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SEXUAL BEHAVIOR AND MOTIVES IN EMERGING ADULTHOOD

A Dissertation in
Human Development and Family Studies

by

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Abstract

The current study assessed condom use and sexual decision-making in emerging adulthood. Data was drawn from the Gender & HIV Study, a longitudinal study of college students. Students completed surveys at three occasions during their first and second years of college. At Time 1 ($N = 434$), participants' ages ranged from 17.5 to 19.8 years ($M = 18.5$; $SD = 0.4$; 52% female). Thirty two percent identified as African American, 29% as Latino American, and 39% as European American. Study 1 examined associations between condom-related beliefs and condom use and whether relationship power and commitment moderated these associations. As predicted, most condom-related beliefs were associated with condom use. Contrary to predictions, neither power nor commitment moderated these associations. Study 2 compared emerging adults' own reasons to have sex against their perceptions of peers' motives. As predicted, students considered sexual motives that reflect specific circumstances (e.g., emotional investment with partner) in their own decision-making. In contrast, participants perceived same-sex peers' decisions to be mostly based on partner trait motives (e.g., physical appearance). Findings suggest that emerging adults perceive others' decisions as more superficial than their own. Implications for future work in emerging adults' sexuality are discussed within each paper.

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Overarching Introduction

Sexual development in emerging adulthood

This dissertation consists of two papers that address sexual development in emerging adulthood. These papers are drawn from a longitudinal study on gender and sexuality in emerging adulthood (PI: Eva Lefkowitz). In the first paper (paper 1), we explore the role of romantic relationship variables (power and commitment) in the association between condom-related beliefs and condom use among college students. Studying individual factors such as condom-related beliefs along with romantic relationship characteristics will allow us to better understand how the romantic relationship context affects sexual behaviors (e.g., condom use). The second paper (paper 2) is based on open ended data in which participants described, in their own words, their sexual motives (i.e., reasons to engage in sexual intercourse). In this second study, we focus on exploring how accurately emerging adults perceive opposite-sex and same-sex peers' reasons for engaging in sex (other-motives). In other words, this study explores how emerging adults evaluate their own sexual motives against their perception of peers' motives. Taken together, these two studies broaden the understanding of sexual development among emerging adults who attend college, and help identify factors that may promote condom use in romantic relationships.

Theories of sexual development

Several theoretical models such as Problem Behavior Theory (Jessor, 1984), Social Control Theory (Hirsch, 1969), Social Exchange Theories (Rusbult, 1983), and Social Influence Theory (Fisher, 1988) have been applied to the understanding of sexuality during adolescence and emerging adulthood (Bingham & Crockett, 1996;

Capaldi, Stoolmiller, Clark, & Owen, 2002; Scaramella, Conger, Simons, & Whitbeck, 1998). Most of these theories describe sexual activity or engaging in sexual intercourse as a risk, problem or deviant behavior (e.g., Jessor, 1984; Newcomb, Huba, & Bentler, 1986). The reasons for this negative conceptualization are well documented, especially during adolescence. Researchers have consistently found that early sexual activity and risky sexual behavior (e.g. high number of sexual partners, inconsistent condom use) during adolescence and emerging adulthood are associated with negative outcomes (e.g. Bingham & Crockett, 1996; Capaldi et al., 2002; Scaramella et al., 1998). Many individuals, however, do not engage in early sexual activity (CDC, 2006). In fact, engaging in first sexual intercourse during late adolescence and emerging adulthood can be considered a normative event (Lefkowitz & Gillen, 2005). We focus on understanding sexual behavior such as engaging in sexual intercourse and condom use during emerging adulthood. In paper 1, we define not using a condom as risky, and attempt to identify factors that may facilitate condom use (e.g., relationship power). We, however, recognize that couples who do not use condoms, but are consistently using alternative methods of birth control and have been tested for STI's, are at very low risk of contracting STI's or having an undesired pregnancy. In paper 2, we identify emerging adults' sexual motives such as individual, interpersonal and risk prevention motives. These motives may promote a healthy sexual experience (e.g., Brooks-Gunn & Paikoff, 1993; Robinson, Bockting, Rosser, Miner, & Coleman, 2002).

Theoretical models exploring sexual behaviors have mostly tried to understand the causes and the consequences of these behaviors (Crockett, Bingham, Chopak, & Vicary, 1996). For instance, Social Influence Theory suggests that social environmental

influences (e.g., family, school) account, at least partially, for sexual behavior (Fisher, 1988). Empirical research has emphasized the role of parents and peers as socializing agents (Adam & Chase-Lansdale, 2002; Crockett et al., 1996; Henry, Schoeny, Deptula, Slavick, 2007; Wu & Thompson, 2001; Zimmer-Gembeck, Siebenbruner, & Collins, 2004). Romantic and sexual partners, however, also play a salient role in sexual development during adolescence and emerging adulthood (Bralock & Koniak-Griffin, 2007; Civic, 1999; Fortenberry, Tu, Harezlak, Katz, & Orr, 2002; Gebhardt, Kuyper, & Greunsven, 2003; Manlove, Ryan, & Franzetta, 2007; Zimmer-Gembeck & Collins, 2008). Because sexual behaviors take place in a dyadic context, and emerging adults' sexual behavior often occurs in the context of romantic relationships (Christopher & Sprecher, 2000), emerging adults' romantic partners may have a greater influence on their safe sexual practices than parents and peers.

Social exchange theories such as the investment model (Rusbult, 1983) posit that romantic partners engage in interpersonal exchanges to influence each other and maximize rewards and minimize costs (Byers & Wang, 2004). For instance, many emerging adults may learn to negotiate contraceptive use with a romantic partner to maximize rewards (protect against STI's) and minimize costs (avoid partners' mistrust for suggesting to use a condom), and may continue or modify these negotiation patterns in future romantic and casual relations. In paper 1, based on the investment model (Rusbult, 1983), we directly assess the role of romantic relationship characteristics in emerging adults' condom-related beliefs and condom use. In paper 2, we indirectly explore the role of romantic relationships and emotional investment in emerging adults' sexuality by assessing sexual motives. That is, we want to understand if men and women

consider interpersonal motives (e.g. emotional intimacy and romantic relationship status) as important reasons to have sex.

Not many theories, however, have addressed how individuals assess their own and their perceptions of same-sex and opposite-sex peers' sexual decision making (see peer norm research for exceptions: Lewis, Lee, Patrick, & Fossos, 2007; Martens et al., 2006). Social comparison theories and the actor-observer asymmetry principle posit that individuals tend to attribute their own behavior to situational requirements or circumstances, whereas they consider others' behaviors to be a product of their personal dispositions or personality (Jones & Nisbett, 1972). These theories might be useful in the study of emerging adults' perceptions of their own and peers' sexual motives. In study 2, based on the actor-observer asymmetry principle, we compare emerging adults' own sexual motives against their perception of peers' motives.

Fewer theoretical models have addressed issues relevant to gender and sexuality. Gender role socialization theory and sexual script theory, however, emphasize that men and women are socialized to pursue different roles in dating and courtship (Gagnon, 1990). Feminist theory posits that the meaning of being a man or a woman in certain societies (social construction) may determine how much power an individual has in this society and how his or her sexuality is experienced (Tolman, Striepe & Harmon, 2003). The social construction of gender therefore is an important aspect of adolescent sexual health (Tolman et al., 2003). In paper 2, based on sexual script theory, we also examine how gender influences emerging adults' own sexual motives and their perception of peers' motives.

Sexuality in emerging adulthood

To conduct empirical research based on appropriate theoretical models, however, we also need to consider the specific conditions under which sexual development occurs. In fact, individuals experience distinctive biological and psychosocial conditions that affect their sexuality over the life course (DeLamater & Friedrich, 2002). During puberty, individuals experience different biological changes such as menarche and semenarche (DeLamater & Friedrich, 2002). Male and female youth therefore may become sexually mature many years before they are considered socially mature and ready to take on adult responsibilities such as marriage (Russell, 2005). During these years, emerging adults, individuals between the ages of 18 and 25, have the opportunity to explore different areas of their identity (Arnett, 2000). I consider two main reasons that can account for this exploration. First, adolescents and emerging adults develop sophisticated cognitive skills such as hypothetical thinking and metacognition that allow them to plan ahead and establish a complex sense of identity (Keating, 2004). Moreover, the prefrontal cortex, which plays a major role in planning, decision making, goal setting and metacognition, is not fully developed until emerging adulthood (Casey, Tottenham, Liston, & Durston, 2005). Emerging adults' identity exploration becomes more complex due to these cognitive skills and the accumulation of previous experiences. Second, the ecological niche where many emerging adults develop allows and may even encourage this identity exploration (Maggs, 1997). For instance, emerging adults who attend college seem to experience a semiautonomous transition (Goldscheider & DaVanzo, 1986) that tends to slow the passage to adulthood (Sherrod, Haggerty, & Featherman, 1993). During the college years, students can postpone the assumption of full adult responsibilities and

explore various adult behaviors, values and lifestyles (Arnett, 2000; Maggs, 1997). Both biological and ecological conditions foster identity development during emerging adulthood.

An important area of exploration during emerging adulthood is sexuality (Lefkowitz & Gillen, 2005), which may include sexual attractions, beliefs, behaviors, and identity. Some researchers have suggested that during adolescence, individuals achieve several developmental tasks such as positive feelings about one's body, feelings of sexual arousal and desire, engaging in different sexual behaviors (e.g., kissing, oral sex, sexual intercourse) and learning to practice safe sex (Brooks-Gunn & Paikoff, 1993). We argue, however, that some of these tasks may carry on to emerging adulthood. During this period, many emerging adults are sexually active (Lefkowitz & Gillen, 2005) and have accumulated several sexual partners (Manlove, et al., 2007; Santelli, Lindberg, Abma, McNeely, & Resnick, 2000; Zimmer-Gembeck & Collins, 2008). Condom use, however, decreases across adolescence and into emerging adulthood (Capaldi et al., 2002; Fergus, Zimmerman, & Caldwell, 2007; Siegel, Klein, & Roghmann, 1999). Because of these behavioral patterns, late adolescents and emerging adults (ages 15 to 24) are more likely to contract HIV and other STI's than older individuals (Weinstock, Berman, & Cates, 2004). Emerging adults therefore still need to learn how to make informed decisions about reproduction and the prevention of STIs (DeLamater & Hyde, 2004; Robinson et al., 2002).

Although college students are not considered a high risk population, STI's are still prevalent in college populations (James, Simpson, & Chamberlain, 2008). Moreover, the college environment might create a false sense of security and emerging adults who

attend college may be less motivated to practice sexual health (e.g., condom use) because they may perceive themselves and their partners at low risk of contracting an STI (Siegel et al., 1999). Finally, over 60% of high school graduates in the U.S. attend college (NCES, 2007), meaning that a high percentage of the U.S. population attends college. It is therefore important to understand sexual behaviors and motives in college students. For all these reasons, this dissertation focuses on the study of sexual development in emerging adults attending college.

Contributions to the Literature

These papers make several contributions to the literature on sexuality. First, many papers have examined the role of parents and peers in sexual development (Adam & Chase-Lansdale, 2002; Henry et al., 2007; Wu & Thompson, 2001; Zimmer-Gembeck et al., 2004), however, fewer have explored the role of sexual partners and romantic relationship characteristics in emerging adults' sexual behaviors and decision making (for exceptions see Bralock & Koniak-Griffin, 2007; Fortenberry et al., 2002; Manlove et al., 2007; Zimmer-Gembeck, & Collins, 2008). Moreover, the role of romantic relationships in individual variables such as condom-related beliefs and condom use needs to be further explored (Misovich, Fisher, & Fisher, 1997). In paper 1, we assess the moderating role of romantic relationship characteristics in the association between condom-related beliefs and condom use. In paper 2, we examine the importance of interpersonal motives (romantic relationship status, romantic relationship characteristics and emotional investment) in emerging adults' sexual decision making.

Second, these papers contribute to the literature by not only including both men and women in the study of sexuality, but also considering how gender (as a label or social

construction) affects perceptions of peers' sexual motives. Several researchers have emphasized the role of commitment and power as factors influencing condom use among women (Amaro, 1995; Pulerwitz, Amaro, DeJong, Gortmaker, & Rudd, 2002; Pulerwitz, Gortmaker, & DeJong, 2000; Sayegh, Fortenberry, Shew, & Orr, 2006). Men, however, may also find it difficult to use condoms when they are committed or do not hold the power in their relationship (e.g., Umphrey & Sherblom, 2007; Woolf & Maisto, 2008). These relationship characteristics therefore are important for men's and women's sexual health. Paper 1 considers the effect of relationship variables in condom use and beliefs for both men and women. Paper 2 not only includes men and women, but also considers how gender affects emerging adults' perceptions of peers' sexual motives, which fewer studies have explored (for an exception see Lewis et al., 2007).

Third, Paper 2 examines students' sexual motives based on theoretical frameworks that have been rarely applied to sexual decision making. Based on the actor-observer asymmetry principle, we explore social comparisons in different sexual motives among emerging adults. Few studies to our knowledge have applied the actor-observer asymmetry principle to the study of sexual motives in emerging adulthood. We chose the actor-observer asymmetry principle because it suggests that individuals not only overestimate or underestimate a certain motive, but that these individuals may actually consider different motives for themselves than for others. Based on this principle, we might be able to better understand social comparisons in different sexual motives among emerging adults.

Finally, these papers assess sexual development among college students and can be distinguished from many others because These data are from a longitudinal study in

which we randomly selected a sample of European American first year college students and over-sampled ethnic minority (African Americans and Latino Americans) students. Results from Paper 1 and 2 therefore may be generalized to the European American population at this college and can help us better understand sexual development among ethnic minorities who attend predominantly European American colleges. This dissertation contributes to the sexuality literature by examining the role of romantic relationships in sexual behaviors and sexual decision making, exploring romantic relationship characteristics in both men's and women's sexual behaviors and sexual motives, studying emerging adults' sexual decision-making from a different theoretical approach, and assessing sexual development among a representative sample of European American college students.

References

- Adam, E. K., & Chase-Lansdale, P. L. (2002). Home sweet home(s): Parental separations, residential moves, and adjustment problems in low-income adolescent girls. *Developmental Psychology, 38*, 792-805.
- Amaro, H. (1995). Love, sex and power. Considering women's realities in HIV prevention. *American Psychologist, 50*, 437-447.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469-480.
- Bingham, C. R., & Crockett, L. J. (1996). Longitudinal adjustment patterns of boys and girls experiencing early, middle, and late sexual intercourse. *Developmental Psychology, 32*, 647-658.
- Bralock, A. R., & Koniak-Griffin, D. (2007). Relationship, power, and other influences on self-protective sexual behaviors of African American female adolescents. *Health Care for Women International, 28*, 247-267.
- Brooks-Gunn, J., & Paikoff, R. L. (1993). "Sex is a gamble, kissing is a game": Adolescent sexuality and health promotion. In S. G. Millstein, A. C. Petersen & E. O. Nightingale (Eds.). *Promoting the health of adolescents: New directions for the twenty-first century*. (pp. 180-208). New York: Oxford University Press.
- Byers, E. S., & Wang, A. (2004). Understanding sexuality in close relationships from the Social Exchange perspective. In J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.). *The handbook of sexuality in close relationships*. (pp. 203-234). Mahwah NJ: Lawrence Erlbaum Associates.

- Capaldi, D. M., Stoolmiller, M., Clark, S., & Owen, L. D. (2002). Heterosexual risk behaviors in at-risk young men from early adolescence to young adulthood: Prevalence, prediction, and association with STD contraction. *Developmental Psychology, 38*, 394-406.
- Casey, B. J., Tottenham, N., Liston, C., & Durston, S. (2005). Imagining the developing brain: What have we learned about cognitive development? *Trends in Cognitive Science, 9*, 104-110.
- Centers for Disease Control and Prevention (2006). *Youth Risk Behavior Surveillance*. (MMWR Publication 55 No. SS-5). Atlanta: U. S. Department of Health and Human Services, CDC.
- Civic, D. (1999). The association between characteristics of dating relationships and condom use among heterosexual young adults. *AIDS Education and Prevention, 11*, 343-352.
- Christopher, F. S., & Sprecher, S. (2000). Sexuality in marriage, dating, and other relationships: A decade review. *Journal of Marriage and the Family, 62*, 999-1017.
- Crockett, L. J., Bingham, C. R., Chopak, J. S., & Vicary, J. R. (1996). Timing of first sexual intercourse: The role of social control, social learning, and problem behavior. *Journal of Youth and Adolescence, 25*, 89-111.
- DeLamater, J., & Friedrich, W. N. (2002). Human sexual development. *Journal of Sex Research, 39*, 10-14.
- DeLamater, J., & Hyde, J. S. (2004). Conceptual and theoretical issues in studying sexuality in close relationships. In J. H. Harvey, A. Wenzel & S. Sprecher (Eds.).

The handbook of sexuality in close relationships. (pp. 7-30). Mahwah NJ: Lawrence Erlbaum Associates.

- Fergus, S., Zimmerman, M. A., & Caldwell, C. H. (2007). Growth trajectories of sexual risk behavior in adolescence and young adulthood. *American Journal of Public Health, 97*, 1096-1101.
- Fisher, J. D. (1988). Possible effects of reference group-based social influence on AIDS-risk behavior and AIDS prevention. *American Psychologist, 43*, 914-920.
- Fortenberry, J. D., Tu, W., Harezlak, J., Katz, B. P., & Orr, D. P. (2002). Condom use as a function of time in new and established adolescent sexual relationships. *American Journal of Public Health, 92*, 211-213.
- Gagnon, J. H. (1990). The explicit and implicit use of the scripting perspective in sex research. *Annual Review of Sex Research, 1*, 1-43.
- Gebhardt, W. A., Kuyper, L., & Greunsven, G. (2003). Need for intimacy in relationships and motives for sex as determinants of adolescent condom use. *Journal of Adolescent Health, 33*, 154-164.
- Goldscheider, F. K., & DaVanzo, J. (1986). Semi-autonomy and leaving home in early adulthood. *Social Forces, 65*, 187-201.
- Henry, D. B., Schoeny, M. E., Deptula, D. P., & Slavick, J. T. (2007). Peer selection and socialization effects on adolescent intercourse without a condom and attitudes about the costs of sex. *Child Development, 78*, 825-838.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.

- James, A. B., Simpson, T. Y., & Chamberlain, W. A. (2008). Chlamydia prevalence among college students: Reproductive and public health implications. *Sexually Transmitted Diseases, 35*, 529-532.
- Jessor, R. (1984). Adolescent development and behavioral health. In J. D. Matarazzo, S. M. Weiss, J. A. Herd, N. E. Miller & S. M. Weiss (Eds.). *Behavioral health: A handbook of health enhancement and disease prevention*. (pp. 69-90) New York: Wiley.
- Jones, E. E., & Nisbett, R. E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E., Jones, D. Kanouse, J. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79-94). Morristown, NJ: General Learning Press.
- Keating, D. (2004). Cognitive and brain development. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed.) (pp. 45-84). New York: Guilford Press.
- Lefkowitz, E. S., & Gillen, M. M. (2005). "Sex is just a normal part of life": Sexuality in emerging adulthood. In J. J. Arnett & J. L. Tanner (Eds.). *Coming of age in the 21st century: The lives and contexts of emerging adults* (pp. 235-255). Washington, D. C.: American Psychological Association.
- Lewis, M. A., Lee, C. M., Patrick, M. E. & Fossos, N. (2007). Gender-specific normative misperceptions of risky sexual behavior and alcohol-related risky sexual behaviors. *Sex Roles, 57*, 81-90.
- Maggs, J. L. (1997). Alcohol use and binge drinking as goal-directed action during the transition to post secondary education. In J. Schulenberg, J. L. Maggs, & K.

Hurrelmann (Eds.), *Health risk and developmental transition during adolescence* (pp.345-371). New York: Cambridge University Press.

Manlove, J., Ryan, S., & Franzetta, K. (2007). Contraceptive use patterns across teens' sexual relationships: The role of relationships, partners, and sexual histories. *Demography, 44*, 603-621.

Martens, M. P., Page, J. C., Mowry, E. S. Damann, K. M., Taylor, K. K. & Cimini, M. D. (2006). Differences between actual and perceived student norms: An examination of alcohol use, drug use, and sexual behavior. *Journal of American College Health, 54*, 295-300.

Misovich, S. J., Fisher, J. D., & Fisher, W. A. (1997). Close relationships and elevated HIV risk behavior: Evidence and possible underlying psychological processes. *Review of General Psychology, 1*, 72-107.

Newcomb, M. D., Huba, G. J., & Bentler, P. M. (1986). Desirability of various life change events among adolescents: Effects of exposure, sex, age, and ethnicity. *Developmental Psychology, 20*, 207-227.

Pulerwitz, J., Gortmaker, S. L., & DeJong, W. (2000). Measuring sexual relationships power in HIV/STD research. *Sex Roles, 42*, 637-660.

Pulerwitz, J., Amaro, H., DeJong, W., Gortmaker, S. L., & Rudd, R. (2002). Relationship power, condom use, and HIV risk among women in the USA. *AIDS Care, 14*, 789-800.

Robinson, B. E., Bockting, W. O., Rosser, B. R. S., Miner, M., & Coleman, E. (2002). The Sexual Health Model: Application of a sexological approach to HIV prevention. *Health Education Research, 17*, 43-57.

- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology, 45*, 101-117.
- Russell, S. T. (2005). Conceptualizing positive adolescent sexuality development. *Sexuality Research and Social Policy, 2*, 4-12.
- Santelli, J. S., Lindberg, L. D., Abma, J., McNeely, C. S., & Resnick, M. (2000). Adolescent sexual behavior: Estimates and trends from four nationally representative surveys. *Family Planning Perspectives, 32*, 156-165 & 194.
- Sayegh, M. A., Fortenberry, J. D., Shew, M., & Orr, D. P. (2006). The developmental association of relationship quality, hormonal contraceptive choice and condom non-use among adolescent women. *Journal of Adolescent Health, 39*, 388-395.
- Scaramella, L. V., Conger, R. D., Simons, R. L., & Whitbeck, L. B. (1998). Predicting risk for pregnancy by late adolescence: A social contextual perspective. *Developmental Psychology, 34*, 1233-1245.
- Sherrod, L. R., Haggerty, R. J., & Featherman, D. L. (1993). Introduction: Late adolescence and the transition to adulthood. *Journal of Research in Adolescence, 3*, 217-226.
- Siegel, D. M., Klein, D. I. & Roghmann, K. J. (1999). Sexual behavior, contraception, and risk among college students. *Journal of Adolescent Health, 25*, 336-343.
- Tolman, D. L., Striepe, M. I., & Harmon, T. (2003). Gender matter: Constructing a model of adolescent sexual health. *The Journal of Sex Research, 40*, 4-12.

- Umphey, L., & Sherblom, J. (2007). Relational commitment and threats to relationship maintenance goals: Influences on condom use. *Journal of American College Health, 56*, 61-67.
- U.S. Department of Education, National Center for Education Statistics. (2007). *The Condition of Education 2007* (NCES 2007-064), Indicator 25.
- Weinstock, H., Berman, S., & Cates, W. (2004). Sexually transmitted diseases among American youth: Incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health, 36*, 6-10.
- Wolf, S. E., & Maisto, S. A. (2008). Gender differences in condom use behavior? The role of power and partner-type. *Sex Roles, 58*, 689-701.
- Wu, L. L., & Thomson, E. (2001). Race differences in family experience and early sexual initiation: Dynamic models of family structure and family change. *Journal of Marriage and Family, 63*, 682-696.
- Zimmer-Gembeck, M. J., & Collins, W. A. (2008). Gender, mature appearance, alcohol use, and dating as correlates of sexual partner accumulation from ages 16-26 years. *Journal of Adolescent Health, 42*, 564-572.
- Zimmer-Gembeck, M. J., Siebenbruner, J., & Collins, W. A. (2004). A prospective study of intraindividual and peer influences on adolescents' heterosexual romantic and sexual behavior. *Archives of Sexual Behavior, 33*, 381-394.

Condom use in romantic relationships during emerging adulthood

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Abstract

This study examined associations between condom-related beliefs and condom use and the moderating effect of relationship power and commitment in these associations. African American, Latino American, and European American students who were sexually active and in romantic relationships ($N =$ ranged from 150 to 164; about 60% female) completed surveys about their condom-related beliefs (pleasure-related attitudes, and self-efficacy for using and buying, communicating about use, and perceived barriers for use), condom use, and relationship power and commitment during their first two years of college. Students who believed condoms do not interfere with pleasure and were more self-efficacious about use and communication about condoms were more likely to use condoms consistently than individuals who believed condoms interfere with pleasure and were less self-efficacious. Contrary to predictions, neither power nor commitment moderated these associations. This study contributes to the understanding of condom-related attitudes and condom use among students in romantic relationships.

Condom use in romantic relationships during emerging adulthood

Learning to practice and negotiate sexual behaviors that minimize the risk of STI's is an important task during adolescence and emerging adulthood (Brooks-Gunn & Paikoff, 1993; Robinson, Bockting, Rosser, Miner & Coleman, 2002). An effective way to reduce this risk is using condoms consistently (Gallo et al., 2007; Weller & Davis-Beaty, 2002). Although many sexually active high school and college students report using condoms at last intercourse (56-60%) (CDC 2008; Scholly, Katz, Gascoigne, & Holck, 2005), fewer (40%) report consistent condom use (Scholly et al., 2005). In this study we wanted to identify individual (condom-related beliefs) and romantic relationship characteristics (power and commitment) that may facilitate consistent condom use.

Emerging adults who hold positive condom-related beliefs use condoms more frequently than individuals with less positive beliefs about condoms (Fisher & Fisher, 2000; Noar, Zimmerman, Palmgreen, Lustria, & Horosewski, 2006; Norton, Bogart, Cecil & Pinkerton, 2005). Unlike other risky behaviors such as binge drinking, however, condom use negotiation occurs in a dyadic context and therefore is affected not only by individuals' beliefs, but also by partner and relationship factors (Misovich, Fisher, & Fisher, 1997). In fact, social exchange theories posit that partners engage in interpersonal exchanges such as condom use negotiation to try to maximize rewards and minimize costs (Byers & Wang, 2004). If negotiating condom use or using a condom is an exchange that brings more costs (e.g., threatens the relationship with partner) than rewards (e.g., STI protection), individuals may abstain from using condoms. Emerging adults in romantic relationships may perceive more costs than rewards regarding condom use and therefore might find it more difficult to use condoms than individuals not in

relationships. In fact, emerging adults (18-24 years old) report being less likely to use condoms when engaging in sexual intercourse with regular partners than with casual partners (Anderson, 2003). Certain relationship factors, however, may facilitate this negotiation. Emerging adults who hold more relationship power and are less committed to their relationship use condoms more frequently than individuals who report less power and more commitment (Tschann, Adler, Millstein, Gurvey, & Ellen, 2002; Umphrey & Sherblom, 2007). The goal of this study was to test whether power and commitment moderated the association between condom-related beliefs and condom use among college students who were in romantic relationships. Because we wanted to replicate our findings, we examined our hypotheses at three different time points during students' first (T1, T2) and second (T3) year of college. We predicted that the association between positive beliefs and condom use would be stronger for individuals who hold more relationship power or were less committed than for less powerful and more committed individuals. Identifying romantic relationship characteristics that moderate the association between condom-related beliefs and consistent condom use may help promote healthy sexual practices among emerging adults.

Condom Use Beliefs as Predictors of Condom Use

Sexual development does not end after the transition to first intercourse, but continues over the life course (DeLamater & Friedrich, 2002). Many emerging adults (ages 18 to 25), especially individuals attending college, can postpone the assumption of adult responsibilities and explore and experience different sexual behaviors (Arnett, 2000; Lefkowitz & Gillen, 2005). During this exploration, however, emerging adults may engage in risky behaviors. For instance, condom use decreases across adolescence

(Capaldi Stoolmiller, Clark, & Owen, 2002; Fergus, Zimmerman, & Caldwell, 2007) resulting in a higher prevalence of HIV and other STI's among late adolescents and emerging adults compared to younger and older age groups (Weinstock, Berman & Cates, Jr., 2004). It is important therefore that sexually active emerging adults use condoms consistently as a risk- reduction strategy against STI's and unwanted pregnancy (Gallo et al., 2007; Weller & Davis-Beatty, 2002).

In this study, we assess both attitudes and self-efficacy about condom use among college students and refer to both constructs as condom-related beliefs. Condom-related attitudes are defined as the positive or negative assessment of condom use (Noar & Zimmerman, 2005). Attitudes about condoms such as pleasure-related attitudes are important predictors of condom use (e.g., Conley & Collins, 2005; Fisher & Fisher, 2000; Manlove, Ikramullah, & Terry-Humen, 2008; Noar et al., 2006; Norton et al., 2005; Sheeran, Abraham, & Orbell, 1999). Thus, we assessed pleasure-related attitudes about condoms.

Self-efficacy, the belief that one can perform a condom-related behavior (buying, using or communicating about condoms) in a specific situation (Noar & Zimmerman, 2005), is also an important predictor of condom use (e.g., Boone & Lefkowitz, 2004; Fisher & Fisher, 2000; Noar, et al., 2006; Sheeran et al., 1999). Emerging adults who feel more self-efficacious about using and communicating about condoms are more likely to use condoms consistently than less self-efficacious individuals (Boone & Lefkowitz, 2004; Halpern-Felsher, Kropp, Boyer, Tschann, & Ellen, 2004; Noar et al., 2005). Condom-related beliefs therefore may also predict condom use in the context of romantic relationships. Thus, we also assessed self-efficacy for using and buying, communicating

about use, and perceived barriers for use. The first objective of this study was to explore associations between condom-related beliefs (pleasure-related attitudes, and self-efficacy for using and buying, communicating about use, and perceived barriers for use) and condom use among first and second year college students in relationships. We predicted that positive condom-related beliefs would be associated with more frequent condom use during students' first two years of college.

Romantic Relationships and Condom Beliefs and Behavior

Romantic relationships are voluntary interactions acknowledged by both partners and characterized by expressions of affection (Collins, 2003). Although adolescents experience romance, the formation of stable intimate romantic relationships generally occurs in emerging adulthood (Carver, Joyner, & Udry, 2003). These romantic bonds become so important that they can affect emerging adults' well-being (Collins & Van Dulmen, 2005). Romantic relationship involvement, cognitive processes and emotional processes (e.g., subjective perceptions of power and commitment) therefore may be important predictors of condom use.

Social exchange theories such as the investment model (Rusbult, 1983) posit that partners in close relationships engage in interpersonal exchanges to influence each other and maximize rewards and minimize costs (Byers & Wang, 2004). Social exchange theory may explain condom use between men and women in romantic relationships. For instance, an individual may not use a condom if he or she expects that condom use reduces sexual pleasure (maximize rewards). Similarly, someone may not use condoms if his or her partner perceives this behavior as a sign of mistrust (minimize cost). Individuals' condom-related beliefs and romantic relationship characteristics, however,

may alter these social exchanges (condom use). In this study, we wanted to better understand which romantic relationship factors may facilitate consistent condom use. We focus on two romantic relationship aspects: perceived power and commitment.

Power and condom beliefs and behavior. Power in a relationship is the ability or capacity to influence the partner's beliefs or behaviors, to act independently of one's partner, to dominate decision making, or to engage in a behavior against the other partner's wishes (Pulerwitz, Gortmaker, & DeJong, 2000; Tschann et al., 2002). Some relationship researchers suggest that the partner who is the least emotionally invested in a relationship will have more power and control within the relationship (Sprecher & Felmlee, 1997; Tschann et al., 2002; Waller & Hill, 1951). In this study, we assessed global power. Global power is defined as perceived emotional involvement relative to the partner, and includes decision making power (Sprecher & Felmlee, 1997). Past research suggest that individuals who hold more relationship power are more likely to make decisions to protect their own and their partner's sexual health than individuals who hold less power (Blanc, 2001; Pulerwitz et al., 2000; Tschann et al., 2002).

Condom use and relationship power, however, are constructs that occur in a dyadic context. If a couple's reports are accurate, the partner who holds more power and reports using a condom should have a partner who holds less power but also reports using a condom. Based on social exchange theory (Byers & Wang, 2004), therefore we argue that more power will allow individuals to influence their partner and negotiate using or not using a condom based on what they perceive as condom use rewards and costs. Thus, someone who holds more negative beliefs about condoms and more power (relative to the partner) should use condoms less frequently than an individual who holds less negative

beliefs and more power. Similarly, emerging adults who hold more positive beliefs and power should use condoms more frequently than individuals who hold less positive beliefs and power. Having relationship power therefore will allow individuals to enact their wishes of using or not using condoms. The second objective of this study was to explore the moderation effect of relationship power in the association between condom-related beliefs and condom use. We predicted that the association between condom-related beliefs and condom use would be stronger for individuals who hold more relationship power than for individuals with less power.

Relational commitment and condom beliefs and behavior. In this study, we also assess commitment or the intent to stay in a relationship (Rusbult, Martz, & Agnew, 1998). In contrast to power, we do not assess individuals' perceptions of commitment relative to their partner. If an individual reports high levels of commitment, it does not necessarily mean that his or her partner's commitment is lower. In fact, we would expect a positive association between partners' reports of commitment (Duemmler & Kobak, 2001).

Relational commitment is a salient factor during emerging adulthood, because it is more stable than commitment with friends, and is associated with individuals' well-being (Meeus, Branje, van der Valk, & de Wied, 2007). Commitment is also associated with condom use. Emerging adults who report more relational commitment are less likely to request using a condom than less committed individuals (Umpfrey & Sherblom, 2007). Based on social exchange theory (Byers & Wang, 2004), we posit that a possible explanation for this association is that individuals who are committed to their partner and do not use condoms are trying to minimize perceived costs. That is, emerging adults who

do not use condoms might believe that asking to use a condom in a committed relationship is a threat to the relationship (Umphrey & Sherblom), because it implies a lack of trust in their partners (Misovich et al., 1997). In fact, emerging adults who engage in sexual intercourse with a regular partner as opposed to a new partner use condoms less frequently, despite lack of information about their partners' health risk status (Corbin & Fromme, 2002). These findings suggest that condom-related beliefs may be more important predictors of condom use in more committed than less committed relationships. The third objective of this study was to explore the moderation effect of relational commitment in the association between condom-related beliefs and condom use. We predicted that the association between condom-related beliefs and condom use would be stronger for individuals who are less committed than for more committed individuals. In summary, we had the following hypotheses:

- 1) Condom-related beliefs will be positively associated with condom use frequency at T1, T2, and T3.
- 2) Relationship power will moderate the association between condom-related beliefs and condom use at T1, T2 and T3. More specifically, the association between condom-related beliefs and condom use will be stronger for individuals who hold more relationship power than for individuals with less power.
- 3) Relational commitment will moderate the association between condom-related beliefs and condom use at T1, T2 and T3. More specifically, the association between condom-related beliefs and condom use will be stronger for individuals who are less committed than for more committed individuals.

Methods

Participants

We recruited first year college students in September of 2002 at a large (>40,000 students) Northeastern public university in a college town. The University Registrar provided us with a list of all first year students, their ethnicity, date of birth, and their contact information. We contacted all African American and Latino American students between the ages of 17 and 19 years, and a randomly selected subsample of European American students (9% of all students ages 17 – 19 years who were Caucasian, not Hispanic according to the Registrar's definition). From the initial 839 students invited to participate, 52% agreed.

Students participated on three occasions during their first two years of college: Fall (T1) and Spring (T2) of their first year, and Fall (T3) of their second year. At each time point, we contacted participants by e-mail or phone to schedule an appointment. Undergraduate research assistants followed informed consent procedures and administered paper and pencil surveys in groups. Students received monetary compensation at each time point (\$25 for T1, \$30 for T2, \$35 for T3).

The original sample consisted of 434 first year college students. Of these participants, 414 (95%) completed surveys at T2 and 390 (90%) at T3. Of the students who completed surveys at T1 but did not return for T3 ($N = 44$), 84% were no longer eligible to participate because they were no longer enrolled in the university ($N = 32$) or were deceased ($N = 1$). The remaining students refused to participate ($N = 4$), or were unreachable ($N = 7$). For this study, at each time point our sample consists of students who were sexually active in the past 3 months (i.e., reported having at least one

penetrative sexual partner in the past three months), and reported being in a romantic relationship (i.e., casually dating or in a relationship) with a partner of the opposite sex. Therefore, some participants were included at all time points (if they were in a romantic relationship and sexually active at all time points), whereas others were only included at one or two time points (only when they were in a romantic relationship and sexually active). We only included participants who reported opposite sex partners, because condom use negotiation and power dynamics may differ between opposite sex and same sex couples.

We present sample information in Table 1.1. We determined ethnicity/race based on a combination of self-report and Registrar's report. When participants self-reported more than one ethnicity/race, we categorized them according to the Registrar's report. At the time, the university form allowed the reporting of only one ethnic/race group. Participants were of African American (including African American, African, Caribbean), Latino American (including Mexican American, Puerto Rican, and South American), and European American descent (See Table 1.1).

Measures

We assessed all measures at three time points (T1, T2, and T3), because we wanted to replicate the moderation models with the individuals who were sexually active and in a relationship at each time point. We wanted to explore if the associations and moderating effects explained similar amount of variance at each time point.

Romantic Partners' Characteristics

Descriptives. We assessed six aspects of the participants' relationship for descriptive purposes. First, we assessed *current relationship status* with a single item.

Participants circled one category out of five (not dating anyone, casually dating, in a not very serious relationship, in a committed relationship, and engaged, living with someone, or married) that best described their relationship. Participants who reported not dating anyone were excluded from this study. Second, we asked if participants were in an *exclusive relationship* with one item (“Are you dating anyone else?”). Third, we assessed *length of relationship* with a single item (“How long have you been in this relationship?”). Participants reported relationship length in number of weeks. We categorized these responses into four: 6 months or less, more than 6 months to a year, more than a year to two years, more than two years. Fourth, we assessed interaction between partners in person or *contact frequency* on a 4 point scale (every day, 2-6 times per week, about once a week, less than once a week). Fifth, participants also reported their *partner’s age* in years. Finally, we had two items to assess *partners’ residential location*. We asked participants if *partners lived in the same city*. If they lived in a different city, we also asked the *city and state where partner lived*.

Perceived global power. We assessed subjective perceptions of global power in the relationship on a 2-item scale (Sprecher & Felmlee, 1997). Higher scores indicate more power relative to the romantic partner. Participants used a 7-point scale. The first item (“In your relationship, who has more power?”) had a scale from 1 (I have much more power) to 7 (my partner has much more power). The second item (“In your relationship, who makes the decisions about what the two of you do together?”) had a scale from 1 (I do almost always) to 7 (my partner does almost always). Reliability in the current study was low ($\alpha = .46$ at T1, $.68$ at T2, and $.25$ at T3). Initially, we decided to use the two items separately. Results did not differ when we used items separately or as a

scale. Therefore, for ease of interpretation we present findings with the two items summed.

Global commitment. We assessed global commitment to romantic partner (e.g., “I am committed to maintaining my relationship with my partner”) on a 7-item scale (Rusbult et al., 1998). Higher scores indicate more commitment. Participants rated each item on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). Reliability in the current study was good ($\alpha = .94$ at T1, .93 at T2, and .94 at T3), and comparable to the original measure (Rusbult et al., 1998).

Condom Use

Students who reported having ever had penetrative sex (sex in which the penis penetrates the vagina or anus) responded to follow-up questions about their sexual behaviors. In this study we focus only on sexual behaviors that occurred in the past three months and the most recent sexual encounter.

Sexual Behavior Descriptives. We assessed frequency of sexual intercourse in the past three months. We also assessed most recent condom use and four aspects of this experience. Participants responded on a dichotomous scale (yes, no) about their *condom use at most recent sexual encounter*. We also assessed *condom use negotiation*. All participants responded on a dichotomous scale (yes-no) whether they discussed the possibility of using a condom or not. Participants who used condoms answered a question about *who suggested using a condom* with three possible choices (I did, my partner did, neither of us did). All participants reported on *who had the condom* this most recent time also with three possible choices (I did, my partner did, we did not use one). For this last item, we excluded people who did not use a condom in their last sexual encounter.

Finally, for participants who reported not using condoms, we asked reasons for not using condoms (“If you did not use a condom this most recent time, why not?”). Participants could circle any of 9 possible reasons, including other. For this study, we excluded responses where participants wrote down other reasons.

Condom use in the past three months. We chose 3 month reports because assessments of sexual behavior over moderate time durations (3 or 6 months) are more consistent than assessments over short (1 month) or long (12 months) durations (Jaccard, McDonald, Wan, Dittus, & Quinlan, 2002; Pequegnat et al., 2000). We asked participants: “In the past 12 weeks, how frequently did you use a condom when you had sex?” Students responded on a 5-point scale (never, some of the time, most of the time, every time except once, every time).

Condom-related Beliefs

Hedonistic expectancies of condom use. This subscale of the Outcome Expectancies of Condom Use Scale (Jemmott & Jemmott, 1992) contains five items, with higher scores indicating more positive beliefs about condoms (e.g. “sex feels good when a condom is used”). Respondents used a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*) for four items. For the last item (“How do you feel about using condoms during sex?”), participants rated their response on a 5-point scale from 1 (*very negative*) to 5 (*very positive*). Reliability in the current study was adequate ($\alpha = .82$ at T1, $.78$ at T2, and $.80$ at T3), and comparable to the original measure (Jemmott & Jemmott, 1992).

Condom use self-efficacy. We assessed self-efficacy using three subscales. The first two subscales are from the Sexual Risk Behavior Beliefs and Self-Efficacy Scales (Brafford & Beck, 1991). The self-efficacy for buying and using condoms subscale

contains 3 items, with higher scores indicating more self-efficacy (e.g. “If you wanted to get a condom, how sure are you that you could go to the store and buy one?”).

Participants rated their response on a 5-point scale from 1 (*not sure at all*) to 5 (*totally sure*). The perceived barriers to condom use subscale consists of 3 items, with higher scores also indicating more self-efficacy (e.g. “It would be wrong to carry a condom with me because it would mean that I’m planning to have sex”). Respondents used a 4-point scale from 1 (*strongly disagree*) to 4 (*strongly agree*). We obtained the third subscale from the Condom Use Self-Efficacy Scale (Barkley & Burns, 2000). The self-efficacy for communicating about condom use subscale consists of 3 items. We recoded responses so that higher scores indicated more self-efficacy for communicating about condom use (e.g. “If I were to suggest using a condom to a partner, I would feel afraid that he or she would reject me”). Participants rated responses on a 4-point scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Reliability in the current study was low for buying and using condoms ($\alpha = .60$ at T1, $.62$ at T2, and $.60$ at T3), adequate for perceived barriers ($\alpha = .81$ at T1, $.83$ at T2, and $.80$ at T3), and low for communication about condom use ($\alpha = .56$ at T1, $.62$ at T2, and $.71$ at T3) subscales. Reliabilities were similar in the original studies (Barkley & Burns, 2000; Brafford & Beck, 1991). We included the buying and using condoms and the communication about condom use subscales because, despite their low reliability, past research suggest they are associated with relevant constructs such as sex-related communication with best friends (Lefkowitz & Espinosa-Hernandez, 2007). Associations are harder to prove when less reliable measures are used. Because associations are significant between these self-efficacy scales and other relevant sexual constructs such as sex-related communication, we assume that self-efficacy for buying and using condoms

and the communication about condom use are in fact important predictors of condom use.

Results

Descriptive Statistics

Romantic Relationships. Due to selection criteria, all participants were in romantic relationships. More than half of these participants reported being in a serious and committed relationship, and the majority were not dating anyone else (see Table 1.2). We also found a wide range in students' reports of the length of their current romantic relationship. More than half of the participants (at every time point), however, had been in a relationship with their partner for a year or less. At first semester (T1), more than half the participants saw their partners less than once a week, probably because most romantic partners lived in a different city than did participants. The percentage of participants who saw their partners less than once a week and had partners living in a different city was lower at T2 and T3 than at T1 (see Table 1.2). Finally, the means of power and commitment were similar across time points.

Condom use and condom-related beliefs. At most recent sexual intercourse, more than half of the participants reported using condoms, and about half also negotiated condom use at the three time points (See Table 1.3). Participants who negotiated condom use were more likely to report that they suggested it than did their partners. Participants who used a condom their most recent time were also more likely than their partner to have the condom. Among those who did not use a condom, the most common reasons for not using a condom included using another method of birth control and knowing the partner did not have an STI. Participant or partner not liking condoms were more prevalent reasons at T2 and T3 than at T1. At T1, almost half of the participants

mentioned using condoms every time in the past three months. The percentage of people who reported using condoms every time, however, was lower at T2 and T3. Participants reported similar condom-related beliefs across time points (See Table 1.4).

Plan of Analysis

We performed hierarchical linear regressions at each of the three different time points to test all hypotheses (T1, T2, and T3). To examine whether including participants who were only casually dating affected our results, we conducted all analyses a second time with the subset of participants who reported being in a not very serious relationship, in a committed relationship, and engaged, living with someone, or married. These results, however, were very similar to those reported here. We created two dummy variables for ethnicity, and one for gender. The first ethnicity/race variable compared Latino Americans (coded as 1) to the rest of the sample (0). The second compared African Americans (1) to the rest of the sample (0). We chose ethnic minorities as the reference groups because they differ in condom use from European Americans (e.g., Davis, Sloan, MacMaster, & Kilbourne, 2007; Driscoll, Biggs, Brindis, & Yankah, 2001; Espinosa-Hernández & Lefkowitz, in press). The gender variable compared women (0) to men (1). Several researchers have emphasized the role of romantic relationship variables such as power in women's condom use (Amaro, 1995; Pulerwitz et al., 2000). We controlled for gender because we wanted to examine the effects of condom-related beliefs and romantic relationships above and beyond gender effects. We centered all condom-related beliefs (predictors), and relational commitment and power (moderators) around their means. We computed interaction terms as the product of the centered romantic relationship variables

and centered condom-related belief variables to test moderation models (Baron & Kenny, 1986).

We performed one regression for each of the four condom-related belief measures, and each of the two romantic relationship variables. That is, we performed 8 regressions per time point for a total of 24 models. Condom use in the past 3 months was always the outcome. In all regressions, we entered Latino American, African American, and gender as controls in Step 1. We entered the condom-related belief variable in Step 2. Then, we entered the relationship variable in Step 3. Finally, we entered the two-way interaction between the condom-related belief variable and the relationship variable in Step 4. In hypothesis 1 we wanted to test associations between condom-related beliefs and condom use (step 2 in regressions), and in hypotheses 2 and 3 the moderation effect of power and commitment (step 4 in regressions). We therefore focus our result section on the main effect of condom-related beliefs and interactions between condom-related beliefs and power or commitment. We describe the results separately by hypotheses and time point.

Associations between condom-related beliefs and condom use

For hypothesis 1, we predicted that condom-related beliefs would be associated with condom use frequency. We therefore focus our discussion on Step 2 of the regression models which tests these associations. Preliminary analyses (correlations) showed that hedonistic attitudes were associated with condom use at T1, T2, and T3 (see Tables 1.5, 1.6 and 1.7). In the regression models, the change in R^2 from step 1 to step 2 was significant when hedonistic attitudes were in the model at all three time points. Step 2 accounted for between 12% and 19% of the variance (see Tables 1.8 and 1.9). The main

effect of hedonistic attitudes was significant in all 6 regressions (T1, T2 and T3).

Students who believed condoms do not interfere with sexual pleasure were more likely to use condoms than students who believed condoms interfere with pleasure. Thus, hypothesis 1 was supported for hedonistic attitudes at all time points.

Preliminary analyses also showed that self-efficacy for using and buying condoms was associated with condom use at all time points (See Tables 1.5, 1.6 and 1.7). In the regression models, however, the change in R^2 from step 1 to step 2 was significant for using and buying at T2 only. Step 2 accounted for 3% of that variance at T2 (See Tables 1.10 and 1.11). Students who were more self-efficacious about using and buying condoms were more likely to use condoms consistently than students who were less self-efficacious. Thus, hypothesis 1 was supported for self-efficacy for using and buying condoms at T2.

Preliminary analyses showed that self-efficacy for communicating about condom use was associated with condom use only at T3 (See Tables 1.5, 1.6 and 1.7). In the regression models, the change in R^2 from step 1 to step 2 was significant when self-efficacy for communicating about condom use was in the models at T3 accounting for 5% of the variance (See Tables 1.12 and 1.13). Individuals who were more self-efficacious for communicating about condoms were more likely to use condoms consistently than less self-efficacious individuals at T3. Thus, hypothesis 1 was supported for self-efficacy for communicating about condoms at T3.

Analyses showed that perceived barriers were not associated with condom use at any time point (See Table 1.5, 1.6, 1.7, 1.14 and 1.15). Thus, hypothesis 1 was not supported for perceived barriers.

Power as a moderator

For hypothesis 2, we predicted that relationship power would moderate the association between condom-related beliefs and condom use. Step 4 tested the interactions between condom-related beliefs and relationship power. In the regression models at T1 and T3, the change in R^2 from step 3 to step 4 was never significant for any of the four beliefs (see Tables 1.8, 1.10, 1.12 and 1.14). The change in R^2 from step 3 to step 4, however, was significant when self-efficacy for using and buying condoms was in the model at T2 (see Table 1.10). The final model with self-efficacy for using and buying condoms as a predictor and power as a moderator explained 12% of the variance and step 4 accounted for 2% of the variance. The interaction between power and self-efficacy for using and buying condoms was significant. We created two groups of low and high power, by identifying the relationship power variable median and splitting the sample in two groups: low power (scores below the median) and high power (scores above the median). Based on Aiken and West (1991), we conducted follow up analyses that revealed that the association between condom use and self-efficacy for using and buying condoms was significant for the group who reported low relationship power ($\beta = .30$; $p < .001$), but not for the group reporting high relationship power ($\beta = .00$; $p > .05$). For the low power group, individuals who were more self-efficacious about using and buying condoms were more likely to use condoms consistently (see Figure 1). Thus, hypothesis 2 was not supported for any condom-related belief. At T2, power moderated the association between self-efficacy about using and buying and condom use, but findings were contrary to predictions.

Commitment as a moderator

For hypothesis 3, we predicted that relational commitment would moderate the association between condom-related beliefs and condom use. Step 4 tested the interactions between condom-related beliefs and relational commitment. In the regression models at T1, T2, or T3, Step 4 was never significant (see Tables 1.9, 1.11, 1.13 and 1.15).

Discussion

Associations between condom-related beliefs and condom use

As predicted, students who believed condoms do not interfere with sexual pleasure were more likely to use condoms. Previous studies have highlighted the importance of pleasure-related attitudes in condom use (Manlove et al. 2008; Noar et al., 2006; Norton et al., 2005). In this study, hedonistic attitudes were the most consistent predictor of condom use among emerging adults who were in a relationship. These findings indicate that pleasure-related attitudes are important predictors of condom use in sexual encounters that occur in the context of romantic relationships. It is possible that pleasure-related attitudes are more important inside than outside of relationships. In fact, in one study, college students reported using other method of birth control as one of their top main reasons not to use condoms (Prince & Bernard, 1998). In the current study, more than half of the participants who did not use condoms mentioned using other methods of birth control as a reason not to use these contraceptives. Emerging adults in relationships therefore may be more concerned about protecting themselves against undesired pregnancy than against STI's. Individuals in relationships who think condoms interfere

with sexual pleasure may be more likely to opt for other forms of contraception such as hormonal methods which prevent against undesired pregnancy, but not STI's.

Consistent with previous studies on individual condom use and self-efficacy (Boone & Lefkowitz, 2004), emerging adults in relationships who were more self-efficacious for using and buying and communicating about condoms were more likely to use condoms. Although self-efficacy for using and buying was only significantly associated with condom use at T2, It did account for a similar proportion of the variance at each time point, but was only significant at Time 2. In addition, self-efficacy for communicating about condom use was a better predictor at Time 3, but not at Time 1. At Time 3, emerging adults saw their partners more often and had sexual intercourse more frequently than participants who were sexually active and in romantic relationships at previous time points. Feeling capable of communicating about condom use therefore may be more important when couples see each other more often and have sexual intercourse more frequently than when they do not. When couples do not see each other as often, every sexual encounter may be “special” and patterns of condom use may not be well established (individuals may try to please each other and not voice what they really want). When couples see each other and have sex more often, self-efficacy for communicating about condoms may allow individuals to establish condom use patterns according to their own beliefs/desires.

Finally, perceived barriers for using condoms was never a significant predictor. Perceived barriers might better predict condom use among participants who are not in romantic relationships. That is, participants who are in romantic relationships may consider carrying condoms less of a taboo than individuals who are not relationships.

Power as a moderator

Contrary to predictions, perceived power did not moderate the association between condom-related beliefs and condom use, with one exception. Validity issues in our assessment of relationship power may have affected our findings. Our measure of power was not domain specific, but a global assessment of decision-making and power in general. In one study where the association between decision-making power and condom use was significant, researchers included items assessing decision-making specific to the sexual domain (Pulerwitz et al., 2000). Moreover, another study in which researchers assessed global decision-making power without assessing the sexual domain, did not find significant associations between power and using condoms when desired (Tschann et al., 2002). Therefore, it is possible that our assessment of power might not accurately capture power dynamics that occur during condom use negotiation.

Drawing on the investment model (Rusbult, 1983), we predicted that more power would allow individuals to influence their partner and use or not use condoms based on their own condom-related beliefs. Perceived power did moderate the association between self-efficacy about using and buying condoms and condom use at T2. Individuals who were more self-efficacious about using and buying condoms were more likely to use condoms consistently. Contrary to predictions, however, this association was only significant among emerging adults who reported less and not more power. These findings, however, need to be interpreted with caution. Only one interaction was significant, out of the three interactions between power and self-efficacy for using and buying tested. Our findings at Time 2 suggest that self-efficacy is a more important predictor of condom use in individuals who perceive themselves as having less

relationship power as opposed to more power. Emerging adults who hold less relationship power may only use condoms when they feel self-efficacious about using and buying condoms, whereas emerging adults who hold more relationship power may be able to use condoms regardless of how self-efficacious they feel about using and buying condoms. For instance, participants who have relationship power can ask their partners to buy condoms if they do not feel comfortable doing it themselves, whereas individuals who have less power might not be able to influence their partner's behavior and might have to buy the condoms themselves.

Commitment as a moderator

Contrary to predictions, we did not find that commitment moderated the association between condom-related beliefs and condom use. Although past research has not explored the moderation effect of commitment in these associations, previous studies suggest that individuals in less committed relationships are more likely to request a condom than individuals in more committed relationships (Umphrey & Sherblom, 2007). Drawing on social exchange theory (Byers & Wang, 2004), we speculated that individuals who were committed to their partner and did not use condoms were trying to minimize perceived costs (threat to the relationship). In this study, individuals who had more positive condom-related beliefs used condoms more frequently than individuals who had less positive beliefs. These associations however were not different for individuals with varying levels of commitment. Our findings may indicate that emerging adults who report different levels of commitment consider similar rewards and cost of condom use. We consider individuals' perceptions of rewards and costs of condom use are based on their own condom-related beliefs, and not affected by how committed they

are to their partner. Other relationship constructs may affect condom-related beliefs and condom use in college students. Previous studies have highlighted the role of love and trust in condom use negotiation among individuals in relationships (East, Jackson, O'Brien, & Peters, 2007). Feelings of love and trust for the partner therefore may be more important than commitment for students' condom-related beliefs and condom use and may be more likely to moderate the association between condom-related beliefs and condom use than commitment.

Limitations and Conclusions

Our study provides some evidence of the importance of understanding condom-related beliefs and condom use in the context of romantic relationships. These findings, however, cannot be separated from the college context. Relationship variables such as power and commitment might be more relevant condom use predictors than individual condom-related beliefs among young adults or emerging adults who do not attend college or who have more stable relationships.

In our study, neither power nor commitment moderated the association between condom-related beliefs and condom use. It is possible that relationship power would moderate these associations if we were to assess sexual power instead of general decision-making power. Similarly, we should consider specific issues in the condom use assessment. We assumed that we assessed condom use in the past three months with the same romantic partner. For some participants (individuals who had more than one romantic relationship in that period or non-exclusive relationships), however, this construct may reflect individual condom use more accurately than condom use with a specific romantic partner. In the future, it will be important to assess condom use with a

particular romantic partner. Similarly, our condom-related beliefs measures assess individuals' beliefs about using condoms in general. Beliefs about using condoms might differ depending on the type of relationship with the partner. That is, individuals may have positive beliefs about using condoms in casual relationships, but they may not believe condoms should be used in a romantic relationship. Future research should explore whether condom-related beliefs differ as a function of relationship with partner. Finally, having both partners' reports may be useful to better capture couples' power dynamics and commitment reciprocity and how they affect condom use and condom-related beliefs.

In addition to these measurement explanations for the lack of findings, we should also consider the possibility that relationship power and commitment may not be relevant constructs in emerging adults' condom-related beliefs and condom use. Although to our knowledge no studies have assessed the moderating effect of power in condom-related variables, the direct role of relationship power in condom use has been widely studied in ethnic minorities, low income populations (Bralock & Koniak-Griffin, 2007; Monahan, Miller, & Rothspan, 1997), and in women of developing countries (Blanc 2001). Relationship power may be more relevant in populations where gender roles are more traditional than those of college students. Our sample is also different from samples in previous studies assessing commitment. For instance, compared to Umphrey's (2007) and Sherblom's (2007) convenience sample of college students attending introductory communication courses, our sample is more diverse because we oversampled ethnic/race minorities. Thus, associations between condom use and commitment might be different between ethnic groups.

Future studies should consider other romantic relationship constructs that may be associated with condom use and condom-related beliefs. For example, feelings toward the partner such as trust and love may affect condom use and condom-related beliefs among college students. Emerging adults who trust and love their partner may not use condoms consistently because they are invested in the relationship and do not want to threaten the relationship, but also because they think their partner is trustworthy and therefore does not carry an STI (East et al., 2007).

Despite these limitations, our findings contribute to the understanding of the role of condom-related attitudes in condom use among college students in romantic relationships. For instance, we found that pleasure-related attitudes are important predictors of condom use in romantic relationships. Moreover, certain self-efficacy constructs may be more important for condom use in romantic relationships than others. For instance, self-efficacy for communicating about condom use may be more relevant than perceived barriers for second-year college students in relationships. These findings have implications for promoting healthy sexual practices among emerging adults in romantic relationships. Prevention programs should focus on better understanding constructs that are relevant for individuals who engage in sexual intercourse within romantic relationships such as conceptions of sexual pleasure and condom use (see Warr, 2001).

References

- Amaro, H. (1995). Love, sex and power. Considering women's realities in HIV prevention. *American Psychologist, 50*, 437-447.
- Anderson, J. E. (2003). Condom use and HIV risk among US adults. *American Journal of Public Health, 93*, 912-914.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469-480.
- Barkley, T.W., & Burns, J.L. (2000). Factor analysis of the Condom Use Self-Efficacy Scale among multicultural college students. *Health Education Research, 15*, 485-486.
- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Blanc, A. K. (2001). The effect of power in sexual relationships on sexual and reproductive health: An examination of the evidence. *Studies in Family Planning, 32*, 189-213.
- Boone, T. L., & Lefkowitz, E. S. (2004). Safer sex and the Health Belief Model: Considering the contributions of peer norms and socialization factors. *Journal of Psychology and Human Sexuality, 16*, 51-68.
- Brafford, L. J., & Beck, K. H. (1991) Development and validation of a condom self-efficacy scale for college students. *Journal of American College Health, 39*, 219-225.

- Brooks-Gunn, J., & Paikoff, R. L. (1993). "Sex is a gamble, kissing is a game": Adolescent sexuality and health promotion. In S. G. Millstein, A. C. Petersen & E. O. Nightingale (Eds.) *Promoting the health of adolescents: New directions for the twenty-first century*. (pp. 180-208). New York: Oxford University Press.
- Bralock, A. R., & Koniak-Griffin, D. (2007). Relationship, power, and other influences on self-protective sexual behaviors of African American female adolescents. *Health Care for Women International, 28*, 247-267.
- Byers, E. S., & Wang, A. (2004). Understanding sexuality in close relationships from the Social Exchange perspective. In J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.). *The handbook of sexuality in close relationships*. (pp. 203-234). Mahwah NJ: Lawrence Erlbaum Associates.
- Capaldi, D. M., Stoolmiller, M., Clark, S., & Owen, L. D. (2002). Heterosexual risk behaviors in at-risk young men from early adolescence to young adulthood: Prevalence, prediction, and association with STD contraction. *Developmental Psychology, 38*, 394-406.
- Carver, K., Joyner, K., and Udry, R. J. (2003). National estimates of adolescent romantic relationships. In Florsheim, P. (ed.), *Adolescent Romantic Relations and Sexual Behavior: Theory, Research, and Practical Implications*. Erlbaum, Mahwah, NJ, pp. 23–56.
- Centers for Disease Control and Prevention (2008). *Youth Risk Behavior Surveillance, United States, 2007*. (MMWR Publication 57 No. SS-4). Atlanta: U. S. Department of Health and Human Services, CDC.

- Civic, D. (1999). The association between characteristics of dating relationships and condom use among heterosexual young adults. *AIDS Education and Prevention, 11*, 343-352.
- Collins, W. A. (2003). More than a myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence, 13*, 1-24.
- Collins, W. A., & van Dulmen, M. H. M. (2005). "The course of true love(s)...": Origins and pathways in the development of romantic relationships. In A. Crouter, & A. Booth (Eds.), *Romance and sex in adolescence and emerging adulthood: Risks and opportunities* (pp. 63 – 86). Mahwah, NJ: Lawrence Erlbaum Associates.
- Conley, T. D., & Collins, B. E. (2005). Differences between condom users and condom nonusers in their multidimensional condom attitudes. *Journal of Applied Social Psychology, 35*, 603-620.
- Corbin, W. R., & Fromme, K. (2002). Alcohol use and serial monogamy as risks for sexually transmitted diseases in young adults. *Health Psychology, 21*, 229-236.
- Davis, C., Sloan, M., MacMaster, S., & Kilbourne, B. (2007). HIV/AIDS knowledge and sexual activity: An examination of racial differences in a college sample. *Health & Social Work, 32*, 211-218.
- DeLamater, J., & Friedrich, W. N. (2002). Human sexual development. *Journal of Sex Research, 39*, 10-14.
- Driscoll, A. K., Biggs, M. A., Brindis, C. D., & Yankah, E. (2001). Adolescent Latino reproductive health: A review of the literature. *Hispanic Journal of Behavioral Sciences, 23*, 255-326.

- Duemmler, S. L., & Kobak, R. (2001). The development of commitment and attachment in dating relationships: attachment security as relationship construct. *Journal of Adolescence, 24*, 401-415.
- East, L., Jackson, D., O'Brien, L. & Peters, K. (2007). Use of the male condom by heterosexual adolescents and young people: Literature review. *Journal of Advanced Nursing, 59*, 103-110.
- Espinosa-Hernández, G., & Lefkowitz, E. S. (2009). Sexual behaviors and attitudes and ethnic identity during college. *Journal of Sex Research, 46*, 471-482.
- Fergus, S., Zimmerman, M. A., & Caldwell, C. H. (2007). Growth trajectories of sexual risk behavior in adolescence and young adulthood. *American Journal of Public Health, 97*, 1096-1101.
- Fisher, J. D., & Fisher, W. A. (2000). Theoretical approaches to individual-level change in HIV risk behavior. In J. L. Peterson & R. J. DiClemente (Eds.), *Handbook of HIV prevention* (pp. 3-55). New York: Kluwer Academic/Plenum.
- Gallo, M. F., Steiner, M. J., Warner, L., Hylton-Kong, T., Figueroa, J. P., Hobbs, M. M., & Behets, F. M. (2007). Self-reported condom use is associated with reduced risk of Chlamydia, Gonorrhea, and Trichomoniasis. *Sexually Transmitted Diseases, 34*, 829-833.
- Halpern-Felsher, B. L., Kropp, R. Y., Boyer, C. B., Tschann, J. M., & Ellen, J. M. (2004). Adolescents' self-efficacy to communicate about sex: Its role in condom attitudes, commitment, and use. *Adolescence, 39*, 443-456.

- Jaccard, J., McDonald, R., Wan, C. K., Dittus, P. J., & Quinlan, S. (2002). The accuracy of self-reports of condom use and sexual behavior. *Journal of Applied Social Psychology, 32*, 1863-1905.
- Jemmott, L. S., & Jemmott, J. B. (1992). Family structure, parental strictness, and sexual behavior among inner-city Black male adolescents. *Journal of Adolescent Health, 7*, 192-207.
- Lefkowitz, E. S., & Espinosa-Hernández, G. (2007). Sex-related communication with mothers and best friends during the transition to university. *Journal of Sex Research, 44*, 17-27.
- Lefkowitz, E. S., & Gillen, M. M. (2005). "Sex is just a normal part of life": Sexuality in emerging adulthood. In J. J. Arnett and J. L. Tanner (Eds.). *Coming of age in the 21st century: The lives and contexts of emerging adults*. (pp. 235-255). Washington, D. C.: American Psychological Association.
- Manlove, J., Ikramullah, E., & Terry-Humen, E. (2008). Condom use and consistency among male adolescents in the United States. *Journal of Adolescent Health, 43*, 325-333.
- Manlove, J., Ryan, S., & Franzetta, K. (2007). Contraceptive use patterns across teens' sexual relationships: The role of relationships, partners, and sexual histories. *Demography, 44*, 603-621.
- Meeus, W. H. J., Branje, S. J. T., van der Valk, I., & de Wied, M. (2007). Relationships with intimate partner, best friend, and parents in adolescence and early adulthood: A study of saliency of the intimate partnership. *International Journal of Behavioral Development, 31*, 569-580.

- Misovich, S. J., Fisher, J. D., & Fisher, W. A. (1997). Close relationships and elevated HIV risk behavior: Evidence and possible underlying psychological processes. *Review of General Psychology, 1*, 72-107.
- Monahan, J. L., Miller, L. C., & Rothspan, S. (1997). Power and intimacy: On the dynamics of risky sex. *Health Communication, 9*, 303-321.
- Norton, T. R., Bogart, L. M., Cecil, H., & Pinkerton, S. D. (2005). Primacy of affect over cognition in determining adult men's condom-use behavior: A review. *Journal of Applied Social Psychology, 35*, 2493-2534.
- Noar, S. M., & Zimmerman, R. S. (2005). Health behavior theory and cumulative knowledge regarding health behaviors: Are we moving in the right direction? *Health Education Research: Theory & Practice, 20*, 275-290.
- Noar, S. M., Zimmerman, R. S., Palmgreen, P., Lustria, M. & Horosewski, M. L. (2006). Integrating personality and psychosocial theoretical approaches to understanding safer sexual behavior: Implications for message design. *Health Communication, 19*, 165-174.
- Pequegnat, W., Fishbein, M., Celentano, D., Ehrhardt, A., Garnett, G., Holtgrave, D., Jaccard, J., Schacter, J., & Zenilman, J. (2000). NIMH/APPC workgroup on behavioral and biological outcomes in HIV/ STD prevention: A position statement. *Sexually Transmitted Diseases, 27*, 127-132.
- Prince, A. & Bernard, A. L. (1998). Sexual behaviors and safer sex practices of college students on a commuter campus. *Journal of American College Health, 47*, 11-21.
- Pulerwitz, J., Gortmaker, S. L., & DeJong, W. (2000). Measuring sexual relationships power in HIV/STD research. *Sex Roles, 42*, 637-660.

- Robinson, B. E., Bockting, W. O., Rosser, B. R. S., Miner, M., & Coleman, E. (2002). The Sexual Health Model: Application of a sexological approach to HIV prevention. *Health Education Research, 17*, 43-57.
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology, 45*, 101-117.
- Rusbult, C.E., Martz, J.M., & Agnew, C.R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357-391.
- Scholly, K. Katz, A. R., Gascoigne, J., & Holck, P. S. (2005). Using Social Norms theory to explain perceptions and sexual health behaviors of undergraduate college students: An exploratory study. *Journal of American College Health, 53*, 159-166.
- Sheeran, P., Abraham, C., & Orbell, S. (1999). Psychosocial correlates of heterosexual condom use: A meta-analysis. *Psychological Bulletin, 125*, 90-132.
- Sprecher, S., & Felmlee, D. (1997). The balance of power in heterosexual couples over time from "his" and "her" perspectives. *Sex Roles, 37*, 361-379.
- Tschann, J. M., Adler, N. E., Millstein, S. G., Gurvey, J. E., & Ellen, J. M. (2002). Relative power between sexual partners and condom use among adolescents. *Journal of Adolescent Health, 31*, 17-25.
- Umphey, L., & Sherblom, J. (2007). Relational commitment and threats to relationship maintenance goals: Influences on condom use. *Journal of American College Health, 56*, 61-67.
- Waller, W. & Hill, R. (1951). *The family a dynamic interpretation*. New York: Dryden.

- War, D. J. (2001). The importance of love and understanding: Speculation on romance in safe sex health promotion. *Women's Studies International Forum*, 24, 241-252.
- Weinstock, H., Berman, S., & Cates, Jr., W. (2004). Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health*, 36, 6-10.
- Weller, S. C., & Davis-Beaty, K. Condom effectiveness in reducing heterosexual HIV transmission. *Cochrane Database of Systematic Reviews* 2002, Issue 1. Art. No.: CD003255. DOI: 10.1002/14651858.CD003255.

Table 1.1. Sample demographics by time point

Variables	T1	T2	T3
Sample Size (<i>N</i>)	155	164	150
Age			
Range	17.5-19.6	18.1-20.1	18.8-20.6
Mean (<i>SD</i>)	18.5 (0.4)	19.0 (0.4)	19.5 (0.4)
Gender (percentage)			
Women	61	60	63
Men	39	40	37
Ethnicity/race (percentage)			
African Americans	28	30	27
Latino Americans	33	30	32
European Americans	39	40	41
Overlap with T2 (percentage)	77	---	---
Overlap with T3 (percentage)	61	67	---

Table 1.2. Men's and women's romantic relationship characteristics by time point

Variables	T1	T2	T3
Relationship Status (percentage)			
Casually dating	15	13	15
Not serious relationship	15	17	14
Serious relationship	67	68	68
Engaged, married or living together	3	2	3
Dating exclusively (percentage)	95	93	95
Relationship Length (percentage)			
6 months or less	45	43	39
6 months to a year	17	19	17
One to two years	21	21	23
More than two years	17	17	21
Contact Frequency (percentage)			
Every day	16	24	36
Two times per week	14	20	22
About once a week	10	6	6
Less than once a week	60	50	36
Partner's age			
Range	16-25	16-26	17-29
Mean (<i>SD</i>)	18.7 (1.6)	19.2 (1.8)	19.9 (1.8)
Partner lives in a different city (percentage)	74	60	48

Variables	T1	T2	T3
Power			
Range	4-14	5-14	5-12
Mean (SD)	8.5 (1.4)	8.6 (1.7)	8.5 (1.4)
Commitment			
Range	9-49	13-49	12-49
Mean (SD)	38.2 (10.3)	37.6 (9.8)	38.3 (10.2)

Table 1.3. Men's and women's condom use characteristics by time point

Variables	T1	T2	T3
Condom use most recent time (%)			
Participants who used condoms	64	60	55
Participants who negotiated condom use	50	45	40
For participants who negotiated use:			
Who suggested it? (%)			
Neither	4	7	8
Partner	34	34	37
Participant	62	59	55
Who had the condom used (%)			
Partner	56	58	55
Participant	44	42	45
Reasons for not using condoms among participants who did not use them ₁ (%)			
Did not have one	15	13	15
Did not know how to use one	2	2	0
Had been drinking	2	2	2
Participant did not like condoms	15	34	22
Partner did not like condoms	11	32	22
Did not think about it	9	12	8
Used another birth control method	60	67	72
Partner did not have STI's	42	44	45

Variables	T1	T2	T3
Condom use 3 months (%)			
Never	17	24	32
Some of the time	12	12	10
Most of the time	14	16	20
Every time except once	16	15	13
Every time	41	33	25
Frequency of sexual intercourse in the past 3 months $M(SD)$	12.8 (15.0)	15.8 (19.5)	16.7 (15.7)

¹ participants could choose more than one.

Table 1.4. Means and standard deviations for condom-related beliefs by time point

Variables	T1	T2	T3
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Hedonistic attitudes	18.3 (4.3)	17.7 (4.3)	18.1 (4.3)
Self-efficacy (using and buying)	12.9 (2.3)	13.4 (2.2)	13.6 (1.9)
Self-efficacy (condom communication)	10.8 (1.4)	10.7 (1.4)	10.8 (1.5)
Self-efficacy (barriers)	9.7 (2.1)	9.9 (2.1)	10.0 (1.9)

Table 1.5. Correlations between condom use, romantic characteristics and condom-related beliefs at T1

	1	2	3	4	5	6	7
1. Condom use	--						
2. Power	-.08	--					
3. Commitment	-.09	-.33***	--				
4. Hedonistic attitudes	.44***	-.15^	.08	--			
5. Self-efficacy (using and buying)	.17*	-.11	-.07	.03	--		
6. Self-efficacy (condom communication)	.06	-.11	.21**	.31***	.03	--	
7. Self-efficacy (barriers)	-.07	-.11	-.04	-.01	.56***	.17*	--

† $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.6. Correlations between condom use, romantic characteristics and condom-related beliefs at T2

	1	2	3	4	5	6	7
1. Condom use	--						
2. Power	-.06	--					
3. Commitment	-.15*	-.20**	--				
4. Hedonistic attitudes	.36***	.05	-.18*	--			
5. Self-efficacy (using and buying)	.22***	-.11	.10	.12	--		
6. Self-efficacy (condom communication)	.06	-.14 [†]	.05	.26***	.07	--	
7. Self-efficacy (barriers)	.00	-.16*	.03	.07	.52***	.21**	--

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.7. Correlations between condom use, romantic characteristics and condom-related beliefs at T3

	1	2	3	4	5	6	7
1. Condom use	--						
2. Power	-.02	--					
3. Commitment	-.15 [†]	-.22**	--				
4. Hedonistic attitudes	.44**	-.07	-.03	--			
5. Self-efficacy (using and buying)	.16*	.14	.06	.14	--		
6. Self-efficacy (condom communication)	.18*	.04	.14	.26**	.41**	--	
7. Self-efficacy (barriers)	-.02	.08	.09	.11	.52***	.53**	--

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.8 Standardized betas for regressions predicting condom use in the past 3 months with hedonistic attitudes as a predictor and perceived power as a moderator

Predictor variable	T1 ($R^2 = .24^{***}$)	T2 ($R^2 = .20^{***}$)	T3 ($R^2 = .27^{***}$)
Step 1			
Latino	-.21*	-.27***	-.24**
Black	-.17 [†]	-.08	-.16 [†]
Female	-.01	-.08	-.19*
ΔR^2	.04	.07**	.08**
Step 2			
Latino	-.15 [†]	-.22**	-.18*
Black	-.17*	-.10	-.16*
Female	-.12	-.16*	-.23***
Hedonistic	.46***	.37***	.45***
$\Delta R^2 (1 - 2)$	.19***	.12***	.19***
Step 3			
Latino	-.15 [†]	-.21**	-.18*
Black	-.17*	-.08	-.17*
Female	-.12	-.17*	-.24***
Hedonistic	.45***	.37***	.45***
Power	-.04	-.08	-.02
$\Delta R^2 (2 - 3)$	.00	.01	.00
Step 4			
Latino	-.15 [†]	-.21**	-.18*
Black	-.18*	-.08	-.17*
Female	-.12	-.17*	-.23***
Hedonistic	.45***	.38***	.44***
Power	-.03	-.09	-.02
Power x Hedonistic	.02	.05	.04
$\Delta R^2 (3 - 4)$	.00	.00	.00

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.9 Standardized betas for regressions predicting condom use in the past 3 months with hedonistic attitudes as a predictor and commitment as a moderator

Predictor variable	T1 ($R^2 = .26^{***}$)	T2 ($R^2 = .19^{***}$)	T3 ($R^2 = .28^{***}$)
Step 1			
Latino	-.22*	-.27***	-.24**
Black	-.17*	-.08	-.16 [†]
Female	-.01	-.08	-.19*
ΔR^2	.04	.07**	.08**
Step 2			
Latino	-.15 [†]	-.22**	-.18*
Black	-.17*	-.10	-.16*
Female	-.11	-.16*	-.23***
Hedonistic	.45***	.37***	.45***
$\Delta R^2 (1 - 2)$	.19***	.12***	.19***
Step 3			
Latino	-.15 [†]	-.22**	-.18*
Black	-.18*	-.10	-.16*
Female	-.08	-.15*	-.22***
Hedonistic	.46***	.36***	.44***
Commitment	-.11	-.05	-.11
$\Delta R^2 (2 - 3)$	.01	.00	.01
Step 4			
Latino	-.17*	-.22**	-.17*
Black	-.17*	-.10	-.15 [†]
Female	-.07	-.15 [†]	-.22***
Hedonistic	.47***	.35***	.45***
Commitment	-.09	-.05	-.11
Commitment x Hedonistic	.12	.01	-.06
$\Delta R^2 (3 - 4)$	.01	.00	.00

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.10 Standardized betas for regressions predicting condom use in the past 3 months with self-efficacy for using and buying condoms as a predictor and perceived power as a moderator

Predictor variable	T1 ($R^2 = .07^\dagger$)	T2 ($R^2 = .12^{***}$)	T3 ($R^2 = .11^{**}$)
Step 1			
Latino	-.21*	-.27***	-.24**
Black	-.17 [†]	-.08	-.16 [†]
Female	-.01	-.08	-.19*
ΔR^2	.04	.07**	.08**
Step 2			
Latino	-.19*	-.24**	-.24**
Black	-.15	-.07	-.16 [†]
Female	.02	-.08	-.18*
Using and Buying	.15 [†]	.18*	.15 [†]
$\Delta R^2 (1 - 2)$	.02 [†]	.03*	.02 [†]
Step 3			
Latino	-.19*	-.24**	-.25**
Black	-.15	-.06	-.17 [†]
Female	.01	-.08	-.18*
Using and Buying	.14	.18*	.16*
Power	-.07	-.03	-.07
$\Delta R^2 (2 - 3)$	.00	.00	.01
Step 4			
Latino	-.19*	-.21**	-.24**
Black	-.15	-.08	-.17 [†]
Female	.01	-.08	-.18*
Using and Buying	.16 [†]	.22**	.17*
Power	-.07	-.04	-.08
Power x Using and Buying	-.09	-.16*	.03
$\Delta R^2 (3 - 4)$	.01	.02*	.00

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.11 Standardized betas for regressions predicting condom use in the past 3 months with self-efficacy for using and buying condoms as a predictor and commitment as a moderator

Predictor variable	T1 ($R^2 = .07^*$)	T2 ($R^2 = .12^{***}$)	T3 ($R^2 = .13^{***}$)
Step 1			
Latino	-.22*	-.27***	-.24***
Black	-.17*	-.08	-.16 [†]
Female	-.01	-.08	-.18*
ΔR^2	.04	.07**	.08**
Step 2			
Latino	-.19*	-.24**	-.24**
Black	-.15	-.07	-.16 [†]
Female	.03	-.08	-.18*
Using and Buying	.15	.18*	.15 [†]
$\Delta R^2 (1 - 2)$	.02 [†]	.03*	.02 [†]
Step 3			
Latino	-.20*	-.22**	-.25**
Black	-.15	-.08	-.15
Female	.05	-.05	-.16*
Using and Buying	.15 [†]	.20**	.16*
Commitment	-.10	-.15 [†]	-.14 [†]
$\Delta R^2 (2 - 3)$	.01	.02 [†]	.02 [†]
Step 4			
Latino	-.20*	-.21**	-.24**
Black	-.15	-.08	-.14
Female	.05	-.04	-.17*
Using and Buying	.13	.21**	.17*
Commitment	-.10	-.15 [†]	-.15 [†]
Commitment x Using and Buying	.03	.05	.12
$\Delta R^2 (3 - 4)$	.00	.00	.01

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.12 Standardized betas for regressions predicting condom use in the past 3 months with self-efficacy for communicating about condom use as a predictor and perceived power as a moderator

Predictor variable	T1 ($R^2 = .04^\dagger$)	T2 ($R^2 = .10^*$)	T3 ($R^2 = .14^*$)
Step 1			
Latino	-.21*	-.29***	-.24**
Black	-.17 [†]	-.09	-.15
Female	-.01	-.10	-.19*
ΔR^2	.04	.08**	.08**
Step 2			
Latino	-.21*	-.30***	-.25**
Black	-.17 [†]	-.10	-.18*
Female	-.02	-.15 [†]	-.24**
Communicating	.06	.14	.23***
$\Delta R^2 (1 - 2)$	.00	.02	.05***
Step 3			
Latino	-.21*	-.30***	-.25**
Black	-.17*	-.09	-.19*
Female	-.04	-.15 [†]	-.24***
Communicating	.05	.14	.24***
Power	-.08	-.02	-.06
$\Delta R^2 (2 - 3)$	.01	.00	.00
Step 4			
Latino	-.21*	-.29***	-.24**
Black	-.18*	-.08	-.19*
Female	-.04	-.15 [†]	-.24***
Communicating	.05	.13	.25***
Power	-.07	-.02	-.04
Power x Communicating	.05	.09	.10
$\Delta R^2 (3 - 4)$	.00	.01	.01

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.13 Standardized betas for regressions predicting condom use in the past 3 months with self-efficacy for communicating about condom use as a predictor and commitment as a moderator

Predictor variable	T1 ($R^2 = .08^\dagger$)	T2 ($R^2 = .11^{***}$)	T3 ($R^2 = .17^{***}$)
Step 1			
Latino	-.22*	-.29***	-.24**
Black	-.17*	-.09	-.15
Female	-.01	-.10	-.19*
ΔR^2	.04 [†]	.08**	.08**
Step 2			
Latino	-.21*	-.30***	-.25**
Black	-.18*	-.10	-.18*
Female	-.02	-.15 [†]	-.24***
Communicating	.06	.14	.23***
$\Delta R^2 (1 - 2)$	.00	.02	.05***
Step 3			
Latino	-.22*	-.29***	-.25***
Black	-.18*	-.11	-.17*
Female	.00	-.12	-.23**
Communicating	.08	.14	.25***
Commitment	-.12	-.13	-.15 [†]
$\Delta R^2 (2 - 3)$	.01	.02	.02 [†]
Step 4			
Latino	-.22**	-.29***	-.26***
Black	-.21*	-.11	-.18*
Female	.01	-.12	-.22**
Communicating	.07	.14	.26***
Commitment	-.14	-.13	-.15 [†]
Commitment x Communicating	-.14	.00	.12
$\Delta R^2 (3 - 4)$	.02	.00	.02

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.14 Standardized betas for regressions predicting condom use in the past 3 months with perceived barriers to condom use as a predictor and perceived power as a moderator

Predictor variable	T1 ($R^2 = .02^\dagger$)	T2 ($R^2 = .08^*$)	T3 ($R^2 = .08^\wedge$)
Step 1			
Latino	-.21*	-.27***	-.24**
Black	-.17*	-.08	-.15
Female	-.01	-.08	-.19*
ΔR^2	.04 [†]	.07**	.08**
Step 2			
Latino	-.21*	-.27***	-.24**
Black	-.17 [†]	-.08	-.16
Female	-.02	-.08	-.20*
Barriers	-.07	.02	.03
$\Delta R^2 (1 - 2)$	.00	.00	.00
Step 3			
Latino	-.21*	-.27***	-.24**
Black	-.17 [†]	-.07	-.17 [†]
Female	-.04	-.09	-.20*
Barriers	-.08	.01	.04
Power	-.10	-.05	-.05
$\Delta R^2 (2 - 3)$	.01	.00	.00
Step 4			
Latino	-.21*	-.27***	-.25**
Black	-.18*	-.07	-.17 [†]
Female	-.05	-.09	-.20*
Barriers	-.10	.03	.04
Power	-.10	-.06	-.05
Power x Barriers	.12	-.08	.02
$\Delta R^2 (3 - 4)$	.01	.00	.00

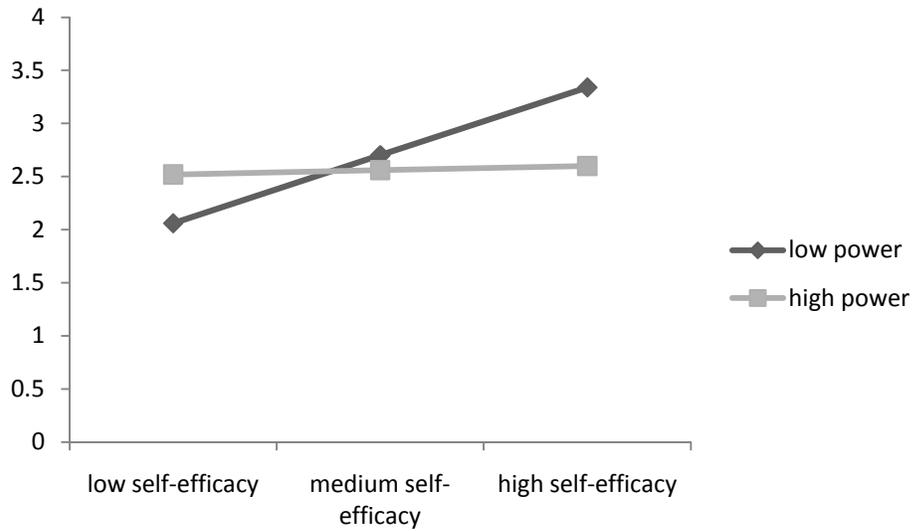
[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1.15 Standardized betas for regressions predicting condom use in the past 3 months with perceived barriers to condom use as a predictor and commitment as a moderator

Predictor variable	T1 ($R^2 = .04^\dagger$)	T2 ($R^2 = .10^*$)	T3 ($R^2 = .10^*$)
Step 1			
Latino	-.22*	-.27***	-.24**
Black	-.17*	-.08	-.15
Women	-.01	-.08	-.19*
ΔR^2	.04 [†]	.07**	.08**
Step 2			
Latino	-.21*	-.27***	-.24**
Black	-.17 [†]	-.08	-.16
Women	-.02	-.08	-.20*
Barriers	-.06	.02	.03
$\Delta R^2 (1 - 2)$	.05	.00	.00
Step 3			
Latino	-.22*	-.26***	-.24**
Black	-.17*	-.09	-.15
Women	.01	-.06	-.18*
Barriers	-.06	.03	.04
Commitment	-.10	-.12	-.14
$\Delta R^2 (2 - 3)$	.06	.01	.02
Step 4			
Latino	-.22*	-.25**	-.25**
Black	-.17 [†]	-.07	-.15
Women	.00	-.05	-.18*
Barriers	-.05	.01	.04
Commitment	-.09	-.11	-.14
Commitment x Barriers	-.06	-.12	.03
$\Delta R^2 (3 - 4)$	.06	.01	.00

[†] $p < .08$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 1.1 Interaction between self-efficacy for using and buying condoms relationship power on condom use in the past three months



Note: Based on Aiken and West (1991), points represent effects of self-efficacy for using and buying on condom use estimated at the mean (low), one standard deviation above the mean (medium) and one standard deviation below the mean (high).

Misperceptions of same-sex and opposite-sex peers' sexual motives

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Abstract

This study compares emerging adults' own reasons to have sex (motives) against their perceptions of peers' motives. African American (26%), Latino American (25%), and European American (49%) second-year college students ($N = 154$; 50% female) completed open-ended questions about sexual motives for themselves, other women and other men. We based most hypotheses on the actor-observer asymmetry principle (Jones & Nisbett, 1972). As predicted, students considered sexual motives that reflect specific circumstances (e.g., emotional investment with partner) in their own decision-making more than they perceived such motives in others' decisions. In contrast, participants perceived that same-sex peers' decisions were mostly based on partner trait preference motives (e.g., physical appearance). Participants also thought that opposite-sex peers considered more physical appearance motives than peers actually reported. Findings suggest that emerging adults perceive others' decisions as more superficial than they actually are. This study contributes to the understanding of emerging adults' sexual decision-making and misperceptions of peer's motives.

Other men and women are not like me: Misperceptions of same-sex and opposite-sex peers' sexual motives

Men and women consider different reasons to engage in sexual intercourse (sexual motives). In fact, men are more likely to express sexual pleasure as a sexual motive than women are (Cooper, Shapiro, & Powers, 1998; Leigh, 1989). In contrast, women consider relationship and intimacy issues as sexual motives more often than do men (Cooper et al., 1998; Leigh, 1989; Meston & Buss, 2007). In this study, we explored emerging adults' perceptions of other men's and women's reasons to have sexual intercourse. Moreover, we wanted to understand how emerging adults perceived their own reasons to have sex compared to their perception of other men's and women's reasons.

Social comparison theory (Festinger, 1954) posits that individuals compare themselves to similar others of lower status (e.g., more stereotypical) to gain status or feel better about themselves (Festinger, 1954; Stapel & Blanton, 2007). Emerging adults therefore may evaluate their own sexual motives or reasons to have sex against other more stereotypical peers' motives, concluding that their motives are better or less stereotypical than others'. The actor-observer asymmetry principle posits that individuals tend to attribute their own behavior to situational requirements or circumstances, whereas they consider others' behaviors to be a product of their personal dispositions or personality (Jones & Nisbett, 1972). We posit therefore that to gain status or perceive themselves as less stereotypical, emerging adults may report contextual motives (e.g., "I need to be in a relationship to have sex") more often for themselves and consider individual motives (e.g., "Other men have sex because they are horny") more often for others.

In this study, we assessed sexual motives with open-ended questions to understand how emerging adults make sense of their own and their peers' sexual motives. This format allowed us to explore individual motives (e.g., sexual pleasure), as well as contextual motives (e.g., partner trait and relationship characteristics). Based on social comparison theory, and the actor-observer asymmetry principle, we attempted to understand how emerging adults evaluate their own sexual motives against their perceptions of their peers' motives.

Sexual Motives

Emerging adulthood (ages 18 to 25) is a unique developmental period during which individuals, especially those attending college, can postpone the assumption of adult responsibilities and explore and experience different sexual behaviors (Arnett, 2000; Lefkowitz & Gillen, 2005) and romantic relationships (Meeus, Branje, van der Valk, & de Wied, 2007). Moreover, during emerging adulthood, many individuals are sexually active (Lefkowitz & Gillen) and need to learn how to minimize the risk of acquiring HIV and other STI's or unwanted pregnancy when engaging in sexual intercourse (Robinson, Bockting, Rosser, Miner, & Coleman, 2002). Sexual decision-making therefore is an important developmental issue during emerging adulthood.

In this study, we wanted to understand emerging adults' sexual motives. Motives are affectively-based tendencies that orient individuals toward or away from domain-specific stimuli such as the possibility of having sexual intercourse with someone (Elliot, 2006). Sexual motives therefore are reasons for approaching or avoiding sexual intercourse (Impett, Peplau, & Gable, 2005). Empirical studies have mostly focused on individual sexual motives such as pursuing sexual or physical pleasure (Impett et al.). Sexual motives, however, might also include incentives that are external to the individual (contextual motives) such as sexual

partners' physical and/or psychological characteristics, feelings for the partner, or specific characteristics of the sexual act. We wanted to assess not only individual sexual motives, but also contextual motives that might be relevant to the developmental stage of emerging adulthood and the college context.

Based on previous research (e.g., Cooper et al., 1998; Leigh, 1989; Meston & Buss, 2007; Ozer, Dolcini, & Harper, 2003), we focused on four types of motives that we considered especially relevant for sexual decision-making during emerging adulthood. More specifically, we explored individual motives, as well as 3 contextual motives: partner trait, interpersonal and risk prevention motives. We included individual motives such as religious or moral beliefs, feelings of readiness and sexual arousal or satisfaction. Sexual partner trait motives are broadly defined as partner's physical and psychological characteristics (physical appearance, social status, sexual history, and personality) that motivate individuals to have sexual intercourse. In contrast, interpersonal motives include concerns related to relationship status or potential for a relationship (relationship status), concerns about length and quality of the relationship (relationship characteristics), and the need for a certain level of emotional investment/intimacy of both or one of the partners (emotional investment). Finally, risk prevention motives are concerns about minimizing the risk of sexual intercourse such as using contraceptives (condoms) or not consuming alcohol (an activity that can impair judgment during sexual intercourse), and concerns about sexual consent.

We assessed these sexual motives with open-ended responses, because we wanted to explore which factors emerging adults consider most important when engaging in sexual intercourse. Many studies have assessed motives with standardized scales (Cooper et al., 1998; Leigh, 1989; Ozer et al., 2003), whereas fewer researchers have chosen open-ended formats to

assess these motives (Allen, Husser, Stone, & Jordal, 2008; Michels, Kropp, Eyre, & Halpern-Felscher, 2005). Although useful, standardized scales (Cooper et al., 1998) constrain individuals' responses to a limited number or certain type of motives (e.g., individual). In contrast, open-ended assessments allow participants to describe sexual motives in their own words and may better assess individuals' priorities in terms of sexual motives. In this study, we wanted to better capture the types of motives emerging adults consider to be the most important for themselves and for others. To capture different types of motives, we did not pre-select motives, but assessed sexual motives with open-ended questions.

Perceptions of Other Men's and Women's Motives

In this study, we were interested in understanding how emerging adults perceive other female and male students' motives (other-motives). Sexual script theory posits that men and women are socialized to pursue different roles in dating and courtship (Gagnon, 1990). This difference in socialization for men and women has encouraged a sexual double standard in the United States (Crawford & Popp, 2003; Reiss, 1964). Specifically, men are socialized to enjoy their sexuality and take active roles in sexual interactions, whereas women are encouraged to take passive or reactive roles, and to suppress sexual desire (Baumeister & Twenge, 2002; Reiss). In fact, women are judged more negatively than men for engaging in sexual intercourse outside of a committed relationship (Crawford & Popp, 2003). Drawing on sexual script theory we argue that emerging adults base their perceptions of other men's and women's motives, at least partially, on sexual double standard beliefs.

Empirical studies assessing female and male adolescents' and emerging adults' reasons to have sex (Cooper et al., 1998; Meston & Buss, 2007; Michels et al., 2005; Ozer, Dolcini, & Harper, 2003) also suggest that women are more likely to suppress sexual desire outside of a

romantic relationship than men. We draw from this literature to predict gender differences in emerging adults' perceptions of others motives. Although these studies do not assess individuals' perceptions of other men's and women's motives, we base our predictions on sexual script theory and these empirical findings because we argue that these studies reflect emerging adults' gender schemas or the specific ideas they hold about how being a man or a woman in this society shapes sexual decision-making.

We know that young men consider different individual motives than do women. For instance, female college students and adolescents are more likely to mention moral and religious beliefs and discuss ideas of readiness for sexual activities as motives than are young men (Knox, Cooper, & Zusman, 2001; Michels et al., 2005). In contrast, adolescent boys and men are more likely to mention motives related to satisfaction of sexual desire (Cooper et al., 1998; Leigh, 1989; Patrick, Maggs, & Abar, 2007). Based on these findings, we predicted that emerging adults would perceive that other women consider personal beliefs and feelings of readiness motives more often than do other men. In contrast, emerging adults would report that other men consider sexual satisfaction motives more often than do other women.

Men and women also differ in the partner trait motives they consider most important. Contradictory findings, however, exist for physical appearance motives. Some researchers report that men are more likely to desire sexual intercourse with a physically attractive partner than are women (Cohen & Shotland, 1996; Lundy, Tan, & Cunningham, 1998), whereas others find that men and women do not differ in physical appearance sexual motives (Epstein, Klinkenberg, Scandell, Faulkner & Claus, 2007). In terms of social status and sexual history motives, research suggests that men and women differ in the motives they value most. College women consider partners' social status more important than do college men (Regan, Levin,

Sprecher, Christopher, & Cate, 2001). In contrast, male adolescents are more concerned about a potential partner's reputation and sexual history than are girls (Gilmore, DeLamater, & Wagstaff, 1996). Based on these findings, we predicted that emerging adults would report that men consider physical appearance and partner's romantic background and sexual history motives more often than do other women. In contrast, emerging adults would report that other women consider social status motives more often than do other men.

We also know that women report more interpersonal motives than do men. Women consider the status of the relationship or the nature of the relationship as a more important motive than do men (Hill, 2002; Knox et al., 2001; Mongeau, Morr Serewicz, & Therrien; 2004; Sprecher & McKinney, 1993). Similar to relationship status, men and women consider different relationship characteristic motives. Men seem to be less interested in getting to know or establishing a friendship with the sexual partner and expect more intimate sexual behaviors (ranging from handholding to sexual intercourse) than do women (Mongeau et al., 2004; Morr & Mongeau, 2004; Sprecher & McKinney, 1993). Finally, women consider emotional investment as a more important motive than do men. Specifically, women mention feelings of love and wanting to feel closer to the partner more often than do men in their reasons for having sexual intercourse (Cooper et al., 1998; Leigh, 1989; Meston & Buss, 2007; Ozer et al., 2003). We predicted therefore that emerging adults would report that other women consider relationship status, relationship characteristics, and emotional investment motives more often than do other men.

Finally, we know little about how men and women differ in risk prevention motives, except for one study suggesting that female college students are more likely to view condoms as a prerequisite for sexual intercourse than are male students (Finkelstein & Brannick, 2000).

Based on sexual script theory therefore, we posit that emerging adults would report that other women consider risk prevention motives more often than other men.

The first objective of this study therefore was to understand emerging adults' perceptions of other men's and women's motives. Based on sexual script theory, we predicted that emerging adults would report that other women consider different individual, partner trait, interpersonal and risk prevention motives than men. These perceptions of others' sexual motives would support the belief that women are more likely to suppress sexual desire outside of a romantic relationship than are men.

Perceptions of Same-sex Other Men's and Women's Motives

In this study, we were interested in understanding how men and women compare their own motives to their perceptions of same-sex peers' motives (other-motives). We compared emerging adult's motives based on gender, because gender is a salient characteristic individuals use to organize and make sense of their immediate environment (Bem, 1974). Moreover, men and women are socialized to pursue different roles in dating and courtship (Gagnon, 1990), and may perceive others' sexual decision-making based on this gender socialization. Gender therefore can be defined as a group, and can serve as a reference frame for comparisons (Major & Forcey, 1985; Miller, 1984). We wanted to better understand how gender shapes emerging adults' perceptions of their own and others' sexual motives.

Social comparison theories posit that individuals tend to compare their own decisions or behaviors (self-motives) to their perception of others' (other-motives) in order to evaluate their own behaviors or motives (Festinger, 1954; Stapel & Blanton, 2007). Social comparisons can occur inside (intragroup comparisons) or outside (intergroup comparisons) their own group (Stapel & Blanton, 2007). These comparisons are important because they can satisfy

individuals' needs to gain status within or outside of their group (Festinger, 1954). Individuals therefore may compare themselves to others of lower instead of higher status (e.g., someone more permissive instead of less permissive than myself) to feel they have a higher status (or are better) than others in the group or to feel that their group has higher status (or is better) than another group (Festinger, 1954; Stapel & Blanton, 2007). Sex research in peer norms exemplifies these social comparisons in sexual behaviors and attitudes among emerging adults. For instance, college students overestimate their peers' sexual behaviors such as vaginal, oral, and anal sex (Martens et al., 2006). Similarly, college students consider themselves more responsible and less sexually permissive than other students (Agostinelli & Seal, 1998). These findings might suggest that emerging adults perceive themselves as less gender stereotypical than others in their peer group.

Social comparisons can occur when individuals evaluate themselves against people in their same group or gender (intergroup comparisons) and outside of their group (intergroup comparisons). People, however, are more likely to compare themselves to individuals who are socially proximal such as same-sex peers than to more distal groups such as other-sex peers (Festinger, 1954). Therefore, intragroup comparisons are more relevant than intergroup comparisons. In this study, we focused on intragroup comparisons and define them as comparisons between own motives and perceptions of same-sex peers' motives.

Empirical research assessing same-sex peer norms supports the principle that individuals compare themselves to similar others who are perceived as holding a lower status (e.g., more stereotypical). This social comparison allows individuals to gain status or feel better about themselves (Festinger, 1954; Stapel & Blanton, 2007). For instance, men and women perceive themselves as engaging in less risky sexual behaviors than their same-sex peers

(Lewis, Lee, Patrick, & Fossos, 2007). To gain status or value within a group, however, we posit that individuals not only overestimate or underestimate a certain motive, but that they actually consider different motives for themselves than for others. The actor-observer asymmetry principle posits that individuals (observers) tend to attribute their own behavior to situational circumstances, whereas they consider others' behaviors (actors) to be based on their personal dispositions or personality (Jones & Nisbett, 1972). Men and women therefore may be more likely to claim that their own sexual motives are a product of sexual motives that reflect specific circumstances (e.g., "I need to be in a committed romantic relationship to have sex"), whereas they may perceive same-sex other-motives to be a product of individual characteristics (e.g., "Men are always horny and ready for sex"). This attribution of motives to others may allow individuals to perceive others as less complex and more stereotypical than themselves.

The second objective of this study was to assess differences between participants' own sexual motives and their perceptions of same-sex peers' motives. Based on the actor-observer asymmetry principle (Jones & Nisbett, 1972), we predicted that men and women would report partner trait, interpersonal and risk prevention motives in their own sexual decision-making more often than they would report that other men and women consider these motives. In contrast, men and women would perceive other men and women consider individual motives in their decisions more often than participants consider these motives in their own decisions. We also wanted to explore if there were gender differences in these comparisons.

Perceptions of Opposite-sex Other Men's and Women's Motives

Social comparisons occur when emerging adults evaluate their own motives (women's self-motive) against their perception of others' motives (women's reports of other men motives). Besides these social comparisons, we wanted to understand how accurately emerging

adults perceive opposite-sex peers' actual motives. That is, we wanted to compare emerging adults' perceptions of opposite-sex peers' motives (e.g., women's reports of other men's motives) against opposite-sex peers' actual motives (e.g., men's self-motives). These comparisons may help us understand how heterosexual emerging adults perceive potential sexual partners and opposite-sex stereotypes. In fact, empirical research suggests that both men and women tend to misperceive or overestimate opposite-sex peers' behaviors or attitudes. For instance, men consistently report that their female partners behave more sexually than the women rate themselves (Abbey, Zawacki, & McAuslan, 2000; Edmondson & Conger, 1995). Similarly, men and women report riskier sexual behavior for opposite-sex peers than their opposite-sex peers actually report (Lewis et al., 2007). Both men and women therefore may perceive opposite-sex peers to consider different motives from the motives peers actually report.

The third objective of this study therefore was to understand how accurately men and women perceive opposite-sex peers' motives. Based on the actor-observer asymmetry principle (Jones & Nisbett, 1972), we posit that emerging adults would perceive their opposite-sex peers' motives as a product of individual characteristics, whereas opposite-sex peers would perceive their own sexual motives as a complex product of specific circumstances. We therefore predicted that men would report that women consider individual motives more often than women would actually report these motives. In contrast, women would report partner trait, interpersonal and risk prevention motives more often than men would report that women consider these motives. Similarly, women would report that men consider individual motives more often than men would actually report these motives. In contrast, men would report partner

trait, interpersonal and risk prevention motives more often than women would report that men consider these motives.

In summary, we had the following research questions and hypotheses:

1. Do emerging adults' perceptions of other men and women differ?

1A) Individual: Participants will report that other women consider beliefs and feelings of readiness more often than do other men. In contrast, participants will report that other men consider sexual arousal motives more often than do other women.

1B) Partner trait: Participants will report that other men consider physical appearance and history motives more often than do other women. In contrast, participants will report that other women consider social standing motives more often than do other men.

1C) Interpersonal: Participants will report that other women consider relationship characteristics, relationship status, and emotional investment motives more often than do other men.

1D) Risk prevention: Participants will report that other women consider risk prevention motives more often than do other men.

2. Do emerging adults' own motives (self-motives) differ from their perception of same-sex peers' motives (same-sex other-motives)?

2A) Women and men will report that they consider individual motives less often than do other same-sex others.

2B) Women and men will report that they consider partner trait, interpersonal and risk prevention motives more often than do same-sex others.

3. Do emerging adults' perceptions of opposite-sex peers' motives (other-motives)

differ from opposite-sex peers' actual motives (self-motives)?

3A) Women will report that men consider individual motives more often than men will report individual motives.

3B) Men will report partner trait, interpersonal and risk prevention motives more often than women will report that men consider these motives.

3C) Men will report that women consider individual motives more often than women will report individual motives.

3D) Women will report partner trait, interpersonal and risk prevention motives more often than men will report that women consider these motives.

Methods

Participants

We draw data for this study from the third time point (T3) in a longitudinal study of sexuality during college. At Time 1 (T1), we recruited first year college students from a large Northeastern university to participate (September of 2002). We contacted all African American and Latino American first year students between the ages of 17 and 19, and a randomly selected subsample of European American students (9% of all students age 17 – 19 who were Caucasian, not Hispanic according to the Registrar's definition). From the initial 839 students invited to participate, 52% agreed for a total of 434 participants. At all time points, the study consisted of two sessions: a survey phase and a video phase. For the first session (survey phase), we contacted participants by e-mail or phone to schedule an appointment. Participants completed paper and pencil surveys in groups. All students completed informed consent forms before their surveys, and received \$35 for completing the survey at T3. After participating in the survey phase at T1 (N=434), a random sub-sample of participants (N= 182) was invited by

e-mail or phone to participate in a second session (video phase). At T1, we excluded participants who reported being exclusively lesbian/gay (less than 1%) from this video phase, because we were interested in assessing gendered behaviors in interactions with the opposite-sex where physical/sexual attraction may exist. During this video phase, participants engaged in videotaped tasks in opposite-sex pairs (videotaped data not used in current analyses), and filled out surveys at the end of the session in separate rooms. Participants who were in the video phase received an additional \$25.

In this study, we only used T3 data, from students' fall semester of second year in college. We draw demographic information from the T3 survey phase and open-ended data (self and other motives) from the survey in the video phase.

The current sample (T3 video phase) consists of 154 (50% female) second year heterosexual college students, age 18.9 to 20.8 ($M= 19.6$, $SD= 0.4$). Twenty six percent of the participants were African American (including African American, African, Caribbean), 25% were Latino American (including Mexican American, Puerto Rican, and South American), and 49% were European American. Five percent of mothers had not graduated from high school, 30% had earned a high school diploma as their highest degree, 45% had earned an associates or bachelors as their highest degree, and 20% had earned a graduate degree as their highest degree. Seventy percent of the participants were sexually experienced (i.e., had had penetrative sex).

The retention rate from T1 video phase to T3 video phase was 81%. Of the students who completed T1 video phase but did not return for T3 video phase ($N = 35$), 80% were no longer eligible to participate. Specifically, these individuals were deceased ($N = 1$), or were no longer enrolled in the university or were on leave ($N = 27$). The remaining students refused to

participate ($N = 3$), or were unreachable ($N = 4$). Moreover, there were 7 students who participated at T3, but not at T1.

We examined any potential biases due to attrition. First, we compared participants who completed surveys at the T3 video ($N = 154$) phase to those who participated in T1 video phase, but did not participate in T3 video phase on demographics. We performed three chi-square tests and 2 t-tests. Students who completed the T3 video phase and those who participated in T1 video but not T3 video phase were similar in age, gender, sexual experience, ethnicity/race and mothers' education. Second, we compared participants who completed only the T3 survey phase to those who completed both the survey and the video phase at Time 3 on demographics. Three chi-square tests and 2 t-tests were performed, and one was significant. There were significant differences in ethnicity/race ($\chi^2(2, 390) = 8.0, p < .05$). Individuals who only participated in the survey phase were more likely to identify as African American or Latino American.

Measures

In the survey, we introduced questions about self and other sexual motives as follows: "When deciding to become sexually intimate with someone, people may consider different things such as personal beliefs, partner's characteristics, how well people know each other or the situation, to name a few." Participants then answered three open-ended questions about self-motives, same-sex, and opposite-sex other-motives (e.g., self, typical female college student, and typical male college student). The specific three questions were: "What do *you* consider necessary/most important when deciding to have sex with someone?; What do you think *a male student at [name of the university]* considers necessary/most important when deciding to have sex with someone?; What do you think *a female student at [name of the university]* considers necessary/most important when deciding to have sex with someone?"

Participants always answered the self question first. To control for order effects, half of the participants answered the female student question first, and the other half answered the male question first.

Coding of themes. Based on past research (e.g., Cooper et al., 1998; Leigh, 1989; Meston & Buss, 2007; Ozer et al., 2003) and participants' responses, we developed a list of major themes and sub-themes to classify responses to the three questions. We developed a two-level hierarchical coding system. The coding system was exactly the same for all of the open-ended questions to allow comparisons across the three targets (self, other woman, other man). The coding system consisted of two levels of codes (4 general categories, 18 subcategories). There were general categories that described different motives that individuals could consider in sexual decision-making (e.g., individual motives). We also created subcategories that would further describe these general categories (e.g., beliefs). Finally, we included the option "uncodeable" for responses that could not be coded due to circumstances such as illegible handwriting or failing to answer the question (e.g., the response was left blank).

Three undergraduate students coded all responses during the course of one academic semester. Coders met with the first author twice a week for an hour on average to discuss discrepancies and make final coding decisions (codes based on these final decisions were used in all analyses). Nine to 30 responses were randomly assigned for each meeting.

Students coded responses for the presence or absence of general categories and subcategories. Codes were not mutually exclusive in that responses could be categorized in more than one category or subcategory. For instance, participants could mention different categories (e.g., individual and partner trait), and subcategories within a category (e.g., partner's physical appearance and sexual history) in one response. We instructed coders to first

identify categories and then choose subcategories, if needed. In other words, coders could not choose subcategories unless they identified a category first.

We performed pairwise kappas to assess inter-rater reliability for general categories, subcategories and classifications. We computed three kappas for each general category and subcategory (one for each coder pair). In Table 2.1, we report the ranges and averages across the 3 coder pairs. The interrater reliability was above .80 for all codes.

Results

Code selection

We calculated the proportion of students who mentioned each general category and subcategory in their response to assess how often participants mentioned these themes (see Table 1). When the average proportion across all three targets (self, other women and other men) was 5% or less, we dropped the category from further analyses, because it is difficult to draw conclusions based on the experiences of a small proportion of participants. We also created an additional general category (interpersonal) based on three subcategories (relationship status, romantic relationship characteristics, and emotional investment). That is, we included in the interpersonal motives category any responses that we had previously coded as relationship status, romantic relationship characteristics, or emotional investment motives. We therefore had a total of 5 general categories. All of the 5 general categories and 10 out of the 18 subcategories had an average proportion of 5% or more (see Table 2.1). We performed analyses only with these 15 general categories and subcategories. We also provide sample to illustrate findings.

Perceptions of Other Men's and Women's Motives

To test hypothesis 1, we performed one-way ANOVA's (other women, other men [within]), focusing on the main effect of the other person's gender (see column labeled H1 in

Table 2.2). These main effects compare the means labeled “other women” to the means labeled “other men” reported by both male and female participants (means by participants’ gender not shown in the table). Hypothesis 1A predicted that participants would report that other women consider beliefs and feelings of readiness motives more and sexual arousal motives less often than do other men. For the general category of individual motives, there was a significant effect of others’ gender. Students reported individual motives for other women (13%) more frequently than they did for other men (5%). The only individual sub-category that met our criteria (average of > 5% of participants’ responses coded) to test was feeling ready/comfortable, which demonstrated a main effect of other’s gender. Students reported ready/comfortable motives for other women (5%) more frequently than they did for other men (1%). For instance, one woman, when asked about other women’s motives, wrote “It depends on the person- some females just need an attractive guy, + others need to feel comfortable w/ the guy to have sex w/ him”. Thus, hypothesis 1A was partially supported.

Hypothesis 1B predicted that participants would report that other men consider physical appearance and history motives more and social standing motives less often than do other women. For the general category of partner trait motives, there was a significant effect of other’s gender. Students reported partner trait motives for other men (61%) significantly more frequently than they did for other women (45%). All partner trait sub-categories, except social standing, met our criteria to test. There was a significant effect of other’s gender for physical appearance. Students reported physical appearance motives for other men (49%) more frequently than they did for other women (29%). For instance, one man, when asked about other men’s motives, said other men wanted a “hot chick, hot body”. We also found a significant effect of other’s gender for personality. Students reported personality motives for

other women (12%) more frequently than they did for other men (6%). For instance, a man said women care about “Who the person is. . .Type of person”. We did not find a significant effect of other’s gender for history/background or No STI’s. Thus, hypothesis 6 was partially supported.

Hypothesis 1C predicted that participants would perceive that other women consider relationship characteristics, relationship status, and emotional investment as motives more often than do other men. For the general category of interpersonal motives, there was a significant effect of other’s gender. Students reported interpersonal motives for other women (52%) more frequently than they did for other men (23%). For the sub-category relationship status, there was not a significant effect of other’s gender. There was, however, a significant effect of other’s gender for romantic relationship characteristics and emotional investment sub-categories. Students reported romantic relationship characteristics for other women (14%) more frequently than they did for other men (6%). For instance, a participant mentioned that other women wanted to “get to know the person well before (having sex)”. Similarly, students reported emotional investment or “some kind of emotional bond” for other women (38%) more frequently than they did for other men (14%). Thus, hypothesis 1C was partially supported.

Hypothesis 1D predicted that participants would mention that other women consider risk prevention motives more often than do other men. For the general category of risk prevention motives, there was a significant effect of other’s gender. Students reported risk prevention motives for other men (31%) more frequently than they did for other women (16%). For the sub-category consensual, there was also a significant effect of other’s gender. Students reported consensual motives for other men (8%) more frequently than they did for other women (2%). One man, when asked about other men’s motives, wrote "If the female won’t look at the

situation as if he did this to her on purpose or if he forced her to have sex with him.” There was not a significant effect of other’s gender for contraceptive use motives. Thus, hypothesis 1D was not supported.

Perceptions of Same-sex Other Men’s and Women’s Motives

To test hypothesis 2A, 2B, 2C, and 2D, we performed mixed-methods ANOVA’s (self, other [within] and participants’ gender [between]), focusing on the main effect of target (see column labeled H2 main effect in Table 2.2). These main effects compare the means labeled “self” to the means labeled “other women” for female participants (see column labeled women) and “other men” for male participants (see column labeled men). To explore gender differences in these comparisons (see column labeled H2 interaction in Table 2.2), we also tested the interaction between target (self, other [within]) and participants’ gender (between). Interactions were only significant for interpersonal motives therefore we only focus our description on main effects for the rest of the findings.

Hypothesis 2A and 2C predicted that women and men would report that they consider individual motives less often than do same-sex others. For the general category of individual motives, there was a significant effect of target. In contrast to predictions, women and men reported individual motives in their own sexual decision-making more frequently than they reported same-sex others considered these motives. The only sub-category that met our criteria to test was feeling ready/comfortable, which demonstrated a main effect of target. Women and men reported ready/comfortable motives in their own sexual decision-making more frequently than they reported that same-sex others consider these motives. Thus, hypothesis 2A and 2C was not supported.

Hypothesis 2B and 2D predicted that women and men would report that they consider partner trait, interpersonal and risk prevention motives more often than do same-sex others. For the general category of partner trait motives, there was a significant effect of target. Women and men reported partner trait motives in same-sex others' sexual decision-making more often than they reported partner trait motives in their own decisions. There was also a significant effect of target for the sub-category physical appearance. Women and men reported physical appearance motives in same-sex others' sexual decision-making more frequently than they reported these motives in their own decisions. We did not find a significant effect of target for personality, history/background or No STI's sub-categories. For interpersonal motives, we also found a significant effect of target and an interaction between participants' gender and target. Women and men reported interpersonal motives in their own sexual decision-making more frequently than they reported same-sex others consider these motives. This difference, however, was stronger for men ($F [1, N = 77] = 68, p < .001$) than for women ($F [1, N = 77] = 28.9, p < .001$). We also found a significant effect of target for relationship status, romantic relationship characteristics and emotional investment sub-categories. Women and men reported relationship status, romantic relationship characteristics and emotional investment motives in their own sexual decision-making more frequently than they reported that same-sex others consider these motives. Finally, there were no significant effects of target for risk prevention category and consensual and contraceptive use sub-categories. Thus, hypothesis 2B and 2D was partially supported.

Perceptions of Opposite-sex Other Men's and Women's Motives

For hypothesis 3, we performed one-way ANOVA's (self, other [between]), focusing on the main effect of target (e.g., women's self vs. men's other women) among opposite-sex

participants (see columns labeled H3A, 3B and H3C, 3D in Table 2.2). Hypothesis 3A predicted that women would report that men consider individual motives more often than men would report individual motives. For the general category of individual motives, there was not a significant effect of target. Twelve percent of men, however, reported that they consider individual motives in their own sexual decision-making, compared to 6% of women who reported that men consider individual motives in their decisions. In contrast, there was a significant effect of target for the ready/comfortable sub-category. Men reported ready or comfortable motives in their own sexual decision-making more frequently than women reported that men consider these motives in their decisions. Thus, hypothesis 3A was not supported.

Hypothesis 3B predicted that men would report partner trait, interpersonal and risk prevention motives more often than women would report men consider these motives. For the general category of partner trait motives, there was a significant effect of target. Women reported that men consider partner trait motives in their decision-making more frequently than men reported these motives in their own decisions. There was also a significant effect of target for physical appearance motives. Women reported that men consider physical appearance motives in their decision-making more frequently than men reported these motives in their own decisions. We did not find a significant effect of target for personality, history/background or No STI's sub-categories. For interpersonal motives general category, we also found a significant effect of target. Men reported interpersonal motives in their own sexual decision-making more frequently than women perceived that men consider these motives in their decisions. Similarly, we found a significant effect of target for relationship status, romantic relationship characteristics and emotional investment sub-categories. Men reported relationship

status, romantic relationship characteristics and emotional investment motives in their own sexual decision-making more frequently than women reported men consider these motives in their decisions. Finally, there was not a significant effect of target for risk prevention motives. Thirty percent of women, however, reported that men consider risk prevention motives in their sexual decision-making, compared to 22% of men who report risk prevention motives in their own decisions. Thus, hypothesis 3B was partially supported.

Hypothesis 3C predicted that men would report that women consider individual motives more often than women would report individual motives. For the general category of individual motives, there was a significant effect of target. Women reported individual motives in their own sexual decision-making more frequently than men reported women consider these motives in their decisions. There was also a significant effect of target for ready/comfortable motives. Similar to the general category, women reported ready or comfortable motives in their own sexual decision-making more frequently than men reported that women consider these motives in their decisions. Thus, hypothesis 3C was not supported.

Hypothesis 3D predicted that women would report partner trait, interpersonal and risk prevention motives more often than men would report that women consider these motives. For the general category of partner trait motives, there was not a significant effect of target. Forty five percent of men, however, reported that women consider partner trait motives in their sexual decision-making, compared to 32% of women who reported these motives in their own decisions. There were significant effects of target for physical appearance and No STI's sub-categories. Men reported women consider physical appearance motives in their decision-making more often than women reported these motives in their own decisions. In contrast, women reported that they did not want to contract STI's in their own sexual decision-making

more often than men reported women consider these motives in their decisions. We did not find a significant effect of target for personality or history/background sub-categories. For the general category of interpersonal motives, we also found a significant effect of target. Women reported interpersonal motives in their own sexual decision-making more frequently than men reported women consider these motives in their decisions. Similarly, we found a significant effect of target for relationship status, romantic relationship characteristics and emotional investment sub-categories. Women reported relationship status, romantic relationship characteristics and emotional investment motives in their own sexual decision-making more frequently than men reported women consider these motives in their decisions. Finally, there was not a significant effect of target for risk prevention category or consensual and contraceptive use sub-categories. Eighteen percent of men, however, reported that women consider risk prevention motives in their sexual decision-making, compared to 12% of women who report risk prevention motives in their own decisions. Thus, hypothesis 3D was partially supported.

Discussion

Perceptions of Other Men's and Women's Motives

As predicted, participants perceived that other men consider different sexual motives in their sexual decisions than do other women. These differences supported sexual double standard beliefs. For instance, previous studies assessing adolescents have highlighted the importance of feelings of readiness among young women compared to men (Knox et al., 2001; Michels et al., 2005). Although frequencies were low, we did find that participants think other women consider feeling ready and comfortable more often than do other men. These findings support sexual double standard or stereotypical ideas about what men and women consider

important when having sexual intercourse. We, however, also noticed some unexpected omissions. Although many studies have reported that men consider satisfaction of sexual desire motives, and women consider moral or religious beliefs motives (Baumeister, Catanese, & Vohs, 2001; Cooper et al., 1998; Knox et al., 2001; Leigh, 1989; Michels et al., 2005; Patrick et al., 2007), our participants rarely mentioned these motives. In contrast to previous studies (Cooper et al., 1998; Patrick et al., 2007), we asked participants about others' sexual decision-making and did not give participants a list of motives. Their response therefore might reflect sexual motives individuals perceive others consider as most important in their sexual decision-making. For instance, many emerging adults reported other men and women consider physical appearance motives, but not sexual desire motives. Emerging adults therefore may perceive other women and especially other men may only want to satisfy their sexual desire with partners that are physically attractive. In summary, gender differences in perceptions of others' sexual motives supported sexual double standard beliefs in that emerging adults believe that men are more likely to openly enjoy their sexuality than women.

Similar to individual motives, we found that emerging adults perceived other men consider different partner trait motives than do other women. Most of these differences suggest that sexual double standard beliefs (Crawford & Popp, 2003; Reiss, 1964) influence emerging adults' views of others' motivations. Specifically, participants perceived that other men consider partner's physical appearance more and personality less often than other women. Previous studies suggest that men tend to be more sexually aroused by visual stimuli such as physical appearance than women (Meston & Buss, 2007), and that women are more likely to consider emotional intimacy when engaging in sexual activity than men (Hill, 2002). In line with gender stereotypes, emerging adults perceived that other women are interested in

personality motives that emphasize the importance of creating an emotional bond rather than sexual attraction to the partner. In contrast, emerging adults report men consider physical appearance, a partner trait associated with sexual desire, as an important aspect of sexual decision-making.

A few findings for specific partner trait motives did not support sexual double standard beliefs. Contrary to previous findings (Gilmore et al., 1996), participants reported similar rates of background/history motives for other men and women. Moreover, we could not test differences in perceptions of other men's and women's social standing motives. Previous studies suggest that emerging adults perceive themselves as having less casual sex than their same-sex peers (Lewis et al., 2007). When answering these questions, therefore, participants may report on other men's and women's reasons to have sex focusing in short term rather than long term relationships. Social status and sexual/romantic history motives may not be as relevant as physical attractiveness in short term compared to long term relationships (Li & Kenrich, 2006). If participants perceive that other women and men more often engage in short-term rather than long term sexual encounters, participants may consider partners' social status and/or sexual/romantic history are not relevant motives for other men and women.

Differences in perceptions of other men's and women's interpersonal motives are the most consistent with previous studies (Cooper et al., 1998; Hill, 2002; Meston & Buss, 2007; Ozer et al., 2003). That is, emerging adults' views of other men's and women's interpersonal motives support the idea that other women are more likely to consider intimacy and relationship involvement when engaging in sexual activity than are other men (Cate, Long, Angera, & Draper, 1993; Hill, 2002). Emerging adults' views of other men's and women's interpersonal motives demonstrate that participants continue to endorse a sexual double

standard when evaluating others' sexual decision-making. That is, results suggest that emerging adults continue to believe that women are more likely to suppress sexual desire outside of a romantic relationship than men (Crawford & Popp, 2003).

Finally, we found differences in the general category of risk prevention motives. Emerging adults perceived other men to have more risk prevention concerns than other women, which does not support the sexual script of the women being the "gate keeper" of sexual relationships (Gagnon, 1990). These differences though, were driven by participants' perceptions of other men's and women's consensual motives. Emerging adults reported that other men consider that insuring the sexual act is consensual as a motive more often than do other women. These differences might be a result of cohort or college context specific effects. That is, findings might reflect that recent college generations of male students are very aware of the importance of consensual sexual intercourse in dates. In recent decades prevention campaigns in college campuses have emphasized the importance of consensual sexual encounters, and the role of men in preventing date rapes. For instance, in the college where this study was conducted, student groups supported prevention campaigns addressing date rape (Pinkus, 2000).

Thus, differences in perceptions of other men's and women's motives reflected gender stereotypical reasons to have sex, suggesting that emerging adults still draw upon sexual double standard beliefs to guide their views of others' sexual decision-making. Specifically, participants think other women consider feeling ready and comfortable more often and partner's physical appearance less often than do other men. However, some of our findings about background/history and social standing motives do not support gender stereotypes.

Perceptions of Same-sex Other Men's and Women's Motives

Based on the actor-observer asymmetry principle (Jones & Nisbett, 1972), we predicted that emerging adults would report partner trait, interpersonal and risk prevention motives in their own sexual decisions more often than emerging adults would report other men and women to consider these motives in their decisions. In contrast, participants would perceive that other men and women consider individual motives in their decisions more often than participants would consider these motives in their own decisions. Supporting the actor-observer asymmetry principle, we found that emerging adults reported relationship status, romantic relationship characteristics and emotional investment motives in their own sexual decisions more often than they reported that others consider these motives. Similar to previous studies (Lewis, et al., 2007) and drawing on social comparison principles (Festinger, 1954), we interpret these results as suggesting that individuals compared themselves to similar others in order to feel better or achieve a higher status. In this case, emerging adults may perceive themselves as less likely to separate emotional intimacy from sexual desire than their same-sex peers. That is, participants may consider that being in a relationship, knowing the sexual partner or feeling emotionally attached to this partner are more important reasons to have sex for themselves than for their same-sex peers. Although women are socialized to be more invested in relationships than men (Ganon, 1990), both men and women may still consider they have sex for “deeper” reasons than their same-sex peers.

Differences in perceptions between emerging adults' own motives and same-sex peers' motives, however, were not always as predicted. For instance, women and men reported that individual motives in their own sexual decision-making more often than they perceived same-sex peers to consider these motives in their decisions. Also contrary to predictions, women and

men reported physical appearance motives in their own decisions less often than they perceived same-sex peers to consider these motives in their decisions. Although we did not predict these findings, differences support the social comparison principle that individuals compare their own motives to similar others to gain status (Festinger, 1954). For example, in one study, both female and male college students considered themselves more responsible and less sexually permissive than other students (Agostinelli & Seal, 1998). College students may gain status or be more likely to justify their own motives by considering themselves more responsible and less sexually permissive than other students. In this study, students, regardless of gender, viewed same-sex peers as more superficial or more preoccupied about physical appearance in their sexual decisions than themselves. Moreover, students also perceived that they consider feeling ready/comfortable in their sexual decisions more often than their same-sex peers. Similar to previous studies (Agostinelli & Seal, 1998), students may consider themselves less sexually permissive than their same-sex peers. Although American society allows men to experience more sexual freedom than women (Crawford & Popp, 2003), college male students might still feel pressured to be less sexually permissive than other men. Perceiving themselves as less permissive than same-sex others may allow men and women to justify motives that may not be considered appropriate in American society (Agostinelli & Seal, 1998).

In summary, differences between emerging adults' own motives and their perceptions of same-sex peers' motives support the actor-observer asymmetry principle and social comparison principle. Men and women considered their own sexual decision-making to be less superficial and perhaps less permissive than their same-sex peers' decisions.

Perceptions of Opposite-sex Other Men's and Women's Motives

Based on the actor-observer asymmetry principle (Jones & Nisbett, 1972), we also predicted that participants would report that opposite-sex peers consider individual motives more often than opposite-sex peers would actually report these motives. In contrast, opposite-sex peers would report partner trait, interpersonal and risk prevention motives more often than participants would report that opposite-sex peers consider these motives. In general, men and women misperceived opposite-sex peers in similar ways. As predicted, opposite-sex peers reported interpersonal motives such as relationship status, romantic relationship characteristics and emotional investment in their own sexual decision-making more frequently than students reported that opposite-sex peers consider these motives in their decisions. In support of the actor-observer asymmetry principle (Jones & Nisbett, 1972), findings suggest that participants consider opposite-sex peers' sexual decision-making process as less complex than the way opposite-sex peers' decision process actually is. Moreover, emerging adults may also perceive opposite-sex peers as less likely to separate emotional intimacy from sexual desire than same-sex peers actually report in their sexual decisions. This interpretation applies to how women misperceive men's sexual decision-making, but it may also apply to how men misperceive women's sexual decisions. Previous studies also suggest that both men and women misperceive opposite-sex peers' sexual behaviors (Lewis et al., 2007). Men and women might consider opposite-sex peers as less "deep" or more likely to separate emotional intimacy from sexual desire than they really are, regardless of gender. These findings do not support gender socialization theory (Ganon, 1990), and sexual double standard research (Crawford & Popp, 2003) which posit that women are more likely to prefer sexual behaviors in the context of an emotionally intimate relationship than men. Misperceptions of drinking and risky sexual

behavior prevalence in college students may be more likely to affect participants' perceptions of others' sexual motives than the sexual double standard. That is, participants may perceive that other college students drink alcohol more and therefore engage in risky sexual behaviors when intoxicated regardless of gender.

Despite some gender similarities, men and women did differ in their perceptions of opposite-sex peers' sexual motives focusing on avoiding STI's risk. As predicted, women reported they did not want to contract an STI in their own sexual decisions more frequently than men reported other women consider these motives in their decisions. We did not find these differences between men's own sexual motives and women's reports of other men's motives. Previous research has suggested that women are more accurate at predicting others' behaviors than men (Lambert, Kahn & Apple, 2003). In this study, women might be more accurate at predicting sexual motives focusing on avoiding STI's risk in opposite-sex peers than men.

Differences in perceptions of opposite-sex peers' ready/comfortable and partner physical appearance motives were not as predicted. Students reported that opposite-sex peers consider ready/comfortable motives less frequently and physical appearance motives more frequently in their decision-making than opposite-sex peers actually reported. We interpret these findings in similar ways to results in perception of same-sex peers. That is, we speculate that students view opposite-sex peers as more superficial or more preoccupied about physical appearance in their sexual decisions than opposite-sex peers actually perceive themselves.

These findings may help us better understand how heterosexual men and women perceive potential partners, and may actually affect courtship behavior. For instance, a single woman who perceives other men as more superficial than herself may avoid contact with suitable romantic partners.

Limitations and Conclusions

In this study, social comparisons between other men and women motives suggest that emerging adults draw upon sexual double standard beliefs to guide their perceptions of others' sexual decision-making. Sexual double standard beliefs, however, does not seem to explain comparisons between self and other motives. When we compared emerging adults' own motives to their perception of same-sex and opposite-sex peers we found that emerging adults tend to perceive their own motives as more complex and less superficial than they perceive others' decisions. These findings cannot be generalized to emerging adults who do not attend college. College students may consider different motives from youth who do not attend college. For instance, issues of health, STI's and risk prevention might be more salient for emerging adults who do not attend college and are of lower socioeconomic status. The college environment may give a false sense of safety to college students. Moreover, this study is of a descriptive nature, therefore, we cannot understand how these motives predict or are predicted by sexual and romantic relationship experiences. Emerging adults who engage in more romantic relationships and have more sexual experience might have different perceptions of others' sexual motives than less experienced individuals. More experienced individuals might have more accurate perceptions of opposite-sex peers than less experienced individuals. Moreover, the sexual motives emerging adults consider in their own sexual decision-making might vary depending on their experiences. Other partner traits such as sexual experience or STI status might be more relevant for sexually experienced than not experienced individuals. Similarly, sexual double standard beliefs or conservative attitudes might predict social comparisons. For instance, more conservative individuals might consider that others' motives are different than their own motives, whereas less conservative individuals might consider

others' motives to be similar to their own motives. Future studies should explore conservative sexual attitudes, sexual double standard, romantic relationship status and sexual experience as predictors of these social comparisons.

Despite these limitations, the open-ended nature of this study allowed us to better understand individual motives, as well as contextual motives (e.g., partner trait, interpersonal and risk prevention motives) during emerging adulthood. Based on social comparison principles (Festinger, 1954) and the actor-observer asymmetry principle (Jones & Nisbett, 1972), this study also expanded our knowledge of perceptions of same-sex and opposite-sex peers' motives, and the role of the sexual double standard in these differences. For instance, we found that emerging adults perceive that other men's and women's sexual motives based on sexual double standard stereotypes. That is, students perceive that other women consider interpersonal motives more in their sexual decision-making, whereas men consider partners' physical appearance more in their sexual decisions. Moreover, the actor-observer asymmetry principle accurately predicted that students reported interpersonal motives in their sexual decisions more often than students reported same-sex peers consider these motives in their decisions.

Finally, our findings also have implications for prevention programs. Students misperceived opposite-sex peers and consider their sexual motives more superficial than they actually were. That is, students perceive that opposite-sex peers consider physical appearance in their own sexual decision-making more than they actually do. These misperceptions might affect sexual encounters and romantic relationships in heterosexual college students, especially women. If women always expect men to be focused only in physical sexual pleasure, women who desire emotional intimacy in the context of sexual relationships might find it difficult to

trust or communicate with their partner about their sexual motives. These findings therefore might inform prevention programs that promote healthy sexual relationships by improving awareness of gender stereotypes in sexual decision-making, and communication of expectations between sexual partners.

Table 2.1 Proportion and interrater reliability for self and other motives by categories and sub-categories

	Self	Other female	Other male	Kappas Range (Mean)
Uncodeable	.01	.02	.03	.83 – .96 (.89)
Individual	.20	.13	.05	.83 - .86 (.85)
Beliefs	.04	.01	.01	.91 - .98 (.94)
Sexually aroused	0	.01	.01	.87 - .97 (.89)
Ready/comfortable	.12	.05	.01	.89 - .95 (.93)
Partner trait	.39	.46	.61	.91 - .93 (.92)
Beliefs	.04	.01	0	.88 -.97 (.92)
Easy	0	0	.03	.82 - .91 (.86)
Physical appearance	.13	.29	.49	.97 -.98 (.98)
Social standing	.01	.07	.03	.78 - .90 (.84)
Personality	.11	.12	.06	.87 - .95 (.91)
History/Background	.11	.07	.06	.93 -.97 (.95)
Health	.03	.01	.01	.85 - .92 (.90)
No STI's	.09	.03	.05	.90 -.94 (.92)
Interpersonal	.81	.52	.23	
Relationship Status	.27	.10	.07	.87 -.91 (.89)
Romantic Relationship Characteristics	.39	.14	.07	.90 -.93 (.92)
Emotional Investment	.56	.38	.14	.91 - .93 (.92)
Risk Prevention	.17	.16	.31	.85 - .92 (.89)
Consensual	.07	.02	.08	.84 - .88 (.86)
Safe	.04	.03	.02	.78 - .89 (.85)
Contraception used	.07	.05	.06	.88 - .99 (.92)
Alcohol involved	.01	.02	.03	.88 -.95 (.92)

Table 2.2 Differences in emerging adults' self and other motives perceptions by gender.

Motive code and type of motive	Participant's gender		Perception of others		Perceptions of same-sex other-motives		Perceptions of opposite-sex other motives		
	Women <i>M (SD)</i>	Men <i>M (SD)</i>	H 1A-1D Other <i>F (Women vs. Men)</i>	H 2 main effects <i>F (Self vs. Other)</i>	H 2 interactions <i>F (target x gender)</i>	H 3A, 3B Women's perceptions of men	H 3C, 3D Men's perceptions of women	<i>F</i>	<i>F</i>
Individual			8.4***	8.1**	0.4	1.3		7.7***	
Ready/comfortable	Self	.28 (.45)							
	Other women	.16 (.37)							
	Other men	.06 (.25)							
Partner trait	Self	.17 (.38)	6.2**	14.4***	0.6	3.8*		7.4**	
	Other women	.05 (.22)							
	Other men	.01 (.11)							
Partner trait	Self	.32 (.47)	14.2***	7.5**	0.0	3.8*		3.1	
	Other women	.45 (.50)							
	Other men	.61 (.49)							

Motive code and type of motive	Participant's gender		Perception of others	Perceptions of same-sex other-motives		Perceptions of opposite-sex other motives	
	Women	Men	H 1A-1D Other <i>F</i> (Women vs. Men)	H 2 main effects <i>F</i> (Self vs. Other)	H 2 interactions <i>F</i> (target x gender)	H 3A, 3B Women's perceptions	H 3C, 3D Men's perceptions
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)				<i>F</i>	<i>F</i>
Physical appearance			27.2***	40.1***	0.8	8.7***	27.3***
Self	.03 (.16)	.23 (.43)					
Other women	.25 (.43)	.32 (.47)					
Other men	.45 (.50)	.53 (.50)					
Personality			7.4**	0.9	0.9	0.8	0.5
Self	.11 (.31)	.10 (.31)					
Other women	.10 (.31)	.14 (.35)					
Other men	.06 (.25)	.05 (.22)					
History/Background			0.1	2.9	1.5	0.7	2.5
Self	.11 (.31)	.12 (.32)					
Other women	.09 (.29)	.04 (.20)					
Other men	.08 (.27)	.04 (.20)					

Motive code and type of motive	Participant's gender		Perception of others		Perceptions of same-sex other-motives		Perceptions of opposite-sex other motives	
	Women	Men	H 1A-1D	H 2 main effects	H 2 interactions	H 3A, 3B	H 3C, 3D	
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>F</i> (Women vs. Men)	<i>F</i> (Self vs. Other)	<i>F</i> (target x gender)	<i>F</i>	<i>F</i>	
No STT's								
Self	.11 (.31)	.06 (.25)	0.8	1.5	0.5	0.1	6.0*	
Other women	.05 (.22)	.01 (.11)						
Other men	.05 (.22)	.05 (.22)						
Interpersonal								
Self	.90 (.31)	.74 (.44)	40.6***	92.6***	3.9*	49.0***	35.2***	
Other women	.55 (.50)	.49 (.50)						
Other men	.25 (.43)	.22 (.41)						
Relationship status								
Self	.30 (.46)	.23 (.43)	2.0	19.9***	0.1	7.4**	15.8***	
Other women	.14 (.35)	.06 (.25)						
Other men	.08 (.27)	.05 (.22)						

Motive code and type of motive	Participant's gender		Perception of others		Perceptions of same-sex other-motives		Perceptions of opposite-sex other motives	
	Women <i>M(SD)</i>	Men <i>M(SD)</i>	H 1A-1D Other <i>F(Women vs. Men)</i>	H 2 main effects <i>F(Self vs. Other)</i>	H 2 interactions <i>F(target x gender)</i>	H 3A, 3B Women's perceptions <i>F</i>	H 3C, 3D Men's perceptions <i>F</i>	
Romantic relationship characteristics								
Self	.49 (.50)	.29 (.46)	5.4*	38.3***	2.0	16.4***	29.3***	
Other women	.16 (.37)	.12 (.32)						
Other men	.05 (.22)	.08 (.27)						
Emotional Investment								
Self	.68 (.47)	.44 (.50)	39.8***	37.2***	0.1	16.4***	15.8***	
Other women	.39 (.49)	.38 (.49)						
Other men	.16 (.37)	.13 (.34)						
Risk prevention								
Self	.12 (.33)	.22 (.42)	13.8***	2.5	0.8	1.2	1.2	
Other women	.14 (.35)	.18 (.39)						
Other men	.30 (.46)	.31 (.47)						

Motive code and type of motive	Participant's gender		Perception of others	Perceptions of same-sex other-motives		Perceptions of opposite-sex other motives	
	Women	Men		H 1A-1D	H 2 main effects	H 3A, 3B	H 3C, 3D
	<i>M(SD)</i>	<i>M(SD)</i>	<i>F(Women vs. Men)</i>	<i>F(Self vs. Other)</i>	<i>F(target x gender)</i>	<i>F</i>	<i>F</i>
Consensual			6.5**	1.7	0.6	0.3	1.0
Self	.01 (.12)	.12 (.32)					
Other women	.00 (.00)	.04 (.20)					
Other men	.09 (.29)	.06 (.25)					
Contraceptive used			1.0	1.3	0.2	0.4	3.0
Self	.09 (.29)	.05 (.22)					
Other women	.06 (.25)	.03 (.16)					
Other men	.08 (.27)	.04 (.20)					

* $p < .05$, ** $p < .01$, *** $p < .001$.

References

- Abbey, A., Zawacki, T., & McAuslan, P. (2000). Alcohol's effects on sexual perception. *Journal of Studies on Alcohol, 61*, 688-697.
- Agostinelli, G., & Seal, D. W. (1998). Social comparisons of one's own with others' attitudes toward casual and responsible sex. *Journal of Applied Social Psychology, 28*, 845-860.
- Allen, K. R., Husser, E. K., Stone, D. J. & Jordal, C. E. (2008). Agency and error in young adults' stories of sexual decision making. *Family Relations, 57*, 517-529.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469-480.
- Baumeister, R. F., Catanese, K. R., & Vohs, K. D. (2001). Is there a gender difference in strength of sex drive? Theoretical views, conceptual distinctions, and a review of relevant evidence. *Personality and Social Psychology Review, 5*, 242-273.
- Baumeister, R. F., & Twenge, J. M. (2002). Cultural suppression of female sexuality. *Review of General Psychology, 6*, 166-203.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155-162.
- Buss, D. M. (1989). Sex differences in human mate preference: Evolutionary hypothesis tested in 37 cultures. *Behavioral & Brain Sciences, 12*, 1-14.
- Cate, R. M., Long, E., Angera, J. J., & Draper, K. K. (1993). Sexual intercourse and relationship development. *Family Relations, 42*, 158-164.
- Cohen, L. L., & Shotland, R. L. (1996). Timing of first sexual intercourse in a relationship: Expectations, experiences, and perceptions of others. *The Journal of Sex Research, 33*, 291-299.

- Cooper, M. L., Shapiro, C. M., & Powers, A. M. (1998). Motivations for sex and risky sexual behavior among adolescents and young adults: A functional perspective. *Journal of Personality and Social Psychology, 75*, 1528-1558.
- Crawford, M., & Popp, D. (2003). Sexual double standard: A review and methodological critique of two decades of research. *The Journal of Sex Research, 40*, 13-26.
- DeLamater, J., & Hyde, J. S. (2004). Conceptual and theoretical issues in studying sexuality in close relationships. In J. H. Harvey, A. Wenzel & S. Sprecher (Eds.). *The handbook of sexuality in close relationships*. (pp. 7-30). Mahwah NJ: Lawrence Erlbaum Associates.
- Edmondson, C. B., & Conger, J. C. (1995). The impact of mode of presentation on gender differences in social perception. *Sex Roles, 32*, 169-183.
- East, L., Jackson, D., O'Brien, L., & Peters, K. (2007). Use of the male condom by heterosexual adolescents and young people: literature review. *Journal of Advanced Nursing, 59*, 103-110.
- Elliot, A. (2006). The hierarchical model of approach-avoidance motivation. *Motivation and Emotion, 30*, 111-116.
- Epstein, J., Klinkenberg, W. D., Scandell, D. J., Faulkner, K., & Claus, R. E. (2007). Perceived physical attractiveness, sexual history, and sexual intentions: An internet study. *Sex Roles, 56*, 23-31.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140.
- Finkelstein, M. A., & Brannick, M. T. (2000). Making decisions about condoms: Whose attitude is it anyway? *Social Behavior and Personality, 28*, 539-554.
- Gagnon, J. H. (1990). The explicit and implicit use of the scripting perspective in sex research. *Annual Review of Sex Research, 1*, 1-43.

- Gilmore, S., DeLamater, J. & Wagstaff, D. (1996). Sexual decision making by inner city Black adolescent males: A focus group study. *Journal of Sex Research*, 33, 363-371.
- Hill, C. A. (2002). Gender, relationship stage, and sexual behavior: The importance of partner emotional investment within specific situations. *The Journal of Sex Research*, 39, 228-240.
- Impett, E. A., Peplau, L. A., & Gable, S. L. (2005). Approach and avoidance sexual motives: Implications for personal and interpersonal well-being. *Personal Relationships*, 12, 465-482.
- Jones, E. E., & Nisbett, R. E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E., Jones, D. Kanouse, J. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79-94). Morristown, NJ: General Learning Press.
- Knox, D., Cooper, C., & Zusman, M. (2001). Sexual values of college students. *College Student Journal*, 35, 24-27.
- Lambert, T. A., Kahn, A. S., & Apple, K. J. (2003). Pluralistic ignorance and hooking up. *Journal of Sex Research*, 40, 129-136.
- Lefkowitz, E. S., & Gillen, M. M. (2005). "Sex is just a normal part of life": Sexuality in emerging adulthood. In J. J. Arnett and J. L. Tanner (Eds.). *Coming of age in the 21st century: The lives and contexts of emerging adults*. (pp. 235-255). Washington, D. C.: American Psychological Association.
- Leigh, B. C. (1989). Reasons for and avoiding sex: Gender, sexual orientation, and relationship to sexual behavior. *Journal of Sex Research*, 26, 199-209.

- Lewis, M. A., Lee, C. M., Patrick, M. E. & Fossos, N. (2007). Gender-specific normative misperceptions of risky sexual behavior and alcohol-related risky sexual behaviors. *Sex Roles, 57*, 81-90.
- Li, N. P., & Kenrick, D. T. (2006). Sex similarities and differences in preferences for short-term mates: What, whether, and why. *Journal of Personality and Social Psychology, 90*, 468-489.
- Lundy, D. E., Tan, J. & Cunningham, M. R. (1998). Heterosexual romantic preferences: The importance of humor and physical attractiveness for different types of relationships. *Personal Relationships, 5*, 311-325.
- Major, B., & Forcey, B. (1985). Social comparisons and pay evaluations. Preferences for same-sex and same-job wage comparisons. *Journal of Experimental Social Psychology, 21*, 393-405.
- Martens, M. P., Page, J. C., Mowry, E. S. Damann, K. M., Taylor, K. K. & Cimini, M. D. (2006). Differences between actual and perceived student norms: An examination of alcohol use, drug use, and sexual behavior. *Journal of American College Health, 54*, 295-300.
- Meston, C. M., & Buss, D. M. (2007). Why humans have sex. *Archives of Sexual Behavior, 36*, 477-507.
- Meeus, W. H. J., Branje, S. J. T., van der Valk, I., & de Wied, M. (2007). Relationships with intimate partner, best friend, and parents in adolescence and early adulthood: A study of saliency of the intimate partnership. *International Journal of Behavioral Development, 31*, 569-580.

- Michels, T. M., Kropp, R. Y., Eyre, S. L., & Halpern-Felsher, B. L. (2005). Initiating sexual experiences: How do young adolescents make decisions regarding early sexual activity? *Journal of Research on Adolescence, 15*, 583-607.
- Miller, C. T. (1984). Self-schemas, gender, and social comparison: A clarification of the related attributes hypothesis. *Journal of Personality and Social Psychology, 46*, 1222-1228.
- Mongeau, P. A., Morr Serewicz, M. C., & Therrien, L. F. (2004). Goals for cross-sex first dates: Identification, measurement, and the influence of contextual factors. *Communication Monographs, 71*, 121-147.
- Morr, M. C., & Mongeau, P. A. (2004). First-date expectations: The impact of sex of initiator, alcohol consumption and relationship type. *Communication Research, 31*, 3-35.
- Ozer, E. J., Dolcini, M. M., & Harper, G. W. (2003). Adolescents' reason for having sex: Gender differences. *Journal of Adolescent Health, 33*, 317-319.
- Patrick, M. E., Maggs, J. L., & Abar, C. C. (2007). Reasons to have sex, personal goals, and sexual behavior during the transition to college. *Journal of Sex Research, 44*, 240-249.
- Pinkus, A. (2000, November 6) Student group combats rape with ribbons, discussion. The Collegian online.
- Regan, P. C., Levin, L., Sprecher, S., Christopher, F. S., & Cate, R. (2000). Partner preferences: What characteristics do men and women desire in their short-term sexual and long-term romantic partners? *Journal of Psychology & Human Sexuality, 12*, 1-21.
- Reiss, I. L. (1964). The scaling of premarital sexual permissiveness. *Journal of Marriage and the Family, 26*, 188-198.

Robinson, M. L., Holmbeck, G. N., & Paikoff, R. (2007). Self-esteem enhancing reasons for having sex and the sexual behaviors of African American adolescents. *Journal of Youth and Adolescence*, 36, 453-464.

Sprecher, S., & McKinney, K. (1993). *Sexuality*. Newbury Park, CA: Sage.

Stapel, D. A., & Blanton, H. (2007). Social identity and reference group comparisons. In D. A. Stapel & H. Blanton (Eds.) *Social comparison theories: Key readings*. New York, NY: Psychology Press.

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- Espinosa-Hernández, G.**, Mirzoeff, C. A., Waters, C. L., Vasilenko, S., & Bámaca-Colbert, M. Y. (2009, March). Sexual values, sexual attitudes, and sexual experiences among Mexican-origin girls: Examining cultural variables as moderators. Poster to be presented at biennial meeting of the Society for Research on Adolescence (SRA), Philadelphia, PA.
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