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2015

Dissatisfaction with Hooking up in College Women

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BARRY UNIVERSITY

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by

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A THESIS

Submitted to the Faculty
of Barry University in partial fulfillment
of the requirements for the degree of
Master of Science

Miami Shores, Florida

October 1st, 2015

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Abstract

Evolutionary theory holds that men and women have different mating strategies based on the parental investment of each sex. Women are more selective in partner choice than men and more restrained in their sexual behaviors. Contemporary college campuses are characterized by the hookup culture in which women may be less selective in their sexual partner choice. This may be explained by the influences of the behavioral neuroendocrinology of the human sexual response and an extended period of sexual maturity before marriage. Although college women engage in sexual hookups they do report much dissatisfaction with them. The purpose of the study was to examine factors that best predict college women's dissatisfaction with sexual hookups. It was hypothesized that desire for the hookup to become a long term relationship and higher social desirability of the hookup partner, in combination, would be the best predictors of dissatisfaction of a hookup. Thirty-four participants completed two anonymous questionnaires on Survey Monkey. A Pearson's correlation was calculated for the following variables: number of hookups, satisfaction, social desirability and commitment. A positive correlation was found between social desirability and satisfaction and commitment and satisfaction. The data were subjected to a linear regression, the dependent variable was satisfaction with the last hookup, and the independent variables were social desirability and commitment. The regression was significant $F(2, 33) = 12.37, p < .001$. For the independent variable social desirability $\beta = .519, p = .001$, and for the independent variable commitment $\beta = .262, p = .081$. Adjusted R square = .408 indicates that approximately 41% of the variance of satisfaction with the last hookup can be accounted by the social desirability and desire for commitment of participants' last

hookup partner. The hypothesis was supported because social desirability and commitment did predict dissatisfaction with hooking up in women. These results mean that the less social desirability in the hookup partner and the less desire for commitment were associated with more dissatisfaction with the hookup experience. The present study's results on social desirability support the evolutionary theory on human female mate selection. Even though social desirability and commitment are significantly correlated, social desirability itself appears to be a stronger predictor of dissatisfaction as opposed to the desire for commitment. Furthermore, these results are consistent with the behavioral neuroendocrinology theory and Buss's theory on short term mating theory. Lastly, the present study also supports the idea that the extended period of sexual maturity contributes to the contemporary hookup culture. Some of the limitations of the study were utilizing a college sample, having heterosexual participants only and the hookup questionnaire failed to ask those participants who were already in a relationship, if that relationship was a result of a hookup.

Dissatisfaction with Hooking Up in College Women

This review will begin with the evolutionary theory behind human mating strategies. It will include Triver's (1972) Parental Investment Theory and the evolution of human mate choice for both women and men. Next, is an in-depth review of what the hookup culture entails and the lack of consensus of one universal definition for this term. This review will also address the inconsistencies between the evolutionary theory addressing female mating patterns and the actual college hookup culture, as well as possible explanations to explain these inconsistencies. The outcomes for both men and women will be examined.

Evolutionary Theory

Parental Investment Theory

Trivers (1972) focused on sex differences in terms of parental care and its evolutionary origins. According to his theory, the sex that invested more effort into the nurturing and protection of offspring would be more discriminating when mating and more desired by the other, less investing, sex. He defined parental investment as any investment by the parent in an individual offspring that increases the offspring's chances of surviving at the cost of the parent's ability to invest in other offspring. As a result, the size of parental investment is measured by its negative effect on the parent's ability to invest in other offspring. Large parental investment would therefore decrease a parent's ability to produce and care for other offspring. According to Trivers' (1972) view, reproductive success is ruled by the relative parental investment of each sex on their offspring.

In a sexually reproducing species, the total number of offspring produced by one sex must be equal to the total number produced by the other sex. Then, the sex whose typical parental investment is greater becomes a limiting resource for the lesser investing sex. This leads individuals of the sex investing less to compete among themselves to breed with members of the sex investing more. Competition for mates usually characterizes males because males usually invest almost nothing in their offspring (Trivers, 1972). In the vast majority of species, the male's only contribution to the survival of his offspring is his sex cells. In these species, female contribution clearly exceeds male and by a large ratio.

Parental Investment in Humans

Beginning at the moment of fertilization, males' initial parental investment is much smaller than females'. In the human species, copulation may lead to impregnation which, for men, may be all the parental investment, whereas for women that same act of copulation may result in a nine-month investment and possibly more time (Trivers, 1972). Gestation and the need for postnatal care, as in the case with many mammals including humans, results in more maternal investment than paternal investment. In any case, the cost of the copulation itself is always trivial to the male, and in theory the male need not invest anything else in order to copulate.

In addition, since females have increased levels of parental investment this allows males to invest more in mating efforts. Unlike females in the human species, a male may increase his net reproductive success by mating with and abandoning females. Therefore, it can be expected that even monogamous males would retain some biological traits consistent with promiscuous behavior. The individual whose cumulative investment is

exceeded by his partner's is theoretically tempted to desert, especially if the disparity is large. This temptation occurs because the deserter loses less than his partner if no offspring are raised and the partner would therefore be more strongly selected to stay with the young. Any success of the partner, will, of course benefit the deserter (Trivers, 1972).

The Evolution of Human Mate Choice

Parental investment plays a role in the way human mate choice takes place and for the differences between women's and men's mate choices (Geary, Vigil & Byrd-Craven, 2004). In essence, preferred mate choices and attendant social cognitions and behaviors of both women and men are predicted to have evolved to focus on and exploit the reproductive potential and reproductive investment of members of the opposite sex. Reproductive potential refers to the individual's ability to invest in growth, development and later social and reproductive competences of offspring and/or the potential genetic benefits a mate would confer on offspring (Alexander, 1987). Reproductive investment, on the other hand, refers to the expenditure of this potential on offspring. In most mammals, sexual relationships are short-term, and what extends the potential length of these relationships is men's paternal investment. Humans have the choice to enter either short-term or long-term relationships based on the potential costs and benefits they perceive. Also, level of choosiness should directly influence the type of relationship women and men will engage in. According to Garcia and Reiber (2008), the human mating system is mildly polygynous with tendencies of social monogamy, resulting in higher maximum potential reproductive rate in males than in females. Males are capable of producing offspring at a faster rate than are females, who are physiologically bound to

gestate and lactate for months to produce even a single offspring. Sex differences in sexual/reproductive behavior and attitudes stem from this basic difference. Women on average are predicted to largely avoid short-term relationships, given that the potential costs outweigh the potential benefits. The opposite pattern is seen in men, given that potential benefits of short-term relationships outweigh the potential costs.

Women's Mate Choices

Geary et al. (2004) state that the best situation for a woman is with a long-term partner with good genes who has reproductive potential and the willingness to invest this potential in her and her children. A way to conceptualize men's resources is in terms of their cultural success such as their social status and their control of material resources (Irons, 1979). Men's social status is an important factor to consider in women's choices for marriage partners, and even though the markers for social status may vary from culture to culture; in general, women prefer culturally successful men as mating and marriage partners as these men can exert social influence and have control over resources that women can use for themselves and their children.

In general, research supports the position that women prefer marriage partners who are culturally successful or that have the potential to become successful. Buss (1989) conducted a very extensive research in 37 cultures across the world and found that on the mate choice survey, women rated "good financial prospect" higher than did men in all cultures. "Ambition and industriousness" of a prospective mate were more important for women than men in 29 cultures, because these traits were believed to be indicators of a mate's reproductive potential and ability to achieve cultural success. Another researcher Oda (2001) found that Japanese women were 31 times more likely than Japanese men to

seek financial security and social status in a prospective long-term partner. Bereczkei and Csanaky's (1996) study of more than 1,800 Hungarian men and women who were 35 years of age and older found that women who had married older and better educated men on average were less likely to get divorced and reported higher levels of marital satisfaction than did women who married younger and/or less educated men. In summary, when marrying a culturally successful man women experience social, psychological and reproductive benefits.

However, women are not only interested in the cultural success of their partners; personal attributes also contribute to the overall consideration of a marriage partner. Buss (1989) found that women rated a prospective husband who was kind, understanding and intelligent more highly than a prospective husband who had none of these qualities but had the potential of becoming successful. These patterns indicate that women prefer husbands who have resources and personal and social attributes that will invest in a family. In studies by Oda (2001) and Waynforth (2001), women tend to rate the emotional stability and the family orientation of prospective marriage partners more highly than do men.

In addition to cultural success and personal attributes, Gangestad and Simpson (2000) found that physical attractiveness is an important factor that serves as an indicator of a man's physical and genetic health. Women prefer men who are taller than they who have an athletic and symmetric body shape with shoulders that are somewhat wider than their hips (Barber, 1995; Beck, Ward-Hull, & McClear, 1976; Cunningham, Barbee & Pike, 1990; Gangestad et al., 1994; Hatfield & Sprecher, 1995; Oda, 2001; Pierce, 1996; Singh, 1995). Moreover, facial features that women rate attractive include somewhat

larger than average eyes, a large smile and prominent cheek bones and chin (Barber, 1995). These physical traits seem to be good indicators of genetic variability, a lack of illness during development and current physical health (Barber, 1995; Thornhill & Gangestad, 1993).

However, it is difficult to explain casual sex for women from the evolutionary model, since the average woman is expected to prefer a long-term relationship that brings resources and protection from her mate. Thus, when women do actually engage in short-term sex it has been reconciled as an exchange: women engage in short-term infidelities to steal the superior genes of their extra-pair partner (Garcia & Reiber, 2008). In addition, despite the tendency for women to pursue long-term relationships as a mean of achieving stability, some women appear to engage in short-term sexual relationships when they perceive the potential for the development of a longer term relationship (Surbey & Conohan, 2000). Also, in contexts in which more men are unable or unwilling to make a long-term investment in women and their children, women's sexual and reproductive options may be largely based on choice of short-term mates.

Men's Mate Choices

Men's mate choice varies depending on the anticipated length of the relationship and whether a pregnancy takes place. Given relatively low levels of investment in the relationship and no anticipated investment resulting in children, men should have low standards for short-term sexual relationships. As with women, men's choosiness is predicted to increase with increases in their level of parental investment (Trivers, 1972). According to Geary et al. (2004) men's mate choice criteria are predicted to be similar to

women's criteria when choosing a marriage partner, although given the costs of pregnancy women are still predicted to be choosier than men.

In terms of short-term mating strategies, men tend to pursue short-term relationships because the benefits encountered are greater than the costs. It has been stated that men who are culturally successful possess physical traits that women find attractive, or are men who are driven to achieve cultural success are more likely to succeed in attracting short-term mates than are other men. However, men are also interested in long-term relationships, and just like women, they prefer intelligent marriage partners and partners with whom a compatible and cooperative relationship can be developed (Buss, 1989). Kenrick et al. (1990) found that men rated the personality, friendliness, and sense of humor of a potential marriage partner very highly, just as highly as or more highly than her physical attractiveness. Moreover, across cultures Buss (1989) found that men rated intelligence, kindness, and understanding of a prospective mate as important attributes, and that for many of the men these traits were even more important than physical attractiveness. Finally, both men and women prefer sexually attractive partners but men seem to place more emphasis on physical attributes than women do. For instance, Hume and Montgomerie (2001) found a negative relation between BMI (Body mass index) and the rated attractiveness of women such that leaner women were rated as more attractive than heavier women.

Hookup Culture

What Does Hookup Mean?

In recent years, research suggests that dating has been replaced by "hooking up" as the dominant way for uncommitted individuals to engage in sexual activities on

college campuses. Hooking up is a term widely used on campuses to describe heterosexual intimate interaction; however, there is a lack of consensus on what the definition of the term hook up is (Bogle, 2008).

For instance, Glenn and Marquardt (2001) defined hooking up as follows: ‘when a girl and a guy get together for a physical encounter and don’t necessarily expect anything further’ (P.4). The ambiguity of this definition reflects the range of behaviors that form a part of the hookup script and it allows for most hookup encounters to be counted as part of the statistics showing hookup prevalence rates. However, there are also potential problems with this definition. First, it might be useful to know how many hookups were, for example, of the anonymous, alcohol-driven variety, and how many fit into another types of hooking up. Second, the phrase ‘don’t necessarily expect anything further’ may be misleading. Bogle (2008) found that some students, particularly women, often do expect ‘something further’ to develop from a hookup encounter.

In a study conducted by Paul et al. (2000) hookup was defined as ‘a sexual encounter, usually lasting one night, between two people who are strangers or brief acquaintances. Some physical interaction is typical but may or may not include sexual intercourse’ (P.79). The first concern with this definition is that it states that hooking up usually only lasts one night. However, Bogle (2008) found that although the most likely outcome of a hookup was nothing (i.e. no ongoing romantic relationship formed) there were a variety of other possible outcomes. For example, a hookup may lead to a series of hookup encounters, a ‘friends with benefits’ arrangement, seeing each other/talking/hanging out, or going out (i.e. becoming an exclusive couple). Thus, it may be misleading to have a phrase ‘only lasting one night’ in the survey definition. Another

concern with this definition is the reference of hookup encounters involving ‘strangers or brief acquaintances’. Although this is true in some cases, it is certainly not true in all cases, perhaps not even the majority. For example, Bogle (2008) found that although some students had hooked up with what they referred as randoms (i.e. someone they did not know), most often the hookup partner was at least a friend or a classmate. The current study defines a hookup as “a brief uncommitted sexual encounter among individuals who are not romantically partners or dating each other.”

Statistics

Research has suggested that hooking up occurs most commonly in the college environment, where it is culturally acceptable to attend social gatherings, there is no rush in marriage, and there is an emphasis on identity exploration that includes sexual experiences (Arnett, 2004). About 78% of a sample of students from a Northeastern university reported hooking up, with 47.5% of men and 33.3% of women reporting that the experience included intercourse (Paul et al., 2000). In a study by Kalish and Kimmel (2011), researchers found that among 14,000 students at 19 colleges, 58% had hooked up at least once by their senior year, with those respondents averaging about seven hookups. Armstrong, England, and Fogarty (2012), studied over 13,000 heterosexual women and reported that by their senior year, 69% of college women had hooked up, with a median of 3 reported hookups.

Hookups: Sudden or Gradual Cultural Change?

The use of the term hookup to describe physical relationships among young people has emerged recently in the scholarly literature (Bogle, 2007). Monto and Carey (2014) found that the term hookup was not used during the 1990s, was used only

sporadically from 2000-2005, and was used extensively from 2006 onward. However, according to Bogle (2007) the term may have been around long before it drew the attention of researchers. Though some studies acknowledged that this cultural change may have been taking place for decades (Armstrong, Hamilton, & England, 2010), many authors have either implied or explicitly posited that this change has been more recent. Lambert, Kuhn, and Apple (2003) argued that “today on college campuses across the United States what was once viewed as problematic has now become normative, and students refer to this process as hooking up” (P.129). Stinson (2010) identified hooking up as a ‘trend’, Aubrey and Smith (2013) identified it as a ‘recent change’, and Kalish and Kimmel (2011) described it as ‘the new normative sexual experience among American university students’. Research has tied the trend toward hooking up into other social trends, such as the change in sex ratios on college campuses and the increasing age of marriage (Regnerus & Uecker, 2011), as well as the tendency of contemporary college students to delay economic self-sufficiency (Harden, 2013), all suggesting that the phenomenon of hooking up is a trend but that it has been taking place more gradually. However, Monto and Carey (2014) drew attention to the fact that much of the research describing the sexual and intimate behavior of college students has been cross-sectional, collected at only one point in time, making it difficult to determine whether recent changes in sexual scripts, narratives and jargon are associated with changes in behavior and attitudes.

Furthermore, the widespread diffusion of the term hookup to describe sexual behavior suggests a change in culture and even though some authors acknowledged that this change may have been taking place for decades (Bogle, 2007; Armstrong, Hamilton,

& England, 2010), many other authors have either implied or explicitly posited that this change has been more recent (Stinson, 2010; Aubrey & Smith, 2013; Kalish & Kimmel, 2011). Part of the popular misconception about the sexual behavior of contemporary college students may be that the term hooking up and its variants are provocative and ambiguous, and they contribute to the impression that contemporary college students are having more sexual encounters with more partners (Monto & Carey, 2014). However, Monto and Carey (2014) report that sexual behavior among college students has not changed greatly over the past two and a half decades. Hence, if hookups have been taking place for a long period of time, then it is important to understand how this behavior affects women and men, and if there are any differences on how both sexes deal with the outcomes of a hookup.

Outcomes for Men and Women

In a study by Owen et al. (2010), researchers investigated 832 college students' experiences with hooking up, as well as their positive and negative emotional reactions to the hooking up experience. Emotional reactions were measured by the number of positive or negative adjectives the students marked off a checklist. Researchers found that hooking up was not an experience that most college students felt positively about, especially women. These findings suggest that women are at substantially more risk than men for feeling upset about the experience. Glenn and Marquardt (2001) similarly found that many women felt hurt after hooking up and confused about their future relations with the men with whom they had hooked up. On the other hand, a study by Lewis, Granato, et al. (2012) examined factors associated with engaging in oral and vaginal sex during the most recent hookup and what they found was that in general, students reported rather low

levels of negative affect resulting from their most recent hookup, with men reporting lower negative affect than women. It is important to point out that their findings indicated that having oral sex during the most recent hookup was associated with greater positive affect but students who had vaginal sex during the hookup reported lower positive affect and higher negative affect. According to Gute, Eshbaugh and Wiersma (2008) a possible explanation for this finding is that these college women do not think oral sex is really sex, a belief shared by a majority of undergraduate students. Also, oral sex hookups may provide women with a way to strike a compromise between two opposing social forces: a college campus that is conducive to hookups and a larger society that disapproves of casual intercourse (Paul et al. 2000).

Women seem to be more satisfied both sexually and emotionally when they are in a relationship. In a study by Fielder and Carey (2010) women reported enjoying romantic interactions more, and regretting them less, than hookups. The preference for sexual interaction with a romantic partner over a hookup partner may stem from physical or psychological reasons. For example, a long-term partner may be more likely than a new hookup partner to be able to please his or her partner sexually; women are more likely to report orgasms from romantic interactions than hookups (England et al., 2007).

Enjoyment and regret of interactions may also be affected by psychosocial processes. For instance, perhaps women enjoy romantic interactions more than hookups because they do not have to worry about pejorative labels or developing a negative reputation (Bogle, 2008).

Moreover, in a cross-sectional study of college students, Grello et al. (2006) found that women who had engaged in casual sex reported more distress than women

who had engaged in sex with only romantic partners. In contrast, men who had engaged in casual sex had lower levels of distress than men who had engaged in sex with only romantic partners. The feeling of distress increased for women, but not for men, as the number of partners increased. In addition, Townsend (1995) found that even women who entered sexual relationships without intending to become emotionally involved experienced emotional vulnerability and concern over their partner's investment in the relationship. According to Paul and Hayes (2002) the post-hookup reasons for regret among women and men appear to differ, women focus more on emotional factors (e.g. feeling "used") and men focus more on physical factors (e.g. partner was unattractive).

Furthermore, given the ambiguity in relationship development, some young adults may see hooking up as a viable way to develop a committed relationship (Glenn & Marquardt, 2001). Thus, young adults who are more hopeful that their hooking up experience will lead to a committed relationship may be more likely to report positive emotional reactions as their hopes are reinforced. Alternatively, it could be that those who hope for a committed relationship may be disappointed given that the majority of casual sex relationships seldom progress into a committed relationship (Bisson & Levine, 2009). The relationship between hope for a committed relationship and emotional reactions may vary based on gender. For instance, women are more likely to hope that the hooking up encounter leads to a committed relationship as compared to men (Grello et al. 2006). Participants in Grello et al. (2006) study were asked how they felt a day or so after the hookup encounter, therefore it would be of interest to research if there is a change of emotional reactions after a longer period of time, and if this change is more of a positive or negative change.

Interface between Evolutionary Theory and the Hookup Culture

There appears to be inconsistency between the evolutionary theory on female mating patterns and the college hookup culture. That is, evolutionary theory holds that women will largely refrain from short-term mating opportunities, while current research shows they are more likely to engage in the behavior. There are two factors to be considered that may explain this. The first one is behavioral neuroendocrinology which states that the motivations for reproductively-relevant behaviors such as sexual interests and attachment formation can be partially traced to the evolved brain.

Behavioral Neuroendocrinology

Behavioral neuroendocrinology suggests that romantic attachment formation and romantic love are hard-wired into the human brain (Carter, 1998). It is hypothesized that humans possess three primary neural systems that are discrete and interrelated emotion-motivation systems in the brain for mating, reproduction and parenting: lust, attraction and attachment (Fisher, 1998). Fisher, Aron and et al. (2002) define the three neural systems as follows: lust as being characterized by a craving for sexual gratification, the attraction system as being characterized by increased energy and focused attention on a preferred mating partner and the attachment system as being characterized by feelings of calm, security, social comfort, and emotional union with a mate. According to Fisher (1998), each of the three neural systems is associated with different neurotransmitters and hormones; however, these emotion-motivation systems are also associated with different behavioral repertoires, and they have evolved to direct different aspects of reproduction. For instance, the sex drive evolved primarily to motivate individuals to seek sexual union with any appropriate member of their species. The neural circuits associated with

attraction evolved to motivate individuals to select among potential partners and focus their courtship attention on genetically appropriate individuals in order to conserve mating time and energy. Finally, the neural circuitry for attachment evolved primarily to motivate individuals to sustain acceptable connections long enough to complete species-specific parental duties (Fisher, 1998). The capacity for human love, with all its dramatic allure, is believed to have evolved to guide successful reproduction via mate-choice and the formation of stable pair-bonds (Fisher, 1992). This shows that adults can desire both emotional and physical fulfillment and that is consistent with neuroscientific suggestions that both are intrinsic to the evolved human brain.

Nonetheless, even though these three emotion-motivation systems regularly act together, they can also act independently of one another. The independence of these three emotion-motivation systems is observable in humans and contributes to the human mating flexibility and wide range of contemporary human mating and reproductive strategies (Fisher, 1998). An example is the response of middle-aged men and women who are administered testosterone to increase sexual desire. These individuals experienced increased sexual thoughts and elevated levels of sexual activity (Sherwin & Gelfand, 1987). But they do not report feeling increased romantic passion or increased attachment to this sexual partner. Moreover, men and women can express deep attachment for a long-term spouse or mate, while they express attraction for someone else, while they feel sex drive in response to visual, verbal, or mental stimuli unrelated to either partner (Fisher et al., 2002). In addition, Fisher et al. (2002) suggest that men and women can copulate with individuals with whom they are not in love; they can be in love

with someone with whom they have had no sexual contact; and they can feel deeply attached to a mate for whom they feel no sexual desire or romantic passion.

Observational data on humans supports the hypothesis that the neural systems of attachment are distinct from those of the sex drive and those of attraction. Arranged marriages are common cross-culturally (Frayser, 1985), as are long-term marriages (Fisher, 1989). Spouses in arranged marriages and long-term marriages regularly maintain attachment to one another, express feelings of attachment for one another, and display mutual parental duties without displaying or reporting feelings of attraction or sexual desire for one another. Perhaps the neural independence of these three emotion-motivation systems evolved to enable our ancestors to take advantage of a range of reproductive strategies simultaneously, such as serial monogamy in conjunction with clandestine romance and/or “extra-pair” copulations (Fisher, 1998).

Short Term Mating Strategies

The theory on behavioral neuroendocrinology is consistent with Buss’s theory on short term mating strategies in women which states that patterns in mating behavior exist because they are evolutionarily advantageous. Buss’s theory assumes that the sexual strategies of our ancestors evolved because they permitted them to survive and produce offspring. Those people who failed to mate successfully because they did not express these strategies are not our ancestors. The sexual strategies theory is based on three components: the first one is that human mating is inherently strategic. These strategies exist because they solved specific problems in human evolutionary history. Buss (1994a) pointed out that the manifestation of these strategies are not through conscious psychological mechanisms, and that for the most part we are completely unaware as to

why we find certain qualities attractive in a mate. A second component of this theory is that mating strategies are context-dependent; people behave differently depending on whether the situation presents itself as a short-term or long-term mating prospect. The third component states that men and women have faced different mating problems over the course of human evolution and, as a consequence have evolved different strategies. Furthermore, different successful mating strategies allow neural systems in the brain to work together or independently in order to be passed on to the next generation which would explain why humans not only display monogamous tendencies.

Additionally, environmental factors need to be taken into consideration when talking about female mating strategies as they influence women's choice to engage in either short-term or long-term relationships. For instance, men's social status is an important consideration in women's choices of and preferences for marriage partners (Buss, 1994b). Culturally successful men wield social influence and have control over resources that women can use for themselves and their children. These men have more reproductive potential than other men, and women's mating and marriage preferences, suggest that they are motivated to capture and use this potential for their own reproductive ends (Geary et al., 2004). The reason for this is clear: in the cultures studied, the children of culturally successful men have lower mortality rates than the children of other men (Geary, 2000). Even in cultures in which mortality rates are low, children of culturally successful men benefit in terms of psychological and physical health and in terms of longevity in adulthood (Adler et.al, 1994). These are exactly the conditions that would result in the evolution of women's preferences for socially dominant and culturally successful marriage partners. Borgerhoff Mulder (1990) studied a pastoral group in

Kenya called the Kipsigis and learned that in that society land and cattle were controlled by men and gaining access to these resources has important reproductive consequences for women. According to Borgerhoff Mulder (1990) the “land access is correlated with women’s reproductive success, and may be an important causal factor contributing to reproductive differentials, given the greater availability of food in the homes of ‘richer’ women and the lower incidence of illness among them and their offspring” (P.256).

Because this land is divided among her sons, who eventually use the land to attract wives, women who gain access to large land plots (through marriage) have more surviving grandchildren than do women with small land plots (Borgerhoff Mulder, 2000).

However, according to Geary et al. (2004) for many women marriage to a socially dominant, wealthy, and physically attractive man who is devoted to her and her children is not always achievable. This is especially true in contexts where most men do not have the material or social resources to support a family. To adjust to this circumstance, some women develop a successive series of relationships with a number of men or several simultaneously, each of whom provides some investment during the course of the relationship (Buss & Schmitt, 1993). Lancaster’s (1989) study supports prior research in that women obtained more reproductive success than those with fewer partners; thus women who maintained multiple relationships were more fecund, had healthier children with fewer pre- and post-natal mishaps, were able to raise more children over the age of five, had better nourished children, and had better psychological adjustment.

Extended Period of Sexual Maturity

Other environmental factors related to female mating strategies are menarche and age of first marriage. Research suggests that the age of first menarche is decreasing

which may lead to an extended period of asexuality imposed on contemporary Western women by cultural tradition (i.e. marriage). Various sources of data suggest a secular trend of decreasing average age of menarche among contemporary women (Anderson & Must, 2005), estimates in the late 1800's in the United States the age of menarche was approximately 14.75 years, while current estimates in western industrialized nations are nearly 12 years of age. In addition, there have been historical changes regarding age of consent to sex that are closely related to the onset of menarche. For instance, in the nineteenth century, the minimum age of consent for sexual intercourse in most American states was 10 years and in Delaware it was only 7 years (Dabbagh, 2012). Other researchers state that historically the age of consent was set somewhere between 10 and 13 years, depending on the Era and the culture, and tending to coincide with female puberty, which was also the age at which a female could marry without parental permission (Smith, 2004).

However, the actual age at first reproduction does not necessarily immediately follow menarche. Data shows that between 1970 and 2005, the average age of mother at first birth rose from approximately 21.4 to approximately 25.2 years (Martin et al., 2002, 2003, 2005, 2006, 2007; Mathews & Hamilton, 2002). Contemporary young women have no reason to expect to reproduce for a substantial amount of time post-menarche. In fact, the tendency to settle into a stable lifestyle with a partner and ensuing children has altogether been pushed back to later in life. The large gap between biological readiness for sexual activity and actual marriage may create a unique environmental context that contributes to women's decisions about engaging in sexual hookups.

Summary

Evolutionary theory holds that men and women have different mating strategies based on the parental investment of each sex. Women are more selective in partner choice than men and more restrained in their sexual behaviors. Contemporary college campuses are characterized by the hookup culture in which women may be less selective in their sexual partner choice. This may be explained by the influences of the behavioral neuroendocrinology of the human sexual response and an extended period of sexual maturity before marriage. Although college women engage in sexual hookups they do report much dissatisfaction with them.

Rationale for the Current Study

The purpose of the current study was to examine factors that best predict college women's dissatisfaction with sexual hookups. Specifically it was hypothesized that women who unsuccessfully used sexual hookups as a strategy for accessing a desirable long term partner would be most dissatisfied.

Method

Participants

Seventy-two participants initiated the online survey, the data of participants that did not meet the criteria of the study were removed, and this included the following: missing data, males, non-heterosexual women and women who indicated zero hookups. This resulted in a total of 34 participants with complete data that met all criteria. The participants ranged in age from 18 years to 40 years ($\bar{x} = 21.13$, $SD = 3.99$). Other participant demographics are seen in Table 1. The participants were recruited by means of an electronic flyer that was sent by the department secretary to undergraduate and

graduate psychology classes for students who are interested in participating. The flyer included a link to a specific URL on SurveyMonkey.com. Participants opened the link to SurveyMonkey.com, and read the cover letter to the study, and completed two questionnaires.

Table 1. Demographics

	Frequency	Percentage
Education		
Freshman	10	29.4
Sophomore	5	14.7
Junior	9	26.5
Senior	6	17.6
2nd Year Graduate Student	4	11.8
Ethnicity		
White Non-Hispanic	7	20.6
Hispanic	13	38.2
African American	4	11.8
Asian Haitian	1	2.9
Haitian	1	2.9
Caribbean	6	17.6
Other	2	5.9
Religious Affiliation		
Catholic	18	52.9
Protestant	1	2.9
Jewish	1	2.9
Other	14	41.2
Current Relationship Status		
Not married but in a relationship	19	55.9
Not married and not in a relationship	15	44.1

Materials

Informed Consent. An informed consent cover letter was provided on the first page of SurveyMonkey.com link (See Appendix A).

Demographic Questionnaire. The demographic questionnaire contained items requesting information about the participants' sex, age, ethnicity, and sexual orientation (See Appendix B).

Hookup Questionnaire. The hookup questionnaire contained eight items. A definition of a hookup was presented and then followed by one item which asked the following, "How many hookups have you had since you started college?" The next seven items were answered using a 7-point Likert scale (See Appendix C).

Flyer. Flyer used in the recruitment of participants (See Appendix D).

Results

Scale Development

The satisfaction scale measured overall satisfaction with the last hookup. It was created by combining the following two items: "How sexually satisfied were you with your last hookup?" and "How emotionally satisfied were you with your last hookup?" The reliability for the satisfaction scale is $\alpha = .71$. The total score was calculated by summing up the scores for each item ranging from 0 to 12.

The social desirability scale measured participants' last hookup partner's physical attractiveness and social status. It was created by combining the following two items: "How physically attractive was your last hookup partner?" and "How socially desirable was your last hookup in terms of wealth/social status?" The reliability for the social desirability scale is $\alpha = .54$. The total score was calculated by summing up the scores for each item ranging from 0 to 12.

The commitment scale measured participants' desire for their last hookup to become a more serious relationship. It was created by combining the following three

items: “How much were you hoping your last hookup would turn into a long term relationship?”, “How good would it have been to have your last hookup partner as a boyfriend?” and “How good would it have been to have your last hookup partner as a husband?” The reliability for the commitment scale is $\alpha = .86$. The total score was calculated by summing up the scores for each item ranging from 0 to 18. See Table 2 for means and standard deviations of the number of hookups and total scale scores.

Table 2. Means and Std. Deviations of the number of hookups and total scale scores

	Scales			
	Hookups	Satisfaction	Social Desirability	Commitment
Mean	2.94	6.41	8.29	9.44
Std. Deviation	2.12	3.78	2.55	6.05

Bivariate Correlation

A Pearson’s correlation was calculated for the following variables: number of hookups, satisfaction, social desirability and commitment. The correlations are seen in Table 3.

Table 3. Correlations of Study Variables

	Correlations			
	1	2	3	4
1. Hookups	-	-	-	-
2. Satisfaction	-.201	-	-	-
3. Social Desirability	-.103	.621**	-	-
4. Commitment	-.202	.463**	.388*	-

** $p < .01$.

* $p < .05$.

Linear Regression

The data were subjected to a linear regression, the dependent variable was satisfaction with the last hookup, and the independent variables were social desirability and commitment. The regression was significant $F(2, 33) = 12.37, p < .001$. For the independent variable social desirability $\beta = .519, p = .001$, and for the independent variable commitment $\beta = .262, p = .081$. Adjusted R square = .408 indicates that approximately 41% of the variance of satisfaction with the last hookup can be accounted by the social desirability and desire for commitment of participants' last hookup partner.

Discussion

The purpose of this study was to determine if the desire for a hookup to become a long term relationship, and a higher social desirability of the hookup partner, in combination, would be the best predictors of dissatisfaction of a hookup. The hypothesis was supported because social desirability and commitment did predict dissatisfaction with hooking up in women. These results mean that the less social desirability in the hookup partner and the less desire for commitment were associated with more dissatisfaction with the hookup experience.

The present study's results on social desirability support the evolutionary theory on human female mate selection. According to Geary (2004), men's social status is an important factor to consider in women's choices for marriage partners. In general, women prefer culturally successful men as mating and marriage partners as these men can exert social influence and have control over resources that women can use for themselves and their children. Consciously or unconsciously, contemporary women continue to follow

the pattern of finding socially desirable men more attractive because they are a synonym of security and well-being; therefore women want them as a partner.

Even though social desirability and commitment are significantly correlated, social desirability itself appears to be a stronger predictor of dissatisfaction as opposed to the desire for commitment. It is a possibility that women are hooking up with less socially desirable partners because they may be more readily available for sexual intercourse. However, women may not have a strong desire to commit to these partners because they do not see a future with them due to their lack of social desirability. In turn, these women are more dissatisfied with less socially desirable men because other than sexual intercourse, they are not benefiting on the long run. In terms of the evolutionary perspective, the desire for commitment does not guarantee access to resources and better social status; and this may be the reason why desire for commitment by itself does not greatly influence women's satisfaction.

Furthermore, these results are consistent with the behavioral neuroendocrinology theory that states humans possess three primary neural systems that are discrete and interrelated emotion-motivation systems in the brain: lust, attraction and attachment. Even though these three emotion-motivation systems regularly act together, they can also act independently of one another. For instance, when women seek sexual union and focus their attention on a preferred mating partner without the attachment component, hooking up takes place. Lust and attraction help women concentrate their efforts in mating with a genetically appropriate individual in order to conserve mating time and energy, in other words a socially desirable partner.

In addition, the results found are also consistent with Buss's (1994) theory on short term mating strategies. This theory states that human mating is inherently strategic; and context-dependent and because of different mating problems over the course of human evolution different strategies have evolved. Hooking up comes as a strategic behavior that allows women to access socially desirable men in order to satisfy sexual needs despite the possibility of long term relationships not being readily available. Hooking up is context-dependent and is evolutionarily advantageous for women who do not have access to socially desirable men, and in turn they need to engage in several relationships in order to obtain social resources. Lastly, the present study also supports the idea that the extended period of sexual maturity contributes to the contemporary hookup culture. The large gap between biological readiness for sexual activity and actual marriage creates unique environmental context that contributes to women's decisions about engaging in sexual hookups. To conclude, these women are sexually mature in an environment where they are unlikely to find ideal mates, and they will engage in sexual hookups using their best cue, social desirability.

Some of the limitations of the study were utilizing a college sample instead of utilizing a community-based sample which may lead to different findings. College sample limits the opportunity to generalize findings to young people who are not in college. This study consisted of mainly heterosexual participants so future research should encourage participation from sexual-minority populations. Also, the hookup questionnaire failed to ask those participants who were already in a relationship, if that relationship was a result of a hookup. Asking more detailed questions could possibly provide a better understanding of why are women more dissatisfied after a hookup.

Appendix A: Consent Form

The purpose of this research is to assess women's attitudes towards hooking up. Participation is entirely voluntary and you may at any time withdraw from participation. I am asking you to complete the attached electronic survey. More specifically, you will be asked to provide demographic information and complete an 8 item questionnaire. The potential benefits of this study are none to you; however your participation will contribute to research in the area of Human Sexuality.

The potential risks of participating in this study are minimal and are not greater than those you would experience in everyday life. However, there can be no guarantee of absolute anonymity due to the medium of this second party - SurveyMonkey™. Nevertheless, SurveyMonkey™ emphatically declares "Our privacy policy states that we will not use your data for our own purposes." In addition, I will request that SurveyMonkey™ "disable the SSL" before data collection thereby assuring the fact that the results I will receive will be truly anonymous and there will be no record kept of your IP address nor linkages I could utilize to identify you. It will take about 15 minutes to complete this study.

Your responses will be automatically compiled in a spreadsheet format and cannot be directly linked to you. All data will be stored in a password protected electronic format. In addition, SurveyMonkey™ employs multiple layers of security to ensure that my account and the data associated with the account are private and secure. In addition, a third-party security firm is consistently utilized by the survey tool administration (SurveyMonkey™) to conduct audits of security. The company asserts that the latest in firewall and intrusion prevention technology is employed. Hence, any concerns regarding

potential invasion of your privacy and access to your responses other than I, the investigator should be allayed due to these protections. I trust you feel confident to answer the attached survey questions as honestly as you can.

“By clicking on the “I agree” button below and by submitting a completed survey, you are giving permission to use your data record in this study. Participant must click on either the “I agree” button or “I do not agree” button to confirm consent or refusal. Once the “I agree” button is clicked, participant is directly linked to the Survey. If you click on the “I do not agree” button, you will immediately exit this site.

As a research participant, information you provide is anonymous, that is, no names or other identifiers will be collected. SurveyMonkey.com allows researchers to suppress the delivery of IP addresses during the downloading of data, and in this study no IP address will be delivered to the researcher. However, SurveyMonkey.com does collect IP addresses for its own purposes. If you have concerns about this you should review the privacy policy of SurveyMonkey.com before you begin.

Again, you are free to withdraw your participation at any time without penalty or to not answer any question. Thank you for your participation in advance. If you have any questions, feel free to contact Maria Paz Garcia, by phone at 954-696-6671 or by e-mail at maria.garcia13@mymail.barry.edu or my supervisor Dr. Frank Muscarella, by phone at 305-899-3275 or by e-mail at fmuscarella@barry.edu or the Institutional Review Board point of contact, Barbara Cook, at (305) 899-3020 or bcook@mail.barry.edu.

Appendix B: Demographic Questionnaire

The following questions ask you some basic demographic information.

1. What is your age? _____
2. Sex:
 - a) Male
 - b) Female
3. Sexual Orientation:
 - a) Heterosexual
 - b) Homosexual
 - c) Bisexual
4. Which class/level most closely describes you?
 - a) Freshman
 - b) Sophomore
 - c) Junior
 - d) Senior
 - e) 1st Year Graduate Student
 - f) 2nd Year Graduate Student
 - g) 3rd Year Graduate Student
5. Ethnicity:
 - a) White Non-Hispanic
 - b) Hispanic
 - c) African American
 - d) Asian
 - e) Haitian
 - f) Caribbean
 - g) Other
6. Religious Affiliation:
 - a) Catholic
 - b) Protestant
 - c) Jewish

- d) Muslim
 - e) Other
7. Current Relationship Status:
- a) Not married but in a relationship
 - b) Not married and not in a relationship
 - c) Married

Appendix C: Hookup Questionnaire

“A hookup is a brief uncommitted sexual encounter among individuals who are not romantically partners or dating each other.”

1. According to the above definition, how many hookups have you had since you started college?

_____ hookups.

2. How sexually satisfied were you with your last hookup?

Not Satisfied

Completely Satisfied

0 1 2 3 4 5 6

3. How emotionally satisfied were you with your last hookup?

Not Satisfied

Completely Satisfied

0 1 2 3 4 5 6

4. How much were you hoping your last hookup would turn into a long term relationship?

Not at All

Very Much

0 1 2 3 4 5 6

5. How physically attractive was your last hookup partner?

Not Physically

Very Physically

Attractive

Attractive

0 1 2 3 4 5 6

6. How socially desirable was your last hookup partner in terms of wealth/social status?

Not at All

Very Much

0 1 2 3 4 5 6

7. How good would it had been to have your last hookup partner as a boyfriend?

Not Good

Very

at All

Good

0

1

2

3

4

5

6

8. How good would it have been to have your last hookup partner as a husband?

Not Good

Very

at All

Good

0

1

2

3

4

5

6

Appendix D: Flyer

Hey Barry Students!



Would you be interested in participating in a study that assesses women's attitudes towards hooking up?

Requirements: 1) **Females ONLY.**
2) **18 years old and up.**

This is an anonymous online study.

Study takes 15 minutes to complete.

You are free to withdraw your participation at any time without penalty or not answer any question.

You may be able to receive extra credit for your participation.

If you want to participate please click on this link: _____

If you have any questions, feel free to contact Maria Paz Garcia, by phone at 954-696-6671 or by e-mail at maria.garcia13@mymail.barry.edu or my supervisor Dr. Frank Muscarella, by phone at 305-899-3275 or by e-mail at fmuscarella@barry.edu

References

- Adler, N. E., Boyce, T., Chesney, M. A., Cohen, S., Folkman, S., Kahn, R. L. et al. (1994). Socioeconomic status and health: The challenge of the gradient. *American Psychologist, 49*, 15-24.
- Alexander, R. D. (1987). *The biology of moral systems*. Hawthorne, NY: Aldine de Gruyter.
- Anderson, S. E., & Must, A. (2005). Interpreting the continued decline in the average age at menarche: Results from two nationally representative surveys of U.S. girls studied 10 years apart. *The Journal of Pediatrics, 147*, 753-760.
- Armstrong, E. A., Hamilton, L., & England, P. (2010). Is hooking up bad for young women? *Contexts, 9*(3), 22-27.
- Arnett, J. J. (2004). *Emerging adulthood: The winding road from the late teens through the twenties*. New York: Oxford.
- Aubrey, J. S., & Smith, S. E. (2013). Development and validation of the endorsement of the Hookup Culture Index. *Journal of Sex Research, 50*, 435-448.
- Barber, N. (1995). The evolutionary psychology of physical attractiveness: Sexual selection and human morphology. *Etiology and Sociobiology, 16*, 395-424.
- Beck, S. P., Ward-Hull, C. I., & McClear, P.M. (1976). Variables related to women's somatic preferences of the male and female body. *Journal of Personality and Social Psychology, 34*, 1200-1210.
- Berezkei, T. & Csanaky, A. (1996). Mate choice, marital success, and reproduction in a modern society. *Ethology and Sociobiology, 17*, 17-35.

- Bisson, M. A., & Levine, T. R. (2009). Negotiating a friends with benefits relationship. *Archives of Sexual Behavior, 38*, 66-73.
- Bogle, K. A. (2007). The shift from dating to hooking up in college: What scholars have missed. *Sociology Compass, 1*, 775-788.
- Bogle, K. A. (2008). *Hooking up: Sex, dating, and relationships on campus*. New York & London: NYU Press.
- Borgerhoff Mulder, M. (1988). Kipsigis bridewealth payments, In L. Betzig, M. Borgerhoff Mulder, & P. Turke (Eds.), *Human reproductive behavior: A Darwinian perspective* (pp.65-82), Cambridge, England: Cambridge University Press.
- Borgerhoff Mulder, M. (1990). Kipsigis women's preferences for wealthy men: Evidence for female choice in mammals? *Behavioral Ecology and Sociobiology, 27*, 255-264.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypothesis tested in 37 cultures. *Behavioral and Brain Sciences, 12*, 1-49.
- Buss, D. M. (1994a). The strategies of human mating. *American Scientist, 82*, 238-249.
- Buss, D. M. (1994b). *The evolution of desire: Strategies of human mating*. New York: Basic Books.
- Buss, D. M. & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review, 100*, 204-232.
- Carter, S. C. (1998). Neuroendocrine perspectives on social attachment and love. *Psychoneuroendocrinology, 23*, 779-818.

- Cunningham, M. R., Barbee, A. P., & Pike, C. I. (1990). What do women want? Facialmetric assessment of multiple motives in the perception of male facial physical attractiveness. *Journal of Personality and Social Psychology*, *59*, 61-72.
- Dabbagh, M. (2012). *Parental kidnapping in America: An historical and cultural analysis and cultural analysis* (p.128). Jefferson, N.C.: McFarland & Co.
- England, P., Shafer, E. F., & Fogarty, A. C. K. (2007). Hooking up and forming romantic relationships on today's college campuses. In M. S. Kimmel & A. Aronson (Eds.), *The Gendered Society Reader* (pp.531-547). New York: Oxford University Press.
- Fielder, R. L. & Carey, M. P. (2010). Prevalence and characteristics of sexual hookups among first-semester female college students. *Journal of Sex & Marital Therapy*, *36*, 346-359.
- Fisher, H. E., Aron, A., Mashek, D., Strong, G., Li, H. & Brown, L. L. (2002). Defining the brain systems of lust, romantic attraction and attachment. *Archives of Sexual Behavior*, *31*, 413-419.
- Fisher, H. E. (1989). Evolution of human serial pairbonding. *American Journal of Physical Anthropology* *78*:331-354.
- Fisher, H. E. (1992). *Anatomy of love: The natural history of monogamy, adultery, and divorce*. New York: Norton and Company.
- Fisher, H. E. (1998). Lust, attraction, and attachment in mammalian reproduction. *Human Nature*, *9*, 23-52.
- Frayser, S. (1985). *Varieties of sexual experience: An anthropological perspective on human sexuality*. New Haven: HRAF Press.

- Gangestad, S. W., & Simpson, J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*, *23*, 573-644.
- Gangestad, S. W., Thornhill, R., & Yeo, R. A. (1994). Facial attractiveness, developmental stability, and fluctuating asymmetry. *Ethology and Sociobiology*, *15*, 73-85.
- Garcia, J. R., & Reiber, C. (2008). Hook-up behavior: A biopsychosocial perspective. *Journal of Social, Evolutionary, and Cultural Psychology*, 192-208.
- Geary, D. C. (2000). Evolution and proximate expression of human paternal investment. *Psychological Bulletin*, *126*, 55-77.
- Geary, D. C., Vigil, J., & Byrd-Craven, J. (2004). Evolution of human mate choice. *Journal of Sex Research*, *41*, 27-42.
- Glenn, N., & Marquardt, E. (2001). *Hooking up, hanging out and hoping for Mr.Right: College women on dating and mating today*. An Institute for American Values Report to the Independent Women's Forum.
- Grello, C. M., Welsh, D. P., & Harper, M. S. (2006). No strings attached: The nature of casual sex in college students. *Journal of Sex Research*, *43*, 255-267.
- Gute, G., Eshbaugh, E. M., & Wiersma, J. (2008). Sex for you, but not for me: Discontinuity in undergraduate emerging adults' definitions of "having sex". *Journal of Sex Research*, *45*, 329-337.
- Hatfield, E., & Sprecher, S. (1995). Men's and women's preferences in marital partners in the United States, Russia, and Japan. *Journal of Cross-Cultural Psychology*, *26*, 728-750.

- Hume, D. K., & Montgomerie, R. (2001). Facial attractiveness signals different aspects of “quality” in women and men. *Evolution and Human Behavior*, 22, 93-112.
- Irons, W. (1979). Cultural and biological success. In N. A. Chagnon & W. Irons (Eds.). *Natural selection and social behavior* (pp.257-272). North Scituate, MA: Duxbury Press.
- Kalish, R., & Kimmel, M. (2011). Hooking up. *Australian Feminist Studies*, 26, 137-151.
- Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality*, 58, 97-116.
- Lambert, T., Kahn, A., & Apple, K. (2003). Pluralistic ignorance and hooking up. *Journal of Sex Research*, 40, 129.
- Lewis, M. A., Granato, H., Blayney, J. A., Lostutter, T. W., & Kilmer, J. R. (2012). Predictors of hooking up sexual behaviors and emotional reactions among U.S. college students. *Archives of Sexual Behavior*, 41, 1219-1229.
- Martin, J. A., Hamilton B. E., Sutton, P. D., Ventura, S. J., Menacker, F., Kirmeyer, S. & Munson, M. L. (2007). *Births: Final data for 2005. National vital statistics reports*, 56, 6. Hyattsville: National Center for Health Statistics.
- Martin, J. A., Hamilton B. E., Sutton, P. D., Ventura, S. J., Menacker, F., & Kirmeyer, S. (2006). *Births: Final data for 2004. National vital statistics reports*, 55, 1. Hyattsville: National Center for Health Statistics.
- Martin, J. A., Hamilton B. E., Sutton, P. D., Ventura, S. J., Menacker, F., & Munson, M. L. (2005). *Births: Final data for 2003. National vital statistics reports*, 54, 2. Hyattsville: National Center for Health Statistics.

- Martin, J. A., Hamilton B. E., Sutton, P. D., Ventura, S. J., Menacker, F., & Munson, M. L. (2003). *Births: Final data for 2002. National vital statistics reports, 52, 10*. Hyattsville: National Center for Health Statistics.
- Martin, J. A., Hamilton, B. E., Ventura, S. J., Menacker, F., Park, M. M., & Sutton, P. D. (2002). *Births: Final data for 2001. National vital statistics reports, 51, 2*. Hyattsville: National Center for Health Statistics.
- Mathews, T. J., & Hamilton, B.E. (2002). *Mean age of mother, 1970-2000. National vital statistics reports, 51, 1*. Hyattsville: National Center for Health Statistics.
- Monto, M. A., & Carey, A. G. (2014). A new standard of sexual behavior? Are claims associated with the “hookup culture” supported by General Social Survey Data? *Journal of Sex Research, 51*, 605-615.
- Oda, R. (2001). Sexual dimorphic mate preference in Japan: An analysis of lonely hearts advertisements. *Human Nature, 12*, 191-206.
- Owen, J. J., Rhoades, G. K., Stanley, S. M., & Fincham, F. D. (2010). “Hooking up” among college students: Demographic and psychosocial correlates. *Archives of Sexual Behavior, 39*, 653-663.
- Paul, E. L., McManus, B., & Hayes, A. (2000). Hookups: Characteristics and correlates of college students’ spontaneous and anonymous sexual experiences. *Journal of Sex Research, 37*, 76-88.
- Paul, E. L., & Hayes, K. A. (2002). The causalities of ‘casual sex’: A qualitative exploration of the phenomenology of college students’ hookups. *Journal of Social and Personal Relationships, 19*, 639-661.

- Pierce, A. (1996). Body height and romantic attraction: A meta-analytic test of the male-taller norm. *Social Behavior and Personality*, *24*, 143-150.
- Regnerus, M. & Uecker, J. (2011). *Premarital sex in America: How young Americans meet, mate, and think about marrying*. New York: Oxford University Press.
- Sherwin, B. B., & Gelfand, M. M. (1987). The role of androgen in the maintenance of sexual functioning in oophorectomized women. *Psychosomatic Medicine*, *49*, 397-409.
- Singh, D. (1995). Female judgment of male attractiveness and desirability for relationships: Role of waist-to-hip ratio and financial status. *Journal of Personality and Social Psychology*, *69*, 1089-1101.
- Smith, M. (2004). *Encyclopedia of rape* (p.40). Westport, C.T.: Greenwood Press.
- Stinson, R. D. (2010). Hooking up in young adulthood: A review of factors influencing the sexual behavior of college students. *College Student Psychotherapy*, *24*, 98-115.
- Surbey, M. K., & Conohan, C. D. (2000). Willingness to engage in casual sex: The role of parental qualities and perceived risk of aggression. *Human Nature*, *11*, 367-386.
- Thonhill, R., & Gangestad, S. W. (1993). Human facial beauty: Averageness, symmetry, and parasite resistance. *Human Nature*, *4*, 237-269.
- Townsend, J. M. (1995). Sex without emotional involvement: An evolutionary interpretation of sex differences. *Archives of Sexual Behavior*, *24*, 173-206.

Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.).

Sexual selection and the descent of man 1871-1971 (pp. 136-179). Chicago, IL:

Aldine Publishing.

Waynforth, D. (2001). Mate choice trade-offs and women's preference for physically

attractive men. *Human Nature*, 12, 207-219.