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“I’d like to think I’m the same no matter what:” A qualitative exploration of alcohol and condom use in college-age couples

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An abstract of

A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University

in partial fulfillment of the requirements for the degree of
Master of Public Health
in Behavioral Sciences and Health Education

2011

Abstract

"I'd like to think I'm the same no matter what:" A qualitative exploration of alcohol and condom use in college-age couples

By Andrea Stokfisz

Introduction: There is a gap in knowledge between studies of single college students (or coupled students in studies without their partners) and studies focused on both members of the couple. Thus, this research seeks to explore the themes that arise when college couples are asked about their changes in birth control methods and alcohol use as a relationship develops, how alcohol may influence sexual risk-taking, and whether or not alcohol plays any role in selecting a method of birth control/STI protection.

Theoretical Framework: Alcohol Myopia Theory and Dual Processing

Methods: Ten people, age 18-23 in five couples from Emory University and the Georgia Institute of Technology were recruited for in-depth interviews separate from their partners. Answers were transcribed and coded for recurring themes.

Results: Many risk behaviors lend themselves well to fitting in with alcohol myopia theory and especially dual processing (since dual processing does not have to involve alcohol). Some birth control/STI protection and alcohol changes occur across the course of relationships, but for a wide variety of factors not always directly connected to the relationship. Nobody claimed that alcohol played any role in selecting a method of birth control or STI protection.

Conclusion: Three themes recurred, those of trust, serious monogamy early in the relationship, and mixed feelings towards alcohol and its relationship to sex. STI prevention was never prioritized above pregnancy prevention.

Acknowledgements

- Dr. Ralph DiClemente and Dr. Jessica Sales for keeping me on track and providing advice
- My participants, who devoted their time and conversation skills and all the lovely people in line when I was making dozens of copies of my recruitment flyer.
- Mom, Dad, and Jeff
- Matt Endahl, Rev. Reid Hamilton, and Deb Garner
- The bunch from Glenn Memorial United Methodist Church, for their help in keeping my eye on the prize, especially Beth and Dave McAlister, Steve Darsey, Steve and Sherri Ozcomert, Wes Griffin, Wade Watson, Charles Cottle, and everyone on the camping trip and Wednesday supper

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Background

The relationship between alcohol, sexual behavior, and condom use is complex. These relationships vary by gender, brain development, arousal, emotional/impulsive versus logical/analytical processing, type of relationship, baseline tendencies to use (or not use) condoms, level of intoxication, ability to assess risk, and frequency of heavy drinking. A few theories can explain some of the inconsistencies in the data, such as alcohol myopia theory, while dual processing and data on sexual arousal also show that emotions play a central role in sexual risk-taking; contrary to what people may say in an interview or survey. Clearly, people do some things when they are intoxicated that they claim they would never do when sober, and event analysis seems to support this assertion. Qualitative interviewing with data-linked couples is an assessment strategy that may shed light on links between specific events, drinking, sexual risk-taking, and the actual risk an individual has while s/he is involved in an intimate relationship.

Introduction

College students are known to engage in behaviors that put them at risk for alcohol poisoning, STIs, HIV, and unplanned pregnancy. Alcohol overuse, especially repeatedly, can lead to accidents and significant brain damage (Wechsler and Wuethrich 2002), while untreated STIs can lead to infertility, difficulties in pregnancy and health consequences for the child, and elevated risk for becoming infected with HIV (CDC a&b, 2010). HIV eventually leads to AIDS, which killed approximately 15,500 Americans in 2006 alone (CDCc, 2010).

Between 2002 and 2005, 40.1% of underage college students binged on alcohol, defined as five drinks in one episode for a man and four for a woman (SAMHSA, 2006), and a 2005 study showed 1825 unintentional deaths related to alcohol misuse among students enrolled in college. Most of these deaths were from accidents, and just over 3.3 million students reported driving while intoxicated (Hingson et.al, 2009).

STIs and HIV are also prevalent among college students. About 90% of colleges surveyed in the American College Health Association's (ACHA) 2009 PAP and STI survey offered HIV testing, and found that approximately 0.1 of tested students are infected. The same survey also observed that among tested students, percentages of 0.2%, 4.3%, 0.6% were positive for syphilis, Chlamydia, and gonorrhea, respectively (American College Health Association, 2010). This data only includes information collected by the college health centers themselves, and no data from students who are never tested or are tested and treated off campus. The numbers may seem small, but they represent a medical burden to students and often a financial burden as well, since 48.2 % of surveyed health centers report that all lab testing for STIs/HIV is billed to the student or their insurance company (American College Health Association, 2010). Additionally, about 3.3% of college students responding to the 2008 National College Health Assessment (NCHA) reported a pregnancy of themselves or their partner, and approximately two thirds of these pregnancies were unintentional. Furthermore, students repeatedly report negative academic consequences of pregnancy while enrolled in college (National College Health Assessment, 2008).

Being in a committed relationship still leaves college students at risk for the consequences of over-drinking and unprotected sex. A 2004 study on communication

skills among college-age couples (undergraduates aged 18 and up) was conducted in which one group was given a communication skills intervention, another was given was given education on relationships, while yet another group was given risk information (control group). All of the participants were college students in sexually active relationships, they did not participate in the intervention at the same time, and all couples reported inconsistent or no condom use at all. In the end, participants in the communication skills group improved their abilities to combat partner condom-refusal and improved their condom negotiation, but they did not negotiate condoms in their actual relationships. The researchers decided their intervention did not work, it is worth intervening with other evidence-based programs in the future, given the risks young adults face (Tulloch & McCaul et.al, 2004). There is much less research on college dating couples than on data collected from individual college students, but couples may not know very much about certain aspects of their partner's sexual history, which could put them at risk. A 1997 study showed that while college couples almost always could agree on when they began dating and became exclusive, there was less intra-couple agreement on whether or not the couple discussed sexual risk beyond pregnancy prevention, or pre-relationship incidents involving men and anal sexplay with prior partners. However, student couples were relatively consistent (greater than 80%) with each other on their responses about alcohol use in the context of sexual contact (Seal, 1997). This mixture of responses shows that college students are more forthcoming and honest with each other depending on the question.

Emory University: Emory University in Atlanta, Georgia, is home to about 7,000 undergraduate students, about half of them from Georgia and the others from all other forty-nine states and sixty-five countries outside the U.S. (Emory University, 2010a). It is a racially and economically diverse campus offering academic scholarships to promising students from low-income backgrounds and for the incoming freshman class of 2010, 59% filled out a race other than Caucasian when asked (Emory University, 2010b). Emory University is private and also academically demanding, consistently ranking nationally in the top twenty universities with an average verbal SAT between 680 and 730 and SAT math ranging from 660-740 (Emory University, 2010a).

The university's Student Health Services includes an Office of Health Promotion, which students can visit free of charge for consultations regarding nutrition, alcohol and other substance use, sexuality, stress, sleep, and sexual assault prevention and response. Longer-term cases in everything except nutrition are referred to the Counseling Center or out in the community. Medical services on campus do not charge for an office visit or exam with no prescriptions, injections, medications, or lab work. Any charges accrued through labs, injections, dispensed medications, or prescriptions are billed to the student's insurance, which every student must carry. Students may be tested for HIV, STIs, and are offered optional HPV vaccination (Emory University 2004-2010).

Emory University Health Data: Of 603 Emory undergraduate students that responded to the National College Health Assessment survey in 2008, 9.2% replied that "relationship difficulties" had the most adverse impact on their academic performance, ranking 9th out of ten. Nationally, 10.7% of students reported that relationship difficulties were the most problematic issue that negatively affected the academic performance. Questions about

alcohol were answered by 600 Emory undergraduate students. While 0.2% of students used alcohol every day for the month preceding the survey, 13.5% percent reported drinking on 10-29 days a month. Also, 10.6% reported having unprotected sex as a result of drinking in the last year. Regarding STI/HIV prevention, 44.2% of Emory respondents reported using barrier devices at last vaginal sex, 2.8% for oral sex, and 35.8% for anal sex. Emory students reported lower usage of barrier devices for vaginal and oral sex than respondents aggregated in the national survey, yet used barrier devices more frequently than the national average for anal sex (National College Health Assessment 2008). These data demonstrate that even academically rigorous schools are not immune to student risk-taking behavior, as some students and parents may believe (Wechsler and Wuethrich, 2002).

Research Questions: Due to the presence of STI/HIV, unplanned pregnancy, and alcohol poisoning on college campuses along with long-term relationships being no reliable assurance of protection from the above mentioned health consequences, it is important to explore how couples perceive their relationship and mutual protective behaviors regarding alcohol and sex. The purpose of this study is to qualitatively assess four different aspects of alcohol and sexual risk among Emory couples: how alcohol myopia theory and/or dual process theory can contextualize sexual risk-taking among young people already in a relationship; what sort of "protection" from pregnancy or STIs do young couples use (if any) and has it changed over the course of a relationship; how alcohol influences (or doesn't) the sexual protective behaviors that couples use; and changes in alcohol consumption as relationships progress. Additionally, the discussion section will focus on the themes that arise from these answers.

Theoretical framework:

Two theories are used in this study to complement each other. Alcohol myopia theory provides some predictions as to what may happen when a young person is operating on the spontaneous, experiential level described in dual processing. Dual processing also offers clues as to how couples may be thinking when they take sexual risks but are not under the influence of any substance. Since couples in this project had highly varied levels of alcohol use, both theories provide support for why certain events happen within a relationship.

Alcohol myopia theory: This theory, dating back to 1990, describes the "clouded vision" provided by intoxication, hence "myopia." Steele and Josephs state that alcohol's social destructiveness is underlied by the more extreme social reactions of intoxicated people, the tendency to be less depressed and anxious while drinking, and drunken "self-inflation." Accordingly, "response conflicts" occur when we cannot pay attention to all-important social cues in an intoxicated state, nor can we interpret all social cues correctly in this state. Thus, our perceptions are distorted, possibly leading to poor decision-making (Steel and Josephs, 1990). For example, a sober person could have a strong compulsion to do something negative, such as fight; but there is another level of cognitive processing that tells the person not to follow their compulsion (inhibitory cues). However, while intoxicated, the same person may not notice these inhibitory cues, leading to socially or sexually risky behavior (Steel and Josephs, 1990). Usually, in less socially pressured situations, intoxicated people don't behave any more extremely than someone who isn't drinking. This same myopic vision that leads to extreme social

reactions under pressure is the same process that leads to inflation of the self while under the influence of alcohol (Steel and Josephs, 1990). Alcohol inherently causes a relative lack of broad attention, zeroing in a person's focus on something immediately at hand, and if that situation at hand very distracting, depression and anxiety levels are reduced (Steele & Josephs, 1990). From this line of thinking, it is easy to picture a situation in which a young woman would normally be worried about pregnancy or contracting an STI, but she becomes intoxicated at a party, is being kissed by an attractive man, she thinks it is fun and wants to have sex with him. The fact that she doesn't know him is not being processed as dangerous, and she may hyperinflate her ability to perceive the risk of STIs or pregnancy. The "making out" is distracting, and lowers her anxiety that would normally influence her to use a condom, and then they have unprotected sex. In other words, people do things when intoxicated that they would not usually do while sober, so the most robust alcohol effects occur in situations where there are "strong instigation cues and strong inhibition cues" in conflict: alcohol will prevent you from listening to the inhibitory cues-the conflict is resolved for the worse (Norris & Masters et. al, 2004).

Dual process: Evidence of dual processing has been studied or hinted at in several studies dating back as early as the 1800s. At the heart is an idea that people operate on two levels, one that is more experiential, unconscious, intuitive, spontaneous, and reactive; and at another level that is more systematic, analytic, rule-based, plan-based, and cautious (Stanovich, 1999). Clearly, people can reason both ways (Stanovich, 2004). The theory of reasoned action and the theory of planned behavior have also been criticized for not taking into account that younger people may not have much experience with particular situations, inhibiting their ability to travel the path predicted in the older dual processing

theories. Thus, newer research suggests dual processing also includes a "prototype willingness model" of adolescent risk behaviors (Gerrard & Gibbons, et. al, 2008). The idea that there are two levels of processing is retained. It is possible that the more unconscious, spontaneous path may help explain the unintentional behavior of young people. Two ideas are also introduced in this newer model, the concept of prototypes (what do young people think when they are asked to describe a situation or person) and the young person's willingness to engage in potentially risky behavior (Gerrard & Gibbons, et. al, 2008). The theory posits that adolescents will engage in risk of their own accord, but won't necessarily plan it or do it "on purpose." In this model, it's more about decision-making and reaction than interpreting intentions. The path of decision-making that is more unconscious and spontaneous is related to willingness to take risks, while the more rational path is related to actual intention. The paths also operate together for young people, although some evidence suggests the "willingness" path is stronger up to about age eighteen. The developers of the prototype willingness model suggest that changing the "images" (prototypes) of risk can be effective interventions in younger populations Gerrard & Gibbons, et. al, 2008). To demonstrate this, they cited a study in which college students who went the beach frequently, after intervention, had less favorable views of the "typical person" (prototype) who deliberately tans their skin via UV rays from the beach or tanning bed, and it resulted in less frequent self-reports of tanning by participants (Gibbons and Gerard et. al, 2005). A similar study was also successfully conducted with young African-Americans to change their prototype of the typical drinker, thereby reducing their willingness to drink. Another point with this intervention is that once a young person has some willingness to involve in risk, it is

possible to intervene on a level that helps them distinguish between willingness and intention, thereby intervening on both levels of processing (Gibbons et. al, 2004). Dual processing theory is thus an interesting model to consider when examining college populations, a group that ostensibly knows that heavy drinking and unprotected sex are dangerous but may be willing to engage in it anyway (from a more impulsive side of themselves), perhaps particularly while intoxicated.

Literature Review

Drinking Among College Students: Popular media coverage suggests that binge drinking has been on the rise since the early 1990s, indicating that binge drinking is a continuing pattern of concern, and not just a trend (Bonar & Rosenberg, 2010). Research from 2002 suggests that about 44% percent of college students have binged in the last two weeks, and that just over 13% would be diagnosed as abusing alcohol, and just over 11% would be diagnosed as dependent if medically assessed (Kelly-Weeder, 2008). However, the 2006 executive summary of the National College Health Assessment notes that just over 21% percent of college students report binge drinking in the last few weeks (Certain & Harahan et.al, 2009). Nevertheless, this heavy episodic drinking is a concern. There is no one correct way to ascertain precisely how much students drink and why, but this literature reviews explores some themes.

Drinking games, for example, have increased in popularity in the last few decades. This is of concern because students generally drink more if a game is involved, which leads to negative behaviors and adverse health outcomes. Men are more likely to participate in these games and admit to higher levels of consumption while playing; and

the data suggest that specific interventions related to drinking games should be developed to alleviate the negative health effects of these games (Cameron & Heidelberg et.al, 2010). Even though men are more likely to *report* playing and drinking heavily, women are not exempt. Some studies report a similar frequency of play between the genders and indicate that female students are more negatively affected by the health consequences of playing, up to and including sexual assault (Pederson and LaBrie, 2006). Given that the definition of a "binge" is reported as four or more drinks in a row for females and five for males, women *should* report more negative health consequences, especially from incidents where they may be attempting to match men "drink for drink" (Weschsler & Dowdall, 1995). The Cameron and Heidelberg study also surveyed participants on typical drinking behaviors and found that "typical" weekly consumption varied from zero to over forty drinks, with a mean just under eight; and "maximum" weekly consumption ranged from zero to one hundred and twelve drinks, with a mean just under fourteen. On average, students reported just over three binges per month, ranging from zero to twenty binges (Cameron & Heidelberg et.al, 2010).

Another concern is about the amount that college women drink, especially considering that their threshold for a binge is lower than that of males. It does appear that high-risk behavior and binge drinking is increasing among college women, and that it is associated with illness, injury, sexual assault, and poor academic performance (Wechsler and Wuethrich, 2002). While mixed-gender rates of binge drinking appear to be stable, the last few years of the twentieth century saw a four percent increase in women who report to be frequent binge drinkers, and that during the same time period, more women were drinking to get drunk. Timing also matters, women report heavier alcohol use

earlier in college, while males tend to consume the most alcohol in their last few years of school (Kelly-Weeder, 2010). Given the dynamic of older males being dominant to younger females in Greek life/campus life party culture, this can be hazardous for women's health (Weschsler & Wuetherich, 2002). Also, 50% of sorority members report binge drinking in the last two weeks, which is significantly higher than non-members, and female athletes show similar pattern of binging to sorority members (Kelly-Weeder, 2010). Overall, women appear to be more negatively affected by heavy drinking than their male college classmates.

Condom Use Among College Students: Condom use is inconsistent among college students. The 2007 National College Health Assessment discovered that white students had more experience with anal sex than black students, although not significantly, and were significantly more experienced with oral sex. Black students were significantly more likely to use condoms than white students for oral, vaginal or anal sex (10%, 62.7%, and 44% respectively, compared to 3.5%, 57.9%, and 29.8% for whites) (Buhi & Marhefka et. al, 2010). Additionally, self-reports of condom use by people in their late teens and early twenties may be "off," according to 2002-2004 data collected from a clinic sample where 55% percent of females aged fifteen to twenty-one who reported 100% condom use over the past two weeks still had a positive Yc-PCR result (Y-chromosome polymerase chain reaction) in their vaginal fluid, which should not happen if someone uses condoms properly. These results could mean that people incorrectly report condom use, either deliberately or not, or that the condoms are used incorrectly, unbeknownst to the user (Rose and DiClemente et. al, 2009).

In addition to racial difference and self-reporting errors in condom use, also of interest is condom use among different "types" of drinkers. A 2009 study by Certain and colleagues assessed condom use behaviors of heavy drinkers. Heavy drinkers were defined as men who drank more than fourteen drinks a week, more than three drinking days a week, more than four binges in the last month, or two or more positive responses to the CAGE survey, which assesses problematic alcohol behaviors such as "needing a drink to wake up." (CAGE is an acronym for **C**ut back, **A**nnoyance by critics, **G**uilt about drinking, and **E**ye-opening morning drinking.) Female heavy drinkers were similarly assessed, but their limits were set at eleven, three, five, and two, with the same respective questions as males. The sample was slightly more female and predominantly white. Only 36% reported using condoms all the time, and 35% reported seldom condom use; with men more likely than women to report always using condoms. Disease histories divided along the lines of condom use behavior, with only 1.8% of "always" condom users reporting an STI in the last six months, compared to 9.3% of people who said they usually used condoms and 5.9% of those who used condoms half of the time or less. A surprising result is that frequency of binging was not correlated with condom use. However, the very heaviest drinkers (in this case, most drinks in a day/sitting) were less likely to use condoms than their lighter-drinking peers. The findings suggest that healthcare providers counsel college students to always use condoms and that designing pro-condom interventions is critical (Certain & Harahan et.al, 2008)

Couples of College Age:

A study by Seal and Palmer-Seal used an open-ended questionnaire to elicit barriers to condom use and discussion about safer sex among college age couples. Some

of the barriers for condom usage were no perceived risk, deliberate choice not to use, negative attitudes towards condom use, lack of planning, and a lack of efficacy. Barriers to talking about safer sex were the same as the barriers for condoms, plus the addition of using condoms without talking about it, plus discussing safer sex in other contexts. The researchers suggested future research into the role of passion in safer sex, a topic discussed later in this review. When participants perceived no risk, their partner's actual behavior sometimes gave the person no logical reason to think the encounter would be risk-free, especially since 26% of the women had been cheated on and half of the women thought their partner had been tested for HIV/STIs when he really had not (Seal & Palmer-Seal, 1996).

Students in relationships exhibit more HIV risk behavior than individuals of the same age in more causal relationships, as intimacy in relationships is negatively correlated with intention to use condoms and feelings of liking and romance are linked to fewer HIV preventive behaviors. It is also common that the "serially monogamous" do not use condoms and cite monogamy as a reason why they don't feel they are at risk. What are the other reasons for low condom usage? Single-gender focus groups with college students currently involved in relationships stated ambivalence about condoms, such as:

- agreeing they are good for pregnancy prevention, but interfere with spontaneity
- the couple is already using oral contraceptives symbolizing the beginning of a committed relationship
- students ascertained their risk of HIV was low with a particular partner (this was sometimes flawed)
- awkwardness in communicating specifically about HIV
- trust issues, such as someone believing that if someone suddenly wanted to use condoms, maybe they were unfaithful
- testing for HIV, or asking someone to be tested, evoked a good amount of fear

The researchers ultimately concluded that interventions that work well for single people may be less effective to those in committed relationships (Hammer & Fisher et.al, 1996).

Sexual Risk and Alcohol Usage/Disinhibition: A four-part study of Canadian university students posited some reasons about why common sense seems to fly "out the window" with regards to alcohol and intention to use condoms. Part one of this correlational study discovered that men who usually use condoms were less likely to have used them at last intercourse if they were intoxicated when compared to other men who reported having been sober at their last intercourse (68% versus 84%, which was statistically significant). But this was only for men. Females were asked the same questions and intoxicated women used condoms less often, but the difference between intoxicated and non-intoxicated groups was not significant. Applying alcohol myopia theory, the researchers noted that for females, not being on oral contraceptives (the pill) may induce a significant fear of pregnancy that may remain salient even while drinking, possibly leading to more condom use and the subsequent insignificant difference between intoxicated and non-intoxicated states. They suspected that females on the pill may not have the same reasoning and would be less likely than their non-pill counterparts to use condoms (MacDonald & Zanna et.al, 1996). For the second portion of the study, males were shown a video situation in which someone was highly attractive, clearly interested in having sex, and a condom was nowhere to be found. Men who drank when they viewed this video were far more likely than the sober males to report that would have sex with that person if they were in the same situation (77% versus 21%) (MacDonald & Zanna et.al, 1996). The same situation was repeated for the third experiment, but instead of getting one group drunk, they were given placebo drinks with very small amounts of

alcohol. There was no significant difference in what participants believed they would do between placebo and sober groups. This study ruled out "expectation" of what alcohol may do as a possible barrier to significant results from the earlier test (MacDonald & Zanna et.al, 1996). The fourth experiment was conducted in a pub, some participants were assigned to stay sober, others became intoxicated, and the same video as in the laboratory condition was shown. Overall, males were more likely than females to say that they would participate in unprotected intercourse; but more importantly, the intoxicated people were more likely than the sober people to say they would have unprotected sex if they were in the same situation as the characters in the video (MacDonald & Zanna et.al, 1996). The results were consistent with alcohol myopia theory: sober participants were indeed able to focus on the risks of the situation at hand and were less likely to come up with excuses for having sexual intercourse. Predictably, when the "impelling cues" were strong, the intoxicated group did appear shortsighted in their decision-making skills when compared to sober participants, and were more attentive to the short-term benefits of unprotected intercourse. However, even the intoxicated participants conceded that sex without a condom was risky. It just didn't seem to matter, and the intoxicated participants tried to justify their choice of unprotected sex (MacDonald & Zanna et.al, 1996).

Risk Assessment and Teen/Early 20s brains: Adolescence is usually defined as about age thirteen through the early twenties. This period is crucial for normal development and there are known changes in the maturation of the brain that occur during this time (Giedd and Blumenthal et. al, 1999). Adolescents are not necessarily any worse than adults at judging "this is risky" and "that is not," their problem is determining the magnitude of

risk. Also, it seems to take adolescents longer to come to the correct conclusion that a behavior is risky. For example, a study by Baird and colleagues demonstrated that participants certainly knew that jumping off a roof or setting their hair on fire was a bad idea, but it took them longer than adults to come to this conclusion. Additionally, problems processing risk information are amplified under the influence of peer pressure (Baird et.al, 2005). Physiological changes in the brain during adolescence also affect behavior. The frontal lobes grow and change until the early twenties with a great deal of synapse "elimination" during adolescence, which may sound negative, but neurologically, the brain more efficient by de-cluttering and eliminating unnecessary connections (Giedd and Blumenthal et.al, 1999). Young people, when compared to adults, also show more activity in the amygdale when shown photos of fearful faces, suggesting a more intense emotional reaction to faces during adolescence compared to adulthood. While adolescents have this well-developed sense of reading faces, their frontal lobes are slower to develop, and those are the areas of the brain associated with organizing, planning, and inhibiting behaviors.

There are also hormonal changes that affect adolescent brain function, especially the stress hormones (Walker, 2008). Teenagers and those in their early twenties don't have a fully formed "adult brain," and this may be a partial explanation of why adults have difficult interactions with the individuals in their care who are in their teens or early twenties (Giedd and Blumenthal et.al, 1999, Wechsler and Weutherich, 2002, and Baird et.al, 2005). If peer influence affects decision-making, and brain development is not complete to the point where adolescents are good at "inhibition," sexual and alcohol risks may be more frequent among this population.

Influence of Sexual Arousal on Decision-Making: A 2006 article entered the not-so-well studied area of the effects of arousal on decision-making. Their study included heterosexual college men who were first asked to answer questions via a computer about what they think they would do in a sexual situation that could be considered a health risk or "morally questionable" (such as buying a woman more drinks to increase her chance of engaging in intercourse). They were also asked how "appealing" they found a wide range of activities, such as contact with a woman forty years older or contact with an animal. These questions were asked when the young men were not sexually aroused. In a second session, they were asked the same questions (also via computer) while masturbating to erotic images. As it turns out, being aroused affected all three areas in question (willingness, risk, and moral questionability), usually in a positive direction. For example, only 19% of nonaroused men would be okay with a threesome involving another man, but in the aroused state, 34% would be willing, an overall 25% increase. Similarly, 46% of nonaroused men would encourage a date to drink to increase the likelihood of sex (deemed a morally objectionable behavior for purposes of the study), but while aroused, 63% said they would engage in this behavior, a 17% increase. Finally, 86% of nonaroused men said they would use condom even if it meant the woman might change her mind about sex while going to get the condom. While aroused, only 60% of men said they would let this happen, a 26% decrease. Interestingly, there was no change from nonaroused to aroused in beliefs about whether or not a woman can get pregnant if a guy pulls out before ejaculating. Very few of the results from individual questions were statistically insignificant in the study, and all the results mentioned above were (Ariely & Loewenstein, 2006). This evidence can be particularly useful when explaining the

behavior of someone who believes condoms are important but has inconsistent use patterns nonetheless.

Methods

Target Population:

The target population was heterosexual couples between the ages of eighteen and twenty-three, the typical age of undergraduate students at residential colleges in the United States and accommodating to the "super senior," or fifth-year student. This represents a convenience sample, although participants need not be enrolled in school (and not all were). The scope of recruitment efforts did not reach beyond the Emory University campus, although anyone who happened to see one on the campus who met the requirements was welcome to be in contact for an interview.

Inclusion Criteria for Interviews: a) Be born between: October 20, 1986 and September 1, 1992 (dates determined by age at time of data collection) b) Sexually active and "in a heterosexual–relationship" with someone who also falls into the age range in #1 and is also willing to complete an interview. C) Have transportation to the Emory campus and be willing to be interviewed in a quiet on-campus space d) Have at least fifty minutes to be interviewed e) Be willing to be data-linked to their partner (as stated above) f) Not pregnant or planning to become pregnant before the school year is over

Recruitment:

Recruitment was conducted through flyers, "quarter-sheeting," direct word of mouth, classroom recruitment, and LearnLink. E-mails were sent to several professors in P.E.,

Anthropology, and Psychology to potentially recruit students enrolled in these courses. This strategy did not result in any replies. The Department of Sociology allowed permitted in-person recruitment in several undergraduate sociology courses by handing out quarter sheets to the students, and answering any questions.

Sample Size: A total of eleven individual interviews were conducted with five men and six women. The sixth man could not be contacted via e-mail. Eight were currently enrolled Emory students, one was enrolled at Georgia Institute of Technology, and two were recent Emory graduates. The final sample size was ten.

Procedures

Questions (Data Collection Instrument): For the interviews, the protocol started with shorter, less invasive questions, such as age and drinking habits. Then the protocol moved into sexual habits, methods of birth control, and details of the current relationship. Next, the protocol asked questions more specific to just drinking, eventually moving on to questions about sex and the factors that lead a couple to use or not use protection.

Interviews: The principal investigator conducted all interviews in quiet spaces on the Emory campus. Most interviews were in the study rooms of Woodruff Library, one was over Skype, and another was in the Health Sciences Library study room. The interview protocol had a series of up to sixty-three questions (some were not applicable to everyone), some with sub-questions and probes, and for the most part, the PI followed the order, unless someone answered a future question while answering the one being asked. The interviews took between forty-five and seventy-five. All interviews were recorded, and notes were taken, both for observation and in case of data loss.

Analysis/Coding: Notes were taken during interviews, and recordings were used to modify the notes for accuracy. Thus, all interviews were given a "loose" transcription, omitting "ums" and "uhs." After the interviews had taken place, all transcripts were read, seeking themes for a thematic analysis. Initially, there were twenty-three themes. Once all transcripts had been fully read, the twenty-three themes were collapsed into three final large themes to be analyzed in the discussion section.

Results

This exploratory study sought to answer four questions about college-age couples in relationships.

How does (or doesn't) alcohol myopia theory and/or dual processing play into sexual risk-taking among young people already in a relationship?

One female participant described her current boyfriend's ultimatum, where she knew she would have been dumped if she did not tone down her drinking. She was drinking five or six days a week. Currently, due to her love for him, she is drinking just once a month, and not bingeing like she used to. In her case, she had used alcohol in the past to loosen up socially and sexually, as described by her former tendency to drink in order to forget that her then-boyfriend was flirting with other women. Predictably, she also stated that even though she pays attention to her own limits of drinking while on a date, she would notice if the man is going overboard, but wouldn't necessarily do anything about it, which is far less proactive than her boyfriend's stance on the same issue, as he would say something to a girl who was pushing her limits on a date. After one of this female participant's alcohol-induced blackouts, she heard that she had

apparently had sex with an even earlier boyfriend (who was a friend by that point), and to this day she is not sure. Clearly, she would sometimes loosen up with alcohol, focusing only on the immediate sexual gratification and shortsightedly not thinking of risk; describing her last sexual encounter (before her current boyfriend) as being high on marijuana, nearly blackout drunk, and having birth-control-pill-only sex with the boyfriend whose flirting behavior made her uncomfortable. Currently she is in a safe relationship and drinking less. Her boyfriend cannot drink due to medication, and takes care of her because he cares about the relationship itself. For her, the quality of the boyfriend is a powerful influence over drinking habits, and her tendency towards sexual risk, as she is much more deliberate about birth control and STI protection in this relationship. She is well aware of this. He's serious and deliberate about it as well, since he described himself as going into the relationship more sexually experienced than her.

Another couple seemed to think alcohol consumption did not really matter as far as sex or sexual risk-taking went. The woman said she never had a drinking problem and only ever used alcohol to loosen up socially. She claimed never to drink in order to forget particular times or behaviors, and does pay attention to her limits while on dates. Her boyfriend also claims he has never used alcohol to loosen up sexually, citing a fear of alcohol's depressant qualities and the possibility of not ejaculating during sex after drinking too much, similar to what another man said about whiskey and sexual arousal: "your mind wants to, but your body doesn't." She states that for her, three drinks would make her more social and energetic, but it would take four or five additional drinks to get her sick or starting to "forget." Interestingly, she describes her last sexual experience before her current boyfriend as a pill-only-protected encounter with a friend where she

had only three drinks. Either she must have known his STI-status and been very comfortable with him, or alcohol has a stronger affect on her than she wants to admit. Her boyfriend, although he claims fear of ejaculatory difficulty, also stated later that alcohol, did, in fact, make him more likely to say yes to sex if he's single, describing having drunken sex with a recent acquaintance before getting into this relationship; and it also sounded like he was unsure if the woman was using any hormonal birth control. In the end, though, they currently describe a strong love for each other, and alcohol seems like it plays less of a role in their lives in general than it did before they knew each other, even if they misunderstand the effects of alcohol in their past encounters.

A male in another couple seemed hesitant to say that alcohol loosens him up and whether or not it plays a role in sexual risk. It is thus hard to tell if "alcohol myopia" is accurate terminology for this relationship situation. This seems especially so for him because the woman he is with is his first and only sexual partner. They also always use condoms and birth control pills, according to him, this is "based on what's out there." The woman, who came into the relationship sexually and probably more socially experienced (being older), admits to using alcohol to calm her nerves and be more talkative in prior sexual situations. She also states she would certainly pay attention to her limits of drinking as well as the man's while on a date, and would be forward about letting the guy know if she thought he drank too much. She describes him overall as paranoid about birth control and pregnancy prevention. In any case, this couple is exclusive with each other, and using both condoms and the pill, so their exclusivity and his relative innocence becomes a protective factor even if alcohol consumption is very high.

A male in the next couple interviewed prefers not to consume alcohol at all, having drank only wine coolers in the past and hating the taste of alcohol. He also mentioned "my friends think I would be an angry drunk," which he clearly was not enthusiastic about. In the end, he could only speculate about what he thinks other people may do in an intoxicated state and states he would not go out with someone who drank. His girlfriend believes that it isn't so much alcohol that loosens people up and makes them do things they wouldn't normally do; but that people have those intentions in the first place, and merely use drinking as an excuse. She drinks sometimes, but he doesn't know it, though she would never drink on a date, and would prefer a man not to, either. Both the man and the woman had never had penetrative intercourse before this relationship. They've done some sexually risky things; but never in the context of alcohol because he does not drink and she is very serious about staying monogamous, saying "there are these obligatory "walls" that just go up against other men when you're in a relationship."

A female in the last couple interviewed states they are using both the Nuva Ring and condoms. Her story of alcohol and "promiscuity" (her term) goes beyond just getting drunk and taking risks. She said she "became very depressed her sophomore year and would purposely drink to escape from life." Sex was also part of the escapism and she describes she had a "rep" (bad reputation). Her boyfriend says he does not use alcohol to loosen up sexually. Both agree that it is important to keep an eye on how much they and the other person are drinking while on a date, and currently have similar lifestyles and alcohol consumption habits, which they said helps the relationship. Similarly, with both partners, their immediate sexual encounters before this relationship were condom-

protected with a sense of mutual understanding that condoms were important. However, both state that alcohol would "probably" make them more likely to say yes to a sexual request, and the man admits that when a sexual situation heats up, it is entirely possible that anyone would think only of that and not about protection from STIs or pregnancy. The man in this relationship made a point of saying that the question "does alcohol make you more likely to say yes to sex" is certainly harder to answer while in a committed relationship (where sex is a given anyway).

In conclusion, interviewees were describing situations (often in prior relationships) that can be explained by the predictions of alcohol myopia theory or following the impulsive "willingness" side described in dual processing theory. However, some participants do appear to downplay the risks they have taken.

What sort of "protection" from pregnancy or STIs do young couples use (if any) and has it changed over the course of a relationship?

In the first couple, both agreed they first had sex two to three weeks into the relationship, that there was no alcohol involved, and the protection used was The Pill and a male condom. Both also agree they stopped using condoms close to two months into the relationship. The man claims the stoppage of condoms was because once you know you're "clean" it is not necessary anymore, while she claims the decision was not a conscious one, at least for her. She also stated they stopped using condoms "consistently" about a month into the relationship, which is not something he brought up directly. However, he did state that the window of time you need to know whether someone is clean of STIs or not is around the one to two month mark. In this

relationship, the woman switched from The Pill to an IUD, but for "health reasons" and not anything to do with the relationship. He is aware of this change and, when asked, says her girlfriend using something "funky, an IUD, that is supposed to simulate pregnancy or something." Their switch to not using condoms appeared to happen organically in the sense that the man in the relationship mentioned "we didn't formally talk about it, it just sort of happened and it was okay." Overall, they are aware of the changes their protection methods have had and agree on the timing on when the changes occurred.

For the second couple, the woman uses Yaz (a progestin-only pill) as her primary method of birth control, and she had been using it since before the relationship started. Both agree that they had sex "pretty quickly" into the relationship, i.e., less than two weeks and that the first encounter was protected only by Yaz. But there the resemblance ends. He claims they used a condom one time and that it broke. She did not mention this, but stated that they intermittently use condoms, sometimes for "hygiene" reasons if she is on her period. Their only real pattern is consistent usage of Yaz.

The third couple consistently uses The Pill and male condoms. He thinks they had sex a week and a half into the relationship, while she states that they met long ago, did not talk, then exchanged a few IMs, met up, and had sex. They agree there was no alcohol involved the first time they had sex. He did not mention anything about pill protection in their first sexual encounter, but she did, saying she's been on The Pill for several years. In any case, they now use The Pill and condoms consistently. The woman claims that one time they tried to not use a condom, but that he was "paranoid and

checking every three thrusts" to see if he leaked any semen (she was on The Pill). After that, it wasn't worth it for her to "push" the issue of not using condoms.

The fourth couple only has experience with using condoms, and the use sounds rather consistent by his memory, and not as consistent by hers. They came relatively close to each other in agreeing that they were a couple for somewhere between eight and a half and nine and a half months before having intercourse, the longest, by far, of all the couples interviewed, and only a few weeks prior to the interview itself. Alcohol is never involved when they are together, and when she drinks at parties, the situation is never sexual. Both claim there was just one time where they did not use a condom. The woman reports that the first time they had sex, she wanted to use a condom because she was worried about pregnancy (but not STIs since they were both virgins) and that he asked her to trust him. She did and they did not use a condom. She also states that a condom was something she had to bring up "later" after having sex, and did not say if this only happened once, or if there were several unprotected encounters. He reports, however, that the first encounter was condom-protected and that it was a later encounter where they did not use a condom, but he managed not to ejaculate inside her. There has been no initiation concerning The Pill or other hormonal birth control, but separately agree that they're both reasonable and could at least be comfortable suggesting it.

The last couple interviewed uses male condoms and the Nuva Ring. She states she has always been on hormonal birth control since age sixteen, starting off on The Pill and switching to Nuva Ring at age nineteen or twenty, before having sex with her current boyfriend. She did not like to take pills and had a hard time taking The Pill at the same time each day, so she began to doubt its effectiveness for her. The Nuva Ring is easier

for her, because it's only removed once a week; but she isn't sure she is following those instructions exactly, either. For this reason, she still chooses to use condoms with her current boyfriend. They are, however, moving to using condoms later in the sex act. For example, they will start without one, and if someone gets "paranoid," they will use one. The man in this relationship would prefer not to use condoms because it feels better, condoms are expensive, and the sex is "more intimate;" but he has a stronger preference for avoiding pregnancy, similar to another man's assertion of "condom sex is better than no sex!". He states that in his entire sex life, he has used condoms "almost always," (sometimes they "fell off") and that the few times he says he did not use condoms with his current girlfriend, he believed it was at a time in her cycle when she probably wouldn't get pregnant anyway. When asked about how this couple would communicate about a possible birth control change, she says she would just talk to her boyfriend in private about it, while he states any final decisions are up to her and her doctor, as he isn't interested in "forcing" any opinions and feels like he ultimately doesn't have much say as a man.

How does alcohol influences (or doesn't influence) the protection methods that couples use?

None of the couples interviewed claimed to let alcohol influence their particular method of birth control or STI prevention in their current relationships (for example, going on an IUD because of fear of getting to drunk to remember pills or condoms). Several women went on hormonal birth control, usually The Pill, as teenagers either to regulate their periods, provide pregnancy prevention, or both, with no allusion to alcohol use. The men seemed agreeable to this, and didn't appear to participate much, if at all, in any decision-

making about methods used exclusively by women. Among the three couples using condoms regularly, one was at the request of a man described by his girlfriend as "paranoid" about pregnancy and STIs, whether or not a sexual encounter involves alcohol; the other couple has no other method and doesn't drink in each other's presence, and the other uses condoms for backup.

How does alcohol consumption change as a relationship progresses?

For the interviewees, several experienced changes in alcohol consumption through their relationships. However, the changes did not always have roots in the relationship, but were externally related, such as the pace of school quickening, which tends to prevent partying and heavy drinking among serious students. One man had to stop drinking entirely due to medication, from a former habit of drinking two or three times a week in his fraternity. One eighteen year old woman is fairly new to drinking, but has noticed what she believes in an increase in her tolerance, from three to four drinks, although she tends to stop at three. Two people in different couples, however, stated that their relationships had a direct impact on how much or how often they drank. A man said he used to "binge like an idiot" and drinks far less now, he credits part of this decrease as a love for his girlfriend, a much lighter drinker; and admits he is profoundly influenced by those around him. A woman was at risk of losing her boyfriend if she did not lessen her usage of alcohol. Her boyfriend was tired of taking care of her when she was drunk, and he gave her an ultimatum that helped her decrease her usage, along with professional help. Interestingly, nobody directly mentioned that they drank less (or more) as a result of becoming more accustomed to dating their current partner.

Discussion

Qualitative Analysis

This study sought to explore themes related to college couples' habits of birth control and STI/HIV prevention in the light of alcohol use. Alcohol myopia theory proposes that alcohol gives a person a type of "blinder" that makes anything not immediately obvious, such as STI symptoms in a few weeks, difficult to concentrate on. The dual processing theory could apply to anyone, under the influence or not, and what "path" they are operating on, the rational, analytic path, or the more experiential, impulsive path that is more strongly associated with risk-taking behaviors. The participants were certainly not immune to the blinders of alcohol or impulsive sexual behaviors; but since they were all in relationships, they appeared to understand the consequences that heavy drinking or risk-taking could have on relationships that they all seemed interested in staying in. When asked about past behaviors, prior to their entrance into the current relationship, more incidences of sexual and alcohol risk were described. Their methods of STI protection or pregnancy prevention may or may not have been any different at those times; but the amount of alcohol consumed, or the casual nature of the encounters, appeared more dangerous than sexual encounters in the context of the current relationship. Several themes could be drawn from the interviews, all playing into the possibility of relationship being protective, even when someone is very drunk and not immediately thinking about risk, or is acting on the impulsive, experiential path.

Trust was an enormous theme throughout the interviews. Mostly, trust was expressed as trust in each other. The word trust was not spoken very often, but that is

was what it was. For example, if a woman is using an IUD (intra-uterine device) as a birth control method and the couple is not using condoms, how does the man really know he isn't being set up for a pregnancy he wasn't planning on being involved with, especially if he does not know much or anything about IUDs? For that matter, how does the man know the woman is even on The Pill unless he is digging in her drawers and counting the pills? There is little reason to believe any of the men in this study were doing anything remotely near that, often stating that hormonal birth control was entirely their girlfriend's choice. Furthermore, nobody indicted they would be outwardly suspicious if their partner suggested a different method of birth control or STI prevention. This was also a group of people that trusted their partner did not have an STI, this could be because of a clean test and trust that the other is not cheating (which nobody said they were), or in a few cases, that one or both partners were virgins before and assumed to be STI-free. Apparently, people who had been virgins were probably not thinking of HPV (human papillomavirus), which does not need genital penetration to pass from person to person (Planned Parenthood, 2011). There is also trust that people were honest about their past behaviors and openly communicating in the present time. Couples did state that their partners were reasonable and open to new ideas, or that they had simply been together long enough or been through so much together that no topic was off-limits. The concept of trust was also occasionally directed at objects, not just people. One woman described a level of trust in certain methods of protection. She did not trust herself to use Nuva Ring exactly correctly, but trusted that a condom would give her the backup they needed. Her boyfriend concurred, and even though he would prefer no condoms, this relationship was apparently worth the hassle of condoms and not getting pregnant. A

man in another insisted on condoms based on "what's out there," indicating that he doesn't really trust society, his girlfriend's past exes, or both. The ultimate display of trust was shown in an eighteen year old woman who was on no hormonal birth control, and let her boyfriend have sex with her with no condom, trusting him to remove himself before ejaculating. She never stated why she let this happen or why she was willing to take such a risk. She giggled in retrospect, which could have almost any meaning. This situation is a great example of someone operating on an alternate level that is more impulsive and thrill seeking, as opposed to the analytical and rational state she later described when she told him they "needed" to use condoms. Alcohol was not present at this time, so it could not have been "myopic blinders," but a momentary lapse of judgment so commonly described in the literature review among adolescents. Other couples seem to be operating not so much on alcohol myopia, but a type of relationship myopia, where they seem to be not exactly deliberate, but just in the mood for sex, whether there is alcohol present or not, and they just use the protective method they use, whether it's pills, condoms, or both.

There were many mixed feelings about the possibility of alcohol changing a person's sexual decision-making habits. This seemed to be true whether or not the person believed alcohol in general is used deliberately to facilitate sexual encounters. These sentiment was complex to unpack, especially among people who had used alcohol in the past to facilitate sex or forget particular times or behaviors. Interviewees would sometimes describe encounters with their current partner where alcohol consumption was as high as ten drinks, and the only way they could conceive of that night being any "different" (for example no sex at all, or condom use if consumption was lower) would

be that maybe they wouldn't have remembered it due to alcohol-induced blackout. However, it can be difficult to go back to a specific sexual encounter and recall exactly what the feelings were and whether or not you really wanted the sex the way it turned out, how you would negotiate the encounter now, or simply justified it internally. Also, mistakes and risky behaviors are hard to admit to others, even strangers. Due to the fact the interviewees were talking to a graduate student who was visibly older, it could be easy to downplay the risks taken, either in the current relationship or in the past, for fear of looking immature or stupid. Or a person could purposely play up risks taken in the past in order to make their current relationship seem healthier. Given they were only asked to describe three encounters with the current partner, and one was an encounter they could choose off the top of their heads, they could deliberately select a time when there was no drinking and both partners were in the mood. One man summed up the ambivalence around alcohol and its connection to sexual behavior and protective methods perfectly: "I'd like to think I'm the same no matter what," after he'd been asked a series of questions about his alcohol use in the context of sex and condom habits. After a sexual encounter, when someone can look at it in a cold, rational state, they can think in two ways, as dual processing would suggest. If the person is STI free, not hungover, and the partner isn't pregnant, a person's analytical thought process could be "yes, I'm fine, things are good" while the impulsive, experiential track remembers the thrill, for example, of not using a condom at all and having wild sex, and then the rational, analytical side says "wow, I'm lucky." If alcohol was involved, especially in large quantities, it may take exactly that cold, rational state to get someone to think "uh oh, did I use a condom? How well do I know that person?" In other words, the clearing of the

alcohol-myopia fog. However, for the couples interviewed, only one pair is at serious risk of pregnancy if condoms are not used (due to the other four using hormonal birth control), and all are committed enough that they swear they would never be with anyone else, so they can, as far as they know, rest assured knowing they have a partner they can communicate with and not get sick or pregnant from, no matter how wild the night.

Serious monogamy was a theme for each couple, and it certainly played a role in their alcohol use, protective behaviors, and risk-taking. There wasn't a single person interviewed that admit to cheating on a current partner, nor anyone that thought they or their partner would be okay with the introduction of someone else. This also happened quickly in the relationships, with several interviewees saying there was never a point in the relationship, no matter how early, where another partner or date would be acceptable. For the woman who received an ultimatum from her boyfriend about her alcohol use, one has to wonder if she would have taken that seriously if she had been less invested in the relationship. Her heavy drinking had preceded the relationship, but it took him to stop her, and she is now grateful. Now that they have been through so much together, they feel that they can talk about anything and compliment each other's personalities as well. Part of their open communication style is also assuring each other that they are STI-free (as both have been tested), to the point where they feel no need to use condoms because all that is at risk is pregnancy, and she has a stable birth control methods (IUD). The man in the second couple had binged a lot in the past, and describes that his girlfriend has influenced him, through "love." She does not drink much, and he simply cues off of her, as he is very invested in keeping her happy. He admits he is susceptible to peer pressure. On the surface, this tends to look dangerous, and for him before his current girlfriend, it

was; but now he's changing his behavior to make her happy, and is healthier in the process. He did admit he wishes she would sometimes loosen up and maybe not be a designated driver so much; but this was clearly low on his list of priorities, given that he mentioned it in passing and quickly moved on to another topic, almost as if it were an afterthought. He had been tested for HIV/STIs once in the relationship and never cheated, so they are another couple that sees no need for condoms; but since they indicate such an investment in each other, it may truly be impossible, at least now, for them to believe there is any risk other than pregnancy. They're clearly each other's shelter from unhealthy habits, such as his episodic bingeing and her history of previously having sex with a "friend" she did not use condoms with. The third couple appeared a bit less stable, with the woman admitting she was impatient, unstable, intolerant, and repeatedly calling her boyfriend naïve. However, she clearly stated she would "kill him" if she caught him with another girl, and shows no intention of dumping him. She acts rather cold and calculating on the surface, but she is clearly in a safer relationship than she used to be, as indicated by her past stories and admission of prior lack of knowledge about how The Pill works. Her boyfriend claims no changes in alcohol use since meeting her, so at least her unstable moods do not push him to drink more, but that could be an indication of someone who simply does not let peer pressure influence him in terms of alcohol consumption. He is protective of his own health, and bases condom use on "what's out there," which indicates a worry about her past, and a possible distrust of even testing, since she has been tested several times with her yearly pelvic exam. Right know, this young man is protected in his monogamous relationship in the sense that she is not cheating and they are both being careful, but he may have some tumultuous times ahead

if they break up or if he displays interest in someone else. The fourth couple has very little alcohol risk to begin with, with the man a non-drinker, and his girlfriend careful not to overdrink at parties due to her relationship with him. It is their first sexual relationship, so it is impossible to tell how they would react with other people, who may be more open to drinking. Their sexual risk involves each other due to virginity beforehand, and has become much less risky with the introduction of condoms within the first two months of sexual initiation, if not earlier. Neither is pushy about birth control, which leads to open-minded, reasonable discussion about it, and their faithfulness and pickiness in choosing each other means that if they keep using some form of birth control and continue avoiding alcohol and more partners, they have a very physically healthy relationship with little risk, and their monogamy is part of the equation. Both state that there was no point in the relationship in which other partners would have been acceptable, and they dated long before initiating sex, taking the relationship very seriously from the start. The final couple takes comfort in their similar lifestyles and habits, with both indicating they'd be very upset (immediate dumping, no questions asked) if the other was unfaithful. They value their open communication style, and although they must use condoms when the man would rather not, they value the lack of pregnancy and presence of each other enough that a condom is a condom for backup and says nothing judgmental about one or the other.

For all couples, their current commitment to monogamy at least prevents the introduction of new levels of risk from individuals outside the relationship. The theme of serious monogamy is worth keeping in mind as a significant factor in sexual risk, as different groups may have differing attitudes towards the practice of monogamy.

Conclusions: With such a small sample size, it is difficult to draw any definitive conclusions, but it does appear that changes in alcohol use do not walk in lockstep with relationships, there are many other factors, including a busy school schedule and hiding drinking habits from a significant other. Currently, nobody who participated "needs alcohol" to loosen up sexually, which indicates a high comfort level with their current partner. Condom use is highly variable, but usually moves towards nonexistent as a relationship progresses. HIV/STI protection takes much less of a priority than pregnancy prevention. Trust, mixed feelings towards alcohol, and serious monogamy early in the relationship were all salient themes in the data analysis.

Limitations and Strengths

Limitations: The process of data collection had several limitations. Flyers were limited to the Emory University campus and anyone who walked across it. Interviews were also conducted on campus, eliminating eligible people who did not have transportation or did not want to invest the travel time. There was no monetary compensation for participants, which turned out to be the largest barrier among Emory students, judging by the e-mails asking "how much do you pay?" and not hearing anything back after replying. All but one of the participants were Emory students or recent graduates, which make the data unable to be generalized outside Emory University. Also, in-person recruitment was generally conducted at the same time each week, eliminating individuals who are not on campus at that time, making generalization within the university likewise impossible. It is also possible that recruiting couples near the beginning of the academic year (i.e., when freshmen are new and getting to know a large group of new people), was unintentionally biased towards non-first year students. The interviewed couples were truly long-term

relationships, even if people had been dating or having sex for just a few months, all had at least known each other as friends for at least a year, so there was quite possibly selection bias in favor of longer, more monogamous sexual partnerships. Social desirability bias is also a factor in qualitative interviewing. Undergraduate students may feel less comfortable with a graduate student than one of their direct peers, and may have altered their answers accordingly, viewing an interviewer as an authority figure. Due to several questions being about specific sexual experiences, recall bias may also be a problem, especially in light of the research on sexual arousal and decision-making, where participants, once aroused, did not seem to remember what their prior answers to the same questions were (Ariely& Loewenstein, 2006). This indicates that while aroused, it really is difficult to think and remember, so participants may have had trouble remembering what they thought in a hot, aroused state during a time when they were interviewing in a cold, rational state. Timing was also a serious limitation. Due to only a few months of data collection for a sensitive topic that required a rather large time investment, leaving potential participants a larger window of time in which to decide to participate could have resulted in a larger sample size that could increase the possibility generalizability.

Strengths: Qualitative interviewing inherently has the strength of the interviewer sitting with the participant, so if clarification is needed from either person, the explanation can occur right away, without having to guess about what a response might mean. Interviewing couples separately is also a strength, for the sake of honesty in describing their sexual risk-taking, before the current relationship. Selecting qualitative methods is also a strength in this case, due to the discrepancy in the volume of published literature

on college students outside the context of a relationship versus with a relationship. Making more strides in closing this knowledge gap can inform further quantitative research that can gather larger samples with more statistical power. Qualitative methods also allows for modification of questions as interviews progress, either in the form of probes or creating entirely new questions as themes emerge from previous interviews; for example, the later question of "what do you think people fear most about alcohol? Sex?" or "What do you think of long-term birth control methods such as IUDs?"

Implications of Findings/Further Questions

For all but one person interviewed, STI/HIV prevention was not a priority. These couples were very comfortable in their relationships, and do not see their relationship as risky, typically defining risk in the framework of no protection at all, or sex with strangers. This raises a number of possible questions for further study, both for individuals in relationships and those who are single.

1. What do young men know about non-pill/non-condom methods of birth control, such as an IUD or Depo-Provera? Does their lack of knowledge and/or demonstrated ambivalence mean they really do leave birth control decisions entirely up to their girlfriends? If so, is that because they believe they are empowering her with freedom of choice, or is this because they believe it is her sole responsibility?

2. Many interviewees described some very risky-sounding sexual encounters in the time before their current relationship. In their current relationships, they describe love and trust, or at least strong commitment to each other and that they would be

very upset if their partner was unfaithful. None are married; but all seem to be living at a marriage-level of commitment where they won't even flirt with someone else, and this appears to happen very quickly, sometimes before people even get tested for HIV/STIs. How does this change occur so fast? Is it love at first sight, or is the moment they have sex with someone an implication of commitment, and those supposedly casual encounters described in their past really more painful than interviewees were letting on?

3. Interviewees described the "chemistry" they have with their current partners. What did previous partners lack, i.e., what did people learn in their past relationships that proved useful for communication in their current relationship or choosing to stay with their current partner?

4. Nine of ten interviewees were Emory-affiliated, either as a currently enrolled student or alumnus of less than one year. The tenth was a student at the Georgia Institute of Technology. These are competitive schools with driven students (Emory, 2010b, Georgia Institute of Technology, 2010). How do relationship factors vary with academic rigor? For example, are there relatively more or less long-term committed relationships at less rigorous schools? How alive and well is the suggestion that women only need a college education to find a husband?

5. Some respondents alluded to previous relationships that were unfaithful. What role did alcohol play, if any, in "cheating?"

Recommendations

Sexual Education:

Due to the relative lack of concern for STIs among these couples, and the high priority placed on pregnancy prevention, interventions aimed at college students should take into consideration that some students are already in serious, committed relationships, and will likely tune out any messaging about STIs. Thus, interventions aimed at college students should emphasize the importance of regular testing for all sexually active students, so when students do get into a relationship, they can have recent test results readily available in order to accurately communicate with their partner. Another possibility is to design interventions specifically for couples that emphasize the importance of condoms even in committed relationships. The caveat is this will be a very tough sell, given that couples get accustomed to not using condoms, and complain about the reduction in sensation during condom-protected intercourse. It is also very difficult for someone who is sexually aroused to make a quick decision to be safe and use condoms, so interventions should focus on making condoms normal and available long before anyone becomes sexually aroused (Ariely and Loewenstein, 2006). If condoms are normal and available at all times, alcohol myopia theory would suggest that even in a drunken state, it would be difficult to forget them since they would be immediately obvious and not outside the blinders of alcohol. Also, if condoms in all types of college relationships become more normalized, students may decide that condom-protected sex is better than no sex at all, which was a sentiment interviewees had in the hypothetical situation that hormonal birth control would not be available.

Alcohol Education:

Interviewees would often describe a large gap (in number of alcoholic drinks needed) between the point in which their behavior would "change" i.e., more boisterous or outgoing versus the point in which they would become ill, obnoxious, or start forgetting things. Often, the medical definition of a binge is somewhere in between these two self-described points. Thus the concept of stopping at four or five drinks may not make intuitive sense to someone who only feels pleasantly buzzed at that point, especially when they don't know that a binge is medically defined at four for a woman and five for a man. College prevention efforts may want to focus on showing students how additional drinks are dangerous, even if the drinker doesn't think s/he is being affected or is not planning to drive. Also, as research on dual processing suggests, interventions that change the image of the negative behavior are effective for younger populations. Similar to the tanning example, college health programs could work to change the popular image of a binge drinker among students who are at risk for overdrinking. Messaging about drunk driving, while important, may receive lukewarm acceptance at some campuses where all or most of the partying/drinking scene is on campus, and student driving is infrequent or mediated by designated drivers. For example, in these interviews, when students described very drunken sexual encounters, they were often already on campus or spending the night with someone, with no intention of driving. Also, there should not be any assumptions that students will change their drinking habits (for better or for worse) when they get into a relationship, because even among only five pairs, there was a wide variation of both current and past alcohol consumption.

Education on Healthy Relationships:

Since the interviews were conducted with the partners separate from each other, occasionally attitudes of disagreement or resentment appeared. This occurred in the couples where one or both of the members of the pair had not been sexually active before the current relationship. Sometimes the disagreement centered around drinking, such as one circumstance where the boyfriend does not know his girlfriend drinks once a week, and she is embarrassed to tell him. A woman in a different relationship complained about her boyfriend's obliviousness towards how damaging an unhealthy sexual relationship can be, as she had alluded to one she had in the past that her current boyfriend, who had been a virgin before meeting her, apparently did not understand. It is not to suggest that all students should have sex with someone or drink heavily just so their later relationships can be healthier; but more open communication styles were noted in the three other couples who had histories of either alcohol abuse and/or multiple sexual partners, which "lends itself to being more careful" (according to one man) for the sake of the other partner, according to one man. Part of this carefulness is open communication. Even if the interviewees do not use the word "open communication style," it is certainly what they are implying and giving examples of. This open communication style could presumably be taught before someone runs into trouble with alcohol or multiple partners, and possibly a peer education model could be employed, using people who are currently in good relationships to educate newer students about the pitfalls of heavy drinking and multiple partners or unprotected sexual encounters.

HIV Prevention Efforts on College Campuses

In later interviews, there was a new question asking what participants think people fear the most about sex. Nobody said "HIV/AIDS." Fewer than five people were asked that question, but that it was never mentioned even once is worth some inquiry, given the seriousness of HIV infection. The NCHA data suggest that approximately 0.1% of tested college students are HIV-positive. For Emory, this could very well mean that there are at least 12 HIV-positive students on campus, and it is impossible to know what they are doing to protect their partners. That being said, Emory students are at risk, even if they do not think they are. Due to several couples not being interested in using condoms, a recommendation for further intervention specifically for HIV could be rolled into education about healthy relationships; for example, framing a healthy relationship as one that is vigilant about testing for and protecting from HIV, and trying to make testing and protection the "new normal," even for long-term couples.

Appendix One: Informed Consent Letter

Consent to Be A Research Subject

Title: How do relationship factors and alcohol use influence sexual risk-taking in couples ages 18-23?

Principal Investigator: Andrea Stokfisz, MPH candidate

Co-Investigators: Ralph DiClemente, Ph.D. and Jessica Sales, Ph.D.

Introduction and Purpose:
You are being invited to participate in a study on how relationship factors and alcohol use influence sexual risk-taking. The study is my Master's thesis under the supervision of Dr. Ralph DiClemente of Behavioral Sciences and Health Education at the Rollins School of Public Health.

I am asking you to participate because you contacted me indicating that you are interested, via my flyers. Approximately 20 people (10 couples) will be interviewed individually for this study.

Procedure:
You and your partner must be born between October 20, 1986 and September 1, 1992 to participate this study. I will request to look at your ID only for birthdate verification. If you agree to participate, you and your partner will be interviewed separately for an hour to an hour and half in a quiet location on the Emory campus, such as a library study room. Since you are here now to participate, that means I have received interest from both of you via e-mail and I know who your partner is. The questions will be about your relationship with your partner, including questions about alcohol and sexual behavior with this individual. I will be tape recording the interview with your permission. The recording is only used for transcription. As soon as I type out what you say, I will delete the voice recording from my computer.

Risks:
The only known risk is the breach of confidentiality. I will not collect your name or any other identifiable information. I will have your e-mail address and your name when you contacted me to set up this interview, but I will not add your name to the data. The voice recording for our interview will be immediately deleted after transcription. Your answers to my interview are not identifiable and will not be shared with your partner. If you become upset in talking about a relationship, due to events such as prior sexual assault or traumatic events with alcohol, I will provide a list of resources to help you, such as sexual assault and domestic violence counselors and drug treatment counselors.

Benefits:
You may not benefit from this study personally, but you are contributing to data on people in a very specific age range that many behavioral sciences researchers are very interested in.

Confidentiality:
I will not collect your name or any other identifiable information. I have your e-mail address and your name when you contacted me to set up this interview, but I will not link your name to the

data. The voice recording of our interview will be immediately deleted after transcription. Your answers to my interview are not identifiable and will not be shared with your partner. However, the response from both of you will be analyzed as one chunk of data. You will not see your partner's replies, nor will s/he see yours. In the report, I'll describe couples as "a fe/male said (this)" If there is something you'd like to tell me within the interview, but not have it recorded on the audio file, please let me know, and I will stop the recorder. All information collected will be stored on a password-protected computer that only I have access to. I may have to show some information to my co-investigators so they can help me with my report.

Contact Persons:
You can ask me questions at any time. If you think of one later, please contact me at 313.477.0277 or astokfi@emory.edu. You may also contact my main advisor, Ralph DiClemente at rdiclem@emory.edu. If you have questions about your rights as a research subject or if you have questions, concerns or complaints about the research, you may contact the Emory University Institutional Review Board at 404-712-0720, 1- 877-503-9797, or e-mail to irb@emory.edu .

Voluntary Participation and Withdrawal:
Participating in this study is completely up to you. You can refuse to participate at any time, or skip questions that make you uncomfortable. If you decide later that you want your data deleted, please let me know, and I will honor the request. Your participation will not affect your standing with Emory in any way (i.e., if you're underage and drinking I won't call Conduct.)

I will give you a copy of this consent letter to keep. Please let me know if you'd like to participate.

Appendix Two: Interview Questions

How old are you?

Are you in school? Working? Both?

How often do you drink alcohol?

Under what circumstances do you drink alcohol?

Under what circumstances do you avoid alcohol

What do you consider to be a binge?

Where did you get that information about alcohol?

How many drinks do you think you could have before you'd feel sick or start forgetting things? How many drinks does it take to see changes in decision-making or behavior (boisterous, outgoing, etc.)?

Where do you usually drink? Who is there?

If the situation/place/people is new, do you drink more, less, not at all, about the same?

Do you think alcohol loosens up (people/you) (socially /sexually)?

Do you expect people to do things they normally wouldn't do after drinking just a few (one or two)? If so, what are those things (if not, why not)?

Do you ever use alcohol to "loosen up" socially or sexually?

Do you ever use alcohol to forget particular times/behaviors? If so, why? .

Do you think the drinking habits of your friends influence what you do when hanging out? If so, how?

Why do you drink/what does it mean to you?

If you're on a date, do you pay attention to your own limits of drinking, do you pay attention to how much he's drinking? Is it harder when you really like someone?

Among your friends, do you consider yourself on the shy side, or are you more outgoing?

What do you think makes sex "risky?"

How old were you when you first had sex?

What type of partner is easy for you to say no to?

What type of partner is harder to refuse?

Have you ever refused sex with a condom? Why?

Was there alcohol involved the first time you had sex? You? Partner? Both? How much?

Do you think this situation would have been different (condom used/condom not used/no sex at all, etc.) if the alcohol situation was (different-specify)?

How long have you been with your current partner?

Did you approach your current partner or did s/he approach you? Or was it more mutual (casual friends before dating or sex)?

How long did it take for you to approach your partner? (or how long did it take him/her to approach you, if you know) For example, were you eyeballing him/her in class or at work for a whole semester?

What do you think is the "chemistry" between you and your partner, what helps you to get along?

How do you define a "relationship" at this point in your life? (i.e., what made you say "hey, I'm qualified for this study")

Do you have another partner now? Do you use protection? What kind? Why or why not?

Have you ever blatantly lied to your partner about prior or concurrent sexual behavior? Under what circumstance? Why or why not?

Have you ever lied by omission about prior sexual behavior or concurrent sexual behavior (s/he didn't ask, I'm not going to tell) Why or why not?

(for those who have lied) How do you think your partner would react if s/he knew? Do you think it would prompt a change in the way you use protection?

Would you be upset if s/he announced they had another partner? If so, has this idea changed over the course of the relationship? At what point in the relationship did this happen? Do you think your partner would be upset if you added another partner?

Does your past sexual history influence the type of protection you currently use? Why or why not?

How far into this relationship did you have sex?

Was there alcohol involved? You? Partner? Both? How much?

Did you use protection (what kind)?

Do you think this sexual encounter would have been different (i.e., condom used, condom not used) if the amount of alcohol had been different? Why or why not?

If you used a condom, who started to talk about it? Who put it on?

Think of the last time you had sex with this partner:

Was there alcohol involved? You? Partner? Both? How much?

Did you use protection (what kind)?

Do you think this sexual encounter would have been different if the amount of alcohol had been different? Why or why not?

If you used a condom, who started to talk about it? Who put it on?

Think of some time in between the first and last time you had sex with this partner:

Was there alcohol involved? You? Partner? Both? How much?

Did you use protection (what kind)?

Do you think this sexual encounter would have been different if the amount of alcohol had been different? Why or why not?

If you used a condom, who started to talk about it? Who put it on?

Have you ever used a condom (if answer to the protection questions was not a condom) with this partner? If no, why is that? If yes, how frequently are you using them?

If you are not using a condom but are using other protection, what prompted that?

If you aren't using anything for protection, why is that? Does alcohol have anything to do with it? (For example (for women), do you take the pill because you might get too drunk to remember to use a condom, and want to at least prevent pregnancy)

If you used a condom in the past but not now, what prompted that? How long into the relationship was that? How did you decide to switch? Why? If there is no switch, why do you use the current method (or nonmethod) that you currently use?

Was there ever a point in which you "needed" alcohol to have sex with anyone? Why do you think this was? Does it still happen? Has your usage of alcohol changed over the course of this relationship? If so, how?

If you still drink before you have sex with this partner? Why? How much?

Do you ever talk to each other about your personal "limits" for alcohol? Why or why not?

If you wanted to change your method of protection, how would you approach your partner about that (would you)?

Is there anything about your relationship that makes it harder (or easier) to talk about protection or alcohol use? Please describe. What do you wish would happen in terms of communicating with your partner about sex or alcohol? Do you think your wishes are unrealistic (why or why not)?

Have you ever been tested for HIV/STIs with this partner?

Do you think men can "get away with more" sexually (like have a lot of partners without being called bad names)?

Do you consider yourself forward when trying to hook up with someone? Does this "forwardness" get impacted by drinking? More or less forward with a drink or two? (actual experience)

Does alcohol make you more likely to say yes to sex?

Does alcohol would make you bolder in saying no if you didn't want sex? If so, how many drinks do you think/does that would take?

Do you ever forget about HIV/STIs/pregnancy when you drink and are in a sexual situation? Do you think about the risk?

Do you talk more about condoms or other contraception with partners if you have been drinking? Less? About the same? Does this change with the amount of alcohol?

Do you think alcohol use gives people an excuse not to use protection?

(if applicable) Think about the last time you had sex with another partner. Did you use a condom (or other birth control)? Did you talk about it with your partner? What type of partner was it? Did you use alcohol or other drugs? How much? Where were you?

What do you think of long-term birth control (i.e., IUD)?

What do you think people fear most about sex-? Alcohol?

Condoms and people who love each other, what do you think is the connection?

Should past sexual history influence protection methods?

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