very artistic

Each pair describes contradictory characteristics - that is, you cannot be both at the same time, such as very artistic and not at all artistic.

The numbers form a scale between the two extremes. You are to chose a number which describes where YOU fall on the scale. For example, if you think that you have no artistic ability, you would choose 1. If you think that you are pretty good, you might choose 4. If you are only medium, you might choose 3, and so forth.

1. Not at all independent   1   2   3   4   5   Very independent

2. Not at all emotional   1   2   3   4   5   Very emotional

3. Very passive   1   2   3   4   5   Very active

4. Not at all able to devote   1   2   3   4   5   Able to devote self
   completely to others   completely to others

5. Very rough   1   2   3   4   5   Very gentle

6. Not at all helpful to others   1   2   3   4   5   Very helpful to others

7. Not at all competitive   1   2   3   4   5   Very competitive

8. Not at all kind   1   2   3   4   5   Very kind

9. Not at all aware of   1   2   3   4   5   Very aware of
   feelings of others   feelings of others

10. Can make decisions easily   1   2   3   4   5   Has difficulty making decisions

11. Gives up very easily   1   2   3   4   5   Never gives up easily

12. Not at all self-confident   1   2   3   4   5   Very self-confident

13. Feels very inferior   1   2   3   4   5   Feels very superior

14. Not at all understanding of others   1   2   3   4   5   Very understanding of others

15. Very cold in relations to others 1   2   3   4   5   Very warm in relations to others

16. Goes to pieces under pressure   1   2   3   4   5   Stands up well under pressure

Appendix J

Flirting and Attractivity Mate Strategies (FAMS) Questionnaire

In the next questionnaire, some questions will ask you about your experiences during the last **48 hours (the last 2 days)**. Please take a few moments to think about that time period and consider where you have been and what you have been doing. Other questions will ask you about your experiences over a much longer period of your lifetime. Please pay attention to the time frame you are asked about.

1. In the last **48 hours (last 2 days)**, please indicate if you have engaged in the following behaviours in person in any situation with or near an **adult or teen** who is of the **opposite sex and not biologically related to you**.

Select "**YES**" if you did engage in the behaviour and "**NO**" if you did not. If you select "**YES**", please specify how many unrelated opposite sex people you did the behaviours in front of. If you have not had any in-person contact with such individuals in the past 48 hours then please select "**NO**" for all items.

Please do not count any behaviours done through technology such as the internet or texting.

YES   NO   Laughed at their jokes or comments
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Giggled a lot while with them
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Touched their shoulder, arm, leg, and/or face
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Made eye contact with them
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Stared at them
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Purposely stood or sat close to them
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Licked your lips
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Played with your hair
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Raised your eyebrows when looking or talking with them
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Teased them or made a joke about them
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Pointed your body directly at them when talking
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Fixed your clothing, hair, or make-up when you saw them
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Smiled at them
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Initiated subsequent contact just after meeting them
             (e.g., asked them to contact you again)
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Was the first to initiate a conversation just after meeting
             them
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Made a sexual comment
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Bought or gave them an alcoholic drink
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

2. **In the last 48 hours (last 2 days)**, please indicate if you engaged in the following behaviours using technology (e.g., texting, telephone calls, webcam, Skype, Facebook, Myspace, Twitter, Internet dating websites, etc) with an **adult or teen** who is of the **opposite sex and not biologically related to you.**

Circle "**YES**" if you did engage in the behaviour and "**NO**" if you did not. If you select "**YES**", please specify how many opposite sex people you did the behaviour using technology with. If you have not had any technology contact with such individuals in the past 48 hours then please respond "**NO**" to all items.

YES   NO   Commented on their online profiles or status updates
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Sent "lol" or an emoticon involving a smiley face
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Sent an emoticon involving a heart, kiss, or hug
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Raised your eyebrows when looking or talking with
             them through a webcam
I If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Teased them or made a joke about them
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Was the first to initiate a conversation just after meeting
             them
If YES, how many opposite sex and non-biologically related
people other than partner/significant other _____

YES   NO   Fixed your clothing, hair, or make-up when you saw them through a webcam
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Smiled at them while looking through a webcam
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Licked your lips while looking through a webcam
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Played with your hair while looking through a webcam
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Made a sexual comment
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Initiated a subsequent contact just after meeting them (e.g., asked them to contact you again)
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Gave the person a compliment
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

3. **In the last 48 hours (last 2 days)**, please indicate if you have engaged in each of the following sports and activities continuously **for at least 30 minutes** by checking "**YES**" if you have engage in the sport/activity or "**NO**" if you have not engaged in the sport/activity. Please count each sport or activity only once by checking the box that best describes it.

YES	**NO**	Archery	**YES**	**NO**	Kick-boxing
YES	**NO**	Badminton	**YES**	**NO**	Martial Arts
YES	**NO**	Ballet	**YES**	**NO**	Orienteering
YES	**NO**	Baseball	**YES**	**NO**	Pilates
YES	**NO**	Basketball	**YES**	**NO**	Riflery
YES	**NO**	BMX Biking	**YES**	**NO**	Rowing
YES	**NO**	Bowling	**YES**	**NO**	Rugby
YES	**NO**	Boxing	**YES**	**NO**	Running or Jogging
YES	**NO**	Canoeing/kayaking	**YES**	**NO**	Sailing
YES	**NO**	Cardio class (e.g., aerobics, step, bootcamp)	**YES**	**NO**	Scuba diving
YES	**NO**	Cheerleading	**YES**	**NO**	Skateboarding/Scootering
YES	**NO**	Cross-country Skiing	**YES**	**NO**	Skating
YES	**NO**	Curling	**YES**	**NO**	Snowboarding
YES	**NO**	Cycling	**YES**	**NO**	Soccer
YES	**NO**	Dance classes	**YES**	**NO**	Speed Skating

YES	**NO**	Diving
YES	**NO**	Downhill Skiing
YES	**NO**	Drag/Car Racing
YES	**NO**	Fencing
YES	**NO**	Figure Skating
YES	**NO**	Fishing
YES	**NO**	Football
YES	**NO**	Golf
YES	**NO**	Gymnastics
YES	**NO**	Hockey
YES	**NO**	Horseback riding
YES	**NO**	Hunting

YES	**NO**	Squash
YES	**NO**	Surfing
YES	**NO**	Swimming
YES	**NO**	Synchronized Swimming
YES	**NO**	Tennis
YES	**NO**	Track and field events
YES	**NO**	Ultimate fighting
YES	**NO**	Volleyball
YES	**NO**	Walking
YES	**NO**	Weight training/Cross fit
YES	**NO**	Wrestling
YES	**NO**	Yoga

Other (please specify) _____

4. **In the last 48 hours (last 2 days)**, please indicate which social events or activities you attended **for ten minutes or more** by circling "**YES**" if you have attended such an event/activity or "**NO**" if you did not attend such an event/activity. Please count each event you attended only once by checking the category that best describes the event.

YES	**NO**	A large social party (i.e., party at a friend's, family, or your house with more than 10 people)
YES	**NO**	A small social party (i.e., party at a friend's, family, or your house with less than 10 people)
YES	**NO**	A small outdoor social gathering involving less than 10 people (did not take place at a house or building)
YES	**NO**	A large outdoor social gathering involving 10 or more people (did not take place at a house or building)
YES	**NO**	Bar/Pub
YES	**NO**	Club/disco tech
YES	**NO**	Restaurant with friends and/or family for breakfast, lunch, dinner, or appetizers
YES	**NO**	Public dance
YES	**NO**	Strip/erotic/adult club
YES	**NO**	Arcade
YES	**NO**	Pool hall
YES	**NO**	Participated in a group activity of a religious, spiritual, or church nature
YES	**NO**	Shag/Jack and Jill/Buck and Doe/pre-wedding celebration
YES	**NO**	Bookclub
YES	**NO**	Coffeehouse
YES	**NO**	Concert
YES	**NO**	Movie theatre
YES	**NO**	Theatrical play, ballet, or opera
YES	**NO**	Live sporting event or game as a spectator
YES	**NO**	Watched a sporting event with friends on television
YES	**NO**	Travelled or went on a tour
YES	**NO**	Library or bookstore
YES	**NO**	Participated as a member of a club or organization
YES	**NO**	Exercised in a public place (e.g., in a public gym or an outside area where others might see you)
YES	**NO**	Went shopping (e.g., grocery, clothing, furniture, etc)
YES	**NO**	Spent time on a social networking website
YES	**NO**	Other social event (please indicate) _____

5. **In the last 48 hours (last 2 days)**, please indicate which activities you have engaged in **for at least 30 minutes** by circling "**YES**" if you engaged in the activity or **NO**" if you did not engaged in the activity.

YES	**NO**	Cooking
YES	**NO**	Baking

YES   NO   Taking care of someone (e.g., an elder, someone who is sick, a child or infant)
YES   NO   Cleaning around the house or your bedroom (e.g., vacuuming, dusting, tidying up, dishes)
YES   NO   Gardening
YES   NO   Outdoor work (e.g., cutting the grass, shovelling snow, etc)
YES   NO   Decorating you house or bedroom
YES   NO   Sewing and/or knitting
YES   NO   Wood working
YES   NO   General repairs around the house (e.g., electronics/mechanical devices)
YES   NO   Carpentry around the house
YES   NO   Arts and crafts
YES   NO   Sing or play a musical instrument
YES   NO   Performed in front of others (e.g., dancing, playing a musical instrument, singing)

6. **In the last 48 hours (last 2 days)**, please indicate which topics you have learned or read about, for interest or the purpose of trying to improve your skills, by circling "**YES**" if you did learn/read about the topic and "**NO**" if you did not learn/read about the topic.

YES   NO   Sexual techniques (e.g., kissing, oral sex, intercourse)
YES   NO   Flirting techniques
YES   NO   Dating techniques
YES   NO   How to mix alcoholic beverages
YES   NO   How to give body massages
YES   NO   How to apply make up
YES   NO   How to style hair
YES   NO   Latest trends in clothing/fashion

7. **In the last 48 hours (last 2 days)**, please indicate whether you used the following grooming techniques or products, by circling "**YES**" if you did use the technique or product and "**NO**" if you did not use the technique or product.

YES	NO	Showered or Bathed	YES	NO	Applied hair styling products (e.g., gel, mousse)
YES	NO	Shaved hair on face	YES	NO	Styled hair other than just brushing/combing (e.g.,
YES	NO	Waxed or bleached hair on face			straightened, curled, spiked, up-do)
YES	NO	Shaved or waxed hair on underarms or arms	YES	NO	Had a haircut
YES	NO	Shaved or waxed hair on legs	YES	NO	Had your hair dyed or highlighted
YES	NO	Shaved or waxed hair on groin or bikini area	YES	NO	Brushed you teeth
YES	NO	Shaved or waxed back	YES	NO	Flossed your teeth
YES	NO	Shaved or waxed chest	YES	NO	Used at-home teething whitening
YES	NO	Applied chapstick	YES	NO	Tanned (e.g., under the sun or at a tanning salon)
YES	NO	Applied lip gloss	YES	NO	Wore tight or revealing clothing

YES	**NO**	Applied lipstick/lip liner		**YES**	**NO**	Wore "in-style", current fashionable clothing
YES	**NO**	Applied mascara		**YES**	**NO**	Wore jewellery (e.g., necklace, ring, bracelet, earring)
YES	**NO**	Wore fake eyelashes		**YES**	**NO**	Wore perfume, cologne, or scented body lotion
YES	**NO**	Applied eyeshadow		**YES**	**NO**	Wore deodorant/antiperspirant
YES	**NO**	Applied eyeliner		**YES**	**NO**	Applied body moisturizer
YES	**NO**	Applied foundation		**YES**	**NO**	Applied anti-aging creams, gels, or ointments
YES	**NO**	Applied bronzer		**YES**	**NO**	Painted nails, or received a manicure or pedicure
YES	**NO**	Applied blush		**YES**	**NO**	Wore a push-up bra
YES	**NO**	Applied concealer		**YES**	**NO**	Wore your most attractive or sexy underwear
				YES	**NO**	Wore shapewear (e.g., underclothing designed to slim or shape the body such as Spanx, Girdle)

8. **In the last 48 hours (last 2 days)**, please indicate whether you engaged in the following responsibilities, by circling "**YES**" if you did engage in the responsibility and "**NO**" if you did not engage in the responsibility.

YES	**NO**	Went to work
YES	**NO**	Completed work related activities outside of regular work hours
YES	**NO**	Went to college/university to attend class
YES	**NO**	Completed homework related to a course
YES	**NO**	Taught a sport/activity/skill to another person or group
YES	**NO**	Attended a workshop for upgrading skills
YES	**NO**	Did volunteer work

9. **In the last 48 hours (last 2 days)**, please indicate any body modification techniques you have made by circling "**YES**" if you did modify your body by using the technique or "**NO**" if you did not modify your body by using the technique.

YES	**NO**	Tattoo
YES	**NO**	Pierced ears or face
YES	**NO**	Pierced a body part other than ears or face
YES	**NO**	Facial
YES	**NO**	Non-surgical face-lift
YES	**NO**	Chemical peel or microdermabrasion
YES	**NO**	Laser skin treatment (e.g., laser skin resurfacing, laser acne treatment, laser scar improvement)
YES	**NO**	Facial injections (e.g., Juvederm, Botox, Restylane)
YES	**NO**	Non-medical cosmetic surgery on your face or ears (e.g., face-lift, rhinoplasty, eyebrow lift, chin augmentation)
YES	**NO**	Non-medical cosmetic surgery on your body (e.g., liposuction, tummy-tuck, breast lift)
YES	**NO**	Breast/pectoral implants
YES	**NO**	Laser hair removal on your face

YES   NO   Laser hair removal on your body
YES   NO   Salon, spa, or dentist teeth whitening
YES   NO   Purposely changed or restricted food habits in order to lose weight
YES   NO   Changed or improved food habits in order to improve your body's appearance
YES   NO   Purposely changed exercise habits in order to lose weight
YES   NO   Changed your exercise habits in order to improve your body's appearance

10. **In the last 48 hours (last 2 days)**, think about all the time you spent communicating with **adults or teens** who are of the **opposite sex and not biologically related to you**, and please indicate whether you used the following forms of technology to communicate by circling "**YES**" if you did use the form of technology and "**NO**" if you did not use the form of technology. If you select "YES", please specify how many opposite sex people you used the technology with.

YES   NO   Telephone call
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Text using cell phone (e.g., texting, BBM, IM)
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____
YES   NO   Online instant messenger (e.g., yahoo, MSN, ICQ)
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Email
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Social networking website (e.g., Facebook, MySpace, Twitter)
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Dating website (e.g., eHarmony, LavaLife, OKCupid, match.com, PlentyofFish)
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

YES   NO   Online video communication (e.g., Skype)
If YES, how many opposite sex and non-biologically related people other than partner/significant other _____

11. **In the last 48hrs** (**last 2 days**), please indicate how often you did the following while spending time with **adults or teens** who are of the **opposite sex and not biologically related to you**. If you have not had any contact with such individuals in the past 48 hours then please respond "never" to all items.

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Made an effort to appear educated and intelligent	0	1	2	3	4	5
Made an effort to appear creative and artistic	0	1	2	3	4	5
Made an effort to appear funny (e.g., telling jokes)	0	1	2	3	4	5
Made an effort to appear friendly, nice, and kind	0	1	2	3	4	5
Made an effort to do something special for him/her	0	1	2	3	4	5
Made an effort to appear alluring, coy, or open to sexual behaviour (e.g., open to kissing, oral sex, intercourse)	0	1	2	3	4	5
Made an effort to appear trustworthy	0	1	2	3	4	5
Made an effort to appear faithful and monogamous	0	1	2	3	4	5
Made an effort to appear loyal to others	0	1	2	3	4	5
Made an effort to appear reliable	0	1	2	3	4	5
Made an effort to appear independent	0	1	2	3	4	5
Made an effort to appear goal-oriented	0	1	2	3	4	5
Made an effort to appear that other's goals may come before mine	0	1	2	3	4	5
Made an effort to appear like I want to be taken care of	0	1	2	3	4	5
Made an effort to appear confident	0	1	2	3	4	5
Made an effort to appear charming	0	1	2	3	4	5
Made an effort to appear clueless, ditsy, or naive	0	1	2	3	4	5
Made an effort to appear fun and exciting	0	1	2	3	4	5
Made an effort to appear unopinionated	0	1	2	3	4	5
Made an effort to appear flirtatious	0	1	2	3	4	5
Made an effort to appear bubbly	0	1	2	3	4	5
Made an effort to appear innocent	0	1	2	3	4	5
Made an effort to appear youthful	0	1	2	3	4	5
Made an effort to appear feminine	0	1	2	3	4	5
Made an effort to appear masculine	0	1	2	3	4	5

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Made an effort to appear pure	0	1	2	3	4	5
Made an effort to appear tough, strong-minded, or street smart	0	1	2	3	4	5
Made an effort to appear dominant	0	1	2	3	4	5
Made an effort to appear stable-minded	0	1	2	3	4	5
Made an effort to appear introverted	0	1	2	3	4	5
Made an effort to appear moralistic	0	1	2	3	4	5
Made an effort to appear nurturing	0	1	2	3	4	5
Made an effort to appear responsible	0	1	2	3	4	5
Made an effort to appear social	0	1	2	3	4	5
Made an effort to appear popular	0	1	2	3	4	5
Made an effort to appear wealthy and financially well-off	0	1	2	3	4	5
Made an effort to appear generous, charitable, or altruistic	0	1	2	3	4	5
Made an effort to appear adventurous or open to new experiences	0	1	2	3	4	5
Made an effort to appear that you have similar values, beliefs, and interests	0	1	2	3	4	5
Made an effort to appear that you want children	0	1	2	3	4	5
Made an effort to appear like a good parent or potential parent	0	1	2	3	4	5
Made an effort to appear healthy	0	1	2	3	4	5
Made an effort to appear emotionally stable and mature	0	1	2	3	4	5
Made an effort to communicate my positive feelings	0	1	2	3	4	5
Made an effort to spend time alone with them	0	1	2	3	4	5
Made an effort to appear genuine	0	1	2	3	4	5
Made an effort to appear to not appear jealous	0	1	2	3	4	5
Made an effort to appear that I like the person	0	1	2	3	4	5
Made an effort to make the other person relax by giving them alcohol and/or drugs	0	1	2	3	4	5

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Made an effort to appear sexually available	0	1	2	3	4	5
Made an effort to show off	0	1	2	3	4	5
Made an effort to show affection	0	1	2	3	4	5
Made an effort to appear to have similar religious values	0	1	2	3	4	5
Made an effort to appear to have similar political views	0	1	2	3	4	5
Offered them a ride	0	1	2	3	4	5
Asked them for a ride	0	1	2	3	4	5
Gave them a gift	0	1	2	3	4	5
Made an effort to talk about people of the opposite sex who have shown interest in you	0	1	2	3	4	5
Made an effort to make the person jealous	0	1	2	3	4	5
Made an effort to appear interested in another individual in order to attract him/her	0	1	2	3	4	5

12. **In the last 48hrs** (**last 2 days**), how many **adults or teens who are of the opposite sex and are not biologically related to you** did you flirt with in any way?
_____

The following questions ask you to think about specific time periods of your life. Please take a few moments to think about that time period and consider where and what you were doing.

13. Please indicate how often you have engaged in the following behaviours **throughout your life** (**from age 12 onwards**) in-person (i.e., **not** through technology such as the internet or texting) in any situation with or near **someone of the opposite sex that you find attractive**.

Please do not count any behaviours done through technology such as the internet or texting.

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Laughed at their joke(s) or comments	0	1	2	3	4	5

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Giggled a lot while with them	0	1	2	3	4	5
Touched their shoulder, arm, leg, and/or face	0	1	2	3	4	5
Made eye contact with them	0	1	2	3	4	5
Pointed your body directly at them when talking	0	1	2	3	4	5
Fixed your clothing, hair, or make-up when you saw them	0	1	2	3	4	5
Smiled at them	0	1	2	3	4	5
Purposely stood or sat close to them	0	1	2	3	4	5
Licked your lips	0	1	2	3	4	5
Played with your hair	0	1	2	3	4	5
Raised your eyebrows when looking or talking with them	0	1	2	3	4	5
Teased them or made a joke about them	0	1	2	3	4	5
Was the first to initiate a conversation just after meeting them	0	1	2	3	4	5
Initiated subsequent contact just after meeting them (e.g., asked them to contact you again)	0	1	2	3	4	5
Made a sexual comment	0	1	2	3	4	5

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Gave the person a compliment	0	1	2	3	4	5
Bought or gave them an alcoholic drink	0	1	2	3	4	5

14. Please indicate how often you engaged in the following behaviours **throughout your life** (**from age 12 onwards or when the technology came available**), when communicating using technology (e.g., texting, telephone call, webcam, Skype, Facebook, Myspace, Twitter, Internet dating websites, etc) with s**omeone of the opposite sex that you find attractive**.

If you have never used the form of technology mentioned in the question, then please respond "never".

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Commented on their online profiles or status updates	0	1	2	3	4	5
Sent "lol" or an emoticon involving a happy face	0	1	2	3	4	5
Sent an emoticon involving a heart, kiss, or hug	0	1	2	3	4	5
Fixed your clothing, hair, or make-up when you saw them over webcam	0	1	2	3	4	5
Smiled at them over webcam	0	1	2	3	4	5
Licked your lips while looking at them through webcam	0	1	2	3	4	5

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Played with your hair while looking at them through webcam	0	1	2	3	4	5
Raised your eyebrows when looking or talking with them over webcam	0	1	2	3	4	5
Teased them or made a joke about them	0	1	2	3	4	5
Was the first to initiate a conversation just after meeting them	0	1	2	3	4	5
Initiated subsequent contact just after meeting them (e.g., asked them to contact you again)	0	1	2	3	4	5
Made a sexual comment	0	1	2	3	4	5
Gave the person a compliment	0	1	2	3	4	5

15. For each of the following sports and activities, think about a **six month time period since age 12 where you did the sport/activity the most** and please indicate how often you participated **during that time of your life**. If you have never participated in the sport/activity, then select "never".

	0 Never/almost never	1 Once a week or less	2 Twice a week	3 Three times a week	4 Four times a week	5 Five times a week	6 Six times a week	7 Seven or more times a week
Archery	0	1	2	3	4	5	6	7
Badminton	0	1	2	3	4	5	6	7

	0 Never/almost never	1 Once a week or less	2 Twice a week	3 Three times a week	4 Four times a week	5 Five times a week	6 Six times a week	7 Seven or more times a week
Ballet	0	1	2	3	4	5	6	7
Baseball	0	1	2	3	4	5	6	7
Basketball	0	1	2	3	4	5	6	7
BMX Biking	0	1	2	3	4	5	6	7
Bowling	0	1	2	3	4	5	6	7
Boxing	0	1	2	3	4	5	6	7
Canoeing/ Kayaking	0	1	2	3	4	5	6	7
Cardio Class (e.g., aerobics, step, bootcamp)	0	1	2	3	4	5	6	7
Cheerleading	0	1	2	3	4	5	6	7
Cross-country Skiing	0	1	2	3	4	5	6	7
Curling	0	1	2	3	4	5	6	7
Cycling	0	1	2	3	4	5	6	7
Dance (i.e., classes)	0	1	2	3	4	5	6	7
Diving	0	1	2	3	4	5	6	7
Downhill Skiing	0	1	2	3	4	5	6	7
Drag/Car Racing	0	1	2	3	4	5	6	7
Fencing	0	1	2	3	4	5	6	7
Figure Skating	0	1	2	3	4	5	6	7
Fishing	0	1	2	3	4	5	6	7
Football	0	1	2	3	4	5	6	7
Golf	0	1	2	3	4	5	6	7
Gymnastics	0	1	2	3	4	5	6	7
Hockey	0	1	2	3	4	5	6	7
Horseback riding	0	1	2	3	4	5	6	7
Hunting	0	1	2	3	4	5	6	7

	0 Never/almost never	1 Once a week or less	2 Twice a week	3 Three times a week	4 Four times a week	5 Five times a week	6 Six times a week	7 Seven or more times a week
Kick Boxing	0	1	2	3	4	5	6	7
Martial Arts	0	1	2	3	4	5	6	7
Orienteering	0	1	2	3	4	5	6	7
Pilates	0	1	2	3	4	5	6	7
Riflery	0	1	2	3	4	5	6	7
Rowing	0	1	2	3	4	5	6	7
Rugby	0	1	2	3	4	5	6	7
Running	0	1	2	3	4	5	6	7
Sailing	0	1	2	3	4	5	6	7
Scuba diving	0	1	2	3	4	5	6	7
Skateboarding/ Scootering	0	1	2	3	4	5	6	7
Skating	0	1	2	3	4	5	6	7
Snowboarding	0	1	2	3	4	5	6	7
Soccer	0	1	2	3	4	5	6	7
Speed Skating	0	1	2	3	4	5	6	7
Squash	0	1	2	3	4	5	6	7
Surfing	0	1	2	3	4	5	6	7
Synchronized Swimming	0	1	2	3	4	5	6	7
Swimming	0	1	2	3	4	5	6	7
Tennis	0	1	2	3	4	5	6	7
Track and field	0	1	2	3	4	5	6	7
Ultimate fighting	0	1	2	3	4	5	6	7
Volleyball	0	1	2	3	4	5	6	7
Weight training/Cross fit	0	1	2	3	4	5	6	7
Wrestling	0	1	2	3	4	5	6	7

	0 Never/almost never	1 Once a week or less	2 Twice a week	3 Three times a week	4 Four times a week	5 Five times a week	6 Six times a week	7 Seven or more times a week
Yoga	0	1	2	3	4	5	6	7
Other (please specify) _____	0	1	2	3	4	5	6	7

16. For each of the following social events and activities, think about **the one year time period since age 12 where you attended the event/activity the most** and please indicate how often you typically attended the event or activity **for at least ten minutes during that time of your life**. If you have never attended the social event/activity, then select "never".

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
A large social party (i.e., party at a friend's, family, or your house with more than 10 people)	0	1	2	3	4	5	6	7
A small social party (i.e., party at a friend's, family, or your house with less than 10 people)	0	1	2	3	4	5	6	7
A small outdoor social gathering involving less than 10 people (did not take place at a house or building)	0	1	2	3	4	5	6	7
A large outdoor social gathering involving 10 or more people (did not take place at a house or building)	0	1	2	3	4	5	6	7
Bar/Pub	0	1	2	3	4	5	6	7

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
Club/Disco tech	0	1	2	3	4	5	6	7
Restaurant with friends and/or family for breakfast, lunch, or dinner	0	1	2	3	4	5	6	7
Public dance	0	1	2	3	4	5	6	7
Strip/Erotic/Adult club	0	1	2	3	4	5	6	7
Arcade	0	1	2	3	4	5	6	7
Pool hall	0	1	2	3	4	5	6	7
Religious/Church group activity	0	1	2	3	4	5	6	7
Shag/Jack&Jill/Buck&Doe /pre-wedding celebration	0	1	2	3	4	5	6	7
Bookclub	0	1	2	3	4	5	6	7
Coffeehouse	0	1	2	3	4	5	6	7
Music concert	0	1	2	3	4	5	6	7
Movie theatre	0	1	2	3	4	5	6	7
Theatrical play, ballet, or opera	0	1	2	3	4	5	6	7
Live sporting event or game as a spectator	0	1	2	3	4	5	6	7
Watched a sporting event with friends on television	0	1	2	3	4	5	6	7
Travelled or went on tours	0	1	2	3	4	5	6	7
Library or bookstore	0	1	2	3	4	5	6	7
Participated as a member of a club or organization	0	1	2	3	4	5	6	7
Exercised in a public place (e.g., in a public gym or an outside area where others might see you)	0	1	2	3	4	5	6	7

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
Went shopping (e.g., grocery, clothing, furniture, etc)	0	1	2	3	4	5	6	7
Spent time on a social networking website	0	1	2	3	4	5	6	7
Other social event (please indicate)	0	1	2	3	4	5	6	7

17. For each of the following activities, think about the **one year time period since age 12** where you did each activity the most. Please indicate **how often you typically did the activity for at least 30 minutes at a time during that year of your life**. If you have never done the activity, then select "never".

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
Cooked	0	1	2	3	4	5	6	7
Baked	0	1	2	3	4	5	6	7
Took care of someone (e.g., an elder, someone who is sick, a child or infant)	0	1	2	3	4	5	6	7
Cleaned around the house or your bedroom (e.g., vacuuming, dusting, tidying up, dishes)	0	1	2	3	4	5	6	7
Gardened	0	1	2	3	4	5	6	7
Outdoor work (e.g., cutting the grass, shovelling snow, etc)	0	1	2	3	4	5	6	7

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
Decorated your house or bedroom	0	1	2	3	4	5	6	7
Sewed and/or knitted	0	1	2	3	4	5	6	7
Wood working	0	1	2	3	4	5	6	7
General repairs around the house (e.g., electronics/ mechanical devices)	0	1	2	3	4	5	6	7
Carpentry around the house (e.g., home renovations)	0	1	2	3	4	5	6	7
Did arts and crafts	0	1	2	3	4	5	6	7
Sang or played a musical instrument	0	1	2	3	4	5	6	7
Performed in front of others (e.g., dancing, playing a musical instrument, singing)	0	1	2	3	4	5	6	7

18. For each of the following topics, think about the **one year time period since age 12** where you learned or read about the topic the most for interest or for the purpose of trying to improve your skills. Please indicate how often you typically learned/read about it **during that year of your life**. If you have never read or learned about the topic, then select "never".

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
Sexual techniques (e.g., kissing, oral sex, intercourse)	0	1	2	3	4	5	6	7

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
Flirting techniques	0	1	2	3	4	5	6	7
Dating techniques	0	1	2	3	4	5	6	7
How to mix alcoholic beverages	0	1	2	3	4	5	6	7
How to give body massages	0	1	2	3	4	5	6	7
How to apply make up	0	1	2	3	4	5	6	7
How to style hair	0	1	2	3	4	5	6	7
Latest trends in clothing/fashion	0	1	2	3	4	5	6	7

19. For each of the following grooming products and techniques, think about the **one year time period since age 12** where you engaged in the behaviour the most, and please indicate how often you typically used it **during that year of your life**. If you have never engaged in the behaviour, then select "never".

	0 Never/almost never	1 2-6 times a year	2 7-12 times a year	3 Twice a month	4 Once a week	5 2-3 times a week	6 4-5 times a week	7 6 or more times a week
Showered or bathed	0	1	2	3	4	5	6	7
Shaved hair on face	0	1	2	3	4	5	6	7
Waxed or bleached hair on face	0	1	2	3	4	5	6	7
Shaved or waxed hair on underarms or arms	0	1	2	3	4	5	6	7
Shaved or waxed hair on legs	0	1	2	3	4	5	6	7
Shaved or waxed hair on groin or bikini area	0	1	2	3	4	5	6	7

	0 **Never/almost never**	**1** **2-6 times a year**	**2** **7-12 times a year**	**3** **Twice a month**	**4** **Once a week**	**5** **2-3 times a week**	**6** **4-5 times a week**	**7** **6 or more times a week**
Shaved or waxed back								
Shaved or waxed chest	0	1	2	3	4	5	6	7
Applied chapstick	0	1	2	3	4	5	6	7
Applied lip gloss	0	1	2	3	4	5	6	7
Applied lipstick/lip liner	0	1	2	3	4	5	6	7
Applied mascara	0	1	2	3	4	5	6	7
Wore fake eyelashes	0	1	2	3	4	5	6	7
Applied eyeshadow	0	1	2	3	4	5	6	7
Applied eyeliner	0	1	2	3	4	5	6	7
Applied concealer	0	1	2	3	4	5	6	7
Applied foundation	0	1	2	3	4	5	6	7
Applied bronzer	0	1	2	3	4	5	6	7
Applied blush	0	1	2	3	4	5	6	7
Applied hair styling products (e.g., gel, mousse)	0	1	2	3	4	5	6	7
Styled hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	0	1	2	3	4	5	6	7
Had a haircut	0	1	2	3	4	5	6	7
Had your hair dyed or highlighted	0	1	2	3	4	5	6	7
Brushed your teeth	0	1	2	3	4	5	6	7
Flossed your teeth	0	1	2	3	4	5	6	7
Used at-home teeth whitening	0	1	2	3	4	5	6	7
Tanned (e.g., under the sun or at a tanning salon)	0	1	2	3	4	5	6	7
Wore tight or revealing	0	1	2	3	4	5	6	7

clothing								
	0 **Never/almost never**	**1** **2-6 times a year**	**2** **7-12 times a year**	**3** **Twice a month**	**4** **Once a week**	**5** **2-3 times a week**	**6** **4-5 times a week**	**7** **6 or more times a week**
Wore "in-style", current fashionable clothing	0	1	2	3	4	5	6	7
Wore jewellery (e.g., necklace, ring, bracelet, earring)	0	1	2	3	4	5	6	7
Wore perfume, cologne, or scented body lotion	0	1	2	3	4	5	6	7
Wore deodorant/antiperspirants	0	1	2	3	4	5	6	7
Applied body moisturizer	0	1	2	3	4	5	6	7
Applied anti-aging creams, gels, or ointments	0	1	2	3	4	5	6	7
Painted nails, or received a manicure or pedicure	0	1	2	3	4	5	6	7
Wore a push-up bra	0	1	2	3	4	5	6	7
Wore your most attractive or sexy underwear or lingerie	0	1	2	3	4	5	6	7
Wore shapewear (e.g., Spanx, Girdle)	0	1	2	3	4	5	6	7

20. For each of the following responsibilities, think about the **six month time period in your life (from age 12 onwards)** where you did the responsibility the most. Indicate the response that best describes how often you engaged in the responsibility **during that six months of your life**. If you have never engaged in the responsibility, then select "never".

	0 Never/almost never	1 Once a week or less	2 Twice a week	3 Three times a week	4 Four times a week	5 Five times a week	6 Six times a week	7 Seven or more times a week
Went to work	0	1	2	3	4	5	6	7
Completed work related activities outside of regular work hours	0	1	2	3	4	5	6	7
Went to college/ university to attend class	0	1	2	3	4	5	6	7
Completed homework	0	1	2	3	4	5	6	7
Taught a sport/ activity/skill to another person or group	0	1	2	3	4	5	6	7
Attended a workshop for upgrading skills	0	1	2	3	4	5	6	7
Did volunteer work	0	1	2	3	4	5	6	7

21a. For each of the following body modification techniques, please indicate whether you have **ever made** the body modification technique **at any point in your life** by circling "**YES**" if you have modified your body by using the technique and "**NO**" if you have not modified your body by using the technique.

YES   **NO**   Tattoo
YES   **NO**   Pierced ears or face
YES   **NO**   Pierced a body part other than ears or face
YES   **NO**   Facial
YES   **NO**   Non-surgical face-lift
YES   **NO**   Chemical peel or microdermabrasion
YES   **NO**   Laser skin treatment (e.g., laser skin resurfacing, laser acne treatment, laser scar improvement)

YES   NO   Facial injections (e.g., Juvederm, Botox, Restylane)
YES   NO   Non-medical cosmetic surgery on your face or ears (e.g., face-lift, rhinoplasty, eyebrow lift, chin augmentation)
YES   NO   Non-medical cosmetic surgery on your body (e.g., liposuction, tummy-tuck, breast lift)
YES   NO   Breast/pectoral implants
YES   NO   Laser hair removal on your face
YES   NO   Laser hair removal on your body
YES   NO   Salon, spa, or dentist teeth whitening
YES   NO   Purposely changed or restricted food habits in order to lose weight
YES   NO   Purposely changed or restricted food habits in order to improve your body's appearance
YES   NO   Purposely changed exercise habits in order to lose weight
YES   NO   Changed your exercise habits in order to improve your body's appearance

21b. Do you have any tattoos?   **YES**   **NO**
     If **YES**, how many? _____

21c. Do you have any ear or facial piercings?   **YES**   **NO**
     If **YES**, how many? _____

21d. Do you have any piercings on your body (i.e., not on your head)?   **YES**   **NO**
     If **YES**, how many? _____

22. For each of the following forms of technology, please think about the **one year time period of your life (from age 12 onwards)** where you used the technology the most to communicate with **someone of the opposite sex that you find attractive** and indicate the response that best describes how often you used the technology **with such a person during that year of your life**. If you have never used the form of technology, then select "never".

	0 Never/almost never	1 Once or less a week	2 Twice a week	3 Three times a week	4 Four times a week	5 Five times a week	6 Six times a week	7 Seven or more times a week
Telephone call	0	1	2	3	4	5	6	7
Text using cell phone (e.g., texting, BBM, IM)	0	1	2	3	4	5	6	7
Online instant messenger (e.g.,	0	1	2	3	4	5	6	7

yahoo, MSN, ICQ)								
	0 **Never/almost never**	**1** **Once or less a week**	**2** **Twice a week**	**3** **Three times a week**	**4** **Four times a week**	**5** **Five times a week**	**6** **Six times a week**	**7** **Seven or more times a week**
Email	0	1	2	3	4	5	6	7
Social networking websites (e.g., Facebook, MySpace, Twitter)	0	1	2	3	4	5	6	7
Dating website (e.g., eHarmony, LavaLife, OKCupid, match.com, PlentyofFish)	0	1	2	3	4	5	6	7
Online video communication (e.g., Skype)	0	1	2	3	4	5	6	7

23. Please indicate how often you have done the following **throughout your life** (**from age 12 onwards**) while spending time with **people of the opposite sex who you find attractive**. If you have never done the behaviour, then select "never".

	0 **Never/almost never**	**1** **Infrequently but sometimes**	**2** **Occasionally**	**3** **Often**	**4** **Very frequently**	**5** **Extremely frequently**
Made an effort to appear educated and intelligent	0	1	2	3	4	5
Made an effort to appear creative and artistic	0	1	2	3	4	5
Made an effort to appear funny (e.g., telling jokes)	0	1	2	3	4	5
Made an effort to appear friendly, nice, and kind	0	1	2	3	4	5
Made an effort to do something special for him/her	0	1	2	3	4	5
Made an effort to appear alluring, coy, or open to sexual behaviour (e.g., open to kissing, oral sex,	0	1	2	3	4	5

intercourse)	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Made an effort to appear trustworthy	0	1	2	3	4	5
Made an effort to appear faithful and monogamous	0	1	2	3	4	5
Made an effort to appear loyal to others	0	1	2	3	4	5
Made an effort to appear reliable	0	1	2	3	4	5
Made an effort to appear independent	0	1	2	3	4	5
Made an effort to appear goal-oriented	0	1	2	3	4	5
Made an effort to appear that other's goals may come before mine	0	1	2	3	4	5
Made an effort to appear like I want to be taken care of	0	1	2	3	4	5
Made an effort to appear confident	0	1	2	3	4	5
Made an effort to appear charming	0	1	2	3	4	5
Made an effort to appear clueless, ditsy, or naive	0	1	2	3	4	5
Made an effort to appear fun and exciting	0	1	2	3	4	5
Made an effort to appear unopinionated	0	1	2	3	4	5
Made an effort to appear flirtatious	0	1	2	3	4	5
Made an effort to appear bubbly	0	1	2	3	4	5
Made an effort to appear innocent	0	1	2	3	4	5
Made an effort to appear youthful	0	1	2	3	4	5
Made an effort to appear feminine	0	1	2	3	4	5
Made an effort to appear masculine	0	1	2	3	4	5
Made an effort to appear pure	0	1	2	3	4	5
Made an effort to appear tough, strong-minded, or street smart	0	1	2	3	4	5
Made an effort to appear dominant	0	1	2	3	4	5
Made an effort to appear stable-minded	0	1	2	3	4	5
Made an effort to appear introverted	0	1	2	3	4	5
Made an effort to appear moralistic	0	1	2	3	4	5
Made an effort to appear nurturing	0	1	2	3	4	5

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Made an effort to appear responsible	0	1	2	3	4	5
Made an effort to appear social	0	1	2	3	4	5
Made an effort to appear popular	0	1	2	3	4	5
Made an effort to appear wealthy and financially well-off	0	1	2	3	4	5
Made an effort to appear generous, charitable, or altruistic	0	1	2	3	4	5
Made an effort to appear adventurous or open to new experiences	0	1	2	3	4	5
Made an effort to appear that you have similar values, beliefs, and interests	0	1	2	3	4	5
Made an effort to appear that you want children	0	1	2	3	4	5
Made an effort to appear like a good parent or potential parent	0	1	2	3	4	5
Made an effort to appear healthy	0	1	2	3	4	5
Made an effort to appear emotionally stable and mature	0	1	2	3	4	5
Made an effort to communicate my positive feelings	0	1	2	3	4	5
Made an effort to spend time alone with them	0	1	2	3	4	5
Made an effort to appear genuine	0	1	2	3	4	5
Made an effort to appear to not appear jealous	0	1	2	3	4	5
Made an effort to appear that I like the person	0	1	2	3	4	5
Made an effort to make the other person relax by giving them alcohol and/or drugs	0	1	2	3	4	5
Made an effort to appear sexually available	0	1	2	3	4	5
Made an effort to show off	0	1	2	3	4	5
Made an effort to show affection	0	1	2	3	4	5
Made an effort to appear to have similar religious values	0	1	2	3	4	5
Made an effort to appear to have similar political views	0	1	2	3	4	5

	0 Never/almost never	1 Infrequently but sometimes	2 Occasionally	3 Often	4 Very frequently	5 Extremely frequently
Offered them a ride	0	1	2	3	4	5
Asked them for a ride	0	1	2	3	4	5
Gave them a gift	0	1	2	3	4	5
Made an effort to talk about people of the opposite sex who have shown interest in you	0	1	2	3	4	5
Made an effort to make the person jealous	0	1	2	3	4	5
Made an effort to appear interested in another individual in order to attract him/her	0	1	2	3	4	5

24. Please indicate the length of your hair in its current state by circling the number that best represents your hair.

0	Bald
1	Buzz cut (e.g., 1-2 cm/half an inch of hair)
2	Above the ears (e.g., 2.5 - 5 cm/1-2 inches of hair)
3	Around chin length
4	Between chin and shoulders
5	Shoulder length
6	Just below shoulders
7	Between shoulders and elbow
8	Elbow length
9	Just below elbow
10	Around lower back or longer

25. Please indicate your bra size (e.g., 32A, 36DD, 40E, etc) (Women Only). _____

26. **From age 12**, please indicate the amount of time you have had the following. For example, if you have not had a romantic partner very often you may chose 10% or 20%. If you have had a romantic partner a lot of the time you may chose 80% or 90%.

	Never/almost never	10% of the time	20% of the time	30% of the time	40% of the time	50% of the time	60% of the time	70% of the time	80% of the time	90% of the time	100% of the time
Romantic partner	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Sexual partner	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

27. Please answer the following questions regarding the number of friends you communicate with.
Number of social networking "friends" (e.g., Facebook, Myspace, etc) ? _____
Number of social networking "friends" (e.g., Facebook, Myspace, etc) who are family? _____
In a typical week, how many different people who you are not biologically related to do you send text messages to? _____
How many of the above people are of the opposite sex ? _____

28. Please indicate the category that best reflects your *highest* level of sports participation during your lifetime:
__ never participated in any organized sporting activity or event
__ participated in community level sport activities
__ member of a high school sports team
__ winner of a city-wide sporting event (individual or team sport)
__ member of a provincial/state sports team
__ winner of a provincial/state-level sporting event (individual or team sport)
__ winner of a national-level sporting event (individual or team sport)
__ member of a national sports team
__ winner of an international-level sporting event such as a world championship or Olympic event (individual or team sport)

29. Please indicate whether you have ever used the following forms of technology by circling "YES" if you have used the technology and "NO" if you have not used the technology.

YES   NO   Cell phone call
YES   NO   Telephone call
YES   NO   Text messaging
YES   NO   Webcam
YES   NO   Skype
YES   NO   Facebook/Myspace/Twitter
YES   NO   Internet dating website
YES   NO   Email

Appendix K

Multidimensional Sociosexuality Inventory (SOI)

Please respond honestly to the following questions:

	1 Strongly disagree	2	3	4 Neutral	5	6	7 Strongly agree
1. I can easily imagine myself being comfortable and enjoying "casual" sex with different partners	1	2	3	4	5	6	7
2. I can imagine myself enjoying a brief sexual encounter with someone I find very attractive	1	2	3	4	5	6	7
3. I could easily imagine myself enjoying one night of sex with someone I would never see again	1	2	3	4	5	6	7
4. Sex without love is OK	1	2	3	4	5	6	7
5. I could enjoy sex with someone I find highly desirable even if that person does not have long-term potential	1	2	3	4	5	6	7
6. I would consider having sex with a stranger if I could be assured that it was safe and he/she was attractive to me	1	2	3	4	5	6	7
7. I would never consider having a brief sexual relationship with someone	1	2	3	4	5	6	7
8. Sometimes I would rather have sex with someone I did not care about	1	2	3	4	5	6	7
9. I believe in taking sexual opportunities when I find them	1	2	3	4	5	6	7

10. I would have to be closely attached to someone (both emotionally and psychologically) before I could feel comfortable and fully enjoy having sex with him or her	1	2	3	4	5	6	7
	1 Strongly disagree	2	3	4 Neutral	5	6	7 Strongly agree
11. I am interested in maintaining a long-term romantic relationship with someone special	1	2	3	4	5	6	7
12. I hope to have a romantic relationship that lasts the rest of my life	1	2	3	4	5	6	7
13. I would like to have a romantic relationship that lasts forever	1	2	3	4	5	6	7
14. Long-term romantic relationships are not for me	1	2	3	4	5	6	7
15. Finding a long-term romantic partner is not important to me	1	2	3	4	5	6	7
16. I can easily see myself engaging in a long-term romantic relationship with someone special	1	2	3	4	5	6	7
17. I cannot imagine spending the rest of my life with one sex partner	1	2	3	4	5	6	7
18. I can see myself settling down romantically with one special person	1	2	3	4	5	6	7
19. If I never settled down with one romantic partner, that would be OK	1	2	3	4	5	6	7
20. I would like to have at least one long-term committed	1	2	3	4	5	6	7

relationship during my lifetime							

21. How often do you fantasize about having sex with someone other than your current partner (or most recent partner if you are not currently in a romantic relationship)?

      1. Never
      2. Once every two or three months
      3. Once a month
      4. Once every two weeks
      5. Once a week
      6. A few times each week
      7. Nearly every day
      8. At least once a day
      n/a I've never been in a romantic relationship

22. During your entire life, with how many partners have you had sexual intercourse with?

    _____

23. With how many different partners have you had sex (sexual intercourse) within the past year?

    _____

24. With how many different partners have you had sex on one and only one occasion?

    _____

25. How many different partners do you foresee yourself having sex with during the next 5 years? (Please give a specific, realistic estimate).

    _____

Appendix L

The Perceived Relationship Quality Component (PRQC)

Please answer the following questions based on your overall opinion of your <u>current or most recent relationship.</u>

1. How satisfied are/were you with your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

2. How content are/were you with your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

3. How happy are/were you with your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

4. How committed are/were you to your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

5. How dedicated are/were you to your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

6. How devoted are/were you to your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

7. How intimate is/was your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

8. How close is/was your relationship?

    1   2   3   4   5   6   7
    Not at all   Extremely

9. How connected are/were you to your partner?

    1   2   3   4   5   6   7
    Not at all   Extremely

10. How much do/did you trust your partner?

    1   2   3   4   5   6   7
    Not at all   Extremely

11. How much can/could you count on your partner?

       1   2   3   4   5   6   7

    Not at all   Extremely

12. How dependable is/was your partner?

       1   2   3   4   5   6   7

    Not at all   Extremely

13. How passionate is/was your relationship?

       1   2   3   4   5   6   7

    Not at all   Extremely

14. How lustful is/was your relationship?

       1   2   3   4   5   6   7

    Not at all   Extremely

15. How sexually intense is/was your relationship?

       1   2   3   4   5   6   7

    Not at all   Extremely

16. How much do/did you love your partner?

       1   2   3   4   5   6   7

    Not at all   Extremely

17. How much do/did you adore your partner?

       1   2   3   4   5   6   7

    Not at all   Extremely

18. How much do/did you cherish your partner?

       1   2   3   4   5   6   7

    Not at all   Extremely

Appendix M

Bem Sex Role Inventory (BSRI)

Please indicate on a scale from 1 to 7 **how true of you** each of the following characteristics is.

	1 Never or almost never	2 Usually not true	3 Sometimes but infrequently not true	4 Occasionally true	5 Often true	6 Usually true	7 Always or almost always true
Defend my own beliefs							
Affectionate							
Independent							
Sympathetic							
Assertive							
Sensitive to needs of others							
Strong Personality							
Understanding							
Forceful							
Compassionate							
Eager to soothe hurt feelings							
Willing to take risks							
Warm							
Dominant							
Tender							
Willing to take a stand							
Love children							
Aggressive							
Gentle							
Act as a leader							

Appendix N

The Marlowe-Crowne Social Desirability Scale (MCSD) Short Form

Please circle either T (true) if the statement is true of you or F (false) if the statement is not true of you.

1. I'm always willing to admit it when I make a mistake.   T   F

2. I always try to practice what I preach.   T   F

3. I never resent being asked to return a favor.   T   F

4. I have never been irked when people expressed ideas very different from my own.

   T   F

5. I have never deliberately said something that hurt someone's feelings.   T   F

6. I like to gossip at times.   T   F

7. There have been occasions when I took advantage of someone.   T   F

8. I sometimes try to get even rather than forgive and forget.   T   F

9. At times I have really insisted on having things my own way.   T   F

10. There have been occasions when I felt like smashing things.   T   F

Appendix O

Polycystic Ovarian Syndrome Questionnaire (PCOSQ) for Women

a) Please answer this question, NOT INCLUDING any time spent pregnant, receiving birth control pills or injections, after menopause, or after having both ovaries or the uterus surgically removed:

Between the ages of 16 and 40, about how long was/is your average menstrual cycle (time from first day of one period to the first day of the next period)?

[ ]   less that 25 days
[ ]   25-34 days
[ ]   35-60 days
[ ]   more than 60 days
[ ]   totally variable

b) During your menstruating years (not including during pregnancy), please indicate the extent to which you have had a tendency to grow dark, coarse hair on each of the following? Please indicate the greatest amount of hair that you have had in that area on the scale provided.

		No Hair					Complete Coverage
[ ]	upper lip	0	1	2	3	4	5
[ ]	chin	0	1	2	3	4	5
[ ]	breasts	0	1	2	3	4	5
[ ]	chest between the breasts	0	1	2	3	4	5
[ ]	back	0	1	2	3	4	5
[ ]	belly	0	1	2	3	4	5
[ ]	upper arms	0	1	2	3	4	5
[ ]	upper thighs	0	1	2	3	4	5

c) Were you ever obese or overweight between the ages of 16 or 40? **YES**   **NO**

d) Between the ages of 16 and 40, have you ever noticed a milky discharge from your nipples (not including during pregnancy or recent childbirth)   **YES**   **NO**

e) Please indicate the degree to which you have ever experienced acne on the following parts of your body:

	None	Mild	Moderate	Severe	Extremely Severe
face	0	1	2	3	4
neck	0	1	2	3	4
chest	0	1	2	3	4
back	0	1	2	3	4
arms	0	1	2	3	4
legs	0	1	2	3	4

f) Have you ever suffered from acanthosis nigricans (a skin condition which features symmetrical, darkened, velvety plaques that most commonly appear on the neck, in the folds of the skin, on the knuckles, and elbows)? If so, please indicate where and it's severity.

	None	Mild	Moderate	Severe	Extremely Severe
face	0	1	2	3	4
neck	0	1	2	3	4
chest	0	1	2	3	4
back	0	1	2	3	4
arms	0	1	2	3	4
legs	0	1	2	3	4
elbows	0	1	2	3	4
knuckles	0	1	2	3	4
skin folds	0	1	2	3	4

g) Have you ever experienced male pattern baldness (loss of hair at the top of the head or above the forehead or thinning of the hair)?   **YES**   **NO**   **UNSURE**

Polycystic Ovarian Syndrome Questionnaire (PCOSQ) for Men

a) From ages 10 to 50, please indicate the extent to which you have had a tendency to grow dark, coarse hair on each of the following? Please indicate the greatest amount of hair that you have had in that area on the scale provided.

		No Hair					Complete Coverage
[ ]	upper lip	0	1	2	3	4	5
[ ]	chin	0	1	2	3	4	5
[ ]	breasts	0	1	2	3	4	5
[ ]	chest between the breasts	0	1	2	3	4	5
[ ]	back	0	1	2	3	4	5
[ ]	belly	0	1	2	3	4	5
[ ]	upper arms	0	1	2	3	4	5
[ ]	upper thighs	0	1	2	3	4	5

c) Were you ever obese or overweight between the ages of 16 or 40? **YES**   **NO**

d) Between the ages of 16 and 40, have you ever noticed a milky discharge from your nipples?
          YES   NO

e) Please indicate the degree to which you have ever experienced acne on the following parts of your body:

	None	Mild	Moderate	Severe	Extremely Severe
face	0	1	2	3	4
neck	0	1	2	3	4

	None	Mild	Moderate	Severe	Extremely Severe
chest	0	1	2	3	4
back	0	1	2	3	4
arms	0	1	2	3	4
legs	0	1	2	3	4

f) Have you ever suffered from acanthosis nigricans (a skin condition which features symmetrical, darkened, velvety plaques that most commonly appear on the neck, in the folds of the skin, on the knuckles, and elbows)? If so, please indicate where and it's severity.

	None	Mild	Moderate	Severe	Extremely Severe
face	0	1	2	3	4
neck	0	1	2	3	4
chest	0	1	2	3	4
back	0	1	2	3	4
arms	0	1	2	3	4
legs	0	1	2	3	4
elbows	0	1	2	3	4
knuckles	0	1	2	3	4
skin folds	0	1	2	3	4

g) Have you ever experienced male pattern baldness (loss of hair at the top of the head or above the forehead or thinning of the hair)?   **YES**   **NO**   **UNSURE**

Appendix P

Flirting and Attractivity Behaviours Pilot Study: Women

1. How old are you (in years)? ____years

2. Please indicate your biological sex.
Male ___
Female ___
Other ___

3. Please choose the response that best represents your ethnic background. If you need to select more than one response , then select "other" and please specify.

Caucasian/White	_____	Middle Eastern	_____
African-Canadian/American/Black	_____	East Indian	_____
First Nation/Aboriginal/American Indian	_____	European	_____
Hispanic/Latino	_____	Asian	_____
Other (please specify) _____			

4. What is your highest level of education?
[ ] some elementary   [ ] completed college diploma
[ ] completed grade 8   [ ] some university
[ ] some high school   [ ] completed a university degree
[ ] completed high school   [ ] some graduate studies
[ ] some college   [ ] completed a graduate degree
[ ] completed college certificate

5. Please rate yourself on the following rating scale:
        1   Exclusively heterosexual
        2   Predominantly heterosexual, only incidentally homosexual
        3   Predominantly heterosexual, but more than incidentally homosexual
        4   Equally heterosexual and homosexual
        5   Predominantly homosexual, but more than incidentally heterosexual
        6   Predominantly homosexual, only incidentally heterosexual
        7   Exclusively homosexual

For each of the following questions, please indicate whether you think that particular behaviours increase men's short- or long-term attractiveness as a partner. Short-term partners are defined as hook-ups, one night stands or fleeting sexual encounters while long-term partners are defined as relationships involving courtship, heavy investment, the emotion of love, and the dedication of resources over a long period of time to the mating relationship and any offspring that ensue (i.e., common-law partners, or husband).

6. Imagine a man that you could be interested in, please indicate the extent to which you think each of the following behaviours used during face-to-face interactions by that man would **increase the man's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	2 **Somewhat**	3 **A lot**

	1	2	3
Laughs at your jokes or comments	1	2	3
Giggles a lot while with you	1	2	3
Touches your shoulder, arm, leg, and/or face	1	2	3
Makes eye contact with you	1	2	3
Points his body directly at you when talking	1	2	3
Fixes his clothing or hair when he sees you	1	2	3
Smiles at you	1	2	3
Purposely stands or sits close to you	1	2	3
Licks his lips	1	2	3
Plays with his hair/runs his fingers through his hair	1	2	3
Raises his eyebrows when looking or talking with you	1	2	3
Teases you or makes a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asks you to contact them again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3
Buys or gives you an alcoholic drink	1	2	3

7. Imagine a man that you could be interested in, please indicate the extent to which you think each of the following behaviours used by that man during face-to-face interactions **increases the man's attractiveness as a long-term partner** (i.e., relationship involving love, commitment, common-law partner, husband).

	1 **Not at all**	2 **Somewhat**	3 **A lot**
Laughs at your jokes	1	2	3

or comments			
Giggles a lot while with you	1	2	3
Touches your shoulder, arm, leg, and/or face	1	2	3
Makes eye contact with you	1	2	3
Points his body directly at you when talking	1	2	3
Fixes his clothing or hair when he sees you	1	2	3
Smiles at you	1	2	3
Purposely stands or sits close to you	1	2	3
Licks his lips	1	2	3
Plays with his hair/runs his fingers through his hair	1	2	3
Raises his eyebrows when looking or talking with you	1	2	3
Teases you or make a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asked you to contact him again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3
Buys or gives you an alcoholic drink	1	2	3

8. Imagine a man that you could be interested in, please indicate the extent to which you think each of the following behaviours used by that man with technology (e.g., texting, telephone calls, webcam, Skype, Facebook, Myspace, Internet dating websites, etc) **increases a man's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Comments on your online profile or status	1	2	3

updates			
Sends you "lol" or an emoticon involving a smiley face	1	2	3
Sends you an emoticon involving a heart, kiss, or hug	1	2	3
Fixes his clothing or hair when he sees you over webcam	1	2	3
Smiles at you over webcam	1	2	3
Licks his lips while looking at you through webcam	1	2	3
Plays with his hair/ runs his fingers through his hair while looking at you through webcam	1	2	3
Raises his eyebrows when looking or talking with you over webcam	1	2	3
Teases you or makes a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asks you to contact him again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3

9. Imagine a man that you could be interested in, please indicate the extent to which you think each of the following behaviours used by that man with technology (e.g., texting, telephone calls, webcam, Skype, Facebook, Myspace, Internet dating websites, etc) **increases the man's attractiveness as a long-term partner** (i.e., long-term relationship involving love, common-law partner, husband).

	1 Not at all	2 Somewhat	3 A lot
Comments on your online profile or status updates	1	2	3
Sends you "lol" or an emoticon involving a smiley face	1	2	3
Sends you an emoticon involving a heart, kiss, or	1	2	3

hug			
Fixes his clothing or hair when he sees you over webcam	1	2	3
Smiles at you over webcam	1	2	3
Licks his lips while looking at you through webcam	1	2	3
Plays with his hair/runs his fingers through his hair while looking at you through webcam	1	2	3
Raises his eyebrows when looking or talking with you over webcam	1	2	3
Teases you or makes a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asks you to contact him again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3

10. Imagine a man that you could be interested in, please indicate the extent to which you think participating in the following sports **increases that man's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 Not at all	2 Somewhat	3 A lot
Archery	1	2	3
Badminton	1	2	3
Ballet	1	2	3
Baseball	1	2	3
Basketball	1	2	3
BMX Biking	1	2	3
Bowling	1	2	3
Boxing	1	2	3
Canoeing/ Kayaking	1	2	3
Cardio Class (e.g., aerobics, step, bootcamp)	1	2	3
Cheerleading	1	2	3
Cross-country Skiing	1	2	3

Curling	1	2	3
Cycling	1	2	3
Dance (i.e., classes)	1	2	3
Diving	1	2	3
Downhill Skiing	1	2	3
Drag/Car Racing	1	2	3
Fencing	1	2	3
Figure Skating	1	2	3
Fishing	1	2	3
Football	1	2	3
Golf	1	2	3
Gymnastics	1	2	3
Hockey	1	2	3
Horseback riding	1	2	3
Hunting	1	2	3
Kick Boxing	1	2	3
Martial Arts	1	2	3
Orienteering	1	2	3
Pilates	1	2	3
Riflery	1	2	3
Rowing	1	2	3
Rugby	1	2	3
Running	1	2	3
Sailing	1	2	3
Scuba diving	1	2	3
Skateboarding/ Scootering	1	2	3
Skating	1	2	3
Snowboarding	1	2	3
Soccer	1	2	3
Speed Skating	1	2	3
Squash	1	2	3
Surfing	1	2	3
Synchronized Swimming	1	2	3
Swimming	1	2	3
Tennis	1	2	3
Track and field	1	2	3
Ultimate fighting	1	2	3
Volleyball	1	2	3
Walking	1	2	3
Weight training/Cross fit	1	2	3
Wrestling	1	2	3
Yoga	1	2	3

11. Imagine a man that you could be interested in, please indicate the extent to which you think participating in the following sports **increases that man's attractiveness as a long-term partner** (i.e., long-term relationship involving love, common-law partner, husband).

	1 Not at all	2 Somewhat	3 A lot
Archery	1	2	3
Badminton	1	2	3
Ballet	1	2	3
Baseball	1	2	3
Basketball	1	2	3
BMX Biking	1	2	3
Bowling	1	2	3
Boxing	1	2	3
Canoeing/ Kayaking	1	2	3
Cardio Class (e.g., aerobics, step, bootcamp)	1	2	3
Cheerleading	1	2	3
Cross-country Skiing	1	2	3
Curling	1	2	3
Cycling	1	2	3
Dance (i.e., classes)	1	2	3
Diving	1	2	3
Downhill Skiing	1	2	3
Drag/Car Racing	1	2	3
Fencing	1	2	3
Figure Skating	1	2	3
Fishing	1	2	3
Football	1	2	3
Golf	1	2	3
Gymnastics	1	2	3
Hockey	1	2	3
Horseback riding	1	2	3
Hunting	1	2	3
Kick Boxing	1	2	3
Martial Arts	1	2	3
Orienteering	1	2	3
Pilates	1	2	3
Riflery	1	2	3
Rowing	1	2	3
Rugby	1	2	3
Running	1	2	3
Sailing	1	2	3
Scuba diving	1	2	3
Skateboarding/ Scootering	1	2	3
Skating	1	2	3
Snowboarding	1	2	3
Soccer	1	2	3

Speed Skating	1	2	3
Squash	1	2	3
Surfing	1	2	3
Synchronized Swimming	1	2	3
Swimming	1	2	3
Tennis	1	2	3
Track and field	1	2	3
Ultimate fighting	1	2	3
Volleyball	1	2	3
Walking	1	2	3
Weight training/Cross fit	1	2	3
Wrestling	1	2	3
Yoga	1	2	3

12. Imagine a man that you could be interested in, please indicate the extent to which you think attending each of the following events **increases that man's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	2 **Somewhat**	3 **A lot**
A large social party (i.e., party at a friend's, family, or his house with more than 10 people)	1	2	3
A small social party (i.e., party at a friend's, family, or his house with less than 10 people)	1	2	3
A small outdoor social gathering involving less than 10 people (did not take place at a house or building)	1	2	3
A large outdoor social gathering involving 10 or more people (did not take place at a house or building)	1	2	3
Bar/Pub	1	2	3
Club/Discotheque	1	2	3
Restaurant with friends and/or family for breakfast, lunch, or dinner	1	2	3
Public dance	1	2	3
Strip/Erotic/Adult club	1	2	3
Arcade	1	2	3
Pool hall	1	2	3
Religious/Church group activity	1	2	3
Shag/Jack&Jill/Buck&Doe/pre-wedding celebration	1	2	3

Bookclub	1	2	3
Coffeehouse	1	2	3
Music concert	1	2	3
Movie theatre	1	2	3
Theatrical play, ballet, or opera	1	2	3
Live sporting event or game as a spectator	1	2	3
Watching a sporting event with friends on television	1	2	3
Travelling or going on tours	1	2	3
Library or bookstore	1	2	3
Participating as a member of a club or organization	1	2	3
Exercising in a public place (e.g., in a public gym or an outside area where others might see him)	1	2	3
Going shopping (e.g., grocery, clothing, furniture, etc)	1	2	3
Spending time on a social networking website	1	2	3

13. Imagine a man that you could be interested in, please indicate the extent to which you think attending each of the following events **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband).

	1 Not at all	2 Somewhat	3 A lot
A large social party (i.e., party at a friend's, family, or his house with more than 10 people)	1	2	3
A small social party (i.e., party at a friend's, family, or his house with less than 10 people)	1	2	3
A small outdoor social gathering involving less than 10 people (did not take place at a house or building)	1	2	3
A large outdoor social gathering involving 10 or more people (did not take place at a house or building)	1	2	3
Bar/Pub	1	2	3
Club/ Discotheque	1	2	3
Restaurant with friends and/or family for breakfast, lunch, or dinner	1	2	3
Public dance	1	2	3

Strip/Erotic/Adult club	1	2	3
Arcade	1	2	3
Pool hall	1	2	3
Religious/Church group activity	1	2	3
Shag/Jack&Jill/Buck&Doe/pre-wedding celebration	1	2	3
Bookclub	1	2	3
Coffeehouse	1	2	3
Music concert	1	2	3
Movie theatre	1	2	3
Theatrical play, ballet, or opera	1	2	3
Live sporting event or game as a spectator	1	2	3
Watching a sporting event with friends on television	1	2	3
Travelling or going on tours	1	2	3
Library or bookstore	1	2	3
Participating as a member of a club or organization	1	2	3
Exercising in a public place (e.g., in a public gym or an outside area where others might see him)	1	2	3
Going shopping (e.g., grocery, clothing, furniture, etc)	1	2	3
Spending time on a social networking website	1	2	3

14. Imagine a man that you could be interested in, please indicate the extent to which you think engaging in each of the following activities **increases that man's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 Not at all	2 Somewhat	3 A lot
Cooking	1	2	3
Baking	1	2	3
Taking care of someone (e.g., an elder, someone who is sick, a child or infant)	1	2	3
Cleaning around the house or his bedroom (e.g., vacuuming, dusting, tidying up, dishes)	1	2	3
Outdoor work (e.g., cutting the grass, shovelling snow, etc)	1	2	3

	1	2	3
Decorating his house or bedroom	1	2	3
Sewing and/or knitting	1	2	3
Wood working	1	2	3
General repairs around the house (e.g., electronics/mechanical devices)	1	2	3
Carpentry around the house (e.g., home renovations)	1	2	3
Gardening	1	2	3
Doing arts and crafts	1	2	3
Singing or playing a musical instrument	1	2	3
Performing in front of others (e.g., playing a musical instrument, singing, dancing)	1	2	3

15. Imagine a man that you could be interested in, please indicate the extent to which you think engaging in each of the following activities **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband).

	1 Not at all	2 Somewhat	3 A lot
Cooking	1	2	3
Baking	1	2	3
Taking care of someone (e.g., an elder, someone who is sick, a child or infant)	1	2	3
Cleaning around the house or his bedroom for at least 30 minutes (e.g., vacuuming, dusting, tidying up, dishes)	1	2	3
Outdoor work (e.g., cutting the grass, shovelling snow, etc)	1	2	3
Decorating his house or bedroom	1	2	3
Sewing and/or knitting	1	2	3
Wood working	1	2	3
General repairs around the house (e.g., electronics/mechanical devices)	1	2	3

Carpentry around the house (e.g., home renovations)	1	2	3
Gardening	1	2	3
Doing arts and crafts	1	2	3
Singing or playing a musical instrument	1	2	3
Performing in front of others (e.g., playing a musical instrument, singing, dancing)	1	2	3

16. Imagine a man that you could be interested in, please indicate the extent to which you think learning about the following topics **increases that man's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Sexual techniques (e.g., kissing, oral sex, intercourse)	1	2	3
Flirting techniques	1	2	3
Dating techniques	1	2	3
How to mix alcoholic beverages	1	2	3
How to give body massages	1	2	3
How to apply make up	1	2	3
How to style hair	1	2	3
Latest trends in clothing/fashion	1	2	3

17. Imagine a man that you could be interested in, please indicate the extent to which you think learning about the following topics **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Sexual techniques (e.g., kissing, oral sex, intercourse)	1	2	3
Flirting techniques	1	2	3
Dating techniques	1	2	3
How to mix alcoholic beverages	1	2	3
How to give body massages	1	2	3
How to apply make up	1	2	3
How to style hair	1	2	3

Latest trends in clothing/fashion	1	2	3

18. Imagine a man that you could be interested in, please indicate the extent to which you think using the following products and grooming techniques **increases that man's attractiveness as a short-term** partner (i.e., hook-up or one night stand). For some of these products and grooming techniques, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself. (For example, most people may say that someone using anti-aging creams, gels, or ointments does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 Not at all	2 Somewhat	3 A lot
Showering or bathing	1	2	3
Shaving hair on face	1	2	3
Waxing or bleaching hair on face	1	2	3
Shaving or waxing hair on underarms or arms	1	2	3
Shaving or waxing hair on legs	1	2	3
Shaving or waxing hair on groin or bikini area	1	2	3
Shaving or waxing back	1	2	3
Shaving or waxing chest	1	2	3
Applying chapstick	1	2	3
Applying lip gloss	1	2	3
Applying lipstick/lip liner	1	2	3
Applying mascara	1	2	3
Wearing fake eyelashes	1	2	3
Applying eyeshadow	1	2	3
Applying eyeliner	1	2	3
Applying concealer	1	2	3
Applying foundation	1	2	3
Applying bronzer	1	2	3
Applying blush	1	2	3
Applying hair styling products (e.g., gel, mousse)	1	2	3
Styling hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	1	2	3
Getting his hair cut	1	2	3
Dying or highlighting his hair	1	2	3
Brushing his teeth	1	2	3
Flossing his teeth	1	2	3
Using at-home teeth	1	2	3

	1	2	3
whitening			
Tanning (e.g., under the sun or at a tanning salon)	1	2	3
Wearing tight or revealing clothing	1	2	3
Wearing "in-style", current fashionable clothing	1	2	3
Wearing jewellery (e.g., necklace, ring, bracelet, earring)	1	2	3
Wearing perfume, cologne, or scented body lotion	1	2	3
Wearing deodorant/antiperspirants	1	2	3
Applying body moisturizer	1	2	3
Applying anti-aging creams, gels, or ointments	1	2	3
Painting nails, or receiving a manicure or pedicure	1	2	3
Wearing a push-up bra	1	2	3
Wearing his most attractive or sexy underwear or lingerie	1	2	3
Wearing shapewear (e.g., Spanx, Girdle)	1	2	3

19. Imagine a man that you could be interested in, please indicate the extent to which you think using the following products and grooming techniques **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband). For some of these products and grooming techniques, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself. (For example, most people may say that someone using anti-aging creams, gels, or ointments does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 **Not at all**	2 **Somewhat**	3 **A lot**
Showering or bathing	1	2	3
Shaving hair on face	1	2	3
Waxing or bleaching hair on face	1	2	3
Shaving or waxing hair on underarms or arms	1	2	3
Shaving or waxing hair on legs	1	2	3
Shaving or waxing hair on groin or bikini area	1	2	3

Shaving or waxing back	1	2	3
Shaving or waxing chest	1	2	3
Applying chapstick	1	2	3
Applying lip gloss	1	2	3
Applying lipstick/lip liner	1	2	3
Applying mascara	1	2	3
Wearing fake eyelashes	1	2	3
Applying eyeshadow	1	2	3
Applying eyeliner	1	2	3
Applying concealer	1	2	3
Applying foundation	1	2	3
Applying bronzer	1	2	3
Applying blush	1	2	3
Applying hair styling products (e.g., gel, mousse)	1	2	3
Styling hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	1	2	3
Getting his hair cut	1	2	3
Dying or highlighting his hair	1	2	3
Brushing his teeth	1	2	3
Flossing his teeth	1	2	3
Using at-home teeth whitening	1	2	3
Tanning (e.g., under the sun or at a tanning salon)	1	2	3
Wearing tight or revealing clothing	1	2	3
Wearing "in-style", current fashionable clothing	1	2	3
Wearing jewellery (e.g., necklace, ring, bracelet, earring)	1	2	3
Wearing perfume, cologne, or scented body lotion	1	2	3
Wearing deodorant/antiperspirants	1	2	3
Applying body moisturizer	1	2	3
Applying anti-aging creams, gels, or ointments	1	2	3
Painting nails, or receiving a manicure or pedicure	1	2	3
Wearing a push-up bra	1	2	3

	1	2	3
Wearing his most attractive or sexy underwear or lingerie	1	2	3
Wearing shapewear (e.g., Spanx, Girdle)	1	2	3

20. Imagine a man that you could be interested in, please indicate the extent to which you think engaging in the following responsibilities **increases that man's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 Not at all	2 Somewhat	3 A lot
Going to work	1	2	3
Completing work related activities outside of regular work hours	1	2	3
Going to college/university to attend class	1	2	3
Completing homework	1	2	3
Teaching a sport/activity/skill to another person or group	1	2	3
Attending a workshop for upgrading skills	1	2	3
Doing volunteer work	1	2	3

21. Imagine a man that you could be interested in, please indicate the extent to which you think engaging in the following responsibilities **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband).

	1 Not at all	2 Somewhat	3 A lot
Going to work	1	2	3
Completing work related activities outside of regular work hours	1	2	3
Going to college/university to attend class	1	2	3
Completing homework	1	2	3
Teaching a sport/activity/skill to another person or group	1	2	3
Attending a workshop	1	2	3

for upgrading skills			
Doing volunteer work	1	2	3

22. Imagine a man that you could be interested in, please indicate the extent to which you think each of following body modifications **increases that man's attractiveness as a short-term partner** (i.e., hook-up or one night stand). For some of these behaviours, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself (For example, most people may say that someone getting a facial or botox does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 **Not at all**	**2** **Somewhat**	**3** **Not at all**
Getting a tattoo	1	2	3
Piercing ears or face	1	2	3
Piercing a body part other than ears or face	1	2	3
Getting a facial	1	2	3
Getting a non-surgical face-lift	1	2	3
Getting a chemical peel or microdermabrasion	1	2	3
Getting a laser skin treatment (e.g., laser skin resurfacing, laser acne treatment, laser scar improvement)	1	2	3
Getting facial injections (e.g., Juvederm, Botox, Restylane)	1	2	3
Getting non-medical cosmetic surgery on his face or ears (e.g., face-lift, rhinoplasty, eyebrow lift, chin augmentation)	1	2	3
Getting non-medical cosmetic surgery on his body (e.g., liposuction, tummy-tuck, breast lift, buttock implants)	1	2	3
Getting breast implants	1	2	3
Getting laser hair removal on his face	1	2	3
Getting laser hair removal on his body	1	2	3

Getting salon, spa, or dentist teeth whitening	1	2	3
Purposely changing or restricting his food habits in order to lose weight	1	2	3
Purposely changing or restricting his food habits in order to improve his body's appearance	1	2	3
Purposely changing his exercise habits in order to lose weight	1	2	3

23. Imagine a man that you could be interested in, please indicate the extent to which you think each of following body modifications **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband). For some of these behaviours, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself (For example, most people may say that someone getting a facial or botox does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 **Not at all**	**2** **Somewhat**	**3** **Not at all**
Getting a tattoo	1	2	3
Piercing ears or face	1	2	3
Piercing a body part other than ears or face	1	2	3
Getting a facial	1	2	3
Getting a non-surgical face-lift	1	2	3
Getting a chemical peel or microdermabrasion	1	2	3
Getting a laser skin treatment (e.g., laser skin resurfacing, laser acne treatment, laser scar improvement)	1	2	3
Getting facial injections (e.g., Juvederm, Botox, Restylane)	1	2	3
Getting non-medical cosmetic surgery on his face or ears (e.g., face-lift, rhinoplasty, eyebrow lift, chin augmentation)	1	2	3

Getting non-medical cosmetic surgery on his body (e.g., liposuction, tummy-tuck, breast lift, buttock implants)	1	2	3
Getting breast implants	1	2	3
Getting laser hair removal on his face	1	2	3
Getting laser hair removal on his body	1	2	3
Getting salon, spa, or dentist teeth whitening	1	2	3
Purposely changing or restricting his food habits in order to lose weight	1	2	3
Purposely changing or restricting his food habits in order to improve his body's appearance	1	2	3
Purposely changing his exercise habits in order to lose weight	1	2	3

24. Imagine a man that you could be interested in, please indicate the extent to which you think the following characteristics and behaviours **increase the man's attractiveness as a short-term partner** (i.e., hook up or one-night stand).

	1 Not at all	2 Somewhat	3 A lot
Educated and intelligent	1	2	3
Creative and artistic	1	2	3
Funny (e.g., telling jokes)	1	2	3
Friendly, nice, and kind	1	2	3
Does something special for you	1	2	3
Alluring, coy, or open to sexual behaviour (e.g., open to kissing, oral sex, intercourse)	1	2	3
Trustworthy	1	2	3
Faithful and monogamous	1	2	3

Loyal to others	1	2	3
Rreliable	1	2	3
Independent	1	2	3
Goal-oriented	1	2	3
Has your goals come before his	1	2	3
Appears like he wants to be taken care of	1	2	3
Makes an effort to appear confident	1	2	3
Charming	1	2	3
Clueless, ditsy, or naive	1	2	3
Fun and exciting	1	2	3
Unopinionated	1	2	3
Flirtatious	1	2	3
Bubbly	1	2	3
Innocent	1	2	3
Youthful	1	2	3
Feminine	1	2	3
Masculine	1	2	3
Pure	1	2	3
Tough, strong-minded, or street smart	1	2	3
Dominant	1	2	3
Stable-minded	1	2	3
Introverted	1	2	3
Moralistic	1	2	3
Nurturing	1	2	3
Responsible	1	2	3
Social	1	2	3
Popular	1	2	3
Wealthy and financially well-off	1	2	3
Generous, charitable, or altruistic	1	2	3
Makes an effort to appear adventurous or open to new experiences	1	2	3
Has similar values, beliefs, and interests to yours	1	2	3
Wants children	1	2	3
Good parent or potential parent	1	2	3
Healthy	1	2	3
Emotionally stable and	1	2	3

mature			
Communicates his positive feelings	1	2	3
Spend time alone with you	1	2	3
genuine	1	2	3
Is not jealous	1	2	3
Likes you	1	2	3
Has you relax by giving you alcohol and/or drugs	1	2	3
Sexually available	1	2	3
Shows off	1	2	3
Shows affection towards you	1	2	3
Has similar religious values as you	1	2	3
Has similar political views as you	1	2	3
Offers you ride	1	2	3
Asks you for a ride	1	2	3
Gives you a gift	1	2	3
Talks about other women who have shown interest in him	1	2	3
Tries to make you jealous	1	2	3
Shows interest in other women in order to attract you	1	2	3

25. Imagine a man that you could be interested in, please indicate the extent to which you think doing the following behaviours **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband).

	1 Not at all	2 Somewhat	3 A lot
Educated and intelligent	1	2	3
Creative and artistic	1	2	3
Funny (e.g., telling jokes)	1	2	3
Friendly, nice, and kind	1	2	3
Does something special for you	1	2	3
Alluring, coy, or open to sexual behaviour	1	2	3

(e.g., open to kissing, oral sex, intercourse)			
Trustworthy	1	2	3
Faithful and monogamous	1	2	3
Loyal to others	1	2	3
Rreliable	1	2	3
Independent	1	2	3
Goal-oriented	1	2	3
Has your goals come before his	1	2	3
Appears like he wants to be taken care of	1	2	3
Makes an effort to appear confident	1	2	3
Charming	1	2	3
Clueless, ditsy, or naive	1	2	3
Fun and exciting	1	2	3
Unopinionated	1	2	3
Flirtatious	1	2	3
Bubbly	1	2	3
Innocent	1	2	3
Youthful	1	2	3
Feminine	1	2	3
Masculine	1	2	3
Pure	1	2	3
Tough, strong-minded, or street smart	1	2	3
Dominant	1	2	3
Stable-minded	1	2	3
Introverted	1	2	3
Moralistic	1	2	3
Nurturing	1	2	3
Responsible	1	2	3
Social	1	2	3
Popular	1	2	3
Wealthy and financially well-off	1	2	3
Generous, charitable, or altruistic	1	2	3
Makes an effort to appear adventurous or open to new experiences	1	2	3
Has similar values, beliefs, and interests to yours	1	2	3

	1	2	3
Wants children	1	2	3
Good parent or potential parent	1	2	3
Healthy	1	2	3
Emotionally stable and mature	1	2	3
Communicates his positive feelings	1	2	3
Spend time alone with you	1	2	3
genuine	1	2	3
Is not jealous	1	2	3
Likes you	1	2	3
Has you relax by giving you alcohol and/or drugs	1	2	3
Sexually available	1	2	3
Shows off	1	2	3
Shows affection towards you	1	2	3
Has similar religious values as you	1	2	3
Has similar political views as you	1	2	3
Offers you ride	1	2	3
Asks you for a ride	1	2	3
Gives you a gift	1	2	3
Talks about other women who have shown interest in him	1	2	3
Tries to make you jealous	1	2	3
Shows interest in other women in order to attract you	1	2	3

26. Imagine a man that you could be interested in, please indicate the extent to which you think doing the following behaviours **increases that man's attractiveness as a short-term partner** (i.e., hook up or one-night stand).

	1 **Not at all**	2 **Somewhat**	3 **A lot**
Calls you	1	2	3
Texts you (e.g., texting, BBM, IM)	1	2	3
Uses online instant messaging to contact you (e.g., yahoo, MSN,	1	2	3

	1	2	3
ICQ)			
Emails you	1	2	3
Uses social networking websites to contact you (e.g., Facebook, MySpace, Twitter)	1	2	3
Uses dating website to contact you (e.g., eHarmony, LavaLife, OKCupid, match.com, PlentyofFish)	1	2	3
Uses online video communication to contact you (e.g., Skype)	1	2	3

27. Imagine a man that you could be interested in, please indicate the extent to which you think doing the following behaviours **increases that man's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, husband).

	1 **Not at all**	2 **Somewhat**	3 **A lot**
Calls you	1	2	3
Texts you (e.g., texting, BBM, IM)	1	2	3
Uses online instant messaging to contact you (e.g., yahoo, MSN, ICQ)	1	2	3
Emails you	1	2	3
Uses social networking websites to contact you (e.g., Facebook, MySpace, Twitter)	1	2	3
Uses dating website to contact you (e.g., eHarmony, LavaLife, OKCupid, match.com, PlentyofFish)	1	2	3
Uses online video communication to contact you (e.g., Skype)	1	2	3

Appendix Q

Flirting and Attractivity Behaviours Pilot Study: Men

1. How old are you (in years)? ____years

2. Please indicate your biological sex.
Male ___
Female ___
Other ___

3. Please choose the response that best represents your ethnic background. If you need to select more than one response, then select "other" and please specify.

Caucasian/White	_____	Middle Eastern	_____
African-Canadian/American/Black	_____	East Indian	_____
First Nation/Aboriginal/American Indian	_____	European	_____
Hispanic/Latino	_____	Asian	_____
Other (please specify) _____			

4. What is your highest level of education?
[ ] some elementary   [ ] completed college diploma
[ ] completed grade 8   [ ] some university
[ ] some high school   [ ] completed a university degree
[ ] completed high school   [ ] some graduate studies
[ ] some college   [ ] completed a graduate degree
[ ] completed college certificate

5. Please rate yourself on the following rating scale:
        1   Exclusively heterosexual
        2   Predominantly heterosexual, only incidentally homosexual
        3   Predominantly heterosexual, but more than incidentally homosexual
        4   Equally heterosexual and homosexual
        5   Predominantly homosexual, but more than incidentally heterosexual
        6   Predominantly homosexual, only incidentally heterosexual
        7   Exclusively homosexual

For each of the following questions, please indicate whether you think that particular behaviours increase women's short- or long-term attractiveness as a partner. Short-term partners are defined as hook-ups, one night stands or fleeting sexual encounters while long-term partners are defined as relationships involving courtship, heavy investment, the emotion of love, and the dedication of resources over a long period of time to the mating relationship and any offspring that ensue (i.e., common-law partner or wife).

6. Imagine a woman that you could be interested in, please indicate the extent to which you think each of the following behaviours used during face-to-face interactions by that woman **increases the woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1	2	3

	Not at all	Somewhat	A lot
Laughs at your jokes or comments	1	2	3
Giggles a lot while with you	1	2	3
Touches your shoulder, arm, leg, and/or face	1	2	3
Makes eye contact with you	1	2	3
Points her body directly at you when talking	1	2	3
Fixes her clothing, hair, or make-up when she sees you	1	2	3
Smiles at you	1	2	3
Purposely stands or sits close to you	1	2	3
Licks her lips	1	2	3
Plays with her hair/runs her fingers through her hair	1	2	3
Raises her eyebrows when looking or talking with you	1	2	3
Teases you or makes a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asks you to contact them again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3
Buys or gives you an alcoholic drink	1	2	3

7. Imagine a woman that you could be interested in, please indicate the extent to which you think each of the following behaviours used by a woman during face-to-face interactions **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, commitment, common-law partner, wife).

	1	2	3

	Not at all	Somewhat	A lot
Laughs at your jokes or comments	1	2	3
Giggles a lot while with you	1	2	3
Touches your shoulder, arm, leg, and/or face	1	2	3
Makes eye contact with you	1	2	3
Points her body directly at you when talking	1	2	3
Fixes her clothing, hair, or make-up when he sees you	1	2	3
Smiles at you	1	2	3
Purposely stands or sits close to you	1	2	3
Licks her lips	1	2	3
Plays with her hair/runs her fingers through her hair	1	2	3
Raises her eyebrows when looking or talking with you	1	2	3
Teases you or makes a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asked you to contact her again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3
Buys or gives you an alcoholic drink	1	2	3

8. Imagine a woman that you could be interested in, please indicate the extent to which you think that each of the following behaviours used by that woman with technology (e.g., texting, telephone calls, webcam, Skype, Facebook, Myspace, Internet dating websites, etc) **increases the woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1	2	3

	Not at all	Somewhat	A lot
Comments on your online profile or status updates	1	2	3
Sends you "lol" or an emoticon involving a smiley face	1	2	3
Sends you an emoticon involving a heart, kiss, or hug	1	2	3
Fixes her clothing, hair, or make-up when she sees you over webcam	1	2	3
Smiles at you over webcam	1	2	3
Licks her lips while looking at you through webcam	1	2	3
Plays with her hair/ runs her fingers through her hair while looking at you through webcam	1	2	3
Raises her eyebrows when looking or talking with you over webcam	1	2	3
Teases you or makes a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asks you to contact her again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3

9. Imagine a woman that you could be interested in, please indicate the extent to which you think that each of the following behaviours used by a woman with technology (e.g., texting, telephone calls, webcam, Skype, Facebook, Myspace, Internet dating websites, etc) increases the **woman's attractiveness as a long-term partner** (i.e., long-term relationship involving love, common-law partner, wife).

	1 Not at all	2 Somewhat	3 A lot
Comments on your online profile or status updates	1	2	3
Sends you "lol" or an emoticon involving a	1	2	3

smiley face			
Sends you an emoticon involving a heart, kiss, or hug	1	2	3
Fixes her clothing, hair, or make-up when they saw you over webcam	1	2	3
Smiles at you over webcam	1	2	3
Licks her lips while looking at you through webcam	1	2	3
Plays with her hair/runs her finger through her hair while looking at you through webcam	1	2	3
Raises her eyebrows when looking or talking with you over webcam	1	2	3
Teases you or makes a joke about you	1	2	3
Is the first to initiate a conversation just after meeting you	1	2	3
Initiates subsequent contact just after meeting you (e.g., asks you to contact her again)	1	2	3
Makes a sexual comment	1	2	3
Gives you a compliment	1	2	3

10. Imagine a woman that you could be interested in, please indicate the extent to which you think participating in the following sports **increases that woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Archery	1	2	3
Badminton	1	2	3
Ballet	1	2	3
Baseball	1	2	3
Basketball	1	2	3
BMX Biking	1	2	3
Bowling	1	2	3
Boxing	1	2	3
Canoeing/ Kayaking	1	2	3
Cardio Class (e.g., aerobics, step, bootcamp)	1	2	3

Cheerleading	1	2	3
Cross-country Skiing	1	2	3
Curling	1	2	3
Cycling	1	2	3
Dance (i.e., classes)	1	2	3
Diving	1	2	3
Downhill Skiing	1	2	3
Drag/Car Racing	1	2	3
Fencing	1	2	3
Figure Skating	1	2	3
Fishing	1	2	3
Football	1	2	3
Golf	1	2	3
Gymnastics	1	2	3
Hockey	1	2	3
Horseback riding	1	2	3
Hunting	1	2	3
Kick Boxing	1	2	3
Martial Arts	1	2	3
Orienteering	1	2	3
Pilates	1	2	3
Riflery	1	2	3
Rowing	1	2	3
Rugby	1	2	3
Running	1	2	3
Sailing	1	2	3
Scuba diving	1	2	3
Skateboarding/ Scootering	1	2	3
Skating	1	2	3
Snowboarding	1	2	3
Soccer	1	2	3
Speed Skating	1	2	3
Squash	1	2	3
Surfing	1	2	3
Synchronized Swimming	1	2	3
Swimming	1	2	3
Tennis	1	2	3
Track and field	1	2	3
Ultimate fighting	1	2	3
Volleyball	1	2	3
Walking	1	2	3
Weight training/Cross fit	1	2	3
Wrestling	1	2	3
Yoga	1	2	3

11. Imagine a woman that you could be interested in, please indicate the extent to which you think participating in the following sports **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife).

	1 Not at all	2 Somewhat	3 A lot
Archery	1	2	3
Badminton	1	2	3
Ballet	1	2	3
Baseball	1	2	3
Basketball	1	2	3
BMX Biking	1	2	3
Bowling	1	2	3
Boxing	1	2	3
Canoeing/ Kayaking	1	2	3
Cardio Class (e.g., aerobics, step, bootcamp)	1	2	3
Cheerleading	1	2	3
Cross-country Skiing	1	2	3
Curling	1	2	3
Cycling	1	2	3
Dance (i.e., classes)	1	2	3
Diving	1	2	3
Downhill Skiing	1	2	3
Drag/Car Racing	1	2	3
Fencing	1	2	3
Figure Skating	1	2	3
Fishing	1	2	3
Football	1	2	3
Golf	1	2	3
Gymnastics	1	2	3
Hockey	1	2	3
Horseback riding	1	2	3
Hunting	1	2	3
Kick Boxing	1	2	3
Martial Arts	1	2	3
Orienteering	1	2	3
Pilates	1	2	3
Riflery	1	2	3
Rowing	1	2	3
Rugby	1	2	3
Running	1	2	3
Sailing	1	2	3
Scuba diving	1	2	3
Skateboarding/ Scootering	1	2	3

Skating	1	2	3
Snowboarding	1	2	3
Soccer	1	2	3
Speed Skating	1	2	3
Squash	1	2	3
Surfing	1	2	3
Synchronized Swimming	1	2	3
Swimming	1	2	3
Tennis	1	2	3
Track and field	1	2	3
Ultimate fighting	1	2	3
Volleyball	1	2	3
Walking	1	2	3
Weight training/Cross fit	1	2	3
Wrestling	1	2	3
Yoga	1	2	3

12. Imagine a woman that you could be interested in, please indicate the extent to which you think attending each of the following events **increases that woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
A large social party (i.e., party at a friend's, family, or her house with more than 10 people)	1	2	3
A small social party (i.e., party at a friend's, family, or her house with less than 10 people)	1	2	3
A small outdoor social gathering involving less than 10 people (did not take place at a house or building)	1	2	3
A large outdoor social gathering involving 10 or more people (did not take place at a house or building)	1	2	3
Bar/Pub	1	2	3
Club/Discotheque	1	2	3
Restaurant with friends and/or family for breakfast, lunch, or dinner	1	2	3
Public dance	1	2	3
Strip/Erotic/Adult club	1	2	3
Arcade	1	2	3
Pool hall	1	2	3
Religious/Church group	1	2	3

activity			
Shag/Jack&Jill/Buck&Doe/pre-wedding celebration	1	2	3
Bookclub	1	2	3
Coffeehouse	1	2	3
Music concert	1	2	3
Movie theatre	1	2	3
Theatrical play, ballet, or opera	1	2	3
Live sporting event or game as a spectator	1	2	3
Watching a sporting event with friends on television	1	2	3
Travelling or going on tours	1	2	3
Library or bookstore	1	2	3
Participating as a member of a club or organization	1	2	3
Exercising in a public place (e.g., in a public gym or an outside area where others might see her)	1	2	3
Going shopping (e.g., grocery, clothing, furniture, etc)	1	2	3
Spending time on a social networking website	1	2	3

13. Imagine a woman that you could be interested in, please indicate the extent to which you think attending each of the following events **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife).

	1 Not at all	2 Somewhat	3 A lot
A large social party (i.e., party at a friend's, family, or her house with more than 10 people)	1	2	3
A small social party (i.e., party at a friend's, family, or her house with less than 10 people)	1	2	3
A small outdoor social gathering involving less than 10 people (did not take place at a house or building)	1	2	3
A large outdoor social gathering involving 10 or more people (did not take place at a house or building)	1	2	3
Bar/Pub	1	2	3
Club/ Discotheque	1	2	3
Restaurant with friends and/or	1	2	3

family for breakfast, lunch, or dinner			
Public dance	1	2	3
Strip/Erotic/Adult club	1	2	3
Arcade	1	2	3
Pool hall	1	2	3
Religious/Church group activity	1	2	3
Shag/Jack&Jill/Buck&Doe/pre-wedding celebration	1	2	3
Bookclub	1	2	3
Coffeehouse	1	2	3
Music concert	1	2	3
Movie theatre	1	2	3
Theatrical play, ballet, or opera	1	2	3
Live sporting event or game as a spectator	1	2	3
Watching a sporting event with friends on television	1	2	3
Travelling or going on tours	1	2	3
Library or bookstore	1	2	3
Participating as a member of a club or organization	1	2	3
Exercising in a public place (e.g., in a public gym or an outside area where others might see her)	1	2	3
Going shopping (e.g., grocery, clothing, furniture, etc)	1	2	3
Spending time on a social networking website	1	2	3

14. Imagine a woman that you could be interested in, please indicate the extent to which you think engaging in each of the following activities **increases that woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Cooking	1	2	3
Baking	1	2	3
Taking care of someone (e.g., an elder, someone who is sick, a child or infant)	1	2	3
Cleaning around the house or her bedroom for at least 30 minutes (e.g., vacuuming,	1	2	3

dusting, tidying up, dishes)			
Outdoor work (e.g., cutting the grass, shovelling snow, etc)	1	2	3
Decorating her house or bedroom	1	2	3
Sewing and/or knitting	1	2	3
Wood working	1	2	3
General repairs around the house (e.g., electronics/mechanical devices)	1	2	3
Carpentry around the house (e.g., home renovations)	1	2	3
Gardening	1	2	3
Doing arts and crafts	1	2	3
Singing or playing a musical instrument	1	2	3
Performing in front of others (e.g., playing a musical instrument, singing, dancing)	1	2	3

15. Imagine a woman that you could be interested in, please indicate the extent to which you think engaging in each of the following activities **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife).

	1 Not at all	2 Somewhat	3 A lot
Cooking	1	2	3
Baking	1	2	3
Taking care of someone (e.g., an elder, someone who is sick, a child or infant)	1	2	3
Cleaning around the house or her bedroom for at least 30 minutes (e.g., vacuuming, dusting, tidying up, dishes)	1	2	3
Outdoor work (e.g., cutting the grass, shovelling snow, etc)	1	2	3
Decorating her house or bedroom	1	2	3
Sewing and/or knitting	1	2	3

Wood working	1	2	3
General repairs around the house (e.g., electronics/mechanical devices)	1	2	3
Carpentry around the house (e.g., home renovations)	1	2	3
Gardening	1	2	3
Doing arts and crafts	1	2	3
Singing or playing a musical instrument	1	2	3
Performing in front of others (e.g., playing a musical instrument, singing, dancing)	1	2	3

16. Imagine a woman that you could be interested in, please indicate the extent to which you think learning about the following topics **increases that woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Sexual techniques (e.g., kissing, oral sex, intercourse)	1	2	3
Flirting techniques	1	2	3
Dating techniques	1	2	3
How to mix alcoholic beverages	1	2	3
How to give body massages	1	2	3
How to apply make up	1	2	3
How to style hair	1	2	3
Latest trends in clothing/fashion	1	2	3

17. Imagine a woman that you could be interested in, please indicate the extent to which you think learning about the following topics **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Sexual techniques (e.g., kissing, oral sex, intercourse)	1	2	3
Flirting techniques	1	2	3
Dating techniques	1	2	3
How to mix alcoholic	1	2	3

beverages			
How to give body massages	1	2	3
How to apply make up	1	2	3
How to style hair	1	2	3
Latest trends in clothing/fashion	1	2	3

18. Imagine a woman that you could be interested in, please indicate the extent to which you think using the following products and grooming techniques **increases that woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand). For some of these products and grooming techniques, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself. (For example, most people may say that someone using anti-aging creams, gels, or ointments does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Showering or bathing	1	2	3
Shaving hair on face	1	2	3
Waxing or bleaching hair on face	1	2	3
Shaving or waxing hair on underarms or arms	1	2	3
Shaving or waxing hair on legs	1	2	3
Shaving or waxing hair on groin or bikini area	1	2	3
Shaving or waxing back	1	2	3
Shaving or waxing chest	1	2	3
Applying chapstick	1	2	3
Applying lip gloss	1	2	3
Applying lipstick/lip liner	1	2	3
Applying mascara	1	2	3
Wearing fake eyelashes	1	2	3
Applying eyeshadow	1	2	3
Applying eyeliner	1	2	3
Applying concealer	1	2	3
Applying foundation	1	2	3
Applying bronzer	1	2	3
Applying blush	1	2	3
Applying hair styling products (e.g., gel, mousse)	1	2	3
Styling hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	1	2	3
Getting her hair cut	1	2	3

Dying or highlighting her hair	1	2	3
Brushing her teeth	1	2	3
Flossing her teeth	1	2	3
Using at-home teeth whitening	1	2	3
Tanning (e.g., under the sun or at a tanning salon)	1	2	3
Wearing tight or revealing clothing	1	2	3
Wearing "in-style", current fashionable clothing	1	2	3
Wearing jewellery (e.g., necklace, ring, bracelet, earring)	1	2	3
Wearing perfume, cologne, or scented body lotion	1	2	3
Wearing deodorant/antiperspirants	1	2	3
Applying body moisturizer	1	2	3
Applying anti-aging creams, gels, or ointments	1	2	3
Painting nails, or receiving a manicure or pedicure	1	2	3
Wearing a push-up bra	1	2	3
Wearing her most attractive or sexy underwear or lingerie	1	2	3
Wearing shapewear (e.g., Spanx, Girdle)	1	2	3

19. Imagine a woman that you could be interested in, please indicate the extent to which you think using the following products and grooming techniques **increases that woman's attractiveness as a long-term** partner (i.e., long-term relationship involving love, common-law partner, wife). For some of these products and grooming techniques, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself. (For example, most people may say that someone using anti-aging creams, gels, or ointments does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Showering or bathing	1	2	3
Shaving hair on face	1	2	3
Waxing or bleaching hair on face	1	2	3
Shaving or waxing hair on	1	2	3

underarms or arms			
Shaving or waxing hair on legs	1	2	3
Shaving or waxing hair on groin or bikini area	1	2	3
Shaving or waxing back	1	2	3
Shaving or waxing chest	1	2	3
Applying chapstick	1	2	3
Applying lip gloss	1	2	3
Applying lipstick/lip liner	1	2	3
Applying mascara	1	2	3
Wearing fake eyelashes	1	2	3
Applying eyeshadow	1	2	3
Applying eyeliner	1	2	3
Applying concealer	1	2	3
Applying foundation	1	2	3
Applying bronzer	1	2	3
Applying blush	1	2	3
Applying hair styling products (e.g., gel, mousse)	1	2	3
Styling hair other than just brushing/combing (e.g., straightened, curled, spiked, up-do)	1	2	3
Getting her hair cut	1	2	3
Dying or highlighting her hair	1	2	3
Brushing her teeth	1	2	3
Flossing her teeth	1	2	3
Using at-home teeth whitening	1	2	3
Tanning (e.g., under the sun or at a tanning salon)	1	2	3
Wearing tight or revealing clothing	1	2	3
Wearing "in-style", current fashionable clothing	1	2	3
Wearing jewellery (e.g., necklace, ring, bracelet, earring)	1	2	3
Wearing perfume, cologne, or scented body lotion	1	2	3
Wearing deodorant/antiperspirants	1	2	3
Applying body moisturizer	1	2	3

Applying anti-aging creams, gels, or ointments	1	2	3
Painting nails, or receiving a manicure or pedicure	1	2	3
Wearing a push-up bra	1	2	3
Wearing her most attractive or sexy underwear or lingerie	1	2	3
Wearing shapewear (e.g., Spanx, Girdle)	1	2	3

20. Imagine a woman that you could be interested in, please indicate the extent to which you think engaging in the following responsibilities **increases that woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Going to work	1	2	3
Completing work related activities outside of regular work hours	1	2	3
Going to college/university to attend class	1	2	3
Completing homework	1	2	3
Teaching a sport/activity/skill to another person or group	1	2	3
Attending a workshop for upgrading skills	1	2	3
Doing volunteer work	1	2	3

21. Imagine a woman that you could be interested in, please indicate the extent to which you think engaging in the following responsibilities **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Going to work	1	2	3
Completing work related activities outside of regular work hours	1	2	3
Going to college/university to attend class	1	2	3
Completing homework	1	2	3

Teaching a sport/activity/skill to another person or group	1	2	3
Attending a workshop for upgrading skills	1	2	3
Doing volunteer work	1	2	3

22. Imagine a woman that you could be interested in, please indicate the extent to which you think each of following body modifications **increases that woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand). For some of these behaviours, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself (For example, most people may say that someone getting a facial or botox does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 **Not at all**	**2** **Somewhat**	**3** **Not at all**
Getting a tattoo	1	2	3
Piercing ears or face	1	2	3
Piercing a body part other than ears or face	1	2	3
Getting a facial	1	2	3
Getting a non-surgical face-lift	1	2	3
Getting a chemical peel or microdermabrasion	1	2	3
Getting a laser skin treatment (e.g., laser skin resurfacing, laser acne treatment, laser scar improvement)	1	2	3
Getting facial injections (e.g., Juvederm, Botox, Restylane)	1	2	3
Getting non-medical cosmetic surgery on her face or ears (e.g., face-lift, rhinoplasty, eyebrow lift, chin augmentation)	1	2	3
Getting non-medical cosmetic surgery on her body (e.g., liposuction, tummy-tuck, breast lift, buttock implants)	1	2	3
Getting breast	1	2	3

implants			
Getting laser hair removal on her face	1	2	3
Getting laser hair removal on her body	1	2	3
Getting salon, spa, or dentist teeth whitening	1	2	3
Purposely changing or restricting her food habits in order to lose weight	1	2	3
Purposely changing or restricting her food habits in order to improve her body's appearance	1	2	3
Purposely changing her exercise habits in order to lose weight	1	2	3

23. Imagine a woman that you could be interested in, please indicate the extent to which you think each of following body modifications **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife). For some of these behaviours, you may need to consider how the behaviour affects attractiveness, as opposed to the actual behaviour or procedure itself (For example, most people may say that someone getting a facial or botox does not increase their attraction to them, but it may make the person look better and make them more attractive).

	1 Not at all	2 Somewhat	3 Not at all
Getting a tattoo	1	2	3
Piercing ears or face	1	2	3
Piercing a body part other than ears or face	1	2	3
Getting a facial	1	2	3
Getting a non-surgical face-lift	1	2	3
Getting a chemical peel or microdermabrasion	1	2	3
Getting a laser skin treatment (e.g., laser skin resurfacing, laser acne treatment, laser scar improvement)	1	2	3
Getting facial injections (e.g., Juvederm, Botox, Restylane)	1	2	3
Getting non-medical	1	2	3

cosmetic surgery on her face or ears (e.g., face-lift, rhinoplasty, eyebrow lift, chin augmentation)			
Getting non-medical cosmetic surgery on her body (e.g., liposuction, tummy-tuck, breast lift, buttock implants)	1	2	3
Getting breast implants	1	2	3
Getting laser hair removal on her face	1	2	3
Getting laser hair removal on her body	1	2	3
Getting salon, spa, or dentist teeth whitening	1	2	3
Purposely changing or restricting her food habits in order to lose weight	1	2	3
Purposely changing or restricting her food habits in order to improve her body's appearance	1	2	3
Purposely changing her exercise habits in order to lose weight	1	2	3

24. Imagine a woman that you could be interested in, please indicate the extent to which you think each of the following behaviours used during face-to-face interactions by that woman **increases the woman's attractiveness as a short-term partner** (i.e., hook-up or one night stand).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Educated and intelligent	1	2	3
Makes an effort to appear creative and artistic	1	2	3
Funny (e.g., telling jokes)	1	2	3
Friendly, nice, and kind	1	2	3
Does something special for you	1	2	3

Alluring, coy, or open to sexual behaviour (e.g., open to kissing, oral sex, intercourse)	1	2	3
Trustworthy	1	2	3
Faithful and monogamous	1	2	3
Loyal to others	1	2	3
Reliable	1	2	3
Independent	1	2	3
Goal-oriented	1	2	3
Has your goals may come before hers	1	2	3
Wants to be taken care of	1	2	3
Confident	1	2	3
Charming	1	2	3
Clueless, ditsy, or naive	1	2	3
Fun and exciting	1	2	3
Unopinionated	1	2	3
Flirtatious	1	2	3
Bubbly	1	2	3
Innocent	1	2	3
Youthful	1	2	3
Feminine	1	2	3
Masculine	1	2	3
Pure	1	2	3
Tough, strong-minded, or street smart	1	2	3
Dominant	1	2	3
Stable-minded	1	2	3
Introverted	1	2	3
Moralistic	1	2	3
Nurturing	1	2	3
Responsible	1	2	3
Social	1	2	3
Popular	1	2	3
Wealthy and financially well-off	1	2	3
Generous, charitable, or altruistic	1	2	3
Adventurous or open to new experiences	1	2	3
Has similar values, beliefs, and interests to yours	1	2	3
Wants children	1	2	3

Is a good parent or potential parent	1	2	3
Healthy	1	2	3
Emotionally stable and mature	1	2	3
Communicates her positive feelings	1	2	3
Spends time alone with you	1	2	3
Genuine	1	2	3
Is not jealous	1	2	3
Likes you	1	2	3
Has you relax by giving you alcohol and/or drugs	1	2	3
Sexually available	1	2	3
Shows off	1	2	3
Shows affection towards you	1	2	3
Has similar religious values as you	1	2	3
Has similar political views as you	1	2	3
Offers you ride	1	2	3
Asks you for a ride	1	2	3
Gives you a gift	1	2	3
Talks about other men who have shown interest her	1	2	3
Tries to make you jealous	1	2	3
Shows interested in other men in order to attract you	1	2	3

25. Imagine a woman that you could be interested in, please indicate the extent to which you think each of the following behaviours used during face-to-face interactions by that woman **increases the woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife).

	1 **Not at all**	**2** **Somewhat**	**3** **A lot**
Educated and intelligent	1	2	3
Makes an effort to appear creative and artistic	1	2	3
Funny (e.g., telling jokes)	1	2	3

Friendly, nice, and kind	1	2	3
Does something special for you	1	2	3
Alluring, coy, or open to sexual behaviour (e.g., open to kissing, oral sex, intercourse)	1	2	3
Trustworthy	1	2	3
Faithful and monogamous	1	2	3
Loyal to others	1	2	3
Reliable	1	2	3
Independent	1	2	3
Goal-oriented	1	2	3
Has your goals may come before hers	1	2	3
Wants to be taken care of	1	2	3
Confident	1	2	3
Charming	1	2	3
Clueless, ditsy, or naive	1	2	3
Fun and exciting	1	2	3
Unopinionated	1	2	3
Flirtatious	1	2	3
Bubbly	1	2	3
Innocent	1	2	3
Youthful	1	2	3
Feminine	1	2	3
Masculine	1	2	3
Pure	1	2	3
Tough, strong-minded, or street smart	1	2	3
Dominant	1	2	3
Stable-minded	1	2	3
Introverted	1	2	3
Moralistic	1	2	3
Nurturing	1	2	3
Responsible	1	2	3
Social	1	2	3
Popular	1	2	3
Wealthy and financially well-off	1	2	3
Generous, charitable, or altruistic	1	2	3
Adventurous or open to new experiences	1	2	3

	1	2	3
Has similar values, beliefs, and interests to yours	1	2	3
Wants children	1	2	3
Is a good parent or potential parent	1	2	3
Healthy	1	2	3
Emotionally stable and mature	1	2	3
Communicates her positive feelings	1	2	3
Spends time alone with you	1	2	3
Genuine	1	2	3
Is not jealous	1	2	3
Likes you	1	2	3
Has you relax by giving you alcohol and/or drugs	1	2	3
Sexually available	1	2	3
Shows off	1	2	3
Shows affection towards you	1	2	3
Has similar religious values as you	1	2	3
Has similar political views as you	1	2	3
Offers you ride	1	2	3
Asks you for a ride	1	2	3
Gives you a gift	1	2	3
Talks about other men who have shown interest her	1	2	3
Tries to make you jealous	1	2	3
Shows interested in other men in order to attract you	1	2	3

26. Imagine a woman that you could be interested in, please indicate the extent to which you think doing the following behaviours **increases that woman's attractiveness as a short-term partner** (i.e., hook up or one-night stand).

	1 **Not at all**	2 **Somewhat**	3 **A lot**
Calls you	1	2	3
Texts you (e.g., texting, BBM, IM)	1	2	3

	1	2	3
Uses online instant messaging to contact you (e.g., yahoo, MSN, ICQ)	1	2	3
Emails you	1	2	3
Uses social networking websites to contact you (e.g., Facebook, MySpace, Twitter)	1	2	3
Uses dating website to contact you (e.g., eHarmony, LavaLife, OKCupid, match.com, PlentyofFish)	1	2	3
Uses online video communication to contact you (e.g., Skype)	1	2	3

27. Imagine a woman that you could be interested in, please indicate the extent to which you think doing the following behaviours **increases that woman's attractiveness as a long-term partner** (i.e., relationship involving love, common-law partner, wife).

	1 Not at all	2 Somewhat	3 A lot
Calls you	1	2	3
Texts you (e.g., texting, BBM, IM)	1	2	3
Uses online instant messaging to contact you (e.g., yahoo, MSN, ICQ)	1	2	3
Emails you	1	2	3
Uses social networking websites to contact you (e.g., Facebook, MySpace, Twitter)	1	2	3
Uses dating website to contact you (e.g., eHarmony, LavaLife, OKCupid, match.com, PlentyofFish)	1	2	3
Uses online video communication to contact you (e.g., Skype)	1	2	3

Appendix R

Cover Letter and Consent Form for Pilot Study

Pilot Study on Flirting and Relationship Behaviour

Dear Potential Participant,

This study is being conducted by Katelyn Gomes and Dr. Kirsten Oinonen from the Health Hormones and Behaviour Laboratory (HHABLAB) in the department of Psychology at Lakehead University. The main purpose of this study is to **collect data to help develop a questionnaire to assess individual differences in flirting and attractivity behaviour**. The data will be used in Katelyn Duchene's masters thesis on this topic, as well as other exploratory research questions in the areas of health, mating, and development in the HHAB LAB. The study will take about 30 to 45 minutes to complete and involves answering personal questions about what you think is attractive in a potential partner. There are no obvious risks involved in participating in this study other than the fact that some participants may feel uncomfortable answering some personal questions or have new positive or negative thoughts about oneself after answering the questions (i.e., new personal insight). Please note that you are not required to answer all questions and can skip any question that makes you uncomfortable. This study is open to Lakehead University students who are 16 years or older.

The questionnaire can be taken electronically online or by completing a hard copy using paper and pencil. If you wish to complete the questionnaire using a hard copy, please contact the researchers at flirtingstudy@lakeheadu.ca. If you would like to complete the questionnaire online, please click on the consent form below.

Lakehead University Psychology students may receive one bonus point for participation in the study. Your participation in this study is completely anonymous and voluntary and you have the right to withdraw at any time without penalty or explanation prior to completing and submitting the online questionnaire. All records of your participation will be kept confidential and reports of the study will not reveal your identity. If you wish to receive a bonus point towards your mark, you will be asked for your name and email address, but this information will be stored in a separate file from your questionnaires responses and will not be connected to them.

University regulations state that all data must be stored for a minimum of five years; data will be kept in a secure location by Dr. Oinonen and will remain confidential and anonymous. If you have any questions or concerns regarding the study please contact Katelyn Duchene or Dr. Oinonen. This study has been approved by the Lakehead University Ethics Board (807-343-8283 or research@lakeheadu.ca) and they can also be contacted about any concerns.

Upon completion of the study, interested participants are welcome to contact one of the researchers to request a summary of the results. Thank you very much for your time. We very much appreciate your contribution to our research.

Katelyn Duchene, H.B.A.	Dr. Kirsten Oinonen Ph.D., C. Psych.
M.A. Candidate	Associate Professor
Lakehead University	Department of Psychology
955 Oliver Road	Lakehead University
Thunder Bay, Ontario P7B 5E1	955 Oliver Road
email: flirtingstudy@lakeheadu.ca	Thunder Bay, Ontario P7B 5E1

email: koinonen@lakeheadu.ca
(807) 343-8096

Consent:

I have read and understood the above information and I agree to participate in this study under these conditions. I also understand that I am not obliged to answer questions which I am uncomfortable with and that I am free to withdraw from the study at any time without penalty or other consequence prior to completing the online questionnaire.

[ ] I understand that my consent to the above is implied if I check this box and choose to continue with this study.

Appendix S

Debriefing Form for Pilot Study

Thank-you for participating in this study on flirting and attractivity behaviour. Portions of the data you provided will be used to develop a questionnaire for a master's thesis by Katelyn Duchene under the supervision of Dr. Kirsten Oinonen. Specifically, data will be used to investigate what behaviours people find attractive in short- and long-term partners. The data provided by this study will be used to create two groups of attractivity behaviours: short-term attractivity and long-term attractivity. Additional exploratory research questions will also be examined within the Health Hormones and Behaviour Laboratory (HHABLAB). This research project was approved by the Lakehead University Research Ethics Board (807-343-8283).

Please be assured that all data will remain anonymous and confidential. If you would like to receive a summary of the results of the study, please email one of the researchers and, upon completion of the final study, a summary of the results will be emailed to you. Please note that providing your email address does not jeopardize your anonymity. If you would like further information on mate attraction strategies and flirting please refer to the references listed below.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. Psychological Review, 100(2), 204-232.

Grammer, K. (1990). Strangers meet: Laughter and nonverbal signs of interest in opposite-sex encounters. Journal of Nonverbal Behavior, 14, 209-236.

Whitty, M.T. (2004). Cyber-flirting: An examination of men's and women's flirting behaviour both offline and on the Internet. Behavior Change, 21(2), 115-126.

Here are three questions for you to think about in order to enhance your learning as a result of this research experience:

1. Why do men and women differ in what they find attractive in a mate?
2. Why do you think we ask you about what you find attractive in both a short-term and long-term partner?
3. Why do you think we asked you about your sexual orientation in this study?

Thank you very much for your time. We very much appreciate your contribution to our research.

Katelyn Duchene, H.B.A.　　　　　　　　　　Dr. Kirsten Oinonen Ph.D., C. Psych.
M.A. Candidate　　　　　　　　　　　　　　Associate Professor
Department of Psychology　　　　　　　　　Department of Psychology
Lakehead University　　　　　　　　　　　　Lakehead University
955 Oliver Road, Thunder Bay　　　　　　　955 Oliver Road, Thunder Bay
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Appendix T

Letter to Participants and Consent Form

Study on Flirting and Relationship Behaviours

Dear Potential Participant,

Dear Potential Participant, This study is being conducted by Katelyn Duchene and Dr. Kirsten Oinonen from the Health Hormones and Behaviour Laboratory (HHABLAB) in the department of Psychology at Lakehead University. The main purpose of this study is to examine individual differences in flirting and relationship behaviour, and how these change over the lifespan. Some of the data will be used in Katelyn Duchene' masters thesis on this topic, and the data will also be used to examine other exploratory research questions in the areas of health, mating, and development in the HHAB LAB. The study consists of two sessions with the second session to be completed two weeks after the first. The first and second sessions will take 45 to 60 minutes to complete. Both questionnaires are completed online (but some participants may have the option to complete them in the laboratory). Both sessions involve answering personal questions about your health, sexual behaviour, personality, relationships, and involvement in activities. There are no obvious risks involved in participating in this study other than the fact that some participants may feel uncomfortable answering some personal questions or have new positive or negative thoughts about oneself after answering the questions (i.e., new personal insight). Please note that you are not required to answer all questions and can skip any question that makes you uncomfortable. This study is open to Lakehead University students 16 years or older as well as members of the general public who are 18 years or older.

Lakehead University Psychology 1100 students will receive up to two bonus point for participation, one bonus point per session. Your participation in this study is completely voluntary and you have the right to withdraw at any time without penalty or explanation prior to completing and submitting the online questionnaire. All records of your participation will be kept confidential and reports of the study will not reveal your identity. However, your email address is requested during both sessions so you can be contacted to participate in the second session and to link your responses from both sessions. Your email address will only be used to contact you for the second session and will not be given out to any third parties. Once the study is complete, all identifying information, including email, will be removed. At that point, no one, including the researchers, will be able to connect any information gathered to a specific individual. There is no obligation to provide an email address or any other identifying information, however such information is required if you are a student at Lakehead University in Introductory Psychology and you wish to receive bonus points. All identifying information will be removed once bonus points have been recorded.

University regulations state that all data must be stored for a minimum of five years; data will be kept in a secure location by Dr. Oinonen and will remain confidential and anonymous. If you have any questions or concerns regarding the study please contact Katelyn Duchene or Dr. Oinonen. This study has been approved by the Lakehead University Ethics Board (807-343-8283 or research@lakeheadu.ca) and they can also be contacted about any concerns.

Upon completion of the study, interested participants are welcome to contact one of the

researchers to request a summary of the results. Thank you very much for your time. We very much appreciate your contribution to our research.

Katelyn Duchene, H.B.A.   Dr. Kirsten Oinonen Ph.D., C. Psych.
M.A. Student   Associate Professor
Lakehead University   Department of Psychology
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Thunder Bay, Ontario P7B 5E1   955 Oliver Road
email: flirtingstudy@lakeheadu.ca   Thunder Bay, Ontario P7B 5E1
                                                  email: koinonen@lakeheadu.ca
                                                 (807) 343-8096

Consent:

I have read and understood the previous information and I agree to participate in this study under these conditions. I also understand that I am not obliged to answer questions which I am uncomfortable with and that I am free to withdraw from the study at any time without penalty or other consequence prior to completing the online questionnaire.

By providing the information below, I agree to the above.

Email address   _____

Appendix U

Lakehead University Introductory Psychology Student Bonus Points

If you are a Lakehead University student, for participating in the Flirting and Relationship Behaviour Study, you are entitled to receive one bonus point for each phase you complete (for a maximum total of two bonus points).

All of your information will be kept confidential and all identifying information will be removed. However, in order to receive your bonus point(s), you must complete the following information:

Name _____

Student number _____

Course name _____

Course number _____

Instructor's name _____

Appendix V

Debriefing Form for Phase I

Thank-you for participating in this study on individual differences in flirting and relationship behaviour. Portions of the data you provided will be used to complete a Master's thesis by Katelyn Duchene under the supervision of Dr. Kirsten Oinonen. You will be asked to complete the second phase of the study in 2 weeks in order to complete the research study. You will be contacted via the email address you have provided.

This research project was approved by the Lakehead University Research Ethics Board (807-343-8283). If you are a Lakehead University Psychology 1100 student, please be advised that your professor will be notified regarding your bonus point for participation in the study by the end of the course (if you have provided all the relevant information).

Please be assured that all data will remain anonymous and confidential. If you would like to receive a summary of the results of the study, please email one of the researchers and, upon completion of the study, a summary of the results will be emailed to you. Please note that providing your email address does not jeopardize your anonymity.

Thank you very much for your time. We very much appreciate your contribution to our research.

Katelyn Duchene, H.B.A.	Dr. Kirsten Oinonen Ph.D., C. Psych.
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Appendix W

Debriefing Form for Phase II

Thank-you for participating in this study on individual differences in mating and flirting. Portions of the data you provided will be used to complete a master's thesis by Katelyn Duchene under the supervision of Dr. Kirsten Oinonen. Specifically, data will be used to investigate differences in mate attraction strategies between men and women, within men and women, and across the menstrual cycle. Additional exploratory research questions will also be examined within the Health Hormones and Behaviour Laboratory (HHABLAB). This research project was approved by the Lakehead University Research Ethics Board (807-343-8283).

If you are a Lakehead University Psychology 1100 student, please be advised that your professor will be notified regarding your bonus point for participation in the study by the end of the course.

Please be assured that all data will remain anonymous and confidential. If you would like to receive a summary of the results of the study, please email one of the researchers and, upon completion of the study, a summary of the results will be emailed to you. Please note that providing your email address does not jeopardize your anonymity. If you would like further information on mate attraction strategies and flirting please refer to the references listed below.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, *100*(2), 204-232.

Grammer, K. (1990). Strangers meet: Laughter and nonverbal signs of interest in opposite-sex encounters. J*ournal of Nonverbal Behavior*, *14*, 209-236.

Whitty, M.T. (2004). Cyber-flirting: An examination of men's and women's flirting behaviour both offline and on the Internet. *Behavior Change*, *21*(2), 115-126.

Thank you very much for your time. We very much appreciate your contribution to our research.

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Appendix X

Linear Regression Analyses Examining Change in Probability of Being in the Fertile Window as a predictor of Change in Overall Women's Attractivity Strategies Scale and Subscale Scores while Controlling for Relationship Status, Age, Years of Education, and Social Desirability Scores (Hypothesis 2a)

	Outcome Variable								
Predictor	OWASS Δ			In Person Flirting Δ			Technology Flirting Δ		
	ΔR^2	β	sr^2	ΔR^2	β	sr^2	ΔR^2	β	sr^2
Step 1	0.12			0.07			0.03		
Relationship Status		0.25	0.23		0.08	0.07*		0.07	0.06
Age		-0.09	-0.08		0.22	0.19		0.06	0.05
Education		-0.14	-0.14		-0.13	-0.12		-0.09	-0.09
Social Desirability		0.21	0.22		-0.09	-0.09		-0.10	-0.10
Step 2	0.18*			0.01			0.00		
Fertile Window Δ		0.46	0.45*		-0.09	-0.10		0.04	0.04
Total R^2	0.30			0.08			0.03		
F	1.67			1.02			0.33		
Df	5, 20			5, 56			5, 57		
Predictor	Sports			Social Activities			Education & Work Responsibilities		
Step 1	0.07			0.05			0.04		
Relationship Status		0.20	0.17		0.13	0.11		0.02	0.01
Age		-0.30	-0.25		-0.21	-0.17		-0.14	-0.12
Education		0.19	0.18		-0.08	-0.07		0.07	0.07
Social Desirability		-0.07	-0.07		0.09	0.10		-0.17	-0.16
Step 2	0.00			0.01			0.07*		
Fertile Window Δ		0.06	0.06		-0.10	-0.10		0.26	0.26*
Total R^2	0.07			0.06			0.11		
F	0.71			0.81			1.43		
Df	5, 44			5, 60			5, 60		
Predictor	Attractivity Knowledge			Grooming			Household Skills		
Step 1	0.07			0.03			0.09		
Relationship Status		-0.07	-0.06		-0.12	-0.10		-0.03	-0.03
Age		-0.09	-0.08		0.08	0.7		-0.21	-0.18
Education		-0.18	-0.17		-0.09	-0.08		0.08	0.08
Social Desirability		0.12	0.12		0.16	0.16		0.19	0.19
Step 2	0.00			0.03			0.00		
Fertile Window Δ		-0.01	-0.01		0.16	0.16		-0.03	-0.03
Total R^2	0.07			0.06			0.09		
F	0.93			0.64			1.13		
Df	5, 62			5, 53			5, 59		
Predictor	Body Modification			Remote Communication			Self-Presentation Behaviours		
Step 1	0.02			0.10			0.13		
Relationship Status		0.12	0.11		0.05	0.05		-0.21	-0.19
Age		-0.15	-0.12		-0.29	-0.25*		0.06	0.05*
Education		0.03	0.03		-0.03	-0.03		-0.18	-0.16*
Social Desirability		-0.01	-0.01		-0.13	-0.13		-0.16	-0.16*

Appendix X continues

Appendix X continued

Step 2	0.03			0.06*			0.04	
Fertile Window Δ		0.16	0.16		0.24	0.25*		0.20
Total R^2	0.05			0.16			0.17	
F	0.56			2.26			2.04[t]	
df	5, 61			5, 60			5, 50	

* $p < .05$.

** $p < .01$.

*** $p < .001$.

[t] < 0.1.

Appendix Y

Linear Regression Analyses Examining the ability of Change in Conception Likelihood to predict Change in Overall Women's Attractivity Strategies Scale and Subscale Scores while Controlling for Relationship Status, Age, Years of Education, and Social Desirability Scores (Hypothesis 2a)

				Outcome Variable					
Predictor	OWASS			In Person Flirting			Technology Flirting		
	ΔR^2	β	sr^2	ΔR^2	β	sr^2	ΔR^2	β	sr^2
Step 1	0.13			0.08			0.01		
Relationship Status		0.26	0.24		0.09	0.08		0.05	0.04
Age		-0.06	-0.06		0.23	0.19		0.04	0.03
Education		-0.17	-0.16		-0.13	-0.13		-0.05	-0.04
Social Desirability		0.21	0.22		-0.08	-0.08		-0.09	-0.09
Step 2	0.11			0.00			0.00		
Conception Likelihood		0.33	0.32		-0.00	-0.00		-0.04	-0.04
Total R^2	0.24			0.08			0.02		
F	1.12			0.29			0.17		
df	5, 19			5, 55			5, 56		
Predictor	Sports			Social Activities			Education & Work Responsibilities		
Step 1	0.07			0.06			0.05		
Relationship Status		0.22	0.19		0.14	0.12		-0.00	-0.00
Age		-0.28	-0.23		-0.19	-0.16		-0.17	-0.14
Education		0.13	0.13		-0.11	-0.14		0.12	0.11
Social Desirability		-0.11	-0.07		0.09	0.08		-0.16	-0.16
Step 2	0.00			0.00			0.04		
Conception Likelihood		-0.05	-0.04		-0.00	-0.00		0.20	0.20^t
Total R^2	0.07			0.06			0.09		
F	0.67			0.71			1.13		
df	5, 44			5, 59			5, 59		
Predictor	Attractivity Knowledge			Grooming			Household Skills		
Step 1	0.07			0.03			0.08		
Relationship Status		-0.08	-0.07		-0.10	-0.8		-0.02	-0.02
Age		-0.10	-0.09		0.09	0.7		-0.20	-0.17
Education		-0.14	-0.17		-0.11	-0.10		0.05	0.05
Social Desirability		0.14	0.10		0.16	0.16		0.19	0.19
Step 2	0.03			0.03			0.00		
Conception Likelihood		-0.18	-0.19		0.18	0.18		-0.05	-0.06
Total R^2	0.10			0.06			0.08		
F	1.39			0.71			1.02		
df	5, 61			5, 52			5, 58		
Predictor	Body Modification			Remote Communication			Self-Presentation Behaviours		
Step 1	0.02			0.10			0.13		
Relationship Status		0.15	0.13		0.05	0.04		-0.19	-0.17*
Age		-0.13	-0.11		-0.29	-0.25*		0.06	0.06
Education		0.00	0.00		-0.04	-0.04		-0.19	-0.19*
Social Desirability		-0.02	-0.02		-0.12	-0.12		-0.17	-0.17*

Appendix Y continues

Appendix Y continued

Step 2	0.00			0.07*			0.09*		
Conception Likelihood		0.04	0.04		0.26	0.28*		0.30	0.32*
Total R^2	0.02			0.17			0.22		
F	0.26			2.41			2.79*		
df	5, 60			5, 59			5, 49		

* $p < .05$.
** $p < .01$.
*** $p < .001$.
^{t} < 0.1.