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**IS EVERYBODY DOING IT? SEX IN THE COLLEGE FRESHMAN FEMALE  
POPULATION**

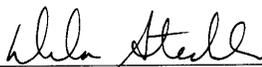
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In partial fulfillment of the requirements for  
Departmental Honors

Alexandra I. Zelin

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This is to certify that the thesis prepared by Alexandra I. Zelin entitled: "Is Everybody Doing It? Sex in the College Freshman Female Population" has been approved by her committee as satisfactory completion of an honors thesis as partial fulfillment for the degree of Bachelor of Science.



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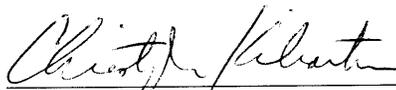
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Is Everybody Doing It? Sex in the College Freshman Female Population.

Alexandra I. Zelin

University of Mary Washington

## Abstract

Descriptive and injunctive norms have been shown to influence people's perceptions of what actions are considered appropriate. Social norms research with sexual behaviors has shown that women perceived other women to be highly sexually active when, in reality, these norms were not accurate. We anticipated the same pattern of misperceptions and wanted to see if perceived number of partners and permissive attitudes of best friends and the typical freshman could predict women's own number of partners controlling for their own attitudes. Participants included 156 heterosexual, freshman women from a liberal arts university. We found that women perceived their friends and the typical freshmen woman to have more sexual partners and be more comfortable participating in various sexual activities than was true of themselves. We also found that perceptions of others' sexual attitudes and behaviors could predict the number of participants' sexual partners above and beyond their own sexually permissive attitudes.

### Is Everybody Doing It? Sex in the College Freshman Female Population

According to definitions from Cialdini, Reno, and Kallgren (1990), descriptive norms include perceptions of what others are doing, and injunctive norms provide information as to which actions are considered acceptable or unacceptable to others. These norms can influence people's thoughts and actions in a variety of situations, ranging from alcohol intake to perceptions about marriage and children (Borsari & Carey, 2003; Erchull, Liss, Axelson, Staebell, & Askari, 2010). This study focused on different perceptions of freshman female's sexual partners and their comfort levels participating in various sexual acts. We first wanted to determine if students followed the descriptive social norm pattern found in previous studies where women consistently overestimated the amount of partners with whom other women have engaged in sexual acts (Bogle, 2008; Stinson, 2010). We next wanted to measure descriptive norms further by asking students if they believed other women were comfortable participating in a wide range of sexual acts in comparison to their own reported comfort levels. Lastly, we wanted to determine if overestimating the number of partners (descriptive norms) and perceived permissive attitudes (injunctive norms) of the typical female freshman would be able to predict a woman's number of sexual partners above and beyond their own permissive attitudes.

Multiple studies concerning college student's perceptions of their peer's alcohol intake have been conducted within the past two decades (Benton et al., 2006; Borsari & Cary, 2003; Carey, Borsari, Cary, & Maisto, 2006; Larimer, Turner, Mallett, & Geisner, 2004; Lewis, Lee, Patrick, & Fossos, 2007; Patrick & Maggs, 2010; Prentice & Miller, 1993; Prince & Carey, 2010; Real & Rimal, 2007; Suls & Green, 2003). These studies suggested that students perceived that their peers consumed more alcohol at a higher frequency than was actually true (descriptive norms). Because of these misperceptions, students believed that consuming such

large amounts of alcohol was acceptable (injunctive norms; Benton et al., 2006; Borsari & Cary, 2003; Carey et al., 2006; Larimer et al., 2004; Lewis et al., 2007; Patrick & Maggs, 2010; Prentice & Miller, 1993; Prince & Carey, 2010; Real & Rimal, 2007; Suls & Green, 2003).

Other work on descriptive and injunctive norms has been completed on a variety of topics. In terms of the differences in women's and men's beliefs about desiring marriage and children, both men and women ranked women as much more likely to desire marriage and children. Participants thought men were much less likely to desire marriage and children. In reality, both men and women desired marriage equally but thought the typical woman desired marriage and children more and the average man less than they themselves did (Erchull et al., 2010). Likewise, if people believed their co-workers pro-actively considered their safety while in the workplace, they were more likely to take action and pay attention to their own safety instead of waiting for instructions from management (Fugas, Meliá, & Silva, 2011).

Beliefs about what others are doing influences people's thoughts and actions (Borsari & Carey, 2003; Fugas et al., 2011). Researchers have also found this to be true in regards to sexual activity as college-aged women tend to overestimate the amount of sexual activity in which other women their age are engaging (Agostinelli & Seal, 1998; Bersamin, Walker, Fisher, & Grube, 2006; Bogle, 2008; Halpern-Felsher, Cornell, Kropp, & Tschann, 2005; Lewis et al., 2007; Patrick & Maggs, 2010; Pinkerton, Bogart, Cecil, & Abramson, 2002; Prinstein, Meade, & Cohen, 2003; Scholly, Katz, Gascoigne, & Holck, 2005). However, most studies have focused on risk prevention and the use of contraceptives in tandem to prevent HIV/AIDS and Sexually Transmitted Infections (STIs). The few studies that focused on overestimation of sexual activity concluded that women tended to overestimate the amount of sexual activity in which their peers were participating, especially for vaginal intercourse, oral sex, and masturbation (Bersamin et al.,

2006; Bogle, 2008; Halpern-Felsher et al., 2005; Pinkerton et al., 2002, Prinstein et al., 2003).

These findings placed a large emphasis on descriptive norms and how women typically overestimated other women's number of partners.

Research on social norms and oral sex has found that female adolescents believed a larger number of their peers had engaged in oral sex, or would engage in oral sex in the near future, than was actually the case (Halpern-Felsher et al., 2005). Many of these studies did not distinguish between giving and receiving oral sex in terms of having participated or number of partners (London, 2010; McKay, 2004; Newcomer & Udry, 1985; Remez, 2000). Additionally, women who had previously engaged in oral sex were more likely to assume that others their age had engaged in oral sex than was true of their peers who had not engaged in oral sex (descriptive norms; Bersamin et al., 2006; Halpern-Felsher et al., 2005). Many of these women engaged in oral sex because they believed it was an activity that was approved of by their peers and, therefore, was acceptable (injunctive norms; Bersamin et al., 2006). When asked about their best friend's actions, women believed that their best friend's oral sex behavior was similar to their own; those who had engaged in oral sex believed their friends had engaged in oral sex, and those who did not participate believed that their friends did not participate either (Prinstein et al., 2003).

Social norms research for penile-vaginal sexual intercourse tells a similar story. Many women and men believed that the typical person engaged in sexual intercourse with more partners than they themselves actually did (Agostinelli & Seal, 1998; Bogle, 2008; Kinsman, Romer, Furstenberg, & Schwarz, 1998; Lewis et al., 2007; Scholly et al., 2005; Stinson, 2010). Adolescents who had engaged in sexual intercourse were more likely to believe their friends had engaged in sexual intercourse than was true of adolescents who had not engaged in penile-

vaginal intercourse, individuals whom we will refer to as virgins (Kinsman et al., 1998). Once women reached college, both virgin and non-virgin women believed that a majority of their fellow students had engaged in sexual intercourse (Bogle, 2008).

Hooking up, also known as a type of casual sex behavior because partners typically have not known each other for long (Bogle, 2008), has been studied multiple times within the college setting (Agostinelli & Seal, 1998; Bogle, 2008; Lambert, Kahn, & Apple, 2003; Lewis et al., 2007; Scholly et al., 2005; Stinson, 2010). Many women typically overestimate the amount of sexual intercourse that occurs during a hook up (Bogle, 2008; Stinson, 2010). Students believed that the average female had engaged in multiple casual sex encounters with a larger number of sex partners than was actually true (Bogle, 2008; Lewis et al., 2007; Scholly et al., 2005; Stinson, 2010). Students also believed that they were less comfortable engaging in these casual sex encounters compared to other women (Bogle, 2008; Lambert et al., 2003; Stinson, 2010) and that they had more sexual responsibility than the typical woman (Agostinelli & Seal, 1998; Lewis et al., 2007; Stinson, 2010).

### **Information Surrounding Social Norms**

Overall, the patterns for norms surrounding these sexual activities are parallel to the findings for alcohol intake: students perceive that other people are participating in the activity at greater rates than is actually true. There were many reasons why students predicted their classmates consumed a large amount of alcohol, and the same reasons could also be used to explain why students believed their classmates participated in sexual acts with multiple people. One of the most pervasive reasons was social interaction and the availability heuristic (Carey et al., 2006; Lewis et al., 2007; Real & Rimal, 2007). Availability heuristics include how often

people perceive certain events or actions to occur (Tversky & Kahneman, 1974), which could be influenced by social interactions.

Many people base their knowledge of others' activities on what they notice, often known as the availability heuristic (Stinson, 2010). At a party, attention may be drawn to the couple kissing on the couch or couples touching each other on the dance floor rather than to a group of women who are were enjoying dancing by themselves. When recounting a weekend to friends, gossip may center on who did what sexually with whom. Because sexual acts may be more conspicuous, women may assume that they are consistently happening and may ignore the overwhelming number of people who are not participating in such acts (Bogle, 2008; Stinson, 2010).

In addition to the availability heuristic being influenced by personal experiences or friends' recounts of experiences, there may be an extraordinary amount of influence from the media which could affect both descriptive and injunctive norms (Bersamin, Bourdeau, Fisher, & Grube, 2010; Carey et al., 2006). Popular movies such as "American Pie," "Van Wilder," and "National Lampoon's Animal House" promote no-strings-attached sexual intercourse for college aged students. Additionally, popular websites such as Facebook include pictures and posts of past sexual activities of various friends. Another popular website frequented by college students, [textsfromlastnight.com](http://textsfromlastnight.com), includes copies of texts that readers send in to be posted. These texts post only the sender's area code and can cover a range of sexual activities, such as:

(507): Redeem this text for a blowjob

and

(970): Girls behind me in the library are trying to outslut each other with stories from last semester. I'm about to set my cock on the table between them and label it "tie breaker"

With the abundance of external evidence of many sexual encounters, some women may have noticed these sexual acts and perceived that all women were participating except for them, therefore contributing to an overestimation bias (Suls & Green, 2003). The fundamental attribution error says that observers underestimate the amount of situational influences on another's behavior and, instead, attribute actions directly to personality or personal beliefs (Ross, 1977; Tetlock, 1985). Women could assume that the sexual encounters of others represented their personal stance and was not due to a situational influence, thereby creating a fundamental attribution error (Carey et al., 2006). This difference could trigger women to adopt what they perceive to be the social norms and participate in sexual activities because they believe others are doing so. Their negative attitudes toward participating in sexual activities may not change, but their actions would, thus contributing to pluralistic ignorance. Pluralistic ignorance occurs when people conform to social norms even though their own attitudes and beliefs are in opposition (Allport, 1924, as cited in Stinson, 2010; Lambert et al., 2003). Thus, women may still believe their individual attitudes towards partaking in sexual activities differ from others even though their actions suggest that their attitudes have changed (Lambert et al., 2003; Prentice & Miller, 1993; Prince & Carey, 2010; Stinson, 2010; Suls & Green, 2003).

### **Sexual Intercourse**

Many women have not had sexual intercourse by the time they graduate from high school. Multiple studies have reported that anywhere from 17% to 60% of women participated in sexual intercourse prior to high school graduation (Alexander & Fisher, 2003; Beeghley &

Sellers, 1986; Center for Disease & Control Prevention, 2004; Cooper, 2002; Cornell & Halpern-Felsher, 2006; Grello, Welsh, Harper, & Dickson, 2003; Halpern-Felsher et al., 2005; Hans, Gillen, & Akande, 2010; Madkour, Farhat, Halpern, Godeau, & Gabhainn, 2010; Manning, Giordano, & Longmore, 2006; Manning, Longmore, & Giordano, 2000; Prinstein et al., 2003; Schuster, Bell, & Kanouse, 1996; Terry & Manlove, 2000). In fact, the number of women aged 15 to 17 who have had sexual intercourse has declined within recent decades: 53 percent in 1988 to 50 percent in 1995 (Terry & Manlove, 2000), and 38 percent in 1995 to 30 percent in 2002 (Center for Disease Control & Prevention, 2004).

Approximately 85 percent of women have engaged in sexual intercourse by the time they graduate from college, depending on the year and the school where the survey took place (Beeghley & Sellers, 1986; Chambers, 2007; Davidson & Moore, 1994; Lewis et al., 2007; Miller, Norton, Curtis, Hill, Schvaneveldt, & Young, 1997; Paul & Hayes, 2002; Pinkerton, Cecil, Bogart, & Abramson, 2003; Siegel, Klein, & Roghmann, 1999). However, even though 85 percent of college-aged women may have participated in sexual intercourse, they were neither all currently participating in sexual intercourse nor had more than one partner at the time of the study (Siegel et al., 1999).

Siegel et al. (1999) found that 84 percent of female college seniors reported ever having participated in vaginal and/or oral intercourse, yet only 58 percent were presently engaging in sexual activity. Only 13.4 percent of college women who were sexually active had had sex with three or more men (Lewis et al., 2007), and a small number of women had sex with more than four sexual partners within the past few months (Scholly et al., 2005). Similar results were found for high school girls in 1997; 48 percent had engaged in sexual intercourse, however only 37 percent were sexually active at the time of data collection (Terry & Manlove, 2000). Seventy

percent of high school girls who were no longer virgins had zero to one partners within the past year, while only 13 percent of high school girls engaged in sexual intercourse with three or more partners in the past year (Terry & Manlove, 2000). Although these numbers indicate that a majority of women have participated in sexual intercourse, participation may not happen as often or with as many people as beliefs about descriptive norms may suggest (Kinsman et al., 1998). Therefore, because women may perceive having multiple sexual partners as common, they may also believe that it is socially acceptable to have multiple partners themselves, an injunctive norm.

Of the close to 50 percent of women who remained virgins through high school (Terry & Manlove, 2000), many experienced sexual intercourse during college (Cooper, 2002). Approximately 50 percent of previously non-sexually active women engaged in first intercourse during their first year of college (Patrick & Maggs, 2010), and approximately 86 percent of women had engaged in intercourse by the time they were seniors (Siegel et al., 1999). The roughly 40 percent of women who experienced sexual intercourse for the first time during college chose to do so because of feelings of affection, pleasure, and comfort (Patrick & Maggs, 2010).

Women in college have also been involved in more long-term and stable romantic relationships that were not solely focused on sexual intercourse (Lindgren, Schacht, Pantalone, Blayney, & George, 2009). Other influences on participating in sexual intercourse included perceived peers' approval of partaking in sexual activity and beliefs about when it became appropriate to do so (Manning, Longmore, & Giordano, 2005). Women's decisions to have sex were also influenced by their social networks (Hipwell, Kennan, Loeber, & Battista, 2010; Manning et al., 2005). As more women engaged in sexual intercourse, their virgin peers took

notice and may have decided to have sexual intercourse because they believed many of the people they knew had done so. Students even indicated that they did not think there were many virgins on campus and believed those who arrived freshman year as a virgin would not stay a virgin for long (Bogle, 2008). Hence, descriptive norms may have a role in determining whether students decided to lose their virginity; if they perceived everyone else to have had sexual intercourse, it may influence their decisions about deciding to engage in sexual intercourse.

However, many of these perceived instances of sexual intercourse could be confused with what is actually happening. A college culture that has recently developed over the last few decades involves “hooking up” (Bogle, 2008; Stinson, 2010). A single definition of what constitutes a hook up is hotly debated among scholars and college students alike (Bogle, 2008; Gilmartin, 2006; Paul & Hayes, 2002; Stinson, 2010). Common traits of the various definitions of a hook up are that it includes a one-time sexual relationship between strangers or recent acquaintances, but it could involve anything from kissing to oral sex to sexual intercourse (Bogle, 2008; Gilmartin, 2006; Lambert et al., 2003; Paul & Hayes, 2002; Stinson, 2010).

Not all hook ups involve sexual intercourse; however, unless a definite explanation is provided for what took place, women are left guessing as to the sexual acts the hook up entailed (Bogle, 2008; Gilmartin, 2006; Lambert et al., 2003; Paul & Hayes, 2002; Stinson, 2010). In reality, only about a quarter of hook ups involve sexual intercourse (Bogle, 2008; Fielder & Carey, 2010). Descriptive and injunctive norms become imperative here as women are only able to make inferences about how far a hook up went sexually and whether the sexual activities involved were considered appropriate by others. Most women believe that hook ups typically involve sexual intercourse and tended to interpret what their peers were participating in sexually as guidelines on how they should behave sexually (Bogle, 2008). Many believed that even

though they or their friends were not actively participating in sexual intercourse, other women were actively participating in sex with multiple partners (Bogle, 2008; Prinstein et al., 2003) and were very comfortable with doing so (Lambert et al., 2003). Women often looked to others to determine what the norm was for participating in sexual intercourse (Bogle, 2008; Miller et al., 1997; Prinstein et al., 2003). Hence, while descriptive norms may be extremely prevalent, they may not always portray exactly what is happening.

Although many people believed most of their friends had already engaged in sexual intercourse, approximately 15 to 35 percent of all college women were still virgins by the time they reached senior year (Bogle, 2008; Siegel et al., 1999). Data indicate that some women choose to remain virgins throughout college, and some of the primary reasons were ethics, safety, and a focus on developing and maintaining friendships (Patrick, Maggs, & Abar, 2007; Patrick & Maggs, 2010). Many students who were strongly invested in their academics chose not to have sex for fear of becoming pregnant or contracting an STI (Manning et al., 2005; Patrick et al., 2007; Patrick & Maggs, 2010). Likewise, individuals who were focused on maintaining and developing friendships were less likely to engage in sexual intercourse during their freshman year of college (Patrick et al., 2007). Others chose to wait until they were in a loving relationship with someone of the other sex (Grello, Welsh, & Harper, 2006; Patrick et al., 2007).

### **Oral Sex**

Students and researchers engage in a constant debate as to whether or not participation in giving or receiving oral sex equals a loss of one's virginity. (Chambers, 2007; Grello et al., 2006; Hans et al., 2010; Hunt & Curtis, 2006; Remez, 2000). Overall, much of the research on this topic has centered on women's combined rates of giving and receiving oral sex in high school.

This research may be due to intensive media reports on oral sex among adolescents which stated the rates of participation in oral sex among middle- and high-school aged students were increasing (Barrett, 2004; Hunt & Curtis, 2006; McKay, 2004; Remez, 2000). Although multiple studies reported that the rates of oral sex were, in fact, increasing for adolescents and young adults (Barrett, 2004; Davidson & Moore, 1994; Hans et al., 2010; Hunt & Curtis, 2006; McKay, 2004; Remez, 2000; Wells & Twenge, 2005), the question remained as to whether the rates of oral sex were increasing exponentially or if oral sex was just being reported more often than in the past (Remez, 2000). However, a majority of reports on numbers and percentages of participation in oral sex combined both fellatio and cunnilingus in the same overall average participation rate. There has been very little splitting of data to determine how often women were performing oral sex versus receiving oral sex. Most researchers were in agreement that no matter how high the numbers were, oral sex among women was typically fellatio and not cunnilingus (London, 2010; McKay, 2004; Newcomer & Udry, 1985; Remez, 2000).

A reported fad of the late 1990s centered around rainbow parties, where multiple girls donned different shades of lipstick before performing fellatio on a male. The goal of these parties was to see which man could have the biggest rainbow of lipstick color on his penis by the end of the night. These famed rainbow parties were the center of news for a majority of the decade, however no one was able to prove how often they were actually occurring (Barrett, 2004; Hunt & Curtis, 2006; McKay, 2004; Remez, 2000). To young women, the reports of these parties may have been seen as proof that their peers were participating in oral sex and, thus, contributed to the formation of descriptive norms. Reportedly, anywhere from 10 percent to 55 percent of high school women have participated in giving or receiving oral sex (Bersamin et al., 2010; Bersamin et al., 2006; Bersamin, Walker, Waiters, Fisher, & Grube, 2005; Cornell &

Halpern-Felsher, 2006; Fielder & Carey, 2010; Halpern-Felsher et al., 2005; London, 2010; Prinstein et al., 2003; Remez, 2000).

What was overwhelmingly clear was that a majority of women participated in oral sex before vaginal intercourse (Halpern-Felsher et al., 2005; Jakobsen, 1997; Schwartz, 1999). Most high school aged girls believed that participating in oral sex, rather than sexual intercourse, was more appropriate for their age (Halpern-Felsher et al., 2005) and was not as emotionally involving as engaging in sexual intercourse (Remez, 2000; Stinson, 2010). In addition, oral sex was seen as a much safer alternative than sexual intercourse because there was zero risk of pregnancy (Barrett, 2004; Cornell & Halpern-Felsher, 2006; Remez, 2000). Other reasons high school girls provided for participating in oral sex included curiosity, pleasure, everyone else was doing it, peer pressure, result of drinking or drugs, boredom, family problems, low self-esteem, and the media (Barrett, 2004; Cornell & Halpern-Felsher, 2006). These injunctive norms may have contributed to how women thought about participating in oral sex: if people deemed it more acceptable than vaginal sex, then it must be appropriate to participate in.

College women's reported rates of both performing and receiving oral sex have fluctuated within the past fifteen years. Forty-two percent of women in 1995 reported participating in oral sex, but between 68 percent and 72 percent of women reported cunnilingus in 1994 (Davidson & Moore, 1994; Newcomer & Udry, 1985). In 1999, 57.1 percent of women had received cunnilingus and 56.5 percent had performed fellatio, whereas in 2010, 89.9 percent of women had received cunnilingus and 89.3 percent had performed fellatio (Hans et al., 2010; Newcomer & Udry, 1985; Schwartz, 1999). For college women who were exclusively dating or in serious relationships, virgins and non-virgins participated in oral sex at equal rates (Bersamin et al., 2005; Remez, 2000).

Just as for sexual intercourse, the rate of oral sex during hook ups in college was less than one-third for most college students (Bogle, 2008; Fielder & Carey, 2010). Thirty percent of students reported giving or receiving oral sex during hook ups in their first semester of college, and only approximately 27 percent of hook ups for all years of college involved oral sex (Fielder & Carey, 2010). Fellatio and cunnilingus were much less likely to occur during hook ups than in a romantic situation (Fielder & Carey, 2010). These facts may discount what the information from descriptive norms is portraying; while women may think oral sex occurs often, in reality, the descriptive norms do not provide the best representation of people's actions.

Perceptions of other's participation in oral sex have been found to influence one's own sexual behavior (Bersamin et al., 2006; Halpern-Felsher et al., 2005; Prinstein et al., 2003). Both adolescents and college-aged women believed a large number of their female peers had engaged in oral sex, and these perceptions increased their likelihood of engaging in oral sex (Halpern-Felsher et al., 2005; Prinstein et al., 2003). They often believed that because their friends were participating in oral sex, their participation would garner approval from their peer group (Bersamin et al., 2005; Prinstein et al., 2003). This approval could influence women's injunctive norms as they think their friends consider oral sex to be acceptable.

### **Sexting**

Relatively new to the literature, sexting is often overlooked as it is a recent addition to sexual activity with the use of cell phones that have the ability to send and receive picture messages (Ostrager, 2010). Sexting is defined by Ostrager, (2010) as "the act of sending and receiving nude or seminude pictures of another via text messages" (p. 712), although sexting may also include sending non-pictorial sexually explicit text messages to others. Approximately 36 percent of women aged 20 through 26 and 32 percent of women aged 13 through 19 reported

ever sending nude or seminude pictures of themselves (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2008). Reasons for sending these pictures included sending them to a boyfriend, a boy they wanted to date or hook up with, or to someone they have only met online (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2008). However, these sexts are not solely reserved for the person intended to receive them; a sexted picture can be sent to multiple people without the sender's knowledge. Even with this risk, women chose to send sexually explicit pictures of themselves to others (Ostrager, 2010; The National Campaign to Prevent Teen and Unplanned Pregnancy, 2008). Sending these images could prove to be dangerous for freshmen in college because sending and receiving explicit photo texts with someone under the age of 18 can be considered child pornography (Ostrager, 2010). Freshman women who engaged in sexting with friends who were still in high school or have not yet reached age 18 could end up in jail if the messages were found or have been sent to others because they were in possession of and sending and receiving child pornography (Ostrager, 2010). With sexting appearing on the news as part of celebrity scandals, women may perceive through descriptive norms that others are often participating in sexting. However, the negative stigma that the community outwardly associates with sexting (Ostrager, 2010) could collide with the information received from others that they are sexting; injunctive norms may be harder to form because of the opposing information.

### **Anal Intercourse**

Anal intercourse has been excluded in many studies; however, approximately 11 percent of girls in high school have experienced it and do not consider it to mean they have lost their virginity (London, 2010), and approximately 15.7 to 31.1 percent of women in college have participated in it (Davidson & Moore, 1994; Hans et al., 2010). Participation in anal intercourse

includes no risk for pregnancy and was thought by adolescents in one study to contain a low risk of passing on STI/HIV infections and has therefore become an alternative to engaging in penile-vaginal sexual intercourse (Davidson & Moore, 1994). Within the hook up setting, three percent of women engaged in anal sex during a hook up before college, one percent engaged in anal sex during a hook up in the first semester of college, and five percent reported engaging in anal sex during a hook up as a total lifetime number (Fielder & Carey, 2010). Anal sex is not often discussed in the literature, and this may reflect a lack of discussion about this topic among the general population. If there is not much available information, people may not form injunctive norms based on descriptive norms. Instead, they may form their own opinions as there are not many other sources of influence.

### **Sexually Permissive Attitudes**

One possible cause of social norms suggesting others have a high number of sexual partners could be perceived permissive sexual attitudes (Hendrick & Hendrick, 1987). In the mid-1900s, many women were considered to be conservative and men were considered to be permissive; in accordance with the changing culture, women have begun to adopt more permissive attitudes (Hendrick & Hendrick, 1987). Women with permissive attitudes are typically comfortable engaging in sexual activities with a man with whom they are not in a romantic relationship. They have a more care-free attitude towards sexual relationships and tend to relate strongly with the love style “Ludus” (game-playing love; Hendrick & Hendrick, 1987).

Previous research indicated that women who believed sexual intercourse had many benefits were more likely to have sex with men outside of a relationship (Manning et al., 2005). Most women, however, were uncomfortable with the idea of engaging in sexual relations with people they did not know well (Lambert et al., 2003; Stinson, 2010). Just as for social norms

research for sexual activities, research has also indicated that women perceived themselves to be less sexually permissive than was true of the average woman (Agostinelli & Seal, 1998).

It is possible that descriptive norms are why women perceive other women to have more permissive attitudes. This could be apparent especially for hooking up as a hook up involves women engaging in sexual acts with men with whom they are not familiar, an idea that overlaps with permissive attitudes. Injunctive norms are most important for perceptions as they determine how acceptable these no-attachment love games are to others. Because women believe that other women participate in sexually permissive acts, such as enjoying one night stands, they may believe that other women hold permissive attitudes, which, therefore, can influence women's own ideas as to what sexual activities are acceptable in which to participate. Perceived high levels of permissiveness indicate that women believe that others consider it appropriate and acceptable to participate in sexually permissive activities. If women believe that the typical woman holds sexually permissive attitudes, then they also believe that the typical woman considers participating in a wide range of sexual acts to be acceptable, thereby influencing beliefs about injunctive norms. These misperceptions of injunctive norms could potentially influence what women consider to be acceptable and unacceptable sexual acts in which to participate.

Previous research has shown that women perceived other women to have had more sexual partners than themselves (Agostinelli & Seal, 1998; Bogle, 2008; Kinsman et al., 1998; Lewis et al., 2007; Scholly et al., 2005; Stinson, 2010), and that women perceived other women to hold more sexually permissive attitudes (Agostinelli & Seal, 1998). We wanted to replicate these research findings and then expand upon research on descriptive norms by also studying perceived comfort levels with participation in various sexual acts. We also wanted to add to the

literature by investigating whether perceived sexually permissive attitudes of others (injunctive norms), along with perceived number of partners (descriptive norms), could contribute to predicting women's own number of sexual partners.

### **Hypotheses**

Consistent with previous research, we predicted that women would report having fewer sexual partners than they perceived their best friend or the typical freshman woman to have had. We also expected that women believed their best friends would have had fewer sexual partners than the typical freshman woman because we believed that women would perceive their best friends as more similar to themselves than to the typical freshman. We also hypothesized that there would be differences between participants' reported comfort levels for various sexual acts and their perceptions of the comfort levels of their best friends and the typical freshman woman. Specifically, we expected women to rate themselves as significantly less comfortable participating in various sexual acts than they believed was true of their best friend and the typical freshman woman. In keeping with our hypotheses for number of sexual partners, we expected that women would consider the typical freshman woman to be more comfortable participating in sexual acts than was true of their best friends because they could specifically think about their best friends as individuals but would be unable to do so with the typical freshman.

Additionally, because beliefs about other's behaviors have been found to influence behavior in prior social norming research, especially in regards to alcohol intake, (Benton et al., 2006; Borsari & Cary, 2003; Carey et al., 2006; Larimer et al., 2004; Lewis et al., 2007; Patrick & Maggs, 2010; Prentice & Miller, 1993; Prince & Carey, 2010; Real & Rimal, 2007; Suls & Green, 2003), we wanted to see if this pattern would hold with sexual activity. Specifically, as described above, we hypothesized that perceived permissive attitudes and perceived number of

sexual partners for best friends and the typical freshman would aid in the prediction of a person's total number of sexual partners above and beyond individuals' own beliefs.

## **Method**

### **Participants**

One hundred sixty-five participants were recruited through an introductory psychology course research participant pool at a public liberal arts university in the southeastern United States. The participants were compensated with partial credit toward a course requirement. Of the 165 participants, 9 were dropped from analyses because they did not meet the criteria of identifying as a heterosexual, female freshman. The average age of the remaining subjects ( $n = 156$ ) was 18.36 years ( $SD = .53$ ). All participants were female and in their first year of college. Participants identified their ethnicity as follows: 78.7% Caucasian, 7.7% African American, 5.7% Asian, 2.6% Hispanic, 5.2% Multiracial, and 0.6% did not wish to disclose their ethnicity. Participants identified their socioeconomic status as follows: 1.3% poverty, 9% working class, 47.4% middle class, 41.0% upper-middle class, and 1.3% wealthy. In addition, 50.3% reported not currently dating anyone, 7.7% were casually dating one or more people, 40% were dating one person exclusively, and 1.9% were engaged or planning to marry. None of the participants reported being married or living with their romantic partner.

### **Procedure**

All participants completed an anonymous survey through SurveyGizmo.com in small, supervised groups. Due to the personal material covered in our study, if students entered their information and it did not meet our specifications (i.e., they were male, not a first-year student, under the age of 18 or over the age of 21, or did not identify as heterosexual) they were

automatically skipped to the debriefing. Students were told they could leave the survey at any time and still retain course credit.

The survey contained three sections: a section where participants answered questions about themselves, a section where participants answered questions as they believed their best heterosexual female friend would answer, and a section where participants answered questions as they believed the average heterosexual female college freshman would answer.

### **Measures**

**Demographics.** Women answered questions concerning their sex, age, year in college, ethnicity, sexual orientation, and socioeconomic status at the beginning of the survey. Women were asked about their relationship status at the end of the survey.

**Sexual behaviors.** A list of sexual activities was created based on sexual activities studied in previous research (e.g., Bogle, 2008; Grello et al., 2006; Hans et al., 2010; London, 2010; Ostrager, 2010; Pinkerton et al., 2002; Terry & Manlove, 2000; Wells & Twenge, 2005). Participants were asked whether they had participated in the activity and, if they had, the number of partners with whom they had engaged in the activity. Participants answered these questions about themselves and provided their perceptions of how their best heterosexual female friend and the average heterosexual female college freshman would respond. Sexual acts that were inquired about included sexual intercourse, giving oral sex, and receiving oral sex.

**Sexual comfort.** A separate list of sexual activities was created based around the sexual behavior questions described above. Participants were asked to rate how comfortable they felt or would feel participating in a range of activities from 1 (*very uncomfortable*) to 7 (*very comfortable*). Participants again answered these questions about themselves, their best heterosexual female friend, and as they believed the typical heterosexual female college

freshman would respond. Activities included engaging in sexual intercourse before marriage, giving oral sex, receiving oral sex, receiving anal sex, sexting, and three casual sex activities. For sexting, we did not distinguish between sending sexually explicit pictures or words as we believed sexting was an ambiguous term that could encompass both types of actions. The casual sex activities were defined as participating in activities with a man after a limited acquaintance and included: having sexual intercourse, giving oral sex, and receiving oral sex.

**Permissive Attitudes.** The permissiveness subscale of the Sexual Attitudes Scale (Hendrick & Hendrick, 1987) was used to assess attitudes about premarital sexual permissiveness (e.g., “The best sex is with no strings attached”). Participants answered 21 questions on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The measure was completed three times: once to reflect participants’ attitudes, again to reflect the attitudes participants thought their best friends had, and lastly to reflect the attitudes participants believed the typical freshman had. Cronbach’s alpha in the original study was .94, and it was .90, .93, and .87 for self, best heterosexual female friend, and average heterosexual college female, respectively, in the present study.

## Results

### Participant’s Sexual Partners

Participants answered questions about their sexual partners; the aggregated results created the basis for comparisons on the assumption that they are representative of the typical freshman population. Freshmen reported having between zero and 14 sexual intercourse partners ( $M = 1.87$ ,  $SD = 2.64$ , Median = 1). Excluding the women who reported never engaging in sexual intercourse, 88 women reported having sexual intercourse with at least one person ( $M = 3.31$ ,  $SD = 2.76$ , Median = 3). Women reported giving oral sex to anywhere from zero to 15 partners ( $M$

= 1.81,  $SD = 2.50$ , Median = 1). Of the 91 women who reported giving oral sex, the average number of partners was 3.11 ( $SD = 2.58$ , Median = 2). Similar to the number of men women reported giving oral sex to, women reported receiving oral sex from zero to 15 partners ( $M = 1.49$ ,  $SD = 1.98$ , Median = 1). Of the 97 women who reported receiving oral sex, the average number of partners was 2.40 ( $SD = 2.03$ , Median = 2).

### **Social Norm Comparisons**

Since multiple ANOVAs were conducted, a Bonferroni correction was made, and therefore, results were considered statistically significant if  $p < .004$ . All means and standard deviations are located in Table 1.

A within-subjects ANOVA indicated that there was a significant difference in the number of sexual intercourse partners women reported for themselves, their best heterosexual female friend, and the typical heterosexual female college freshman,  $F(2, 310) = 6.21$ ,  $p = .002$ ,  $\eta^2_{\text{partial}} = .09$ . Follow-up t-tests revealed that women considered the typical heterosexual freshman woman to have had more sex partners than themselves. There was no significant difference between the self and the best friend or the best friend and the typical freshman. See Table 2 for detailed t-test results.

Additional ANOVAs were conducted on the number of partners for both giving and receiving oral sex. The number of partners was significantly different for giving oral sex,  $F(2, 310) = 22.96$ ,  $p < .001$ ,  $\eta^2_{\text{partial}} = .23$ . Follow-up t-tests (see Table 2) revealed that women believed they had performed oral sex on significantly fewer men than had the typical freshman. They also believed their best friend had performed oral sex on significantly fewer men than had the typical freshman. There was no significant difference between self and best friend. The number of partners was also significantly different for receiving oral sex,  $F(2, 310) = 6.81$ ,  $p =$

.001,  $\eta^2_{\text{partial}} = .10$ . Follow-up tests revealed women believed they had received oral sex from significantly fewer men than had the typical freshman. There were no other significant differences.

Analyses indicated that there was no significant difference in comfort levels for engaging in sexual intercourse before marriage,  $F(2, 292) = 3.49, p = .032, \eta^2_{\text{partial}} = .01$ .

ANOVAs were also conducted to determine if there was a difference in comfort levels for giving and receiving oral sex. Comfort levels for both giving,  $F(2, 290) = 18.54, p < .001, \eta^2_{\text{partial}} = .14$ , and receiving,  $F(2, 290) = 6.87, p = .001, \eta^2_{\text{partial}} = .003$ , oral sex were significantly different. Follow-up t-tests for comfort giving oral sex revealed that women perceived their best friend and the typical freshman to be significantly more comfortable giving oral sex than they were (see Table 2). There was no significant difference in comfort level between best friend and the typical freshman. Follow-up t-tests for comfort receiving oral sex revealed that women believed they were significantly less comfortable than were their best friends. There were no significant differences found between self and typical freshman or best friend and typical freshman (see Table 2).

Analyses also indicated that there was a significant difference in comfort level for receiving anal sex,  $F(2, 292) = 15.13, p < .001, \eta^2_{\text{partial}} = .17$ . Follow-up t-tests (see Table 2) revealed that women believed the typical freshman was significantly more comfortable receiving anal sex than themselves and their best friends. There was no significant difference between self-reported comfort levels and the perceived comfort levels of best friends.

Differences for comfort levels in sexting were analyzed, and a significant difference was found,  $F(2, 290) = 27.54, p < .001, \eta^2_{\text{partial}} = .28$ . Follow-up t-tests revealed that women were significantly less comfortable sexting than they believed was true of their best friends and the

typical freshman, and their best friend was also believed to be significantly less comfortable sexting than was the typical freshman (see Table 2).

Three ANOVAs were conducted to assess differences in comfort engaging in the casual sex practices of sexual intercourse and giving and receiving oral sex with someone met at a party that night. The assumption of sphericity was violated based on the result of Mauchley's test for the three ANOVAs; therefore, a Huynh-Feldt correction was made for each. Significant differences were found for comfort participating in casual sex,  $F(2, 267) = 67.83, p < .001$ .  $\eta^2_{\text{partial}} = .58$ , comfort performing oral sex on a man after a limited acquaintance,  $F(2, 267) = 63.35, p < .001$ ,  $\eta^2_{\text{partial}} = .55$ , and comfort receiving oral sex from a man after a limited acquaintance,  $F(2, 263) = 43.47, p < .001$ ,  $\eta^2_{\text{partial}} = .46$ . Follow-up t-tests revealed significant differences between self and best friend, self and typical freshman, and best friend and typical freshman for the three casual sex variables. See Table 2 for t-test results.

A final ANOVA was conducted to determine if there was a difference in permissive sexual attitudes. The assumption of sphericity was violated based on the result of Mauchley's test; therefore, we made a Huynh-Feldt correction in the analysis. A significant difference was found,  $F(2, 264) = 56.31, p < .001$ ,  $\eta^2_{\text{partial}} = .50$ . Follow-up t-tests revealed significant differences between all group means. See Table 2 for t-test results.

### **Predicting Sexual Activity**

Two sets of three hierarchical regression analyses were run to determine if perceived permissive attitudes and perceived number of sexual partners for best friends and the typical freshman could predict the number of sexual partners women had above and beyond women's own permissive attitudes. One set of analyses addressed the predictive power of beliefs about best friends in regards to numbers of sex and oral sex partners (both giving and receiving). The

other set addressed the predictive power of beliefs about the typical freshman in regards to numbers of partners. In each analysis, participants own permissiveness scores were entered at the first step; perceived permissiveness scores were entered at the second step along with the perceived number of partners for the targeted comparison group. Correlations among the 12 variables used in the regression analyses are located in Table 3.

The initial analysis focused on predicting the number of sexual intercourse partners. Permissive attitudes accounted for 16% of the variance in the number of partners with whom women had sex,  $F(1, 143) = 27.16, p < .001$ . Women who had more permissive sexual attitudes had more sexual partners. In the second step of the equation, perceived permissive attitudes and perceived number of sexual intercourse partners for best friends were added and explained an additional 6.2% of the variance. This was a statistically significant increase,  $F_{\Delta}(2, 141) = 5.66, p = .004$ . Own permissive attitudes and perceptions of the number of partners one's friend had were both positive predictors of individuals own number of sexual partners. The final model accounted for 22.2% of the variance in sexual partners,  $F(3, 141) = 13.42, p < .001$ . See Table 4 for complete regression results.

The next analysis focused on the number of partners to whom women had given oral sex. Permissive attitudes accounted for 10.1% of the variance,  $F(1, 143) = 16.10, p < .001$ , where women who had more permissive sexual attitudes had more partners. The second step accounted for an additional 13.2% of the variance, a statistically significant increase,  $F_{\Delta}(2, 141) = 12.09, p < .001$ . Own permissive attitudes and the perceived number of partners a best friend had were positive predictors of own number of sexual partners. Best friend's permissive sexual attitudes were a negative predictor of own number of sexual partners. Overall, 23.3% of the variance in

partners woman gave oral sex to was accounted for by the final model,  $F(3, 141) = 14.25, p < .001$ . See Table 4 for complete regression results.

The final analysis in this set looked at the number of partners from whom women had received oral sex. Permissive attitudes explained 9.8% of the variance in partners,  $F(1, 143) = 15.61, p < .001$ . Women who held more permissive attitudes had a greater number of sexual partners. Step two of the equation explained an additional 14.0% of the variance. The increase was statistically significant,  $F_{\Delta}(2, 141) = 12.98, p < .001$ . Participants own permissive attitudes and perceptions of friends' number of partners were significant positive predictors. The final model accounted for 23.9% of the variance in partners from whom oral sex was received,  $F(3, 141) = 14.72, p < .001$ . Complete regression results are located in Table 4.

Our next goal was to predict the number of women's sexual intercourse partners based on their beliefs about the typical freshman's attitudes and behaviors. Own permissive attitudes explained 13.9% of the variance in partners,  $F(1, 142) = 22.80, p < .001$ , and they positively predicted the number of sexual partners. Perceptions of the typical freshman's permissive attitudes and number of sex partners explained an additional 9.5% of variance,  $F_{\Delta}(2, 140) = 8.63, p < .001$ . Participants own number of partners was significantly positively predicted by their permissive attitudes and perceptions of the number of partners the typical freshman had. Perceived typical freshman's permissive attitudes were significant negative predictors of own number of sexual partners. Overall, 23.3% of the variance in the number of sex partners was accounted for by the final model,  $F(3, 140) = 14.19, p < .001$ . Regression results are presented in Table 5.

The number of partners to whom women gave oral sex was the subject of the next analysis. Participants' permissive attitudes accounted for 10.4% of the variance in partners,  $F(1,$

142) = 16.45,  $p < .001$ , and were positively related to the number of sexual partners. The second step accounted for an additional 7.9% of variance,  $F_{\Delta}(2, 140) = 6.78, p = .002$ , and all predictors were significant. Participants' permissive attitudes and perceptions of the number of partners for the typical freshman were significant positive predictors of individuals' own number of sexual partners. Beliefs about the typical freshman's permissive attitudes were significant negative predictors of own number of sexual partners. The final model accounted for 18.3% of the variance in partners,  $F(3, 140) = 10.45, p < .001$ . See Table 5 for regression results.

Our last regression analysis was to predict number of partners from whom women had received oral sex. Participant's permissive attitudes accounted for 10.5% of the variance in the number of sexual partners,  $F(1, 142) = 16.59, p < .001$ . Perceived permissive attitudes of the typical freshman and their estimated number of partners were added in the next step, explaining an additional 11.3% of the variance,  $F_{\Delta}(2, 140) = 10.13, p < .001$ . All predictors were significant such that individuals who held permissive attitudes and believed that the typical freshman woman had a greater number of oral sex partners had more partners themselves, but those who believed that the typical freshman held more permissive attitudes had fewer sexual partners. The final model accounted for 21.8% of the variance in the number of partners from whom women received oral sex,  $F(3, 140) = 13.00, p < .001$ . Regression results are located in Table 5.

An interesting finding through these regressions is that perceptions of other's permissive attitudes significantly negatively predicted one's own number of sexual partners. These variables were not significantly related at the level of bivariate correlations. Partial correlations were run to explore one instance of this. The correlation between typical freshman's permissiveness scores and number of one's own sexual intercourse partners becomes significantly negative when participants' own permissiveness scores ( $r = -.17, p = .04$ ) or the

number of sexual intercourse partners for the typical freshman ( $r = -.24, p = .004$ ) was controlled for. This finding provides support for the fact that the unique portion of perceptions of others' permissive attitudes, relative to the other variables under investigation, is negatively related to participants' own number of sexual partners.

### Discussion

Similar to previous sexual activity norming research (Agostinelli & Seal, 1998; Bersamin et al., 2006; Bogle, 2008; Halpern-Felsher et al., 2005; Kinsman et al., 1998; Lambert et al., 2003; Lewis et al., 2007; Prinstein et al., 2003; Scholly et al., 2005; Stinson, 2010), women in our study perceived others to have had more sexual partners than they themselves did. They perceived the typical freshman to have significantly more sexual intercourse partners as well as more partners for giving and receiving oral sex. This difference is parallel to results from previous research that indicated there were differences between perceptions of the behavior of others as compared to individuals' own behavior (Agostinelli & Seal, 1998; Bogle, 2008; Kinsman et al., 1998; Lewis et al., 2007; Scholly et al., 2005; Stinson, 2010). Even though women in our study reported fewer sexual partners than the typical freshman, they did not differ in comfort levels for engaging in sex before marriage. This pattern indicated that even though women may feel as comfortable as others having sex before marriage, they considered themselves to be less sexually promiscuous than other women.

There were no significant differences found between the number of partners for oneself and one's best friend, similar to the results found in Prinstein et al.'s (2003) study where women who had not engaged in sexual activities believed that their best friends had not participated either. Additionally, the only significant difference found between perceptions of the best friend and the typical freshman was for the number of partners to whom these women had given oral

sex; women believed that the typical freshman had given oral sex to more men than had their best friends. This belief could be related to Prinstein et al.'s (2003) idea that women perceive their best friends to have the same number of sexual partners as do they. Therefore, because slightly less than half of the women in our study had never given oral sex, they likely believed their best friends had never given oral sex. The difference could also be due to a lack of discussion on the topic of sexual partners between friends leading individuals to presume their best friends have engaged in these sexual behaviors.

A possible reason for why women do not talk much about giving and receiving oral sex could be due to a sense of shame or embarrassment, including body shame while performing or shame or embarrassment about participating in the specific act. Many women have reported feeling uncomfortable receiving oral sex because they are uncomfortable with their genital hygiene and are concerned about body odor (Hunt & Curtis, 2006), and this feeling of discomfort could also contribute to their shame over discussing the acts with their friends. Future research may want to investigate if shame could be a possible reason why women do not talk about the sexual acts in which they have participated thereby making it easier to form and maintain misperceptions about social norms.

Even though women reported that the typical freshman had received oral sex from more partners, they did not think the typical freshman differed from themselves in terms of comfort level receiving oral sex. As women scored both themselves and the typical freshman as extremely low in comfort levels for receiving oral sex, there may be additional, unmeasured, factors involved such as comfort showing one's body to a male, or a lack of experience with receiving oral sex (London, 2010; McKay, 2004; Newcomer & Udry, 1985; Remez, 2000). Women perceived their best friends to be much more comfortable receiving oral sex, which

could be due to discussions between friends in relation to these experiences. That said, we are not sure why women perceive their best friends to be more comfortable receiving oral sex than they themselves are without the pattern holding for the typical freshman, and future research may want to investigate a possible reason for this difference.

Women also believed that their best friends and the typical freshman were more comfortable giving oral sex than was true of themselves. However, women believed that their best friends and the typical freshman were only slightly more comfortable than neutral in regards to giving oral sex. Therefore, women believed that not many other women were comfortable giving oral sex to men, even though they were surrounded by multiple media sources that could add to the availability heuristic representing comfort participating in giving oral sex (Bersamin et al., 2010; Carey et al., 2006). This media exposure could have wide-reaching effects because giving oral sex is widely portrayed as more common than receiving oral sex, yet many women are uncomfortable performing oral sex on a male. Additionally, perceiving others to be comfortable giving oral sex may influence one's perceptions of others' injunctive norms because if people are comfortable with something, then it would likely be considered an acceptable act. Future research should investigate whether perceived comfort levels lead to changes in beliefs about the acceptability of various sexual behaviors.

Interestingly, previous studies have found that many teenagers feel more comfortable participating in oral sex than in sexual intercourse because they do not believe oral sex is as intimate an activity, possibly because all their friends appear to be participating (Prinstein et al., 2003; Remez, 2000). It has also been found that women also believed that their peers were more likely to engage in oral sex before sexual intercourse and that their peers were more likely to wait until marriage to have sexual intercourse (Halpern-Felsher et al., 2005). Although we

cannot directly compare the comfort levels found in our study to those from previous studies, our findings do suggest that women may not be as comfortable participating in sexual activities as previously suggested. Additionally, even though women may be more comfortable participating in certain sexual activities over others, e.g., sexting as compared to casual sexual intercourse (their reported comfort levels in our study were 3.80 and 1.90 respectively on a seven point scale), our findings indicated that women were somewhat uncomfortable.

Women also believed that the typical freshman was more comfortable receiving anal sex than was true of their best friends or themselves. Prior research indicated that approximately 15 to 31 percent of women in college had participated in anal sex (Davidson & Moore, 1994; Hans et al., 2010), a small number as compared to the 85 percent of women in college who had participated in vaginal sexual intercourse (Beeghley & Sellers, 1986; Chambers, 2007; Davidson & Moore, 1994; Lewis et al., 2007; Miller et al., 1997; Paul & Hayes, 2002; Pinkerton et al., 2003; Siegel et al., 1999). Because the rates of engagement in anal sex are so much lower than is true of vaginal sexual intercourse, we are unsure as to why women would perceive others to be comfortable participating in anal sex. This result may be related to women believing that the typical freshman is more comfortable engaging in sexual activities overall, without particular attention to the particular sexual activity. This must be considered in light of the fact that while this pattern is similar to results found in previous social norm studies (e.g., Stinson, 2010), there is no data available about anal sex in order for us to make direct comparisons.

Sexting, a more recent sexual addition to our society (Ostrager, 2010), follows the same pattern of perceived participation as other sexual acts. Women perceived both their best friends and the typical freshman to be more comfortable sexting than was true for themselves, and women also believed that the typical freshman was more comfortable sexting than they believed

was true of their best friends. This result could possibly be due to the media surrounding sext messaging, however, the media has also focused on instances where sexts had ended up in the wrong inbox, therefore causing problems for those involved (Ostrager, 2010).

Despite the risk of sexts being received by an unintended recipient, women rated themselves as neutral in comfort for engaging in sexting, but they rated the typical freshman as comfortable engaging in sexting. This discrepancy in comfort levels could possibly contribute to beliefs about injunctive norms as women may believe that high comfort levels indicate acceptance of that behavior. As our study did not specifically define sexting for our participants, future research may also want to focus on comfort levels for sending and receiving sexually explicit worded text messages versus sending nude or explicit photographs. Future research should also examine whether perceived comfort levels for sexting contribute to beliefs that sexting is an acceptable activity.

Differences among reported and perceived comfort levels for participating in casual sex for oneself, best friends, and typical freshman were also similar to findings from previous research (Lambert et al., 2003). People rated themselves as less comfortable participating in casual sex and both giving and receiving oral sex in the context of a casual relationship than was true for either their best friend or the typical freshman. Women also perceived their best friends to be less comfortable with casual sexual encounters than was true of the typical freshman. Previous research indicated that women perceived the typical freshman to be more comfortable participating in risky behaviors than they themselves were; however, perceptions of best friends' comfort levels have not been studied in this context (Bogle, 2008; Lambert et al., 2003; Stinson, 2010). Just as our previously described results on comfort levels indicated, women's beliefs about other women's comfort levels for participating in casual sex may have influenced their

injunctive norms about casual sex being an activity that is acceptable in our culture. Future research should investigate why there is a difference in perceived comfort with casual sexual activities between self and best friend when there is no difference between self and best friend for number of sexual partners.

Women also believed they held less permissive attitudes than either their best friends or the typical freshman and perceived their best friends to have less permissive attitudes than the typical freshman. A difference in permissive attitudes had been found in a prior study where women perceived other women to hold more sexually permissiveness attitudes (Agostinelli & Seal, 1998). Perceived comfort levels explored in our analyses may explain why women believed the typical freshman to be more permissive; if the typical woman was more comfortable engaging in various sexual acts, then they must hold more permissive attitudes. The same could also be said for lower comfort levels equating to less permissive attitudes. Future studies should focus on how to dispel these misperceptions of other's permissive attitudes, especially as they may influence injunctive norms on sexual behavior.

By studying these variables, we have found that many misperceptions about social norms surrounding sexual behaviors and attitudes exist. The women in our study rated the typical freshman as having more partners and being more comfortable participating in various sexual acts than they themselves were. They also rated their best friends as having more comfort participating in a range of sexual activities. Prior research has found that men also perceived that there were differences in attitudes between themselves, people they knew, and their less well-known peer group. Men believed that both the people they knew, and their non-acquainted peers held more sexist attitudes than they themselves did (Kilmartin, Smith, Green, Heinzen, Kuchler, & Kolar, 2008). In relation to our study, women generally believed that their best friends and the

typical freshman were more comfortable with sexual behaviors and held more permissive attitudes. While women believed the typical freshman was more comfortable than they perceived their best friend to be, women perceived both to be more comfortable than they themselves were. Thus, women have similar misperceptions as was found for men about people they know versus people with whom they were not acquainted (Kilmartin et al., 2008).

Additionally, prior research has also indicated that when people make inferences about members of the out-group's actions, in this case, the typical freshman, they base their ideas on how easily examples of such behavior come to mind. However, when people judge actions of their in-group, in this case, women's perceptions of their best friends, they are more likely to use the actual number of behaviors they have recalled (Rothman & Hardin, 1997). This relation to one's in-group and out-group may have influenced women's differences in perceptions between themselves, their best friend, and the typical freshman, which resulted in a three-tiered difference in reported number of partners and comfort levels. The out-group, the typical freshman, was seen as the most distant from oneself, and predictions were, therefore, made based upon the availability heuristic. The in-group, women's best friends, was perceived as closer in estimation to women's own attitudes and behaviors because women were using the number of behaviors they recalled their friends reporting.

Because there were many misperceptions of social norms surrounding sexual behaviors and attitudes, we wanted to see if we could predict participants' own behavior based on these misperceptions. We correctly believed that woman's permissive attitudes would predict their own number of sexual partners; the higher women scored on permissiveness, the greater their number of sexual partners. After confirming this relationship, we wanted to see if women's perceptions of their best friend's perceived permissive attitudes (injunctive norms) and number

of partners (descriptive norms) as well as the typical freshman's perceived permissive attitudes and number of partners could increase the prediction of the number of sexual partners individuals had. Essentially, did thinking that one's best friend and the typical freshman had a lot of partners and high permissive attitudes increase the likelihood that they had sexual relations with a greater number of people?

We found that freshman women were significantly influenced by the number of partners they perceived their best friends and the typical freshman to have had for sexual intercourse and oral sex above and beyond their own permissive attitudes. The number of partners women perceived their best friends and the typical freshman to have had influenced the number of partners they had such that if a woman perceived others to have a greater number of partners, then she was more likely to have more partners. The typical freshman's perceived permissive attitudes significantly predicted the number of partners women had for sexual intercourse and oral sex; however, perceived permissive attitudes of one's best friend only significantly predicted the number of partners to whom women had given oral sex. The more sexually permissive women thought their friends and the typical freshman were, the fewer partners they reported

In contrast to the positive relationship we predicted for both friends' and typical freshman's permissiveness scores in regard to the number of partners a woman had, we found perceived permissive attitudes to be negative predictors of number of partners. The typical freshman's permissive attitudes were not significantly correlated with the number of partners a woman had at the bivariate level, and perceived friends' permissiveness levels were significantly positively correlated with sexual intercourse and giving oral sex partners. Partial correlations controlling for participants own permissive attitudes and perceptions of others' number of sexual intercourse partners, respectively, revealed the same significant negative relationship with

women's own reported number of sexual partners and others' perceived permissive attitudes when controlled for one at a time. Given this, we believe that perceived permissive attitudes negatively predicted the number of sexual partners because the unique portion of variance remaining once the other variables were entered into the equation was related to the conservative area of people's beliefs where they perceived themselves to be more sexually conservative than others. We also believe that, because the perceived permissive attitudes of best friends were significantly positively related to women's number of sexual intercourse partners and number of partners from whom oral sex had been received in the bivariate correlations, they did not aid prediction in the hierarchical regression analyses because the variance was consumed by one's own permissive attitudes and the number of partners they perceived their friends to have.

The influence that women's perceptions of others had on their own number of partners may well be related to beliefs that other women have had more sexual partners (Agostinelli & Seal, 1998; Bersamin et al., 2006; Bogle, 2008; Kinsman et al., 1998; Lewis et al., 2007; Scholly et al., 2005; Stinson, 2010) and are more sexually permissive (Agostinelli & Seal, 1998). The pervasive belief that many women have is that they are more sexually conservative than others (Agostinelli & Seal, 1998), therefore, our finding that perceptions of other's permissive attitudes negatively predicting women's own number of partners is aligned with previous research. Our research added the extra piece that perceptions of others permissive attitudes can negatively predict other women's behaviors, possibly suggesting that women do not want to seem as sexually permissive as other women and, therefore, will have fewer partners.

Consequently, descriptive norms about the number of partners and injunctive norms about perceived permissive attitudes in regards to both best friends and the typical freshman contributed to the prediction of the number of partners with whom women had engaged in sexual

acts. These misperceptions have a large influence on women as they pay a lot of attention to what they believe others are doing, and these perceptions influence their own actions.

Additionally, the misperception of norms can be extremely detrimental for women because they may not actually want to have more sexual partners or may not be comfortable with it, but because they perceive others to have more sexual partners, they believe it is the norm and may conform to this norm to become accepted by their peers. Previous research found that if women believed others were participating in sexual acts, then they themselves planned to participate or have more partners (Bersamin et al., 2006; Bogle, 2008), but there has been no investigation in relation to women's own permissive attitudes.

Additionally, previous research has found that people's actions are influenced more by their friend's actions than by the average person's actions because of the difference between local versus global norms (Campo, Brossard, Frazer, Marchel, Lewis, & Talbot, 2003; Kilmartin et al., 2008). While the present study found that women were more influenced by their beliefs about the typical freshman's attitudes and behaviors in terms of sexual partners, it would be worth investigating if this result was because women may know how permissive their best friends are and have more accurate accounts of the number of people with whom they have engaged in sexual activities.

Because we only asked participants for their total number of sexual partners and not specifically how many people they had hooked up with, researchers may want to investigate whether perceptions of others' permissive attitudes and comfort with various casual sex behaviors has an effect on the number of partners with whom women engage in casual sexual acts (e.g., do women hook up because they think other women are hooking up?). This information could be especially beneficial in trying to reduce the risk of STIs and unintended

pregnancies which can occur during hook ups, especially when both partners have consumed alcohol (Center for Disease Control, 2004; Chambers, 2007; Cooper, 2002; Fielder & Carey, 2010; Halpern-Felsher et al., 2005; Patrick et al., 2007; Siegel et al., 1999; Terry & Manlove, 2000).

In addition, because our study was completed on a smaller, liberal arts campus, it would be beneficial for future research to include universities of various sizes and demographic composites to better generalize results across all freshman female college students. As each college campus represents a different type of college culture (e.g., large college campus known for a party atmosphere or a small college campus known for its religious affiliation), differences in sexual beliefs and behaviors may exist. It would also be beneficial to include women who identify as lesbian or bisexual to see what their beliefs are in relation to other lesbian or bisexual students' sexual activities.

Researchers should also look to see if the same sexual social norms exist through a college student's senior year or if they change with age. It would be interesting to see if their comfort levels with various acts increase as women age as well as whether their sexual behaviors are still related to beliefs about others above and beyond their own beliefs. It would also be important to see if women's perceptions of other's hooking up behaviors were related to their own sexual activities. As less than half of the freshmen in our study were dating one person exclusively or were engaged or planning to marry, their relationship status during their senior year may also affect whether other's actions could influence their own.

Additionally, researchers should work to design interventions that can help to dispel the types of false beliefs found in this study. The typical woman is not engaging in as many sexual activities as people perceive, and if these misperceptions are reduced, individuals may feel less

social pressure to participate in activities with which they are not comfortable. Many heterosexual women want to find a boyfriend while in college and believe that hooking up with a man after a party is one of the only ways to find one (Bogle, 2008). Unfortunately, most of these hook ups never develop into a relationship and, therefore, may end up emotionally harming the women who participate (Bogle, 2008). Preventing these false beliefs from the beginning could stop both men and women from questioning their moral beliefs because they have given up their bodies for sexual acts but received no emotional return.

Overall, we found that freshman women overestimated the amount of sexual activity in which other freshmen had engaged. Additionally, they also perceived both their best friends and the typical freshman to be more comfortable engaging in various sexual activities and to hold more permissive attitudes than was true of themselves. These misperceptions can significantly predict how many sexual partners women have had. Similar to alcohol norming studies (e.g. Borsari & Cary, 2003; Patrick & Maggs, 2010; Prince & Carey, 2010), women believed that others had many sexual partners, and therefore, they may believe that it is socially acceptable for them to have many sexual partners as well. Ultimately, women not only consider their own attitudes when participating in sexual activities, but they may consider what they perceive others believe and would do when making their decisions. So long as misperceptions surrounding normative sexual beliefs and behavior exist, women may continue to increase their number of sexual partners and may participate in acts with which they are not particularly comfortable because they believe it is both acceptable and appropriate.

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Table 1

*Descriptive Statistics for Sexual Acts and Comfort Levels*

	Self <i>M (SD)</i>	Best Friend <i>M (SD)</i>	Typical Freshman <i>M (SD)</i>
# Sexual Partners	1.87 (2.64)	2.31 (2.94)	2.71 (1.82)
# Give Oral Partners	1.81 (2.50)	2.53 (2.97)	3.47 (2.46)
# Receive Oral Partners	1.49 (1.98)	1.94 (2.59)	2.24 (2.00)
C. Sex Before Marriage	5.08 (2.08)	5.60 (1.95)	5.28 (1.40)
C. Giving Oral Sex	3.78 (1.96)	4.83 (1.96)	4.64 (1.44)
C. Receiving Oral Sex	4.30 (1.96)	4.91 (1.94)	4.41 (1.51)
C. Anal Sex	1.67 (1.34)	1.99 (1.58)	2.48 (1.52)
C. Sexting	3.80 (1.92)	4.38 (2.18)	5.03 (1.46)
C. Casual Sex	1.90 (1.29)	3.04 (2.07)	3.86 (1.42)
C. Casual Sex: Giving Oral Sex	1.89 (1.39)	2.97 (2.09)	3.85 (1.48)
C. Casual Sex: Receive Oral Sex	1.95 (1.42)	2.91 (2.03)	3.54 (1.48)
Permissiveness Scores	2.10 (.60)	2.42 (.92)	2.87 (.58)

*Note.* C. denotes comfort level with the activity; range for the comfort questions was from 1 (*Very Uncomfortable*) to 7 (*Very Comfortable*).

Table 2

*Follow-up T-Test Results for Significant ANOVAs*

	Self vs. Best Friend	Self vs. Typical Freshman	Best Friend vs. Typical Freshman
# Sexual Partners	$t(155) = -1.73, p = .086$	$t(155) = -3.81, p < .001^*$	$t(155) = -1.67, p = .097$
# Giving Oral Partners	$t(155) = -2.95, p = .004$	$t(155) = -6.86, p < .001^*$	$t(155) = -3.37, p < .001^*$
# Receiving Oral Partners	$t(155) = -2.16, p = .032$	$t(155) = -4.06, p < .001^*$	$t(155) = -1.37, p = .172$
C. Giving Oral Sex	$t(148) = -5.20, p < .001^*$	$t(147) = -4.78, p < .001^*$	$t(146) = 1.10, p = .273$
C. Receiving Oral Sex	$t(149) = -3.36, p = .001^*$	$t(146) = -0.54, p = .59$	$t(147) = 2.94, p = .004$
C. Anal Sex	$t(149) = -2.42, p = .017$	$t(147) = -5.59, p < .001^*$	$t(1148) = -3.28, p = .001^*$
C. Sexting	$t(149) = -3.68, p < .001^*$	$t(146) = -7.45, p < .001^*$	$t(147) = -3.81, p < .001^*$
C. Casual Sex	$t(150) = -6.20, p < .001^*$	$t(148) = -14.34, p < .001^*$	$t(1148) = -4.66, p < .001^*$
C. Casual Sex: Giving Oral Sex	$t(149) = -6.15, p < .001^*$	$t(146) = -13.47, p < .001^*$	$t(147) = -4.70, p < .001^*$
C. Casual Sex: Receive Oral Sex	$t(149) = -5.55, p < .001^*$	$t(148) = -10.92, p < .001^*$	$t(149) = -3.32, p = .002^*$
Permissiveness Scores	$t(144) = -4.98, p < .001^*$	$t(143) = -11.77, p < .001^*$	$t(143) = -5.44, p < .001^*$

*Note.* \*  $p < .004$  due to Bonferroni correction; C. denotes comfort level with the activity.

Table 3

*Correlations Among Variables Used in Regression Analysis*

	1	2	3	4	5	6	7	8	9	10	11
1. # Sexual Partners	-										
2. # Giving Oral Partners	.64***	-									
3. # Receiving Oral Partners	.74***	.70***	-								
4. Permissiveness	.41***	.31***	.32***	-							
5. # Sexual Partners - Friend	.33***	.14	.29**	.28**	-						
6. # Giving Oral Partners - Friend	.36***	.38***	.42***	.30***	.58***	-					
7. # Receiving Oral Partners - Friend	.35***	.32***	.45***	.27**	.56***	.75***	-				
8. Best Friend Permissiveness	.21*	.07	.22**	.44***	.60***	.45***	.41***	-			
9. # Sexual Partners - Typical	.24**	.13	.20*	.18*	.28**	.18*	.09	.15	-		
10. # Giving Oral Partners - Typical	.17	.21*	.18*	.18*	.26**	.30***	.21*	.13	.38***	-	
11. # Receiving Oral Partners - Typical	.21*	.14	.30***	.07	.19*	.22*	.27**	.12	.40***	.58***	-
12. Typical Freshman Permissiveness	-.11	-.15	-.07	.12	.09	-.03	-.06	-.06	.42***	.23**	.29**

*Note.*  $n = 141$ ; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 4

*Regression Analyses Predicting Numbers of Sexual Partners from Perceptions of Best Friend*

Variable	Sexual Partners		Giving Oral Partners		Receiving Oral Partners	
	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
Step 1:						
Permissiveness	.40	< .001	.32	< .001	.31	< .001
Step 2:						
Permissiveness	.38	< .001	.30	< .001	.22	.008
Friend's Permissiveness	-.15	.13	-.24	.009	-.04	.61
Friend's # of Partners	.31	.001	.40	< .001	.40	< .001

Table 5

*Regression Analyses Predicting Numbers of Sexual Partners from Perceptions of the Typical Freshman*

	Sexual Partners		Giving Oral Partners		Receiving Oral Partners	
	$\beta$	$p$	$\beta$	$p$	$\beta$	$p$
Step 1:						
Permissiveness	.37	< .001	.32	< .001	.32	< .001
Step 2:						
Permissiveness	.36	< .001	.31	< .001	.32	< .001
Typical Freshman Permissiveness	-.28	.001	-.24	.003	-.20	.012
Typical Freshman # of Partners	.29	.001	.22	.007	.34	< .001