



Published in final edited form as:

*Rev Gen Psychol.* 2012 June 1; 16(2): 161–176. doi:10.1037/a0027911.

## Sexual Hookup Culture: A Review

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### Abstract

“Hookups,” or uncommitted sexual encounters, are becoming progressively more engrained in popular culture, reflecting both evolved sexual predilections and changing social and sexual scripts. Hook-up activities may include a wide range of sexual behaviors, such as kissing, oral sex, and penetrative intercourse. However, these encounters often transpire without any promise of, or desire for, a more traditional romantic relationship. A review of the literature suggests that these encounters are becoming increasingly normative among adolescents and young adults in North America, representing a marked shift in openness and acceptance of uncommitted sex. We reviewed the current literature on sexual hookups and considered the multiple forces influencing hookup culture, using examples from popular culture to place hooking up in context. We argue that contemporary hookup culture is best understood as the convergence of evolutionary and social forces during the developmental period of emerging adulthood. We suggest that researchers must consider both evolutionary mechanisms and social processes, and be considerate of the contemporary popular cultural climate in which hookups occur, in order to provide a comprehensive and synergistic biopsychosocial view of “casual sex” among emerging adults today.

### Keywords

casual sex; hookup; hooking up; human sexuality; sexual behavior; mating strategies; sexual scripts

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There's a stranger in my bed  
There's a pounding in my head  
Glitter all over the room  
Pink flamingos in the pool  
I smell like a minibar  
DJ's passed out in the yard  
Barbies on the barbeque

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## Is this a hickey or a bruise

—Last Friday Night (T.G.I.F.) (Perry, Gottwald, Martin, & McKee, 2011)

Popular media representations of sexuality demonstrate the pervasiveness of a sexual hookup culture among emerging adults. The themes of books, plots of movies and television shows, and lyrics of numerous songs all demonstrate a permissive sexuality among consumers. As an example, the lyrics above, from the chart-topping pop song *Last Friday Night (T.G.I.F.)* by singer-songwriter Katy Perry highlight someone's Friday night partying, presumably including casual sex, alcohol, and a piecemeal memory of the night's events. Research on media portrayals of sexual behavior has documented this pattern as well. In a 2005 *Kaiser Family Foundation* report about sex on television, media was highlighted as the primary basis for emerging adults' opinions about sex, consistent with their result of 77% of prime-time television programs containing some sexual content (Kunkel, Eyal, Finnerty, Biely, & Donnerstein, 2005). In terms of a more permissive uncommitted sexual content, 20% of sexual intercourse cases involved characters who knew each other but were not in a relationship, and another 15% involved characters having sex after just meeting (Kunkel et al., 2005). Other studies have shown that college students believe their peers are substantially more sexually permissive than was actually the case (Chia & Gunther, 2006; Reiber & Garcia, 2010). These incorrect beliefs of peer sexual norms are in part influenced by students' perceptions of media and the influence of media on peers (Chia & Gunther, 2006). Popular culture is simultaneously representing *aspects* of actual contemporary sexual behavior and providing sexual scripts for emerging adults. In the current review, we examine and explore these patterns in sexual hookups.

Hooking up—brief uncommitted sexual encounters among individuals who are not romantic partners or dating each other—has taken root within the sociocultural milieu of adolescents, emerging adults, and men and women throughout the Western world. Over the past 60 years, the prioritization of traditional forms of courting and pursuing romantic relationships has shifted to more casual “hookups” (Bogle, 2007, 2008). Among heterosexual emerging adults of both sexes, hookups have become culturally normative. Dating for courting purposes has decreased (but certainly not disappeared) and sexual behavior outside of traditional committed romantic pair-bonds has become increasingly typical and socially acceptable (Bogle, 2007, 2008). In one sample of undergraduate college students, both men and women had nearly double the number of hookups compared to first dates (Bradshaw, Kahn, & Saville, 2010). Most notably, individuals of both sexes are willing to openly discuss the topic and advertise their acceptance and experiences of hooking up.

Sexual hookups are most comprehensively understood in an interdisciplinary framework that combines multiple levels of analyses. In this review, we consider how aspects of sexual popular culture reflect both the biological reproductive motive, social–sexual scripts, and how individuals adaptively, facultatively, respond to their environment. The evolutionary biological and sociocultural paradigms produce parallel, sometimes interacting, and sometimes contradictory, patterns of explanation. The emergence of sexual hookup culture provides a case of human social behavior through which to explore the relationship and possible interaction between evolved mating psychology and cultural context.

## Cultural Shifts in Dating

Hookup culture has emerged from more general social shifts taking place during the last century. As early as the 1920s, with the rise of automobile use and novel entertainment venues throughout North America, traditional models of courting under parental supervision began to fade (Bailey, 1988; Stinson, 2010). An increase in “dating” during this period gave way to a more permissive peer-influenced social–sexual script (Bailey, 1988; Stinson,

2010). With the invention of visual media, images of erotic sex began finding their way into popular culture (Black, 1994; Doherty, 1999). In opposition to this, censorship laws established during the 1930s and lasting until the late 1960s limited depictions of erotic life in film, including depictions of uncommitted sex (Herbert & McKernan, 1996; Robertson, 2001; Vieira, 1999). Young adults became even more sexually liberated in the 1960s, with the rise of feminism, growth of college party events, widespread availability of birth control (condoms and oral contraceptives), and deposing of parental expectations as central to mating and marriage (Laumann, Gagnon, Michael, & Michaels, 1994; Stinson, 2010). Again in opposition, many health care providers in the 1960s denied oral contraceptives to single, unmarried, women (Coontz, 2005). Throughout American history, young adults were told, and at least publicly endorsed, that sexual behavior should only occur in the context of a marital union.

### Representation of Hookups in Popular Culture

Contemporary popular culture is now ripe with examples that depict and often encourage sexual behavior, including premarital and uncommitted sex. Popular media, including television, has become a source of sex education, filled with (inaccurate) portrayals of sexuality (Kunkel et al., 2005; Strasburger, 2005; Ward, 2003). Many popular representations suggest uncommitted sex, or hookups, can be both biophysically and emotionally enjoyable and occur without “strings.” Recent entertainment media have highlighted uncommitted sexual encounters and the more-common-than-not experimentation with this type of behavior. The film *Hooking Up*, released in 2009, details the chaotic romantic and sexual lives of adolescent characters. The film *No Strings Attached*, released in 2011 and starring Natalie Portman and Ashton Kutcher, features the uncommitted element of uncommitted sex, as two friends attempt to negotiate a sexual, yet nonromantic, component of their relationship. Popular television shows often portray hooking up as acceptable, entertaining, and perfectly sensible. The hit British series *Skins*, which began in 2007, and was remade in North America in 2011, often highlights the uncommitted sexual exploits of adolescents. The popular reality show *Jersey Shore*, which started its run in 2009, glorifies hookups among strangers, acquaintances, friends, and former partners. Popular pro-hookup same-sex representations have also emerged in television series like *Queer as Folk* and *The L-Word*. Several popular books on hookups have hit the shelves, with unscientific yet racy claims. These include, *The Happy Hook-Up: A Single Girl's Guide to Casual Sex* (Sherman & Tocantins, 2004), *The Hookup Handbook: A Single Girl's Guide to Living It Up* (Rozler & Lavinthal, 2005), *Hooking Up: A Girl's All-Out Guide to Sex and Sexuality* (Madison, 2006), *Making the Hook-Up: Edgy Sex With Soul* (Riley, 2010), and *11 Points Guide to Hooking Up: Lists and Advice About First Dates, Hotties, Scandals, Pickups, Threesomes, and Booty Calls* (Greenspan, 2011).

### Operationalizing “Hookups”

Hookups may include any sexual behavior in a seemingly uncommitted context. Nearly all hookups involve kissing; 98% of undergraduate respondents in one study reported kissing within a hookup (Fielder & Carey, 2010a). Other behaviors are less ubiquitous. In another study, a combined 81% of undergraduate respondents engaged in some form of hookup behavior, with 58% having engaged in sexual touching above the waist and 53% below the waist, 36% performed oral sex, 35% received oral sex, and 34% engaged in sexual intercourse in the context of a hookup (Reiber & Garcia, 2010). Research has found minimal gender differences in terms of hookup behaviors. The term *hookup* focuses on the uncommitted nature of a sexual encounter rather than focus on what behaviors “count.” The ambiguity of this term may allow individuals to adaptively manipulate others’ perceptions of their sexual behavior.

Operational definitions of hookups differ among researchers. Hookups may be characterized as a form of “casual sex” or “uncommitted sexual encounter.” Hatfield, Hutchison, Bensman, Young, and Rapson (in press) define casual sex as “outside of a ‘formal’ relationship (dating, marriage, etc.), without a ‘traditional’ reason (such as love, procreation, or commitment) for doing so” (p. 3). Paul, McManus, and Hayes (2000) omitted the possibility of hooking up with previous partners or friends, by defining a hookup as “a sexual encounter, usually only 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). Using a broad situational definition, Garcia and Reiber (2008) told participants “a hook-up is a sexual encounter between people who are not dating or in a relationship, and where a more traditional romantic relationship is NOT an explicit condition of the encounter” (p. 196). Lewis, Granato, Blayney, Lostutter, and Kilmer (2011) used a more behaviorally specific definition, in which hooking up was defined as a “event where you were physically intimate (any of the following: kissing, touching, oral sex, vaginal sex, anal sex) with someone whom you were not dating or in a romantic relationship with at the time and in which you understood there was no mutual expectation of a romantic commitment” (p. 4). Glenn and Marquardt (2001) used an explicitly heteronormative definition for participants: a hook-up is “when a girl and a guy get together for a physical encounter and don’t necessarily expect anything further” (p. 82).

### Friends With Benefits

On the surface, hookups are slightly different from more protracted mutual exchange arrangements for uncommitted sex, like those often referred to with colloquialisms such as “friends with benefits” (FWBs), “booty calls,” or “fuck-buddies” (Jonason, Li, & Richardson, 2011). In terms of popular public discourse, *Urban Dictionary* defines FWBs as “two friends who have a sexual relationship without being emotionally involved. Typically two good friends who have casual sex without a monogamous relationship or any kind of commitment” (Friends with benefits, 2003) and also “a safe relationship, that mimics a real partnership but is void or greatly lacking jealousy and other such emotions that come with a serious relationship” (Friends with benefits, 2005). Yet, popular culture representations (e.g., The film *Friends with Benefits*, released in 2011 starring Mila Kunis and Justin Timberlake) suggest FWB partnerships may not truly be void of romantic elements.

FWB relationships represent a unique variation of hooking up worthy of more research attention, which it is beginning to generate. In one study, 60% of 125 undergraduates reported having a FWB relationship at some point in their lives (Bisson & Levine, 2009). Of those who had engaged in a FWB experience, 98.7% were with an opposite sex partner and 1.3% with a same-sex partner. Much like in the movie of the same name, a common concern of participants describing their FWB relationships was the potential formation of unanticipated romantic feelings. At the time of the survey, 35.8% stayed friends but stopped having sex with their most recent FWB partner, 28.3% were maintaining an FWB relationship, 25.9% ended their relationship or friendship, and 9.8% initiated a romantic relationship (Bisson & Levine, 2009). Because these situations represent a greater entanglement of friendship, trust, and emotional comfort, FWBs are distinct from notions of hooking up in some aspects. Namely, hookup scenarios do not implicitly include a friendship relationship component as a condition.

### Hooking Up as Contemporary Casual Sex

There are also a large number of colloquial expressions used to describe uncommitted sexual behavior, including labels like “no strings attached” (NSA) sex, “casual encounters,” and “one-night stands.” It is important to explore whether, and in what context, these phrases (e.g., NSA) are really interchangeable with “hookups.” Hookups are different from infidelity

situations (extrapair copulations), in which an individual engages in sex with an extrarelational partner, but is still functionally committed to the relationship partner. However, some sexual subcultures with open relationships actually allow extrarelationship casual sex without considering it to be a betrayal. For instance, the frequency of open relationships among gay men, where extrarelational casual sex is permissible, has been estimated as high as 60% (Hoff & Beougher, 2010). In a sample of 2027 gay men from Australia, although 15% had no sexual relationship at time of the survey, 30% of men had a “regular” monogamous relationship partner, 23% had a casual sex partner, and 32% had both a regular (open relationship) partner and casual sex (Zablotska, Frankland, Prestage, Down, & Ryan, 2008). In these cases, some extrapair encounters may constitute uncommitted hookups, albeit not among “singles.”

Across gender, ethnicity, or sexual orientation, nearly all adult Americans experience sexual activity, including sex beyond the context of a marital union (Finer, 2007; Garcia & Kruger, 2010; Herbenick et al., 2010). It is important to note that uncommitted sex and one-night stands have been studied outside the current “hookup culture” frame (Boswell & Spade, 1996; Cates, 1991; Hatfield et al., in press; Maticka-Tyndale, 1991). Uncommitted sexual encounters became a topic of particular scientific interest beginning in the mid 20th century (Ellis, 1958; Kinsey, Pomeroy, & Martin, 1948; Kinsey, Pomeroy, Martin, & Gebhard, 1953), and especially during the sexual liberation period of the 1960s and 1970s (Altman, 1971, 1982). Attention to casual sexual encounters among men who have sex with men also emerged as an area of study during the AIDS epidemic in the 1980s until today. Yet, this larger casual sex literature has remained largely disjointed from investigations of “hookups.” Research (especially from a public health perspective) on brief uncommitted sexual behaviors outside of traditional relationships extends well beyond heterosexual collegiate populations, including same-sex sexual behaviors among men who have sex with men. These complementary literatures and approaches should be integrated into the future study of hookup behavior, because the study of human sexuality must consider the vast range of variation and potential in human sexual behaviors.

A case in point, findings from the National Survey of Sexual Health and Behavior identified a much higher rate of American men and women who had ever engaged in same-sex sexual behavior compared to those who identify with a homosexual orientation (see Herbenick et al., 2010, for a detailed account of same-sex and opposite sex sexual behavior in the United States by age group). This raises an important, but as of yet unanswered, question: If a proportion of *heterosexual* Americans have at some point engaged in at least one same-sex sexual encounter, is the context of such a scenario a hookup? Although speculative, it seems most probable that many such encounters are sexual experiments and uncommitted, but investigations of how this relates to the larger hookup culture are sorely lacking.

### Frequency of Hooking Up

A vast majority of today’s young adults, from a wide range of college student populations studied so far, report some personal “casual” sexual experience (Bogle, 2008; England, Shafer, & Fogarty, 2007; Fielder & Carey, 2010a; Fisher, Worth, Garcia, & Meredith, 2012; Garcia & Reiber, 2008; Welsh, Grello, & Harper, 2006; Gute & Eshbaugh, 2008; Hatfield et al., in press; Lambert, Kahn, & Apple, 2003; Lewis et al., 2011; Paul et al., 2000). The most recent data suggest that between 60% and 80% of North American college students have had some sort of hookup experience. This is consistent with the view of emerging adulthood (typical college age) as a period of developmental transition (Arnett, 2000), exploring and internalizing sexuality and romantic intimacy, now including hookups (Stinson, 2010).

Although much of the current research has been done on college campuses, among younger adolescents, 70% of sexually active 12–21 year olds reported having had uncommitted sex



within the last year (Grello, Welsh, Harper, & Dickson, 2003). Similarly, in a sample of seventh, ninth, and 11th graders, 32% of participants had experienced sexual intercourse and 61% of sexually experienced teenagers reported a sexual encounter outside the context of a dating relationship; this represents approximately one fifth of the entire sample (Manning, Giordano, & Longmore, 2006).

### Hookup Venues

Among college students, hookups have been reported in a variety of college settings. One study of students' perceptions of hookups reported that 67% occur at parties, 57% at dormitories or fraternity houses, 10% at bars and clubs, 4% in cars, and 35% at any unspecified available place (Paul & Hayes, 2002). In addition to college campus locations, spring break and holidays have been a time many individuals, particularly emerging adults, will purposely plan to experiment or engage in uncommitted sexual activity and other high-risk behaviors (Josiam, Hobson, Dietrich, & Smeaton, 1998). In a study of Canadian college students on spring break, of those explicitly planning to participate in casual sex, 61% of men and 34% of women engaged in intercourse within a day of meeting a partner (Maticka-Tyndale, Herold, & Mewhinney, 1998). This is echoed in another more recent report, where regardless of relationship status, approximately 30% of participants had sex with someone they met on spring break (Sönmez et al., 2006). Such settings may help facilitate a preexisting desire for hookups (i.e., playful atmosphere and presence of alcohol).

More generally, in a sample of sexually experienced men and women, participants indicated a variety of settings where they met someone with whom they had casual sex: 70% at a party, 56% at a singles bar, 43% while away on vacation, 28% at a dance, 7% while away on business, and 5% on a blind date (Herold & Mewhinney, 1993). In addition to sharing common social venues with heterosexuals, gay men and other men who have sex with men have an expanded array of venues in which hookups may occur. Research specifically sampling gay men and other men who have sex with men have similarly found bars to be common places for gay men to meet, socialize, and find others for casual sexual encounters (Mustanski, Lyons, & Garcia, 2011). Although uncommitted sex among gay men occurs in a variety of locations, antigay prejudice and structural heterosexism can limit the availability of supportive and safe options for connecting with other men (Harper, 2007). Consequently, more anonymous, sometimes public, spaces have been an alternative for some gay men. In a sample of 508 gay and bisexual men in college (all under the age of 30), nearly one third admitted to meeting partners in anonymous places (i.e., bathhouses, restrooms, gyms, bookstores, movies, parks, the street, or other public places) (Seage et al., 1997). Public cruising areas, Internet cruising networks, and bathhouses are somewhat popular venues (although by no means archetypal) for explicitly initiating uncommitted sex among men who have sex with men (Binson et al., 2001). These are not findings that seem to be prevalent among lesbians and women who have sex with women or among heterosexual hookups.

### Theoretical Frameworks for Hookup Research

An interdisciplinary biopsychosocial model can synthesize traditionally disconnected theoretical perspectives and provide a more holistic understanding of hookup culture. Hatfield et al. (in press) state that

while many scholars emphasize cultural factors and others emphasize evolutionary factors, increasingly most take a cultural and biopsychosocial approach—pointing out that it is the interaction of culture, social context, personal experience, and biological factors that shape young people's attitudes and willingness to participate

in casual sexual encounters. Which of these factors prove to be most important depends on culture, personality, gender, and social context. (pp. 3–4)

Some empirical studies of hookup behavior have also advocated multifactorial approaches (Eshbaugh & Gute, 2008; Garcia & Reiber, 2008).

Evolutionary and social models often generate parallel hypotheses about uncommitted sex, although “each addresses a different level of analysis” (Fisher et al., 2012, p. 47). Using two midlevel theories, Fisher et al. (2012) explained that “parental investment theory is an example of an ultimate level of explanation, while social role theory is an example of a proximate level, although each leads to the same prediction” (p. 47). They argued that evolution may be most helpful in exploring the reproductive motive, and sexual scripts may be useful in exploring the cultural discourse agenda. That is, evolutionary biology influences *why* emerging adults engage in uncommitted sex and the way young men and women react to these encounters (ultimate level explanations). At the same time, social roles and sexual scripts influence *how* emerging adults navigate their desires in a particular socio-cultural context (proximate level explanations). For instance, that religiosity (religious feelings and attendance at religious services) was related to lower frequency of engaging in intercourse during a hookup encounter (Penhollow, Young, & Bailey, 2007) may be envisioned as an adaptive sociocultural constraint. Or, that high degrees of closeness to peer social networks and peer communication about hookups was associated with more sexual hookups (Holman & Sillars, 2012) may be considered as a facultative response to adaptively react to peer expectations and local norms.

It is important to point out that many sociocultural theorists disagree with the idea that culture offers only a proximate level explanation for human sexual behavior. However, it is not the goal of this review to resolve this debate. Instead, we attempt to articulate better the multitude of factors that shape the rich variety of human sexuality to enhance understanding of uncommitted sex among emerging adults. In the next two sections, we will introduce both evolutionary and social script views of uncommitted sex, to simultaneously consider the influence of each on hookup culture.

### Evolution and “Short-Term” Sexual Behavior

Human evolutionary behavioral studies attempts to explain sexual behavior by understanding our evolutionary history and how this may influence behavioral patterns in a given environment. There are several *different* midlevel evolutionary or biological theories about the nature of human sexual behavior. These theories seek to understand the way evolutionary pressures influence human sexual propensities, variation, and, in some cases, sex differences. This logic is based on the premise that, compared to asexual reproduction, sexual reproduction is quite costly. Sexually reproducing organisms pay many costs, including the time, energy, and resources spent in finding and attracting mates—tasks that are unnecessary for asexual reproducers (Daly, 1978). Offsetting the costs of sexual reproduction in large-bodied organisms is the benefit sexual reproduction provides against easy colonization by parasites and pathogens (Van Valen, 1973). Sexual reproduction scrambles up genes, creating genotypes that are novel environments and forcing the parasites and pathogens to begin anew in their quest to exploit the host. Thus, large-bodied organisms with long lifespans generally benefit evolutionarily from sexual reproduction despite its substantial costs.

Sexual reproduction is characterized by sexes—generally male and female—whose evolutionary best interests differ because their potential reproductive rates differ (Clutton-Brock & Parker, 1992). In humans, producing a viable offspring, from gestation through lactation, takes females longer than it takes males. The sex with the faster potential

reproductive rate—generally males—can benefit by attempting to co-opt the reproductive effort of multiple members of the opposite sex. However, the sex with the slower potential reproductive rate—generally females—will be operationally in short supply relative to the sex with the faster potential reproductive rate, simply because it takes them longer to complete a reproductive venture.

According to evolutionary theorists, this discrepancy in reproductive rate between the sexes sets up general predictions about sex-specific mating behaviors (Bateman, 1948; Clutton-Brock & Parker, 1992; Trivers, 1972). Males are predicted to compete for access to the reproductive potential of the slower sex; this generates expectations of psychological and physical adaptations in males that enhance their chances of success, including aggression and an array of physical features (e.g., large size, musculature, physical weaponry like antlers) that would assist them in competing with other males for access to females. Females are predicted to be choosy concerning their mates because they invest more in each offspring, and they stand to lose more if they make a poor reproductive choice. Relative parental investment costs are thought to be the arbiters of mating behaviors (Trivers, 1972). Thus in sex role reversed species where males provide a majority of parental support, it is females that are then expected to compete more for mates and be more indiscriminate in their mating (Alcock, 2005). Generally, females choose mates on the basis of whatever is most important to the success of the reproductive venture—at the least, good genes for the offspring, but often for particular resources with which to provision offspring, protection, and/or apparent willingness to assist in parenting. Because females choose males on the basis of critical features and resources, males are expected to compete with other males to acquire and display these features and resources. This provides a basic framework with which to begin, and in humans we expect complex cognitive processes to be overlaid on it.

In terms of applying this logic to human sexual behavior and in particular sexual hookups, uncommitted sex has most often been interpreted in evolutionary terms as a fitness-enhancing short-term mating strategy (Buss, 1998; Buss & Schmitt, 1993). In this view—sexual strategies theory—men prefer as many mates as possible, including short-term sexual encounters that can potentially maximize reproductive output. Men will attempt to mate with a maximum number of partners (sexual variety), consent to sex more quickly than women, and provide minimal resources to any but long-term partners, only conceding to a long-term relationship for the purposes of enhancing offspring vitality (Symons, 1979; Buss, 1998). Also in this view, women are expected to prefer long-term relationships to extract a maximum amount of resources from mates. Women will engage in short-term sex when it is typically viewed as an infidelity to obtain better quality genes for offspring (Gangestad & Thornhill, 1997). That is, sexual strategies theory (a midlevel theory within the larger evolutionary metatheoretical framework) does allow for *both* men and women to engage in long-term and short-term sexual behaviors, but for sex-specific evolutionary reasons (Buss & Schmitt, 1993; Schmitt et al., 2003). In Petersen and Hyde's (2010) thorough meta-analytic review of gender differences in sexuality research (834 individual studies and 7 national data sets, across 87 countries), men and women are more similar than different in a majority of sexual behaviors. The exceptions, yielding the greatest effect sizes, included men's greater permissiveness toward casual sex behavior and casual sex attitudes. This mirrors an earlier review finding that gender differences in attitudes toward casual sex were some of the most pronounced differences of all sexual behaviors (Oliver & Hyde, 1993).

In measuring propensities for nonrelational sex, a variety of studies conducted within North America have demonstrated that men consistently have higher sociosexuality scores than women (Schmitt, 2005). Research on sociosexuality has suggested individual differences in disposition toward engaging in sexual behavior and exhibitionism, with some individuals more permissive (unrestricted) and some nonpermissive (restricted) about sexual frequency



(Simpson & Gangestad, 1992). Individuals with more permissive sociosexuality rate physical attraction as more important than other characteristics in a potential partner (Simpson & Gangestad, 1992). Several scholars have argued that the degree to which evolution shapes mating behaviors, including sociosexuality, will be contingent on particular environmental conditions (Frayser, 1985; Low, 2000; Schmitt, 2005). To support the idea that sociosexuality is likely a combination of evolved sex-specific mating strategies and social structural factors, in a study of over 200,000 participants from 53 nations, Lippa (2009) demonstrated that although consistent sex differences emerged, gender equality and economic development tended to predict the magnitude of sex differences in sociosexuality (more permissive). Similarly, Wood and Eagly (2002) have endorsed a biosocial model for understanding sex differences cross-culturally that takes into account multiple levels of analyses, including biological constraints alongside social and economic constraints.

In support of evolved sexual strategies, in a cross-cultural study of 16,288 individuals across 52 nations, Schmitt et al. (2003) showed that on average men self-report a greater desire for sexual partner variety than women, regardless of relationship status (married or single) or sexual orientation (heterosexual or homosexual). Using the short-term seeking measure (asking participants on a 7-point scale whether they are actively seeking a short-term mate), they reported that, in North America, relatively more men (65.2%) than women (45.4%) fall into the category of seeking short-term mates *in any way* (any score above 1 on the scale). Of note, using the cross-cultural responses of those who are single (excluding those currently involved in a relationship), 79.3% of men and 64.0% of women reported seeking a short-term mate in some way. Evolutionary-inclined researchers have often used these findings to point to the adaptive nature of sex-specific mating strategies (see Schmitt, 2005). These data demonstrate fairly modest relative sex differences in propensities toward sex beyond a committed relationship—which are indeed important to document. Yet, a cross-cultural sex difference of 15.3% in number of single men and single women interested in seeking a short-term mate does not necessarily reveal discreet sex-specific (short-term) mating strategies per se. This is especially true considering that, compared to males, the relative risks of sexual behavior are higher for females: unintended pregnancy, increased transmission of disease, and greater susceptibility to sexual violence. Although there is a reasonable proportional difference between sexes, there are still nearly two thirds of unpartnered women interested in uncommitted sex and over one fifth of unpartnered men who are not interested in this activity. In short, there is significant overlap between the sexes and significant variation within the sexes. All things considered, the simplest expectation is that evolutionary processes will result in both men and women desiring both sex and pair-bonding. Extrarelational sex is part of the human mating repertoire, as is pair-bonding. Individuals have competing sexual and relational motivations at any given time, which should be expected to go in one direction or the other, depending on an individual's environmental context.

The popularity of hooking up among *both* men and women presents a problem for approaching human sexuality purely from the perspective of sexual strategies theory. That both men and women are engaging in this behavior at such high rates is not consistent with the model. Homosexual relationships also presents a quandary for sexual strategies theory. Although the proportion of gay men in open relationships seems to support the theory (i.e., males are more sexually eager), the expectation that males should mate-guard their partners to prevent sexual infidelity cannot simultaneously coexist with such prevalence of open relationships among gay men.

Several evolutionary scholars have started to question the ability of sexual strategies theory to accurately reflect patterns of short-term sex in a shifting ecological context, and they have proposed alternative evolutionary approaches (Gangestad & Simpson, 2000; Li & Kenrick,

2006; Garcia & Reiber, 2008; Fisher, 2011; Pedersen, Putcha-Bhagavatula, & Miller, 2011). For instance, Li and Kenrick (2006) have pointed to the benefits of using an evolutionary economic model of tradeoffs to understand sex differences in willingness to engage in short-term sex, and sex similarities in prioritization of short-term partners. Using biological and cross-cultural evidence, Fisher (1992, 2011) has argued humans possess a dual reproductive strategy of social monogamy (serial or long-term) and clandestine adultery. Pedersen et al. (2011) applied attachment fertility theory and demonstrated relatively few sex differences, arguing that predictions from sexual strategies theory are not consistent with their data. In their comparison of theoretical models, they found that attachment fertility theory

posits that short-term mating and other forms of mating outside of pair-bonds *are natural byproducts* of a suite of attachment and care-giving mechanisms... selected for in human evolutionary history to ultimately enable men and women to seek, select, create, and maintain a pair-bond... pointing to an increasingly coherent picture of the underlying biological and chemical systems involved... that generally operate similarly for men and women. (Pedersen et al., 2011, p. 639)

If humans possess a fairly flexible sexual repertoire, yet pair-bonding is essential, this sets the stage for a conflict between competing motivational drives that are fine tuned to particular environments.

In accordance with an evolutionary model, the simplest, most general prediction is that men will be relatively more competitive and sexually eager, and that women will be relatively choosier. Further, in accordance with an evolutionary model emphasizing pair-bonding, *both* men and women will have competing motivational drives for sexual engagement and pair-bond formation. This might assume that penetrative sexual intercourse between fertile men and women entails a sizable risk of reproduction for females—an assumption that simply no longer applies to humans in the 21st century. In contemporary industrialized cultures, pleasurable sexual behaviors can be divorced from reproduction and used for other purposes, including social standing and simple enjoyment, among others. Contraception and reproductive technologies allow women greater control over reproduction, but this should not be enough to *completely* overwrite millions of years of evolutionary pressure to shape certain aspects of mating psychology. Rather, in these contemporary conditions, those who use contraception to optimize their reproductive output may well be evolutionarily favored. Women could, for example, use contraception to control the timing of pregnancies in ways that maximize the chance of success, or ensure parentage by favored males over lesser-quality mates. And males too may be able to control siring a child and the cross-culture expectation of fatherhood (see Gray & Anderson, 2010, for a review on evolution and fatherhood). Thus, contraception is simply an additional feature of the environment of reproduction, and males and females are expected to attempt to manipulate it in their own favor. Psychological adaptations that support the “choosy female” strategy are still evident, even when individuals choose to engage in nonreproductive sexual behavior. However, the ability to divorce sex from reproduction should allow for less discrepancy between males and females in willingness to engage in uncommitted sex and negotiations of both sexual and romantic desires. Clearly, the evolved reproductive motive involves both sexes desiring sex and desiring pair-bonds, but having different ways of obtaining each and different prioritizations for each.

### **Sexual Scripts and Uncommitted Sex**

Sexual script theory suggests that our sexual behaviors are dictated by a set of “scripts” that are used to organize and interpret sexual encounters into understandable conventions (Simon & Gagnon, 1986). Scripts, particularly gender-normative ones, dictate behaviors, such as who does what and when in context (e.g., men ask women on a date, men pay the bill on a

first date, men initiate sex after date). The most widely produced and promoted cultural sexual scripts are heterosexual in nature and include those focused on male roles (Kim et al., 2007; Tolman, 2006; Ward, 1995). For men, sex is portrayed as central to male identity, men prefer nonrelational sex, and men are active sexual agents. Women are portrayed as sexual objects, sexually passive compared to men, and women act as sexual gatekeepers. Sexual script theory is generally vague when it comes to origins, focusing more on descriptions of scripts. Wiederman (2005), Phillips (2000), and Jhally (2007) have argued that scripts are not only sexualized but also gendered, with underlying sexual messages being noticeably different for men and women. Many researchers (Jhally, 2007; Kim et al., 2007; Phillips, 2000; Ward, 1995) have favored culture and subculture environment elements such as popular media (i.e., television, films, magazines) as the origin of gendered sexual scripts. But this does little to explain why the media industry produces these scripts in the first place. It is not by accident that consumer behavior can be well-explained by those products most salient to human survival and reproduction, and why messages of love and sex are among the most producible (Saad, 2007). But, on their own, both the evolutionary perspective and the social scripts perspective have thus far been inadequate in fully unpacking the origin of sexual messages, their propagation, and their social retention. Without identifying a primary, hierarchal, origin, it is likely that media is reflecting actual behavioral change in a circular way—media is a reflection of our evolutionary penchants, further exaggerated and supported by the presumption that it is popular.

Images of a polymorphous sexuality that decenters the reproductive motive and focuses instead on sexual pleasure are consistently appearing in popular media. In music lyrics, for example, although opera arias and art songs have contained messages about reproduction and mating for more than 400 years, it is contemporary music lyrics where an erotic uncommitted sexuality has predominated (Hobbs & Gallup, 2011). Some popular portrayals go against the popular trend, such as *American Idol* star Kelly Clarkson's Billboard Hot 100 song "I Do Not Hook Up," released in 2009, cowritten and covered under the title "Hook Up" by American singer-songwriter Katy Perry. Other representations celebrate sexual liberation, such as Kylie Minogue's "All the Lovers" and Madonna's frequent reversal of male sexual dominance (Guilbert, 2002). Hobbs and Gallup (2011) performed a content analysis of song lyrics from Billboard's Top Ten charts for Country, Pop, and R&B. They found that of 174 different songs in the Top Ten lists from 2009, 92% contained messages about reproduction or mating, with the best-selling songs containing more such messages than less-successful songs: "the ubiquitous presence of these reproductive themes is a reflection of evolved properties in the human psyche, where people are voting with their pocket books and listener preferences are driving the lyrics" (Hobbs & Gallup, 2011, p. 404). It seems plausible that sexual scripts in popular entertainment media are exaggerated examples of behaviors that are taken to an extreme for the purposes of media sensationalism and activation of core guttural interests.

Conflicting gendered scripts may contribute to mixed perceptions and expectations of hookups. In a detailed qualitative study of girls' first sexual experiences, Phillips (2000) made the case that conflicting media discourse messages make it difficult for women to navigate sexual initiation. The first sexual experiences described by the 30 participants were almost all quite negative (and, in some cases, horrific). Girls receive conflicting messages about being a "good girl" and a "pleasing woman," but also a "together woman." A "together woman" is agentic and experienced, such as the character Samantha from *Sex in the City*, who is sexually assertive and displays a strong, almost stereotypically masculine desire discourse. Many women find the discrepant messages difficult to navigate: to be a good girl, to be a "Samantha," or to try and be both. Messages often portray the sexually assertive woman as a woman who has extreme difficulty in being genuine and having a meaningful romantic relationship. Psychoanalytic analysis views this conflict as the

Madonna–whore dichotomy, where women face challenges in being viewed as both a sexually expressive being and a maternal committed being, and at the same time their romantic or sexual partners face challenges with categorizing women as one or the other (Wellson, 1988). Presumably, these same conflicting discourse messages can make it difficult for individuals to psychologically navigate hookups, including sexual decision-making.

There seems to be inconsistency in the scripts pertaining to the casualness and emotional investment in casual sexual encounters. An example of this disconnect is presented by Backstrom, Armstrong, and Puentes (2012), whose study examined the responses of 43 college women who described their difficulties in their negotiations of cunnilingus, such as desiring it in a hookup or not desiring it in a relationship. As another example, a qualitative study of men’s hookup scripts also displayed inconsistency in casualness (Epstein, Calzo, Smiler, & Ward, 2009). Men easily described stereotypic hookups and FWBs as nonrelational and noncommitted, and in an oppositional fashion compared to romantic committed “dating-esque” relationships. Yet, in interviews, participants also expressed distinct discomfort with these extrarelational scripts. Men voiced alternative definitions that highlighted emotional connection and the potential for committed romantic relationships.

While contrary to no-strings attached hookup discourse, these alternative romance and commitment-oriented scripts are not surprising. Similar discourse messages are present in other aspects of popular media. This is consistent with Phillips’s (2000) conclusion that media messages are contradictory. In addition to media focused on casual sex, emerging adults have simultaneously been fed a Disney film diet with romantic relational scripts in which men and women live happily ever after, as heterosexual love conquers all (Tanner, Haddock, Zimmerman, & Lund, 2003). It is curious that, although purporting to regale the audience with nonrelational sex, the previously mentioned films *Friends with Benefits* and *No Strings Attached* also highlight this; in the end, couples in both movies actually end up in seemingly monogamous romantic relationships. Although the evolutionary reproductive motives produce contradictory motivations, for both short-term sex and long-term commitment, some media scripts apparently do the same.

## Hookups as More Than “Just Sex”

Despite the high prevalence of uncommitted sexual behavior, emerging adults often have competing nonsexual interests. In a study of 681 emerging adults, 63% of college-aged men and 83% of college-aged women preferred, at their current stage of life or development, a traditional romantic relationship as opposed to an uncommitted sexual relationship (Garcia, Reiber, Merriwether, Heywood, & Fisher, 2010). Although there is a proportional sex difference, note that a substantial majority of both sexes would prefer a romantic relationship, despite their particular developmental stage of emerging adulthood. In another survey of 500 students who all had experiences with hookups, 65% of women and 45% of men reported that they hoped their hookup encounter would become a committed relationship, with 51% of women and 42% of men reporting that they tried to discuss the possibility of starting a relationship with their hookup partner (Owen & Fincham, 2011). The gender differences observed are modest, and point to the convergence of gender roles in hookup culture; even though there are some gender differences, it should not be ignored that the curves overlap significantly.

Just as the discourse of hooking up is often in conflict with itself, individuals often self-identify a variety of motivations for hooking up. In one investigation of the concomitant motivations for hookups, Garcia and Reiber (2008) found that while 89% of young men and women reported that physical gratification was important, 54% reported emotional

gratification and 51% reported a desire to initiate a romantic relationship; there were no sex differences in the responses. That a substantial portion of individuals reported emotional and romantic motivations appears to be in apparent conflict with the sexual strategies framework discussed earlier, which predicts significant sex differences. However, this is not in conflict with an evolutionary pair-bond hypothesis, which suggests that humans desire both sex and romantic intimacy (Garcia & Reiber, 2008). Indeed, some hookups turn into romantic relationships. Paik (2010a) found that individuals in relationships that start as hookups or FWBs report lower average relationship satisfaction. However, this varied as a function of whether the participants initially wanted a relationship. If individuals were open to a serious committed relationship initially, relationship satisfaction was just as high as those who did not engage in (initially) uncommitted sexual activity prior to starting a relationship (Paik, 2010a). The entanglement of more intimate and emotional aspects with sex is something the romantic comedy movies mentioned earlier highlight.

Again in seeming contrast to the sex-specific mating strategies, contemporary hookup behavior involves a high degree of female sexual assertiveness for sexual desire and pleasure. In another study of self-reported motivations for hooking up, which included 118 female first-semester students, 80% indicated sexual desire, 58% spontaneous urge, 56% perceived attractiveness of the partner, 51% intoxication, 33% willingness of the partner, and 29% desire to feel attractive or desirable (Fielder & Carey, 2010a). Contrary to some media messages, individuals do not appear to be engaging in truly no-strings attached sex. Competing interests at multiple levels result in young adults having to negotiate multiple desires, and multiple social pressures. Again, the most fruitful explanation is that both men and women have competing sexual and romantic interests, with tremendous individual differences in such desires.

Not all sexual subcultures necessarily experience casual sex in the same “singles” context. As such, the simultaneous motivations for sex and romance may appear different. Beyond heterosexual hookups, casual sex (not necessarily referred to as “hookups”) has been reported to be a normative sexual script among men who have sex with men. Despite the existence of casual sex and open relationships among gay men, there is also a strong desire for romantic and companionate attachment (Clarke & Nichols, 1972). Early ethnography by Cory (1951; also known as Edward Sagarin) described sections of gay culture as being “brought together, driven by the sensual impulse, seeking new forms and new partners for the love of the flesh, hoping to find excitement and satisfaction...” (p. 115). The origins of these pro-sex scripts have been theorized to be due to a subculture focused on male sexuality (Mealey, 2000). Another explanation is the social relegation of gay men to the status of “deviant,” limiting access to socially sanctioned relationship scripts. However, discourse surrounding monogamy in gay relationships does demonstrate simultaneous desires for sexual variety and commitment, representing a kaleidoscope of issues about trust, love, and sexual behavior (Worth, Reid, & McMillan, 2002). Because same-sex relationships are naturally removed from the reproductive motive, it may be possible that part of the larger hookup culture is borrowed from sexual subcultures involving greater emphasis on the positive erotic.

### Hookup Culture and Sexual Risk

The negative consequences of hookups can include emotional and psychological injury, sexual violence, sexually transmitted infections, and/or unintended pregnancy. Despite various health risks, in a qualitative study of 71 college students (39 women and 32 men), nearly half of participants were unconcerned with contracting a sexually transmitted infection from penetrative intercourse during a hookup, and a majority were unconcerned about diseases in hookups that included fellatio or cunnilingus (Downing-Matibag & Geisinger, 2009). Most students reported not considering or realizing their own health risks



during hookups, particularly those that occurred within their own community such as with someone else on their own college campus. Compounding disease risks, individuals involved in hookups are more likely to have concurrent sexual partners (Paik, 2010b). In a sample of 1,468 college students, among the 429 students who had engaged in oral sex, anal sex, or vaginal intercourse in their most recent hookup, only 46.6% reported using a condom (Lewis et al., 2011). Although, in Paul et al.'s (2000) study, conducted nearly a decade earlier, of those hookups that included sexual intercourse, a higher, yet still too low, 81% of participants reported using a condom. Among women in their first semester of college, Fielder and Carey (2010a) reported that condoms were used for 0% of oral sex hookups, and only 69% of vaginal sex hookups. Health-based hookup research like this may lead to programs for correcting misperceptions of sexual risk and sexual norms to ultimately restore individual locus of control over sexual behavior, reproductive rights, and healthy personal decision-making.

### Prevalence of Alcohol and Drugs

In addition to sexual risk-taking, in terms of low condom use, another issue of concern involving hookups is the high comorbidity with substance use. As part of a larger study, in a sample of several thousand individuals aged 15–25, men and women who had used marijuana or cocaine in the last 12 months were also more likely than nonusers to have had nonmonogamous sex in the past 12 months (van Gelder, Reefhuis, Herron, Williams, & Roeleveld, 2011)—although an operational definition for these presumably uncommitted partnerships was not discussed. More specifically, in one study of undergraduate students, 33% of those reporting uncommitted sex indicated their motivation was “unintentional,” likely due to alcohol and other drugs (Garcia & Reiber, 2008). In Fielder and Carey's (2010a) study among 118 first-semester female college students, participants reported that 64% of uncommitted sexual encounters follow alcohol use, with a median consumption of 3 alcoholic drinks. Similarly, another study employing a web-based survey found that nearly 61% of undergraduate students used alcohol, with an average of 3.3 alcoholic drinks, during their most recent hookup (Lewis et al., 2011). Further, in a study based on 71 interviews with college students, nearly 80% indicated that alcohol was involved in initiating their most recent hookup, with 64% attributing the progression and extent of the hookup to alcohol (Downing-Matibag & Geisinger, 2009). Alcohol use has also been associated with type of hookup: greatest alcohol use was associated with penetrative sexual hookups, less alcohol use with nonpenetrative hookups, and least amount of alcohol use among those who did not hookup (Owen, Fincham, & Moore, 2011). In one study of men and women who had engaged in an uncommitted sexual encounter that included vaginal, anal, or oral sex, participants reported their intoxication levels: 35% were very intoxicated, 27% were mildly intoxicated, 27% were sober, and 9% were extremely intoxicated (Fisher et al., 2012). Alcohol and drug use drastically increases the overall risks of sexual activity (Abbey, Ross, McDuffie, & McAuslan, 1996). Alcohol may also serve as an excuse, purposely consumed as a strategy to protect the self from having to justify hookup behavior later (Paul, 2006). This paints a picture very different from popular representations of alcohol and substance use in hookups, which are often handled with a detached air of humor. For instance, the interactive book *Hookups & Hangovers: A Journal* (Chronicle Books, 2011) is playfully described by the publisher: “here to help piece together all the hilarious and humiliating details of last night's party. Playful prompts—including ‘Where did I wake up?’ and ‘So drunk, I can't believe I...’ as well as space to rate your hookups and hangovers—make this guided journal the perfect accessory for the morning after.” These findings raise several concerns about the occurrence of hookups and the psychological impact such behaviors have on the individuals involved.

Although alcohol and drugs are likely a strong factor, it is still largely unclear what role individual differences play in shaping decisions to engage in hookups. In a sample of 394 young adults, the strongest predictor of hookup behavior was having previously hooked up—those who engaged in penetrative sex hookups were approximately 600% more likely than others to repeat this over the course of a university semester (Owen et al., 2011). Other factors may include media consumption, personality, and biological predispositions. Garcia, MacKillop, et al. (2010) demonstrated an association between the dopamine D4 receptor gene polymorphism (DRD4 VNTR) and uncommitted sexual activity among 181 young men and young women. Although genotypic groups in this study did not vary in terms of overall number of sexual partners, individuals with a particular “risk-taking” variant of the dopamine receptor D4 gene (DRD4 VNTR; also associated with substance abuse) were shown to have a higher likelihood of having uncommitted sexual encounters (including infidelity and one-night stands)—however, no sex differences were observed. This suggests that biological factors that contribute to motivating the different *contexts* of sexual behavior for *both* men and women may be fairly sexually monomorphic (Garcia, Reiber, et al., 2010). This may, in some cases, point to fairly stable individual differences.

### Hookup Culture and Psychological Well-Being

The discrepancy between behaviors and desires, particularly with respect to social–sexual relationships, has dramatic implications for physical and mental health. Despite widespread allure, uncommitted sexual behavior has been shown to elicit a pluralistic ignorance response promoting individuals to engage in behaviors regardless of privately feeling uncomfortable with doing so (Lambert et al., 2003; Reiber & Garcia, 2010). Individuals overestimate others’ comfort with hookups and assign variable meanings to those behaviors (Lambert et al., 2003; Reiber & Garcia, 2010). Misperception of sexual norms is one potential driver for people to behave in ways they do not personally endorse. In a replication and extension of Lambert et al.’s study (2003), Reiber and Garcia (2010) found that 78% of individuals overestimated others’ comfort with many different sexual behaviors, with men particularly overestimating women’s actual comfort with a variety of sexual behaviors in hookups.

Hookup scenarios may include feelings of pressure and performance anxiety. In Paul et al.’s (2000) study on hookups, 16% of participants felt pressured during their typical hookup. In this sample, 12% of participants felt out of control when penetrative intercourse was not involved while 22% percent felt out of control when sexual intercourse took place. Note that this study asked participants about typical hookups, and although this was informative for general patterns, it does not capture specific factors influencing specific individual scenarios. That is, it is unclear how one might rate a “typical” hookup if, for instance, one instance involved sexual coercion and regret while other hookup experiences before and/or after such an event were consenting and more enjoyable. In a multiethnic sample of 109 women, hookup scripts were compared to rape scripts, and, even though hookup scripts contained psychological consequences such as shame, a majority did not presume sexual assault (Littleton, Tabernik, Canales, & Backstrom, 2009). Further, in a qualitative study that asked 187 participants to report their feelings after a typical hookup, 35% reported feeling regretful or disappointed, 27% good or happy, 20% satisfied, 11% confused, 9% proud, 7% excited or nervous, 5% uncomfortable, and 2% desirable or wanted (Paul & Hayes, 2002). However, this same study found that feelings differed during compared to after hookups: during a typical hookup, 65% of participants reported feeling good, aroused, or excited, 17% desirable or wanted, 17% nothing in particular or were focused on the hookup, 8% embarrassed or regretful, 7% nervous or scared, 6% confused, and 5% proud (Paul & Hayes, 2002). Just as multiple motivations can be in conflict, and multiple discourse

messages can be in conflict, individuals' affective reactions during and after a hookup can be in conflict.

An individual history of hookup behavior has been associated with a variety of mental health factors. In a recent study of 394 young adults followed across a university semester, those participants with more depressive symptoms and greater feelings of loneliness who engaged in penetrative sex hookups subsequently reported a reduction in both depressive symptoms and feelings of loneliness (Owen et al., 2011). At the same time, those participants who reported less depressive symptoms and fewer feelings of loneliness who engaged in penetrative sex hookups subsequently reported an increase in both depressive symptoms and feelings of loneliness (Owen et al., 2011). In another study, among 291 sexually experienced individuals, those who had the most regret after uncommitted sex also had more symptoms of depression than those who had no regret (Welsh et al., 2006). However, in the same sample, women's but not men's degree of depressive symptoms increased with number of previous sex partners within the last year (Welsh et al., 2006). In the first study to investigate the issue of self-esteem and hookups, *both* men and women who had ever engaged in an uncommitted sexual encounter had lower overall self-esteem scores compared to those without uncommitted sexual experiences (Paul et al., 2000). The potential causal direction of the relationship between self-esteem and uncommitted sex is yet unclear (Paul et al., 2000; Fielder & Carey, 2010b).

Hookups can result in guilt and negative feelings. In a study of 169 sexually experienced men and women surveyed in singles bars, when presented with the question "I feel guilty or would feel guilty about having sexual intercourse with someone I had just met," 32% of men and 72% of women agreed with the statement (Herold & Mewhinney, 1993). The percentage of women expressing guilt was more than twice that of men. This is consistent with a classic study by Clark and Hatfield (1989), which demonstrated that men are much more likely than women to accept casual sex offers from attractive confederates. Conley (2011) replicated and extended this finding, demonstrating that, under certain conditions of perceived comfort, the gender differences in acceptance of casual sex is diminished. In a study of 333 men and 363 women on a college campus, in deliberate hookup situations women had more thoughts of worry and vulnerability than men (Townsend & Wasserman, 2011). Moreover, as number of sex partners increased, marital thoughts decreased, for both sexes (Townsend & Wasserman, 2011).

Qualitative descriptions of hookups reveal relative gender differences in terms of feelings afterward, with women displaying more negative reactions than men (Paul & Hayes, 2002). This is also consistent with earlier work demonstrating a gender difference, with women generally identifying more emotional involvement in seemingly "low investment" (i.e., uncommitted) sexual encounters than men (Townsend, 1995). Moreover, in a study of 140 (109 female, 31 male) first-semester undergraduates, women, but not men, who had engaged in penetrative intercourse during a hookup showed higher rates of mental distress (Fielder & Carey, 2010b). Possibly contributing to findings on gender differences in thoughts of worry, in a sample of 507 undergraduate students, more women than men leaned toward a relationship outcome following a hookup. Only 4.4% of men and 8.2% of women (6.45% of participants) expected a traditional romantic relationship as an outcome, while 29% of men and 42.9% of women (36.57% of participants) ideally wanted such an outcome (Garcia & Reiber, 2008). It is possible that regret and negative consequences result from individuals attempting to negotiate multiple desires. It is likely that a substantial portion of emerging adults today are compelled to publicly engage in hookups while desiring both immediate sexual gratification and more stable romantic attachments.

Not all hookup encounters are necessarily wanted or consensual. Individuals occasionally consent to engage in a sexual act but do not necessarily want sex (Peterson & Muehlenhard, 2007). In a sample of 178 college students, participants noted that a majority of their unwanted sex occurred in the context of hookups: 77.8% during a hookup, 13.9% in an ongoing relationship, and 8.3% on a date (Flack et al., 2007). Similarly, in a sample of 761 women students, approximately 50% of women reported at least one experience of unwanted sex (Hill, Garcia, & Geher, 2012). Of those women, 70% experienced unwanted sex in the context of a hookup and 57% in the context of a committed romantic relationship (Hill et al., 2012). Even more worrisome, a proportion of hookups also involve nonconsensual sex. In a study by Lewis et al. (2011), 86.3% of participants portrayed their most recent hookup experience as one they wanted to have, while 7.6% indicated that their most recent hookup was an experience they did not want to have or to which they were unable to give consent. Unwanted and nonconsensual sexual encounters are more likely occurring alongside alcohol and substance use.

### Hookup Regret

A number of studies have included measures of regret with respect to hookups, and these studies have documented the negative feelings men and women may feel after hookups. In a large web-based study of 1,468 undergraduate students, participants reported a variety of consequences: 27.1% felt embarrassed, 24.7% reported emotional difficulties, 20.8% experienced loss of respect, and 10% reported difficulties with a steady partner (Lewis et al., 2011). In another recent study conducted on a sample of 200 undergraduate students in Canada, 78% of women and 72% of men who had uncommitted sex (including vaginal, anal, and/or oral sex) reported a history of experiencing regret following such an encounter (Fisher et al., 2012). A vast majority of both sexes indicated having *ever* experienced regret. There were few sex differences in reasons for regret, and better quality sex reduced the degree of regret reported (Fisher et al., 2012). It appears the method of asking participants whether and when they had experienced regret (i.e., ever, last hookup, or typical hookup) produces a sex difference, but in terms of categorical presence, it is most emerging adults who have experienced a kaleidoscope of reactions. This is consistent with Stinson's (2010) message of sexual development requiring experimentation, including trial and error, and good feelings and bad feelings.

On average, both men and women appear to have higher positive affect than negative affect following a hookup. Those with positive attitudes toward hookups and approval of sexual activity show the greatest positive affect (Lewis et al., 2011). However, there are also negative consequences experienced by *both* sexes. In a study of 270 sexually active college-aged students, 72% regretted at least one instance of previous sexual activity (Oswalt, Cameron, & Koob, 2005). In a report of 152 female undergraduate students, 74% of women had either a few or some regrets from uncommitted sex: 61% had a few regrets, 23% had no regrets, 13% had some regrets, and 3% had many regrets (Eshbaugh & Gute, 2008). Further, categorical presence of uncommitted sex in a female's sexual history was related to higher overall regret scores from sexual activity, although regret due to lack of commitment was not specifically addressed. Two types of sexual encounters were particularly predictive of sexual regret: engaging in penetrative intercourse with someone known less than 24 hours and engaging in penetrative intercourse with someone only once. Among a sample of 1,743 individuals who had experienced a previous one-night stand, Campbell (2008) showed that most men and women have combinations of both positive and negative affective reactions following this event. Using evolutionary theory to predict responses of regret, Campbell (2008) showed that men had stronger feelings of being "sorry because they felt they used another person" whereas women had stronger feelings of "regret because they felt used." Again, both men and women had experienced some sexual regret, but the frequency and

intensity of negative reactions appeared to vary by sex, with women more negatively impacted from some hookup experiences.

There are substantial individual differences in reactions to hookups not accounted for by gender alone. Among a subsample of 311 young adults with hookup experience, when asked to generally characterize the morning after a hookup encounter, 82% of men and 57% of women were generally glad they had done it (Garcia & Reiber, 2008). The gap between men and women is notable, and demonstrates an average sex difference in affective reactions. Yet, this finding also conflicts with a strict sexual strategies model because more than half of women were glad they engaged in a hookup (and they were not in the context of commandeering extrapartner genes for offspring). With respect to scripts, although presumably being sexually agentic (e.g., the “Samantha”), only slightly more than half of women were actually generally glad they had hooked up, suggesting these encounters may not truly be pleasurable for all. Similarly, in a study of 832 college students, 26% of women and 50% of men reported a positive emotional reaction following a hookup, and 49% of women and 26% of men reported a negative reaction (the remainders for each sex had a mix of both positive and negative reactions; Owen et al., 2010). These findings accord with the social sexual double standard creating greater pressure for women (Crawford & Popp, 2003; Fisher et al., 2012). Although the direction of the sex differences is in agreement with the evolutionary model, that nearly a quarter of women report primarily positive reactions is inconsistent with a truly sex-specific short-term mating psychology and with discourse messages of uncommitted sex being simply pleasurable. Also inconsistent with both of these theoretical models is that a quarter of men experience negative reactions. Taken alone, neither a biological nor social model is sufficient to explain these individual differences.

Some research has considered the interactions of sex and individual differences in predicting hookup behavior. The Mating Intelligence Scale, designed to measure an individual’s cognitive abilities in the evolutionary domain of mating (see Geher & Kaufman, 2011), was used to assess hookup behavior in a sample of 132 college students. Young men higher in mating intelligence were more likely than others to have hooked up with strangers, acquaintances, and friends; while young women higher in mating intelligence were only more likely than others to have had more hookup experiences with acquaintances (O’Brien, Geher, Gallup, Garcia, & Kaufman, 2009). The authors proposed that given the potential risks and costs of sex to females, sex with strangers would be disadvantageous; and because women do not generally report having sexual motives toward opposite sex friends (Bleske-Rechek & Buss, 2001), women with high mating intelligence were likely striking the optimal balance, whereas men high in mating intelligence were obtaining maximum sexual encounters (O’Brien et al., 2009). In this regard, there are sex differences in cognitive processes, but one cannot necessarily presume that the sexes vary fundamentally in their behavioral potentials; rather, they vary in their decision-making, consistent with other evolutionary models.

It is still unclear the degree to which hookups may result in positive reactions, and whether young men and young women are sexually satisfied in these encounters. Fine (1988) has argued that sex negativity is even more pronounced for women and the possibility of desire seems to be missing from the sexual education of young women. Armstrong, England, and Fogarty (2009) addressed sexual satisfaction in a large study of online survey responses from 12,295 undergraduates from 17 different colleges. Because cunnilingus often facilitates women’s orgasm, participants were asked about oral sex rates and orgasm in their most recent hookup and most recent relationship sexual event. In this study, men reported receiving oral sex both in hookups and in relationships much more than women. In first-time hookups, 55% included only men receiving oral sex, 19% only women receiving oral sex, and 27% both mutually receiving; in last relationship sexual activity, 32% included only



men receiving oral sex, 16% included only women receiving oral sex, and 52% included both mutually receiving. In both contexts, men also reached orgasm more often than women. In first time hookups, 31% of men and 10% of women reached orgasm; in last relationship sexual activity, 85% of men and 68% of women reached orgasm. Armstrong et al. (2009) concluded with an important message:

A challenge to the contemporary sexual double standard would mean defending the position that young women and men are equally entitled to sexual activity, sexual pleasure, and sexual respect in hookups as well as relationships. To achieve this, the attitudes and practices of both men and women need to be confronted. Men should be challenged to treat even first hookup partners as generously as the women they hook up with treat them. (p. 377)

Taken together, this points to a need for further and more diverse attention to the impact of hookups on the physical and mental health of individuals, as recommended by Heldman and Wade (2010). Further, more attention is needed on potential positive aspects of hooking up, such as promoting sexual satisfaction and mutual comfort and enjoyment (see Armstrong et al., 2009).

## Conclusion

Hookups are part of a popular cultural shift that has infiltrated the lives of emerging adults throughout the Westernized world. The past decade has witnessed an explosion in interest in the topic of hookups, both scientifically and in the popular media. Research on hookups is not seated within a singular disciplinary sphere; it sits at the crossroads of theoretical and empirical ideas drawn from a diverse range of fields, including psychology, anthropology, sociology, biology, medicine, and public health. The growth of our understanding of the hookup phenomenon is likely predicated on our ability to integrate these theoretical and empirical ideas into a unified whole that is capable of explaining the tremendous variety in human sexual expression.

Both evolutionary and social forces are likely facilitating hookup behavior, and together may help explain the rates of hookups, motivations for hooking up, perceptions of hookup culture, and the conflicting presence and lack of sex differences observed in various studies. Several scholars have suggested that shifting life-history patterns may be influential in shaping hookup patterns. In the United States, age at first marriage and first reproduction has been pushed back dramatically, while at the same time age at puberty has dropped dramatically, resulting in a historically unprecedented time gap where young adults are physiologically able to reproduce but not psychologically or socially ready to “settle down” and begin a family and child rearing (Bogle, 2007; Garcia & Reiber, 2008).

Together, the research reviewed here can help us better understand the nature of uncommitted sex today. It is worth noting, however, that several shortcomings in our knowledge continue to impede the understanding of hookup behavior. Both the historical transformations that have resulted in the reordering of sexual scripts and the demise of romantic courting among emerging adults remain mysterious (Bogle, 2007; Heldman & Wade, 2010). Second, recall bias may affect individuals' reports of previous romantic and sexual engagements; previous partners may be viewed as less desirable when individuals perceive their current partner as superior, thus creating a dissonance effect (see Geher et al., 2005). Much of the research asking participants about previous hookup relationships may therefore be biased due to recall. Third, there exists a vast and rich literature on men who have sex with men (MSM), specifically addressing casual sex and cruising among this population, and typically focused on sexual health and HIV prevention (see van Kesteren, Hospers, & Kok, 2007). The literature reviewed here primarily focuses on heterosexual

hookups among emerging adults, with some researchers not controlling for sexual orientation (some purposefully) and others restricting to exclusively heterosexual samples. Future hookup research should venture into the MSM literature to explore patterns of casual sex among these populations to understand other sexual subcultures where uncommitted sexual behavior is prevalent. Moreover, there exists little published literature on the hookup patterns among lesbians and women who have sex with women. Last, the cross-cultural data provide a unique understanding of sexual behavior and romantic attachments; some societies engage in sex for pleasure and others for procreation (see Hatfield & Rapson, 2005; Gray & Garcia, 2013). Westernized culture often views sex as something for pleasure and fun (despite the frequency of behavioral patterns such as using the sexual “missionary” position and reduced female sexual stimulation), which dramatically influences our sexual perceptions, purposes, and pleasures (Hatfield & Rapson, 2005; Gray & Garcia, 2013).

Understanding hookups during the critical stage of late adolescent development and young adulthood is paramount for protecting and promoting healthy sexuality and healthy decision-making among emerging adults. Of the varied experiences and health risks young men and young women will experience, perhaps none are as pervasive and widely experienced as engagement in and desire for romantic attachments and experiences with sexual activity. Indeed, cross-cultural anthropological literature suggests men and women will go to extreme lengths for love and sex (Fisher, 1992; Hatfield & Rapson, 2005; Jankowiak & Paladino, 2008).

This review suggests that uncommitted sex, now being explored from a variety of disciplinary and theoretical perspectives, is best understood from a biopsychosocial perspective that incorporates recent research trends in human biology, reproductive and mental health, and sexuality studies. Both popular scripts and predictions from evolutionary theory suggest that a reproductive motive may influence some sexual patterns, such as motivation and regret following uncommitted sex. However, patterns of casual sex among gay men highlight inadequacies of the reproductive motive and suggest that further theorizing is necessary before a satisfactory evolutionarily informed theory can be established. Further, the findings that a majority of both men and women are motivated to engage in hookups, but often desire a more romantic relationship, is also consistent with a more nuanced evolutionary biopsychosocial perspective that takes into account social context and the cross-cultural and biological centrality of the pair-bond (Fisher, 1992; Jankowiak & Fischer, 1992; Pedersen et al., 2011; Gray & Garcia, 2013). Hookups, although increasingly socially acceptable, may leave more “strings” than public discourse would suggest.

## Acknowledgments

JRG is supported in part by the National Institute of Child Health and Human Development, National Institutes of Health (Grant T32HD049336). We thank Melanie Hill for valuable discussion and feedback on an earlier draft of this review. We also thank Maryanne Fisher and Catherine Salmon for helpful editorial feedback.

## References

- Abbey A, Ross LT, McDuffie D, McAuslan P. Alcohol and dating risk factors for sexual assault among college women. *Psychology of Women Quarterly*. 1996; 20:147–169.10.1111/j.1471-6402.1996.tb00669.x
- Alcock, J. *Animal behavior: An evolutionary approach*. 8. Sunderland, MA: Sinauer Associates; 2005.
- Altman, D. *Homosexual: Oppression and liberation*. New York, NY: Outerbridge & Dienstfrey; 1971.
- Altman, D. *The homosexualization of America: The Americanization of the homosexual*. New York, NY: St Martin's; 1982.

- Armstrong, EA.; England, P.; Fogarty, ACK. Orgasm in college hookups and relationships. In: Risman, BJ., editor. *Families as they really are*. New York, NY: Norton; 2009. p. 362-377.
- Arnett JJ. Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*. 2000; 55:469–480.10.1037/0003-066X.55.5.469 [PubMed: 10842426]
- Backstrom L, Armstrong EA, Puentes J. Women's negotiations of cunnilingus in college hookups and relationships. *Journal of Sex Research*. 2012; 49:1–12.10.1080/00224499.2011.585523 [PubMed: 22010825]
- Bailey, BL. *From front porch to back seat: Courtship in twentieth century America*. Baltimore, MD: Johns Hopkins University Press; 1988.
- Bateman AJ. Intra-sexual selection in *Drosophila* Heredity. 1948; 2:349–368.10.1038/hdy.1948.21
- Binson D, Woods WJ, Pollack L, Paul J, Stall R, Catania JA. Differential HIV risk in bathhouses and public cruising areas. *American Journal of Public Health*. 2001; 91:1482–1486.10.2105/AJPH.91.9.1482 [PubMed: 11527785]
- Bisson MA, Levine TR. Negotiating a friends with benefits relationship. *Archives of Sexual Behavior*. 2009; 38:66–73.10.1007/s10508-007-9211-2 [PubMed: 17851750]
- Black, GD. *Hollywood censored*. Cambridge, MA: Cambridge University Press; 1994.
- Bleske-Rechek AL, Buss DM. Opposite-sex friendship: Sex differences and similarities in initiation, selection, and dissolution. *Personality and Social Psychology Bulletin*. 2001; 27:1310–1323.10.1177/01461672012710007
- Bogle KA. The shift from dating to hooking up in college: What scholars have missed. *Sociology Compass*. 2007; 1/2:775–788.
- Bogle, KA. *Hooking up: Sex, dating, and relationships on campus*. New York, NY: New York University Press; 2008.
- Boswell AA, Spade JZ. Fraternities and collegiate rape culture: Why are some fraternities more dangerous places for women? *Gender & Society*. 1996; 10:133–147.10.1177/089124396010002003
- Bradshaw C, Kahn AS, Saville BK. To hook up or date: Which gender benefits? *Sex Roles*. 2010; 62:661–669.10.1007/s11199-010-9765-7
- Buss DM. Sexual strategies theory: Historical origins and current status. *Journal of Sex Research*. 1998; 35:19–31.10.1080/00224499809551914
- Buss DM, Schmitt DP. Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*. 1993; 100:204–232.10.1037/0033-295X.100.2.204 [PubMed: 8483982]
- Campbell A. The morning after the night before: Affective reactions to one-night stands among mated and unmated women and men. *Human Nature*. 2008; 19:157–173.10.1007/s12110-008-9036-2
- Cates W. Teenagers and sexual risk taking: The best of times and the worst of times. *Journal of Adolescent Health*. 1991; 12:84–94.10.1016/0197-0070(91)90449-V [PubMed: 2015246]
- Chia SC, Gunther AC. How media contribute to misperceptions of social norms about sex. *Mass Communication & Society*. 2006; 9:301–320.10.1207/s15327825mcs0903\_3
- Chronicle Books. *Hook-ups & hangovers: A journal*. San Francisco, CA: Chronicle Books; 2011.
- Clark RD, Hatfield E. Gender differences in receptivity to sexual offers. *Journal of Psychology & Human Sexuality*. 1989; 2:39–55.10.1300/J056v02n01\_04
- Clarke, L.; Nichols, J. *I have more fun with you than anybody*. New York, NY: St. Martin's; 1972.
- Clutton-Brock TH, Parker GA. Potential reproductive rates and the operation of sexual selection. *Quarterly Review of Biology*. 1992; 67:437–456.10.1086/417793
- Conley TD. Perceived proposer personality characteristics and gender differences in acceptance of casual sex offers. *Journal of Personality and Social Psychology*. 2011; 100:309–329.10.1037/a0022152 [PubMed: 21171789]
- Coontz, S. *Marriage, a history: How love conquered marriage*. New York, NY: Penguin Books; 2005.
- Cory, DW. *The homosexual in America*. New York, NY: Greenberg; 1951.
- Crawford M, Popp D. Sexual double standards: A review and methodological critique of two decades of research. *Journal of Sex Research*. 2003; 40:13–26.10.1080/00224490309552163 [PubMed: 12806528]
- Daly M. The cost of mating. *American Naturalist*. 1978; 112:771–774.10.1086/283319

- Doherty, T. Pre-code Hollywood. New York, NY: Columbia University Press; 1999.
- Downing-Matibag TM, Geisinger B. Hooking up and sexual risk taking among college students: A health belief model perspective. *Qualitative Health Research*. 2009; 19:1196–1209.10.1177/1049732309344206 [PubMed: 19690202]
- Eliot J, Stilwell M. All the Lovers [Recorded by Kylie Minogue]. On *Aphrodite* [CD] Parlophone. 2010
- Ellis, A. Sex without guilt. New York, NY: Lyle Stuart; 1958.
- England, P.; Shafer, EF.; Fogarty, ACK. Hooking up and forming romantic relationships on today's college campuses. In: Kimmel, MS.; Aronson, A., editors. *The gendered society reader*. 3. New York, NY: Oxford University Press; 2007. p. 531-547.
- Epstein M, Calzo JP, Smiler AP, Ward LM. "Anything from making out to having sex": Men's negotiations of hooking up and friends with benefits scripts. *Journal of Sex Research*. 2009; 46:414–424.10.1080/00224490902775801 [PubMed: 19253134]
- Eshbaugh EM, Gute G. Hookups and sexual regret among college women. *The Journal of Social Psychology*. 2008; 148:77–89.10.3200/SOCP.148.1.77-90 [PubMed: 18476484]
- Fielder RL, Carey MP. Prevalence and characteristics of sexual hookups among first-semester female college students. *Journal of Sex & Marital Therapy*. 2010a; 36:346–359.10.1080/0092623X.2010.488118 [PubMed: 20574889]
- Fielder RL, Carey MP. Predictors and consequences of sexual "hookups" among college students: A short-term prospective study. *Archives of Sexual Behavior*. 2010b; 39:1105–1119.10.1007/s10508-008-9448-4 [PubMed: 19130207]
- Fine M. Sexuality, schooling and adolescent females: The missing discourse of desire. *Harvard Educational Review*. 1988; 58:29–53.
- Finer LB. Trends in premarital sex in the United States, 1954–2003. *Public Health Reports*. 2007; 122:73–78. [PubMed: 17236611]
- Fisher, HE. *Anatomy of love: The natural history of monogamy, adultery, and divorce*. New York, NY: W. W. Norton & Company; 1992.
- Fisher, HE. Serial monogamy and clandestine adultery: Evolution and consequences of the dual human reproductive strategy. In: Roberts, SC., editor. *Applied Evolutionary Psychology*. New York, NY: Oxford University Press; 2011.
- Fisher ML, Worth K, Garcia JR, Meredith T. Feelings of regret following uncommitted sexual encounters in Canadian university students. *Culture, Health & Sexuality*. 2012; 14:45–57.10.1080/13691058.2011.619579
- Flack WF, Daubman KA, Caron ML, Asadorian JA, D'Aureli NR, Gigliotti SN, Stine ER. Risk factors and consequences of unwanted sex among university students: Hooking up, alcohol, and stress response. *Journal of Interpersonal Violence*. 2007; 22:139–157.10.1177/0886260506295354 [PubMed: 17202573]
- Frayser, SG. *Varieties of sexual experience: An anthropological perspective on human sexuality*. New Haven, CT: HRAF Press; 1985.
- Friends with benefits. *Urbandictionary.com*. 2003. Retrieved from <http://www.urbandictionary.com/define.php?term=friends%20with%20benefits>
- Friends with benefits. *Urbandictionary.com*. 2005. Retrieved from <http://www.urbandictionary.com/define.php?term=friends%20with%20benefits>
- Gangestad SW, Simpson JA. The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*. 2000; 23:573–587.10.1017/S0140525X0000337X [PubMed: 11301543]
- Gangestad SW, Thornhill R. The evolutionary psychology of extra-pair sex: The role of fluctuating asymmetry. *Evolution and Human Behavior*. 1997; 18:69–88.10.1016/S1090-5138(97)00003-2
- Garcia JR, Kruger DJ. Unbuckling in the Bible Belt: Conservative sexual norms lower age at marriage. *The Journal of Social, Evolutionary, and Cultural Psychology*. 2010; 4:206–214.
- Garcia JR, MacKillop J, Aller EL, Merriwether AM, Wilson DS, Lum JK. Associations between dopamine D4 receptor gene variation with both infidelity and sexual promiscuity. *PLoS ONE*. 2010; 5:e14162.10.1371/journal.pone.0014162 [PubMed: 21152404]

- Garcia JR, Reiber C. Hook-up behavior: A biopsychosocial perspective. *The Journal of Social, Evolutionary, and Cultural Psychology*. 2008; 2:192–208.
- Garcia, JR.; Reiber, C.; Merriwether, AM.; Heywood, LL.; Fisher, HE. Touch me in the morning: Intimately affiliative gestures in uncommitted and romantic relationships. Paper presented at the Annual Conference of the NorthEastern Evolutionary Psychology Society; New Paltz, NY. 2010a Mar.
- Geher G, Bloodworth R, Mason J, Stoaks C, Downey HJ, Renstrom KL, Romero JF. Motivational underpinnings of romantic partner perceptions: Psychological and physiological evidence. *Journal of Personal and Social Relationships*. 2005; 22:255–281.10.1177/0265407505050953
- Geher, G.; Kaufman, SB. Mating intelligence. In: Sternberg, R.J.; Kaufman, SB., editors. *The Cambridge handbook of intelligence*. Cambridge, England: Cambridge University Press; 2011. p. 603-620.
- Glenn, N.; Marquardt, E. *Hooking up, hanging out, and hoping for Mr Right: College women on dating and mating today*. New York, NY: Institute for American Values; 2001.
- Gray, PB.; Anderson, KG. *Fatherhood: Evolution and human paternal behavior*. Cambridge, MA: Harvard University Press; 2010.
- Gray, PB.; Garcia, JR. Darwin's bedroom: Evolution and human sexual behavior. 2013. Manuscript submitted for publication
- Greenspan, S. 11 points guide to hooking up: Lists and advice about first dates, hotties, scandals, pickups, threesomes, and booty calls. New York, NY: Skyhorse Publishing; 2011.
- Grello CM, Welsh DP, Harper MS, Dickson JW. Dating and sexual relationship trajectories and adolescent functioning. *Adolescent & Family Health*. 2003; 3:103–112.
- Guilbert, G-C. *Madonna as Postmodern Myth: How One Star's Self-Construction Rewrites Sex, Gender, Hollywood and the American Dream*. Jefferson, NC: McFarland; 2002.
- Gute G, Eshbaugh EM. Personality as a predictor of hooking up among college students. *Journal of Community Health Nursing*. 2008; 25:26–43.10.1080/07370010701836385 [PubMed: 18444064]
- Harper GW. Sex isn't that simple: Culture and context in HIV prevention interventions for gay and bisexual male adolescents. *American Psychologist*. 2007; 62:803–819.10.1037/0003-066X.62.8.806 [PubMed: 18020756]
- Hatfield, E.; Hutchison, ESS.; Bensman, L.; Young, DM.; Rapson, RL. Cultural, social, and gender influences on casual sex: New developments. In: Turner, Jan M.; Mitchell, Andrew D., editors. *Social psychology: New developments*. Hauppauge, NY: Nova Science; in press
- Hatfield, E.; Rapson, RL. *Love and sex: Cross-cultural perspectives*. Lanham, MD: University Press of America; 2005.
- Heldman C, Wade L. Hook-up culture: Setting a new research agenda. *Sexuality Research and Social Policy*. 2010; 7:323–333.10.1007/s13178-010-0024-z
- Herbenick D, Reece M, Schick V, Sanders SA, Dodge B, Fortenberry JD. Sexual behavior in the United States: Results from a national probability sample of men and women ages 14–94. *Journal of Sexual Medicine*. 2010; 7:255–265.10.1111/j.1743-6109.2010.02012.x [PubMed: 21029383]
- Herbert, S.; McKernan, L. *Who's who of Victorian cinema*. London, England: British Film Institute; 1996.
- Herold ES, Mewhinney DK. Gender differences in casual sex in AIDS prevention: A survey of dating bars. *Journal of Sex Research*. 1993; 15:502–516.
- Hill, M.; Garcia, JR.; Geher, G. Women having sex when they don't want to: Exploring the occurrence of unwanted sex in the context of hook-ups. 2012. Manuscript submitted for publication
- Hobbs DR, Gallup GG. Song as a medium for embedded reproductive messages. *Evolutionary Psychology*. 2011; 9:390–416. [PubMed: 22947982]
- Hoff CC, Beougher SC. Sexual agreements among gay male couples. *Archives of Sexual Behavior*. 2010; 39:774–787.10.1007/s10508-008-9393-2 [PubMed: 18686027]
- Holman A, Sillars A. Talk about "hooking up": The influence of college student social networks on nonrelationship sex. *Health Communication*. 2012; 27:205–216.10.1080/10410236.2011.575540 [PubMed: 21851267]



- Jankowiak WR, Fischer EF. A cross-cultural perspective on romantic love. *Ethnology*. 1992; 31:149–155.10.2307/3773618
- Jankowiak, WR.; Paladino, T. Desiring sex, longing for love: A tripartite conundrum. In: Jankowiak, WR., editor. *Intimacies: Love and sex across cultures*. New York, NY: Columbia University Press; 2008. p. 1-36.
- Jhally, S. *Dreamworlds 3: Desire, sex & power in music video [DVD]*. Northampton, MA: Media Education Foundation; 2007.
- Jonason PK, Li NP, Richardson J. Positioning the booty-call relationship on the spectrum of relationships: Sexual but more emotional than one-night stands. *Journal of Sex Research*. 2011; 48:486–495.10.1080/00224499.2010.497984 [PubMed: 20672215]
- Josiam BM, Hobson JSP, Dietrich UC, Smeaton G. An analysis of the sexual, alcohol and drug related behavioural patterns of students on spring break. *Tourism Management*. 1998; 19:501–513.10.1016/S0261-5177(98)00052-1
- Kim JL, Sorsoli CL, Collins K, Zylbergold BA, Schooler D, Tolman DL. From sex to sexuality: Exposing the heterosexual script on primetime network television. *Journal of Sex Research*. 2007; 44:145–157.10.1080/00224490701263660 [PubMed: 17599272]
- Kinsey, AC.; Pomeroy, WB.; Martin, CE. *Sexual behavior in the human male*. Philadelphia, PA: W. B. Saunders; 1948.
- Kinsey, AC.; Pomeroy, WB.; Martin, CE.; Gebhard, PH. *Sexual behavior in the human female*. Philadelphia, PA: W. B. Saunders; 1953.
- Kunkel, D.; Eyal, K.; Finnerty, K.; Biely, E.; Donnerstein, E. *Sex on TV 4*. Menlo Park, CA: Henry J. Kaiser Family Foundation; 2005.
- Lambert TA, Kahn AS, Apple KJ. Pluralistic ignorance and hooking up. *Journal of Sex Research*. 2003; 40:129–133.10.1080/00224490309552174 [PubMed: 12908120]
- Laumann, E.; Gagnon, JH.; Michael, RT.; Michaels, S. *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press; 1994.
- Lewis MA, Granato H, Blayney JA, Lostutter TW, Kilmer JR. Predictors of hooking up sexual behavior and emotional reactions among U.S. college students. *Archives of Sexual Behavior*. 2011.10.1007/s10508-011-9817-2
- Li NP, Kenrick DT. Sex similarities and differences in preferences for short-term mates: What, whether, and why. *Journal of Personality and Social Psychology*. 2006; 90:468–489.10.1037/0022-3514.90.3.468 [PubMed: 16594832]
- Lippa RA. Sex differences in sex drive, sociosexuality, and height across 53 nations: testing evolutionary and social structural theories. *Archives of Sexual Behavior*. 2009; 38:631–651. [PubMed: 17975724]
- Littleton H, Tabernik H, Canales EJ, Backstrom T. Risky situation or harmless fun? A qualitative examination of college women's bad hook-up and rape scripts. *Sex Roles*. 2009; 60:793–804.10.1007/s11199-009-9586-8
- Low, BS. *Why sex matters*. Princeton, NJ: Princeton University Press; 2000.
- Madison, A. *Hooking up: A girl's all-out guide to sex and sexuality*. New York, NY: Prometheus Books; 2006.
- Manning WS, Giordano PC, Longmore MA. Hooking up: The relationship contexts of “nonrelationship” sex. *Journal of Adolescent Research*. 2006; 21:459–483.10.1177/0743558406291692
- Maticka-Tyndale E. Sexual scripts and AIDS prevention: Variations in adherence to safer-sex guidelines by heterosexual adolescents. *Journal of Sex Research*. 1991; 28:45–66.10.1080/00224499109551594
- Maticka-Tyndale E, Herold ES, Mewhinney DM. Casual sex on spring break: Intentions and behaviors of Canadian students. *Journal of Sex Research*. 1998; 35:254–264.10.1080/00224499809551941
- Mealey, L. *Sex differences: Developmental and evolutionary strategies*. London, England: Academic Press; 2000.
- Mustanski B, Lyons T, Garcia SC. Internet use and sexual health of young men who have sex with men: A mixed-methods study. *Archives of Sexual Behavior*. 2011; 40:289–300.10.1007/s10508-009-9596-1 [PubMed: 20182787]

- O'Brien DT, Geher G, Gallup AC, Garcia JR, Kaufman SB. Self-perceived Mating Intelligence predicts sexual behavior in college students: Empirical validation of a theoretical construct. *Imagination, Cognition and Personality*. 2009; 29:341–362.10.2190/IC.29.4.e
- Oliver MB, Hyde JS. Gender differences in sexuality: A meta-analysis. *Psychological Bulletin*. 1993; 114:29–51.10.1037/0033-2909.114.1.29 [PubMed: 8346327]
- Oswalt SB, Cameron KA, Koob JJ. Sexual regret in college students. *Archives of Sexual Behavior*. 2005; 34:663–669.10.1007/s10508-005-7920-y [PubMed: 16362250]
- Owen J, Fincham FD. Young adults' emotional reactions after hooking up encounters. *Archives of Sexual Behavior*. 2011; 40:321–330.10.1007/s10508-010-9652-x [PubMed: 20809375]
- Owen J, Fincham FD, Moore J. Short-term prospective study of hooking up among college students. *Archives of Sexual Behavior*. 2011; 40:331–341.10.1007/s10508-010-9697-x [PubMed: 21203816]
- Owen JJ, Rhoades GK, Stanley SM, Fincham FD. "Hooking up" among college students: Demographic and psychosocial correlates. *Archives of Sexual Behavior*. 2010; 39:653–663.10.1007/s10508-008-9414-1 [PubMed: 18839300]
- Paik A. "Hookups," dating, and relationship quality: Does the type of sexual involvement matter? *Social Science Research*. 2010a; 39:739–753.10.1016/j.ssresearch.2010.03.011
- Paik A. The contexts of sexual involvement and concurrent sexual partnerships. *Perspectives on Sexual and Reproductive Health*. 2010b; 42:33–42.10.1363/4203310 [PubMed: 20415883]
- Paul, EL. Beer goggles, catching feelings, and the walk of shame: The myths and realities of the hookup experience. In: Kirkpatrick, DC.; Duck, S.; Foley, MK., editors. *Relating difficulty: The processes of constructing and managing difficult interaction*. Mahwah, NJ: Lawrence Erlbaum Associates; 2006. p. 141-160.
- Paul EL, Hayes KA. The casualties of "casual" sex: A qualitative exploration of the phenomenology of college students' hookups. *Journal of Social and Personal Relationships*. 2002; 19:639–661.10.1177/0265407502195006
- Paul EL, McManus B, Hayes A. "Hook-ups": Characteristics and correlates of college students' spontaneous and anonymous sexual experiences. *Journal of Sex Research*. 2000; 37:76–88.10.1080/00224490009552023
- Pedersen WC, Putha-Bhagavatula A, Miller LC. Are men and women really that different? Examining some of sexual strategies theory (SST)'s key assumptions about sex-distinct mating mechanisms. *Sex Roles*. 2011; 64:629–643.10.1007/s11199-010-9811-5
- Penhollow T, Young M, Bailey W. Relationship between religiosity and "hooking up" behavior. *American Journal of Health Education*. 2007; 38:338–345.
- Perry, K.; Gottwald, L.; Martin, M.; McKee, B. *On Teenage dream* [CD]. Vol. 2010. New York, NY: Capitol Records; 2011. Last Friday night (T.G.I.F.) [Recorded by K. Perry].
- Petersen JL, Hyde JS. A meta-analytic review of research on gender differences in sexuality, 1993–2007. *Psychological Bulletin*. 2010; 136:21–38.10.1037/a0017504 [PubMed: 20063924]
- Peterson ZD, Muehlenhard CL. Conceptualizing the "wantedness" of women's consensual and nonconsensual sexual experiences: Implications for how women label their experiences with rape. *Journal of Sex Research*. 2007; 44:72–88. [PubMed: 17599266]
- Phillips, LM. *Flirting with danger*. New York, NY: New York University Press; 2000.
- Reiber C, Garcia JR. Hooking up: Gender differences, evolution, and pluralistic ignorance. *Evolutionary Psychology*. 2010; 8:390–404. [PubMed: 22947808]
- Reitman, I.; Medjuck, J.; Clifford, J.; Reitman, I. *No Strings Attached* [Motion picture]. United States: Paramount Pictures;
- Riley, C., editor. *Making the hook-up: Edgy sex with soul*. Berkeley, CA: Cleis Press; 2010.
- Robertson, P. *Film facts*. New York, NY: Billboard Books; 2001.
- Rozler, J.; Lavinthal, A. *The hookup handbook: A single girl's guide to living it up*. New York, NY: Simon Spotlight Entertainment; 2005.
- Saad, G. *The evolutionary bases of consumption*. Mahwah, NJ: Lawrence Erlbaum Associates; 2007.

- Schmitt DP. Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences*. 2005; 28:247–275.10.1017/S0140525X05000051 [PubMed: 16201459]
- Schmitt DP, Alcalay L, Allik J, Ault L, Austers I, Bennett KL, Zupanéié A. Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands. *Journal of Personality and Social Psychology*. 2003; 85:85–104.10.1037/0022-3514.85.1.85 [PubMed: 12872886]
- Seage GR, Mayer KH, Lenderking WR, Wold C, Gross M, Goldstein R, Holmberg S. HIV and hepatitis B infection and risk behavior in young gay and bisexual men. *Public Health Reports*. 1997; 112:158–167. [PubMed: 9071279]
- Shafer, M.; Glotzer, L.; Zucker, J.; Gluck, W.; Gluck, W. *Friends with Benefits* [Motion picture]. United States: Sony Pictures;
- Sherman, AJ.; Tocantins, N. *The happy hook-up: A single girl's guide to casual sex*. Berkeley, CA: Ten Speed Press; 2004.
- Siegel, J.; Rowland, M.; Scordia, V.; Scordia, V. *Hooking Up* [Motion picture]. United States: Morbid Mind Productions; 2009.
- Simon W, Gagnon JH. Sexual scripts: Permanence and change. *Archives of Sexual Behavior*. 1986; 15:97–120.10.1007/BF01542219 [PubMed: 3718206]
- Simpson JA, Gangestad SW. Sociosexuality and romantic partner choice. *Journal of Personality*. 1992; 60:31–51.10.1111/j.1467-6494.1992.tb00264.x
- Sönmez S, Apostolopoulos Y, Yu CH, Yang S, Mattila AS, Yu LC. Binge drinking and casual sex on spring-break. *Annals of Tourism Research*. 2006; 33:895–917.10.1016/j.annals.2006.06.005
- Stinson RD. Hooking up in young adulthood: A review of factors influencing the sexual behavior of college students. *Journal of College Student Psychotherapy*. 2010; 24:98–115.10.1080/87568220903558596
- Strasburger VC. Adolescents, sex, and the media: Ooooo, baby, baby—A Q&A. *Adolescent Medicine Clinics*. 2005; 16:269–288.10.1016/j.admecli.2005.02.009 [PubMed: 16111618]
- Symons, D. *The evolution of human sexuality*. New York, NY: Oxford University Press; 1979.
- Tanner LR, Haddock SA, Zimmerman TS, Lund LK. Images of couples and families in Disney feature-length animated films. *American Journal of Family Therapy*. 2003; 31:355–373.10.1080/01926180390223987
- Tolman DL. In a different position: Conceptualizing female adolescent sexuality development within compulsory heterosexuality. *New Directions for Child and Adolescent Development*. 2006; 112:71–89.10.1002/cd.163 [PubMed: 16869174]
- Townsend JM. Sex without emotional involvement: An evolutionary interpretation of sex differences. *Archives of Sexual Behavior*. 1995; 24:173–206.10.1007/BF01541580 [PubMed: 7794107]
- Townsend JM, Wasserman TH. Sexual hookups among college students: Sex differences in emotional reactions. *Archives of Sexual Behavior*. 2011; 40:1173–1181.10.1007/s10508-011-9841-2 [PubMed: 21975920]
- Trivers, R. Parental investment and sexual selection. In: Camp-bell, B., editor. *Sexual selection and the descent of man: 1871–1971*. Chicago, IL: Aldine Press; 1972. p. 136-179.
- van Gelder MMHJ, Reefhuis J, Herron AM, Williams ML, Roeleveld N. Reproductive health characteristics of marijuana and cocaine users: Results from the 2002 National Survey of Family Growth. *Perspectives on Sexual and Reproductive Health*. 2011; 43:164–172.10.1363/4316411 [PubMed: 21884384]
- van Kesteren NMC, Hospers HJ, Kok G. Sexual risk behavior in HIV-positive men who have sex with men: A literature review. *Patient Education and Counseling*. 2007; 65:5–20.10.1016/j.pec.2006.09.003 [PubMed: 17098392]
- Van Valen L. A new evolutionary law. *Evolutionary Theory*. 1973; 1:1–30.
- Vieira, M. *Sin in soft focus*. New York, NY: Harry Abrams; 1999.
- Ward LM. Talking about sex: Common themes about sexuality in the prime-time television programs children and adolescents view most. *Journal of Youth and Adolescence*. 1995; 24:595–615.10.1007/BF01537058

- Ward LM. Understanding the role of entertainment media in the sexual socialization of American youth: A review of empirical research. *Developmental Review*. 2003; 23:347–388.10.1016/S0273-2297(03)00013-3
- Weldon, EV. *Mother, Madonna, whore: The idealization and denigration of motherhood*. London, England: Free Association Books; 1988.
- Wells, G.; Perry, K.; DioGuardi, K. *On All I Ever Wanted* [CD] RCA. 2009. *I Do Not Hook Up* [Recorded by Kelly Clarkson].
- Welsh DP, Grello CM, Harper MS. No strings attached: The nature of casual sex in college students. *Journal of Sex Research*. 2006; 43:255–267.10.1080/00224490609552324 [PubMed: 17599248]
- Wiederman MW. The gendered nature of sexual scripts. *The Family Journal*. 2005; 13:496–502.10.1177/1066480705278729
- Wood W, Eagly AH. A cross-cultural analysis of the behavior of women and men: Implications for the origins of sex differences. *Psychological Bulletin*. 2002; 128:699–727.10.1037/0033-2909.128.5.699 [PubMed: 12206191]
- Worth H, Reid A, McMillan K. Somewhere over the rainbow: Love, trust and monogamy in gay relationships. *Journal of Sociology*. 2002; 38:237–253.10.1177/144078302128756642
- Zablotska, I.; Frankland, A.; Prestage, G.; Down, I.; Ryan, D. *Gay Community Periodic Survey: Sydney February 2008*. Sydney, Australia: National Centre in HIV Social Research, The University of New South Wales; 2008.