

Original Article

Age Variation in Mating Strategies and Mate Preferences: Beliefs versus Reality

April Bleske-Rechek, Psychology Department, University of Wisconsin-Eau Claire, Eau Claire, WI, USA.
Email: bleskeal@uwec.edu (Corresponding author).

Bailey VandenHeuvel, Psychology Department, University of Wisconsin—Eau Claire, Eau Claire, WI, USA.

Maria Vander Wyst, Psychology Department, University of Wisconsin—Eau Claire, Eau Claire, WI, USA.

Abstract: We conducted three studies to (1) investigate individuals' beliefs about change in mating desires over the course of emerging adulthood and (2) determine whether those beliefs reflect actual variation in mating desires among emerging adults of varied ages (late teens through twenties). In Study 1, 103 men and women gave their thoughts on how college students change, if at all, in what they most desire in a relationship and relationship partner as they move from being incoming freshmen to graduating seniors. In Studies 2 and 3, using a college sample and then an internet sample ($ns = 288$ and 307), men and women between the ages of 18 and 26 completed mating strategies inventories and allotted a limited number of “mate dollars” to 10 mate characteristics. Findings suggest that although emerging adults believe that their peers' mating desires change systematically over time, emerging adults' self-reported mating desires vary little with age.

Keywords: mate preferences, age variation, mating strategies.

Introduction

Influential studies on human mating in the 1980s (Buss, 1985, 1989; Buss and Barnes, 1986) spurred a wave of research on human mate preferences and mating desires. A quick search on PsycInfo, using “mate preference*” and “mate choice*” in humans, generates over 250 hits, with the large majority of papers published within just the past two decades. Several key findings can be extracted from this research. First, men and women place similar value on kindness, love, intelligence, and emotional stability in a long-term mate (Buss, 1989). Second, despite their similarities, men and women differ in the extent to which they value certain characteristics in a long-term mate: On average, men value physical attractiveness more than women do, and women value the potential for financial

success more than men do (Buss, 1989; Buss, Shackelford, Kirkpatrick, and Larsen, 2001; Kenrick, Sadalla, Groth, and Trost, 1990; Shackelford, Schmitt, and Buss, 2005). Third, men display a higher mean level of sexual unrestrictedness than do women: Men consistently report more favorable attitudes toward casual sex and devote more effort toward short-term sexual relationships than women do (Simpson and Gangestad, 1991; Schmitt, 2005).

Sex differences in attitudes toward casual sex and desire for sexual variety have been documented with a variety of research methods (Buss and Schmitt, 1993; Clark and Hatfield, 1989; Ellis and Symons, 1990; Haselton and Buss, 2000; Schmitt, Shackelford, and Buss, 2001) and in over 50 nations from around the world (Schmitt, 2005; Schmitt et al., 2003). Similarities and differences between men's and women's mate preferences also have been corroborated with both non-experimental and experimental research designs (Baize and Schroeder, 1995; Kenrick, Neuberg, Zierk, and Krones, 1994; Li, Bailey, Kenrick, and Linsenmeier, 2002; Pawlowski and Koziel, 2002; Sprecher, Sullivan, and Hatfield, 1994), and have been documented across cultures (Baize and Schroeder, 1995; Buss, 1989; Hatfield and Sprecher, 1995; Pawlowski and Koziel, 2002; Toro-Morn and Sprecher, 2003).

Change over time in mating desires

Although past research has documented these prominent similarities and differences in men's and women's mating desires and mate preferences, one area of mating research that relationship scientists currently know very little about is change over time in individuals' mating strategies and preferences. A two-month test-retest reliability of .94 for short-term mating orientation (Simpson and Gangestad, 1989), as assessed by the Sociosexual Orientation Inventory (SOI; Simpson and Gangestad, 1991), suggests intra-individual stability in attitudes toward casual sex, at least over relatively short periods of time. However, no research has investigated stability and change in people's mating strategies over a longer period of time.

To date, only one study has investigated stability and change over time in mate preferences. Shackelford, Schmitt, and Buss (2005) assessed individuals' mate preferences in the first year of marriage and again in the fourth year of marriage. Shackelford et al (2005) found little change beyond an increased emphasis on a mate's level of agreeableness and emotional stability. There are at least two possible explanations for this lack of change. First, individuals' mate preferences and desires are likely tied to their other enduring individual differences—such as personality traits, physical appearance, and self-perceived desirability—and thus might show the same degree of stability as do those characteristics (McCrae and Costa, 1994). Second, the initial sample in Shackelford et al.'s (2005) study of mate preferences consisted of married individuals and the follow-up sample consisted of a subset of those who were still married. Perhaps change in mate preferences occurs *prior* to marriage, during emerging adulthood (primarily the years of 18 to 25) when individuals are most likely to be exploring different sexual and romantic partners and identities (Arnett, 2000). Although 94% of emerging adults hope to get married someday (Krane and Cottreau, 1998), the median age of marriage in the United States in 2006 was 27.5 for men and 25.9 for women (U.S. Census Bureau, 2006); other industrialized countries report similar median ages. If emerging adulthood is a time of role exploration in life and love, one might expect that individuals in their later 20s—who have experienced assorted

relationships and partners and who are more likely to be preparing for marriage—might have desires that differ from those of individuals who are a decade younger (e.g., 18-19).

The current research

In summary, little is known about change over time in men's and women's mating desires and mate preferences. The current studies were designed to begin to fill that gap. In Study 1, emerging adults currently in college reported their beliefs on how people's relationship desires and partner preferences change over the course of college (typically 18 to 23 years of age). To determine whether those beliefs mirror reality, in Studies 2 and 3 distinct samples of emerging adults of varying ages reported their own relationship desires and romantic partner preferences.

STUDY 1

Method

Participants

A total of 40 men and 63 women ranging from 18 to 25 years of age participated (Male $M = 20.70$, Female $M = 19.90$). All participants were traditional college students from a public university in the United States. Twenty of the men and 29 of the women were advanced psychology majors who volunteered to complete a brief survey online. Twenty of the men and 34 of the women were freshmen and sophomores who participated as part of a brief activity in an introductory English composition class.

Instruments and Procedure

Participants responded to two questions: (1) "How, if at all, do you think young men's and young women's romantic relationship desires (that is, what they want out of a romantic relationship) change as they develop from incoming college freshmen to graduating seniors?" and (2) "How, if at all, do you think young men's and young women's partner preferences (that is, what they want in a romantic partner) change as they develop from incoming college freshmen to graduating seniors?" Participants provided open-ended responses either through SurveyMonkey or on paper. They then reported their age and sex.

Results and Discussion

Coding

Participants' responses to the two questions were largely redundant. Thus, each person's responses were combined to make one longer response that was then coded independently by the first author and one research assistant. Four prominent themes emerged in the responses; these and exemplary statements from the participants are displayed in Table 1. First, responses were coded for whether or not they mentioned an *increased long-term mating strategy* with age, such as a move toward looking for a life partner or marriage partner. Second, responses were coded for whether or not they mentioned a *decreased short-term mating strategy*, such as a move toward serious relationships rather than one-night stands. Third, responses were coded for whether or not they mentioned an *increased emphasis on personality*, such as a move toward looking at

internal characteristics and intellectual or spiritual stimulation. Finally, responses were coded for whether or not they mentioned a *decreased emphasis on physical attractiveness*, such as a move toward caring about internal rather than external beauty. Interrater agreement for coding decisions was 96%, with disagreements resolved by discussion. All inferential tests reported below were two-tailed, with alpha set at .05.

Table 1. Beliefs about change in college students' relationship desires and romantic partner preferences

| Belief | Sample Responses |
|-----------------------------------|--|
| Increased Long-Term Mindset | <p>I think that as freshmen most people want just a relationship, and by the time they are seniors they are starting to look for someone who could be their "life partner." (Female, age 19)</p> <p>Well as a freshman I would say most relationships are all about physical attractions, but then as freshmen turn into seniors they are looking more for a companion that they one day may marry. (Male, age 18)</p> |
| Decreased Short-Term Mindset | <p>I think as a freshman, most desires are for the here and now. I've noticed that most seniors are looking for more than sexual gratification like a younger student. I think they want more emotions and intimacy than one night stands. (Female, age 22)</p> <p>I believe partners are more focused into long-term relationships as seniors rather than instant gratification of freshmen. (Male, age 19)</p> |
| Increased Emphasis on Personality | <p>Freshmen are more interested in looks. Seniors will look at physical attractiveness but they also take into account personality, responsibility, work ethic, and other traits. (Female, age 21)</p> <p>I think graduating seniors look for intellectual qualities rather than appearance qualities. (Male, age 22)</p> |
| Decreased Emphasis on Appearance | <p>They become more selective and find more refined characteristics (intelligence, similar interests, humor, etc.) preferable over more crude or lustful characteristics (sex appeal). (Female, age 22)</p> <p>As a freshman, we are looking for the "hottest" person to "hook up" with and as seniors, I think that goes out the window and internal beauty becomes so much more attractive. (Male, age 19)</p> |

Beliefs about change

The majority of respondents (85, or 83%) mentioned a move toward more long-lasting, committed relationship desires. Of those, 29 (34%) also explicitly mentioned a move away from flings and sex-only relationships. No participant mentioned the latter without also mentioning the former. Chi square analyses showed no significant sex difference in likelihood of mentioning an increase in long-term relationship desires (83% of men, 83% of women), $\chi^2(1) = .00, p = .996$, whereas men were marginally more likely than women to mention a decrease in pursuit of short-term sexual relationships (38% of men, 22% of women), $\chi^2(1) = 2.82, p = .09$.

Over half (55, or 53%) of respondents mentioned an increased emphasis on personality traits. Of those, 32 (58%) also explicitly mentioned less emphasis on physical attractiveness with increasing age. No participant mentioned the latter without also mentioning the former. Chi square analyses showed no significant sex difference in likelihood of mentioning an increased emphasis on personality (60% of men, 49% of women), $\chi^2(1) = 1.15, p = .29$, or a decreased emphasis on physical attractiveness (38% of men, 27% of women), $\chi^2(1) = 1.26, p = .26$.

To determine whether participants of differing ages were more or less likely to mention a given theme, we split the sample into 18 to 20 year olds ($n = 55$) and 21 to 25 year olds ($n = 48$). Participants in the two age groups did not differ in their likelihood of mentioning any of the four themes, all ps between .21 and .59.

Of the 103 respondents, only four felt people's preferences do not change. For example, one participant stated, "People's preferences don't change much. People are drawn to the same type of people regardless of how old they are." Other comments noted a maturation of mating desires along with student maturation (but did not specify what that maturation involved) or a move from wanting a wild and fun relationship partner to wanting a good friend. Not a single respondent suggested that college students become more short-term oriented or more concerned about good looks, or less long-term oriented or less concerned about personality, as they go through college.

In summary, the findings from this study indicate a belief among college students that people become more oriented toward commitment and marriage and less driven by sexual desires, and more concerned about their partners' internal attributes and less focused on outward appearances, as they go through college. In Study 2, we investigated whether emerging adults of varying ages differ along those lines.

STUDY 2

Method

Participants

A total of 288 individuals (118 men, mean age = 20.75; and 170 women, mean age = 20.84) participated in Study 2.¹ All participants were of heterosexual or bisexual orientation and between the ages of 18 and 25. These participants were recruited in two ways during the first half of the fall semester. Many (186) participants were students in introductory and advanced psychology courses at a public university who participated in exchange for credit toward a course research participation requirement; they completed an

online survey. Second, as part of a class project, students in the first author's research methods course recruited a total of 102 friends from the university and from their hometowns to participate; these participants completed either the paper questionnaire or an online survey as per request. The aim was to acquire students at all stages, from those just graduated from high school to those just graduated from college. Upon questioning, no student in Study 2 expressed awareness of Study 1, so it is unlikely that any participants in Study 2 had also participated in Study 1.

Instruments and Procedure

Participants completed a paper questionnaire or an online survey administered through SurveyMonkey. Similar to the method used in previous studies (e.g., Li et al., 2002), participants were told that they had 50 "mate dollars" to be used toward designing their ideal romantic partner. Note that participants were *not* instructed to think of either a long-term partner or short-term partner; we intentionally left the context ambiguous so that participants' current desires would be projected into their allotments. They were instructed to allot between 0 and 10 dollars per characteristic, with more dollars indicating somebody at a higher percentile of the population. Participants were told, for example, that if they allotted 1 dollar toward ambition, then their mate would be at the 10th percentile of ambition, or more ambitious than 10% of the population and less ambitious than 90% of the population; if they allotted 10 dollars toward ambition, then their mate would be more ambitious than everyone else in the population. Participants then allotted their mate dollars to 10 mate characteristics commonly used in previous research (e.g., Buss, 1989; Li et al., 2002; Li and Kenrick, 2006), with a request that their mate dollars add up to 50. The characteristics were listed in alphabetical order: ambition, desire for children, emotional stability, faithfulness, intelligence, physical attractiveness, potential for financial success, sense of humor, similar values, and social popularity.

After allotting their mate dollars, participants reported their sex, sexual orientation, age, and education level (high school graduate, one year of college, two years of college, three years of college, four or more years of college, college graduate). Finally, to assess short-term mating strategy, they answered three items taken from Simpson and Gangestad's (1991) Sociosexual Orientation Inventory (SOI): (1) How many different partners have you had sexual intercourse with during the past year?, (2) How many different partners do you foresee yourself having sex with during the next five years (Please give a specific, realistic estimate)?, and (3) How many people have you had sex with on ONE and ONLY ONE occasion?

Results

Age and education

Participants were distributed across age and education level. Participant age and education level were highly correlated, $r(288) = .80, p < .001$. Because previous research on emerging adulthood focuses on age rather than on educational level, and because age and education level were nearly redundant in this sample, we describe below the findings from analyses using age as the predictor.

Below we provide the results of bivariate correlational analyses between age and number of sex partners, and between age and mate dollar allotments. To facilitate the

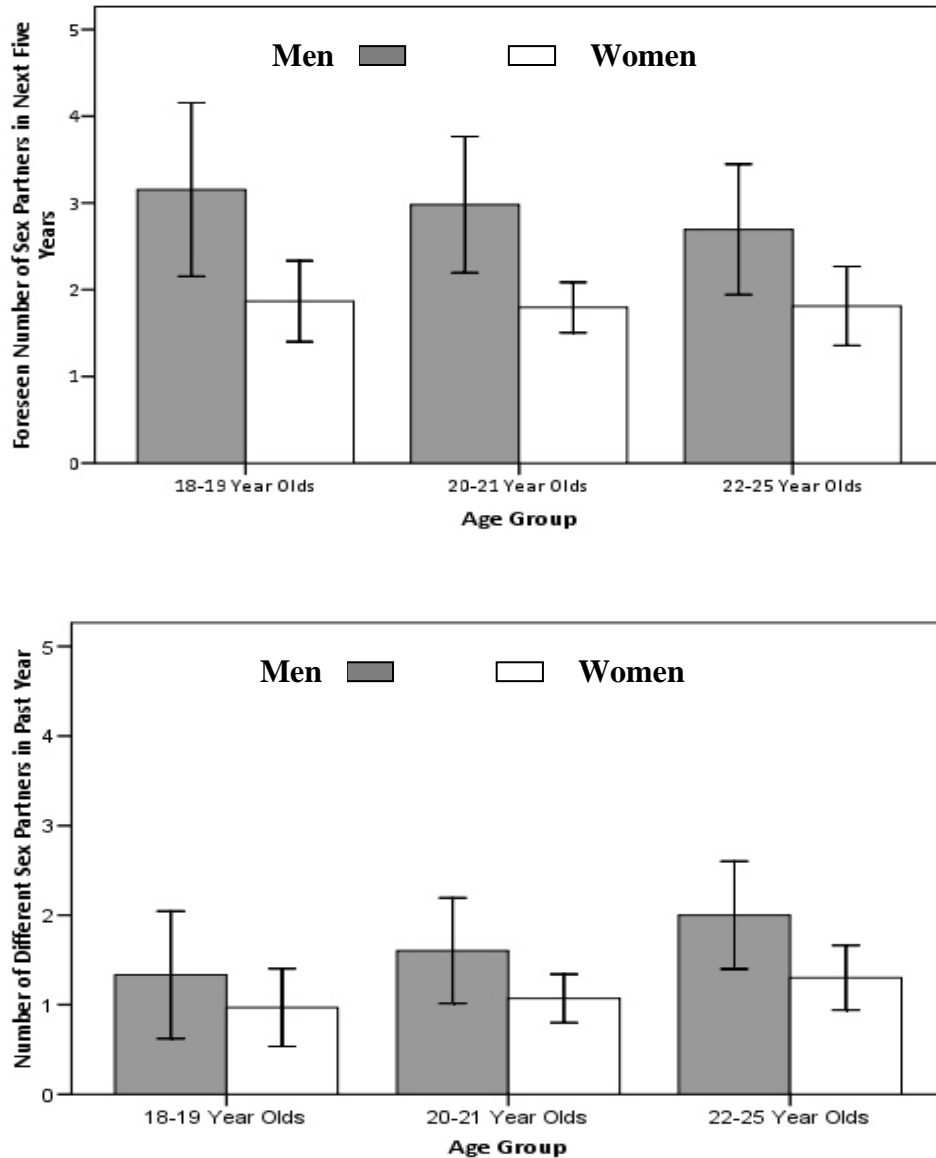
display of age and sex effects simultaneously in graphical form, we split age into three groups: 18 and 19 year olds (the age of most freshmen and some sophomores; male $n = 27$, female $n = 32$), 20 and 21 year olds (the age of most sophomores and juniors; male $n = 53$, female $n = 85$), and 22-25 year olds (the age of most seniors, super-seniors, and college graduates; male $n = 38$, female $n = 53$).

Age variation in short-term mating strategy and mate preferences

The results of our first study suggested that young men and women believe that college students' relationship desires and partner preferences change as they move through emerging adulthood, such that with age they look more for committed relationships and less for short-term sexual relationships, and that they become increasingly concerned with partners' internal attributes and less concerned with external attributes. If these beliefs represent reality, then older students should foresee fewer sex partners in their future and should have had fewer sex partners in the previous year. Additionally, older students should allot more mating dollars toward personality characteristics (such as ambition, emotional stability, intelligence, sense of humor, and potential for financial success) and characteristics pertinent to a long-term relationship (such as faithfulness, similar values, and desire for children). Finally, older students should allot fewer mating dollars toward physical attractiveness.

Participants' estimates of their future number of sex partners, reports of their recent number of sex partners, and mate dollar allotments did not confirm these predictions. Both across sex and within each sex, age was not associated with either foreseen number of different sex partners in the next five years, all $r_s \leq -.06$, all $p_s \geq .26$, or number of different sex partners in the previous year, all $r_s \leq .09$, all $p_s \geq .15$. Figure 1, with age split into the three categories, displays this lack of an association between age and recent and foreseen number of sexual partners. Both across sex and within sex, age was positively associated with participants' reported number of one-time sex partners, all $r_s \geq .16$, $p_s < .04$. This association between lifetime number of sex partners and age is expected, given that the longer one lives the more sexual partners they are likely to accrue.

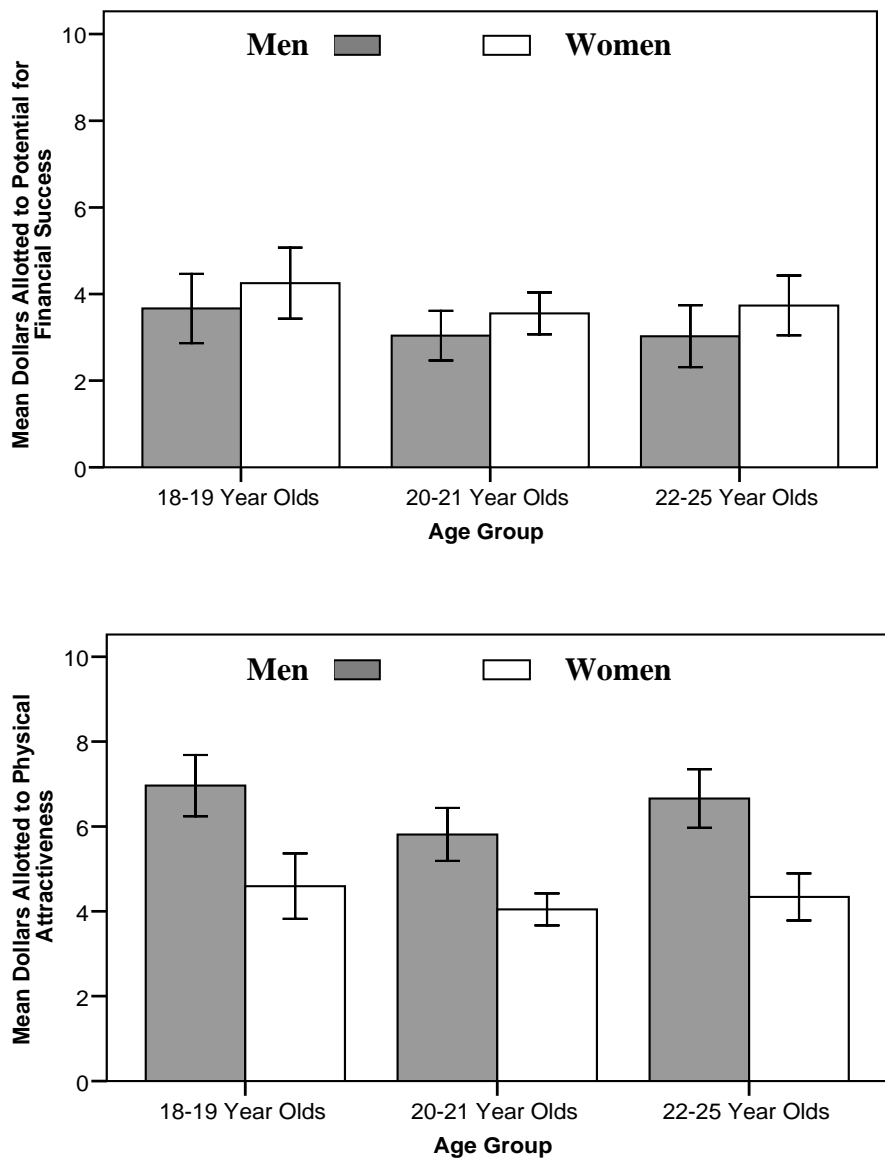
Figure 1. Study 2 participants' foreseen and recent number of sex partners as a function of sex and age group. Error bars represent 95% CIs.



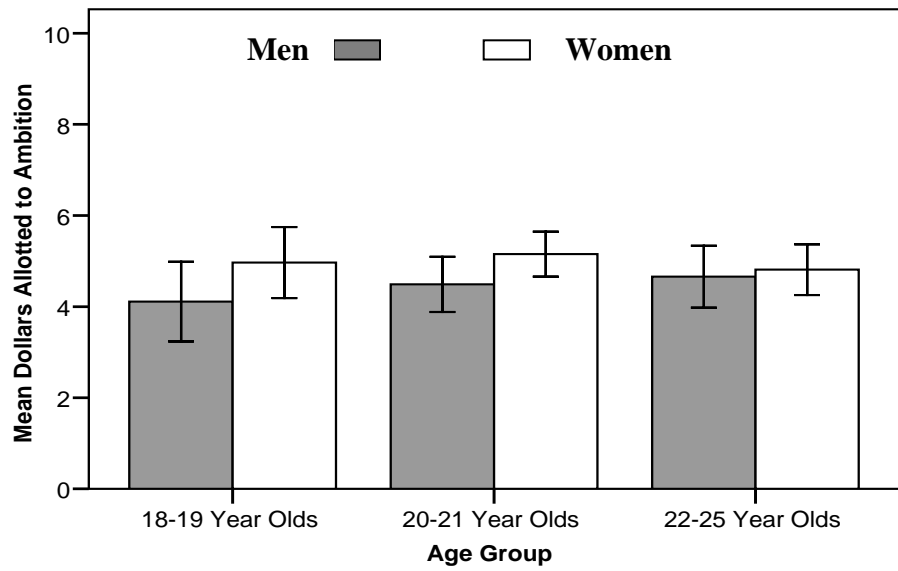
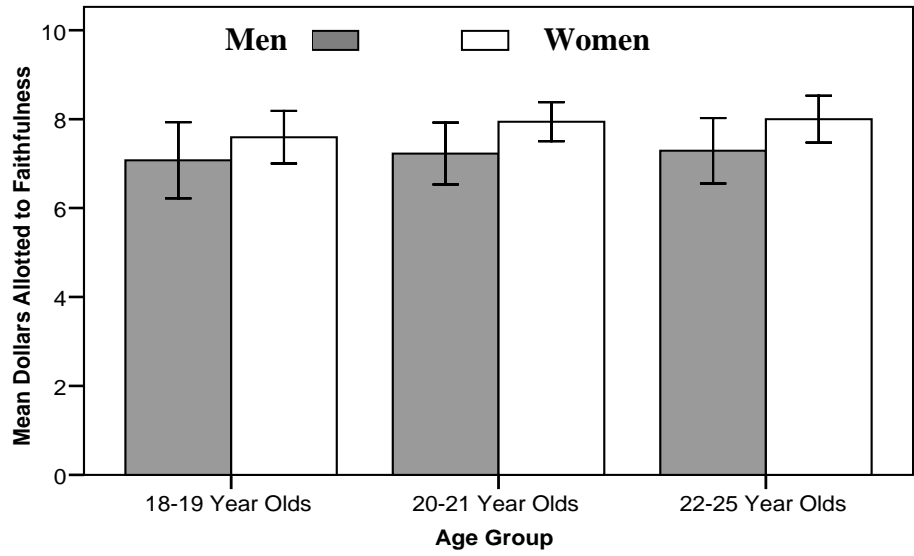
Age was not significantly associated with men's and women's mate dollar allotments. In the overall sample, only one association neared significance: Age was negatively associated with dollars allotted to social popularity, $r(288) = -.11$, $p = .07$ (all other r s $\leq .08$, p s $\geq .17$). This trend was driven by men, for whom the association was significant, $r(118) = -.20$, $p = .03$. No other dollar allotment was significantly associated with age for either sex. Figure 2, with age split into the three categories, displays the

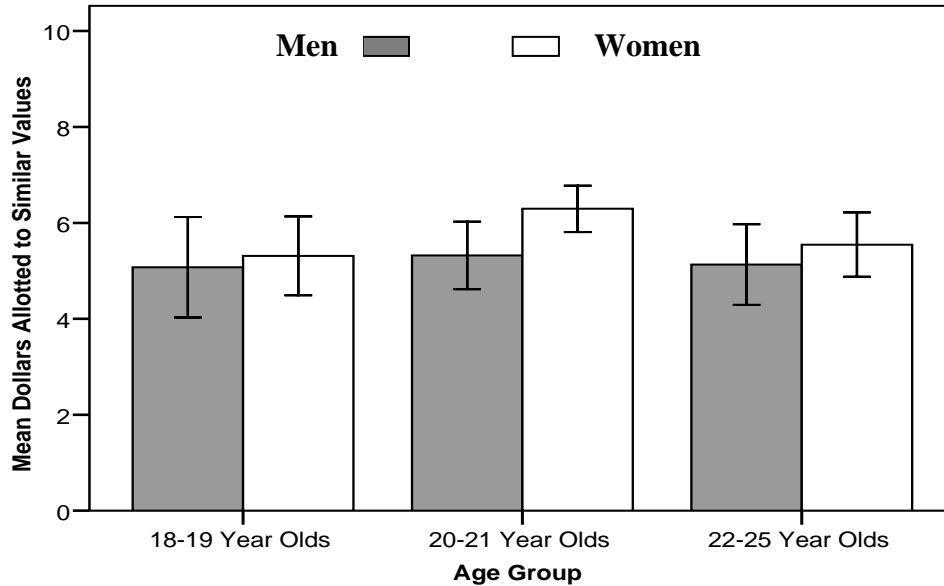
general lack of an association between age and investment in various characteristics. Univariate analyses of variance to compare the age groups within each sex reinforced the link between age and investment in social popularity: 18-19 year old men invested more dollars in social popularity than did 22-25 year old men, $p = .02$. No other pair-wise comparisons were significant.

Figure 2. Study 2 participants' mate dollar allotments as a function of sex and age group. Error bars represent 95% CIs.



Beliefs versus reality





Sex differences in short-term mating strategy and mate preferences

Sex differences in short-term mating strategy are displayed in Figure 1. As expected from findings of previous studies, men ($M = 1.67$, $SD = 1.97$) reported a greater number of sex partners in the past year than did women ($M = 1.12$, $SD = 1.26$), $t(182.97) = 2.67$, $p = .008$, $d = .39$. They also saw themselves with a greater number of partners over the next five years ($M = 2.93$, $SD = 2.52$) than did women ($M = 1.81$, $SD = 1.42$), $t(158.79) = 4.25$, $p < .001$, $d = .67$; this sex difference replicated in each age group, all $ps \leq .05$, and was moderate in magnitude within each age group, all $ds \geq .52$. Finally, men reported a greater number of one-time sex partners ($M = 1.18$, $SD = 1.74$) than did women ($M = .77$, $SD = 1.49$), $t(225.40) = 2.13$, $p = .04$, $d = .28$.

Table 2 displays mean mate dollar allotments, across sex and age, in descending order of allotment. Table 2 also displays dollar allotments, by sex. Women allotted more of their dollars than men did to *faithfulness*, *ambition*, *potential for financial success*, and *similar values*. These effects were small in magnitude; they appeared across age but did not replicate within each age group. Men allotted more of their dollars than women did to *physical attractiveness*. Men's greater investment in physical attractiveness replicated in each age group (18-19 year olds, 20-21 year olds, and 22-25 year olds), all $ps < .001$, and the sex difference was large in magnitude within each age group, all $ds \geq .88$. (See also Figure 2.)

Table 2. Study 2 Mean Mate Dollar Allotments

| | Sexes Combined | Men | Women | <i>t</i> | <i>df</i> | <i>p</i> | <i>d</i> |
|--|----------------|-------------|-------------|----------|-----------|----------|----------|
| Faithfulness ^a | 7.61 (2.13) | 7.21 (2.34) | 7.89 (1.93) | -2.61 | 219 | .01 | -.35 |
| Intelligence | 6.18 (1.87) | 6.34 (1.90) | 6.06 (1.85) | 1.23 | 286 | .22 | .15 |
| Sense of Humor | 6.09 (1.99) | 6.12 (1.86) | 6.07 (2.08) | .20 | 286 | .84 | .02 |
| Similar Values ^a | 5.60 (2.45) | 5.20 (2.56) | 5.88 (2.34) | -2.31 | 286 | .02 | -.27 |
| Emotional Stability | 5.27 (2.17) | 5.39 (2.06) | 5.19 (2.25) | .75 | 286 | .45 | .09 |
| Physical Attractiveness ^b | 5.10 (2.26) | 6.35 (2.16) | 4.24 (1.91) | 8.72 | 286 | .00 | 1.03 |
| Ambition ^a | 4.78 (2.18) | 4.46 (2.15) | 5.01 (2.18) | -2.14 | 286 | .03 | -.25 |
| Desire for Children | 3.77 (2.54) | 3.67 (2.50) | 3.84 (2.58) | -.54 | 286 | .59 | -.06 |
| Potential for Financial Success ^a | 3.51 (2.25) | 3.18 (2.09) | 3.74 (2.33) | -2.10 | 286 | .04 | -.25 |
| Social Popularity | 2.08 (1.84) | 2.08 (1.96) | 2.07 (1.76) | .06 | 286 | .95 | .01 |

Note. Male *n* = 118; Female *n* = 170. Values in parentheses represent standard deviations.

^aWomen allotted more dollars than did men; ^bMen allotted more dollars than did women.

Discussion

The findings in Study 2 indicate little to no age variation in emerging adults' mating desires and mate preferences. Men's and women's recent and foreseen sexual behavior did not vary with age; nor did their mate dollar allotments; consequently, sex differences in mating desires and mate preferences did not vary with age, either.

In Study 3 we attempt to address two limitations of Study 2. First, the sample in Study 2 was demographically homogeneous: it was comprised primarily of college students and college graduates from a university community in the United States that is over 96% Caucasian. In refutation, one could argue that college students are the ideal population for studying role and identity exploration in emerging adulthood (Arnett, 2000), and that patterns in people's mating desires and preferences have been clearly documented across many countries and cultural groups. Regardless, in Study 3 we posted our survey on several popular internet sites to obtain a more demographically diverse sample of individuals.

A second limitation of Study 2 is that it did not include specific items to tap *long-* Evolutionary Psychology – ISSN 1474-7049 – Volume 7(2). 2009. -190-

term mating desires. The items used to measure mating strategy were taken from the SOI, a well-validated and commonly used measure of short-term mating orientation, or willingness to engage in casual sex. However, individuals are not necessarily expected to pursue *either* short-term sex partners or long-term partners, and plenty of evidence indicates the prevalence and advantages of pursuing a dual mating strategy (Gangestad and Simpson, 2000; Li and Kenrick, 2006). It is possible that although men's and women's willingness or desire to engage in short-term sexual opportunities may not change much over the college years, their interest in long-term mateships might increase. In Study 3, then, we utilize Jackson and Kirkpatrick's (2007) new measure of mating strategies, which includes items that pertain directly to one's attitudes about engaging in committed, long-term mateships.

STUDY 3

Method

Participants

Participants were individuals between the ages of 18 and 26 who provided complete or near-complete responses to our online survey. We posted the survey at each of the following websites for internet research, some of which boast page-views from over 60 countries and regions around the world: <http://webexperiment.net/aboutus.php> (U.S.A.); <http://www.socialpsychology.org/addstudy.htm> www.onlinepsychresearch.co.uk (United Kingdom); (U.S.A.); <http://psych.hanover.edu/research/exponnet.html> (U.S.A.); <http://genpsylab-wexlist.unizh.ch/> (Sweden). We stopped data collection when our sample size reached 400. Because of our primary interest in emerging adulthood (in addition to ethical concerns), we then omitted data from nearly 50 16-year olds and 17-year olds. We also omitted data from individuals older than 26 because there were so few (one 28-year old male, one 30-year old female, etc.). Finally, we omitted data from a number of participants whose data were deemed inappropriate (e.g., people who left the mate dollar items blank or whose foreseen or past number of sex partners were extreme outliers). Our final sample of 18 to 26-year olds, then, included 307 individuals (94 men, mean age = 20.67; and 213 women, mean age = 20.57); of these, 298 provided complete mate dollar data (nine individuals were omitted from mate dollar analyses for failing to follow the cap of 10 mate dollars for any given characteristic), and 284 provided complete mate orientation data. All but 10 participants were heterosexual or bisexual (four men reported a homosexual orientation, and three men and three women responded with "unsure.").

Instruments and Procedure

Participants first completed the same mate dollar task as in Study 2; this time, however, we incorporated a required sum of 50 into the mate dollar allotment task. They then completed Jackson and Kirkpatrick's (2007) multidimensional measure of mating orientations. The measure includes items from the SOI designed to capture interest in short-term mating and previous sexual behavior (see Study 2), as well as additional items to assess interest in short-term mating such as, "Sometimes I would rather have sex with someone I did not care about," and "I could enjoy sex with someone I find highly desirable even if that person does not have long-term potential." Jackson and Kirkpatrick's measure

also includes nine items to capture interest in long-term mating. Sample items include, “I can see myself settling down romantically with one special person,” and “I am interested in maintaining a long-term romantic relationship with someone special.” Participants provided ratio scale responses to questions about their past and foreseen number of sex partners; we provided seven-point response scales (*strongly disagree* to *strongly agree*) for the short-term and long-term mating orientation items. In our sample, inter-item reliability (Cronbach’s alpha) was .93 for the short-term mating items and .89 for the long-term mating items.

The final section of the survey requested demographic information: biological sex, age, education level (ranging from high school graduate to college graduate), and sexual orientation.

Results

Age and education

As in Study 2, participant age and education level were highly correlated, $r(307) = .73, p < .001$. To provide results in a format comparable to Study 2, we describe all results by age.

Below we provide the results of bivariate correlational analyses between age and sexual behavior, age and mating strategies, and age and mate preferences. To facilitate the display of age and sex effects in graphical form, we again split age into three groups: 18 and 19 year olds (male $n = 36$, female $n = 66$), 20 and 21 year olds (male $n = 27$, female $n = 92$), and 22-26 year olds (male $n = 31$, female $n = 55$).

Age variation in sexual behavior, short-term mating strategy, and long-term mating strategy

The results from Study 1 suggested that young men and women believe that college students’ relationship desires change as they move through emerging adulthood, such that with age they look more for committed relationships and less for short-term sexual relationships. If these beliefs reflect reality, then older emerging adults should foresee fewer sex partners in their future and should have had fewer sex partners in the previous year. They should also score lower in short-term mating strategy and higher in long-term mating strategy, compared to their younger counterparts.

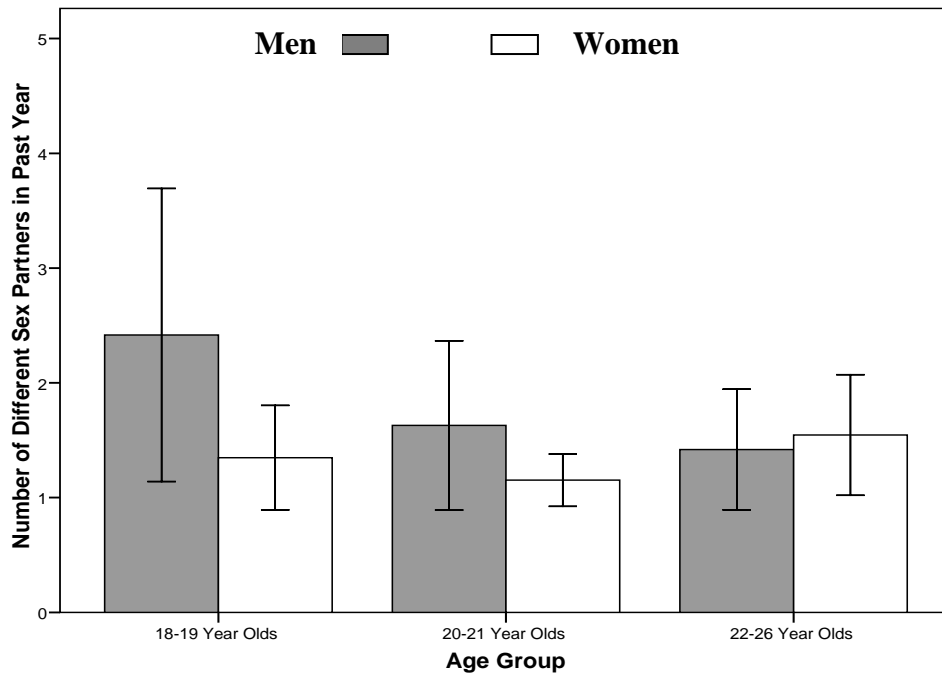
Table 3. Study 3 Associations among age, sexual behaviors, and mating strategies

| | Age | Sex Partners Past Year | Sex Partners Next 5 Years | STMS | LTMS |
|------------------------------|---------------------|---------------------------|------------------------------|---------------------|---------------------|
| Age | --- | -.15 (.15) | -.17 (.10) | .05 (.68) | .08 (.48) |
| Sex Partners Past Year | .05 (.49) | --- | .84* (.000) | .40* (.000) | -.48 (.000) |
| Sex Partners Next 5 Years | .08 (.27) | .53* (.000) | --- | .40* (.000) | -.51* (.000) |
| STMS | .09 (.21) | .48* (.000) | .51* (.000) | --- | -.49* (.000) |
| LTMS | .03 (.71) | -.18* (.01) | -.33* (.000) | -.45* (.000) | --- |

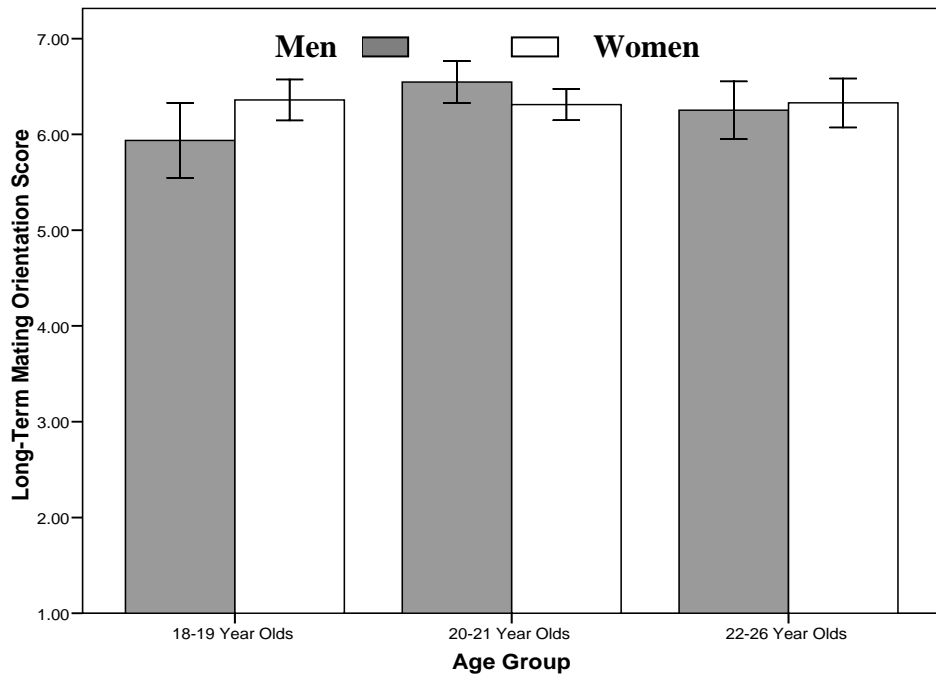
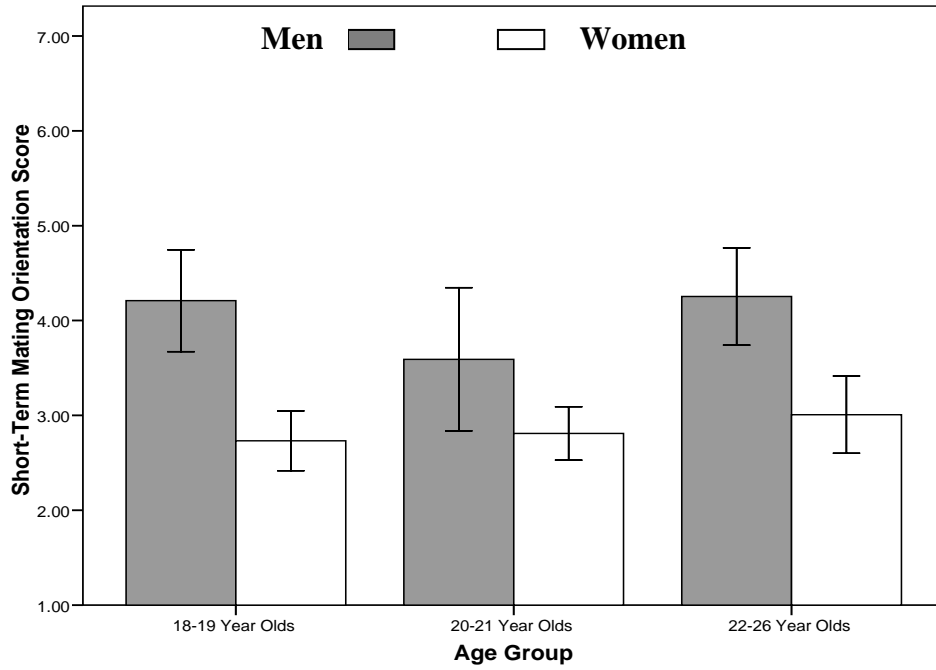
Note. Key values are in bold. STMS = Short-Term Mating Strategy, LTMS = Long-Term Mating Strategy. *p* values are in parentheses; significant associations are denoted with asterisks. Values above the main diagonal are for male participants; values below it are for female participants. Male *N*s = 85-94; female *N*s = 199-212.

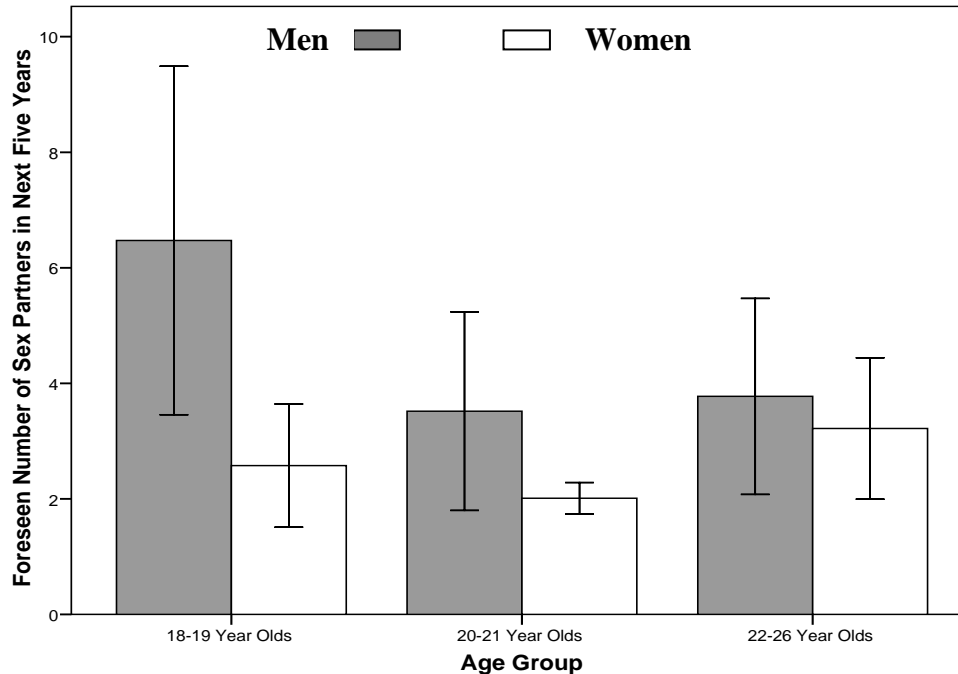
Table 3 shows that, contrary to the beliefs documented in Study 1, men and women of varying ages in emerging adulthood did not differ in their recent sexual behavior, short-term mating strategy, or long-term mating strategy. Results suggested a negative association between men's age and their foreseen number of sex partners over the next five years, although this was only a trend, $r(94) = -.17, p = .10$. Univariate analyses of variance to compare the age groups within each sex revealed essentially the same results as with correlational analyses, with univariate ANOVA *ps* > .12; the sole exception was that 18-19 year old men ($M = 5.94, SD = 1.10$) displayed a weaker long-term mating strategy than did 20-21 year old men ($M = 6.55, SD = .52, p = .03$). Figure 3, which displays sexual behavior and mate strategy scores by age group, illustrates the lack of a consistent association between age and mating desires.

Figure 3. Study 3 participants' foreseen number of sex partners, recent number of sex partners, short-term mating strategy, and long-term mating strategy, by sex and age group.



Beliefs versus reality





Age variation in mate preferences

The results of Study 1 suggested that young men and women believe that as people move through emerging adulthood, they become increasingly concerned with partners' internal attributes and less concerned with physical attractiveness. If these beliefs reflect reality, then the older emerging adults in our sample should allot more mate dollars toward personality characteristics pertinent to a long-term relationship (such as faithfulness, emotional stability, similar values, intelligence, and desire for children), and fewer mate dollars toward physical attractiveness.

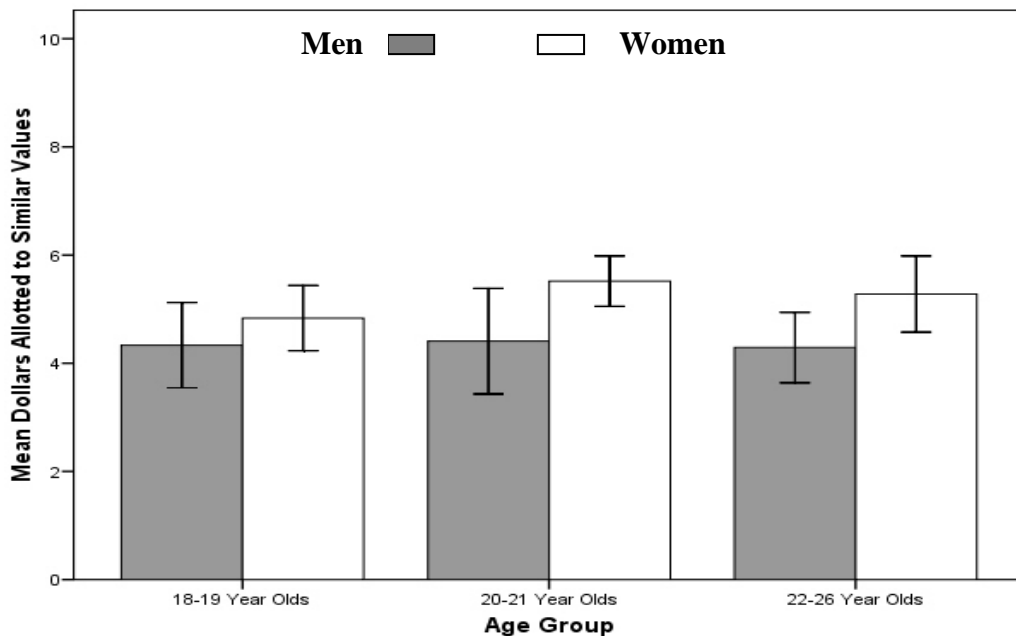
Participants' mate dollar allotments partially supported these predictions. In the overall sample, age was positively associated with dollars allotted to emotional stability, $r(307) = .13, p = .02$; positively associated with dollars allotted to intelligence, $r(306) = .17, p = .003$; and negatively associated with dollars allotted to physical attractiveness, $r(303) = -.16, p = .006$. The negative association between age and emphasis on physical attractiveness replicated among both the women, $r(208) = -.20, p = .004$, and the men (marginally), $r(90) = -.19, p = .08$. Additionally, among the women, age correlated positively with mate dollar allotments toward emotional stability, $r(208) = .14, p = .05$, and intelligence, $r(208) = .13, p = .06$. Among men, however, age correlated positively with mate dollars allotted to ambition, $r(90) = .33, p = .002$; no other internal characteristic was associated with age. Among women, age was negatively associated with dollars allotted to ambition, $r(208) = -.14, p = .04$.

Univariate analyses of variance to compare the age groups within each sex revealed a number of effects that coincide with the findings from the bivariate correlational analyses described above. First, both 18-19 year old men ($M = 3.67, SD = 2.43$) and 20-21 year old men ($M = 3.37, SD = 1.62$) allotted fewer dollars to ambition than did 22-26 year old men

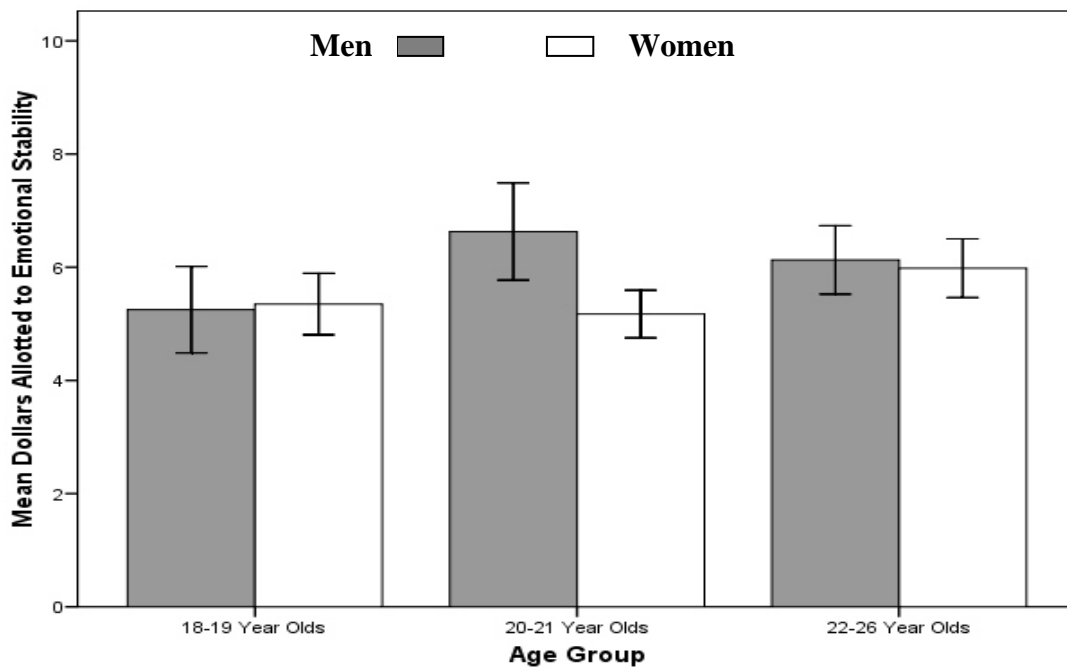
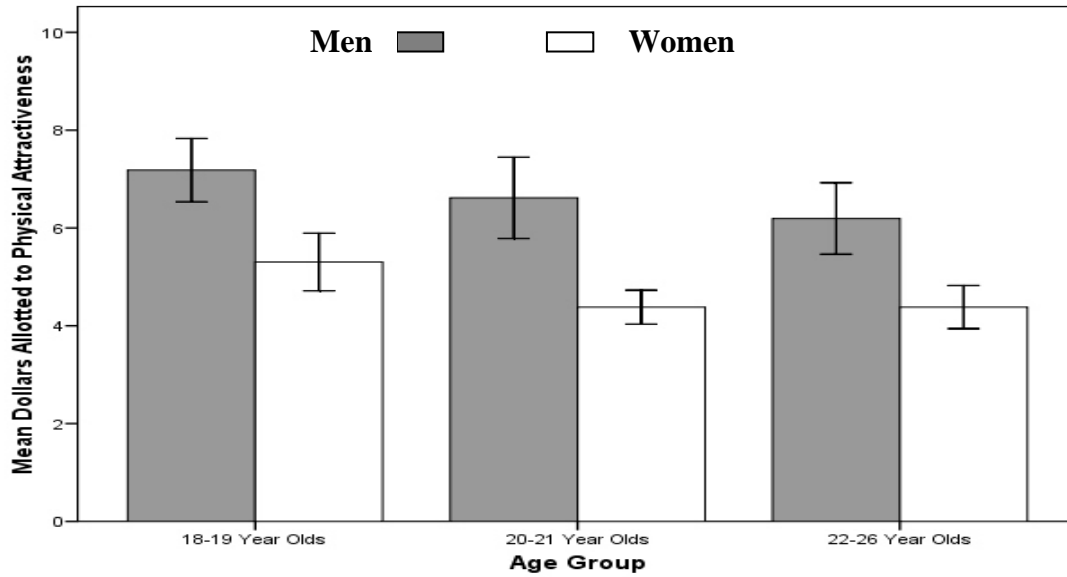
Beliefs versus reality

($M = 5.71$, $SD = 2.21$), $ps = .001$; 20-21 year old women ($M = 5.10$, $SD = 1.82$) allotted more dollars to ambition than did 22-26 year old women ($M = 4.33$, $SD = 1.61$), $p = .04$. Second, 18-19 year old men ($M = 5.25$, $SD = 2.26$) allotted fewer dollars to emotional stability than did 20-21 year old men ($M = 6.63$, $SD = 2.17$), $p = .03$; and 20-21 year old women ($M = 5.17$, $SD = 2.03$) tended to allot fewer dollars to emotional stability than did 22-26 year old women ($M = 5.98$, $SD = 1.92$), $p = .06$. Third, 18-19 year old women ($M = 5.30$, $SD = 2.40$) allotted more mate dollars toward physical attractiveness than did either 20-21 year old women ($M = 4.38$, $SD = 1.68$) or 22-26 year old women ($M = 4.38$, $SD = 1.63$), $ps < .03$ (male age groups' allotments to physical attractiveness did not differ). Figure 4, with age split into the three categories, displays these effects. No other pair-wise comparisons between age groups (within sex) were significant.

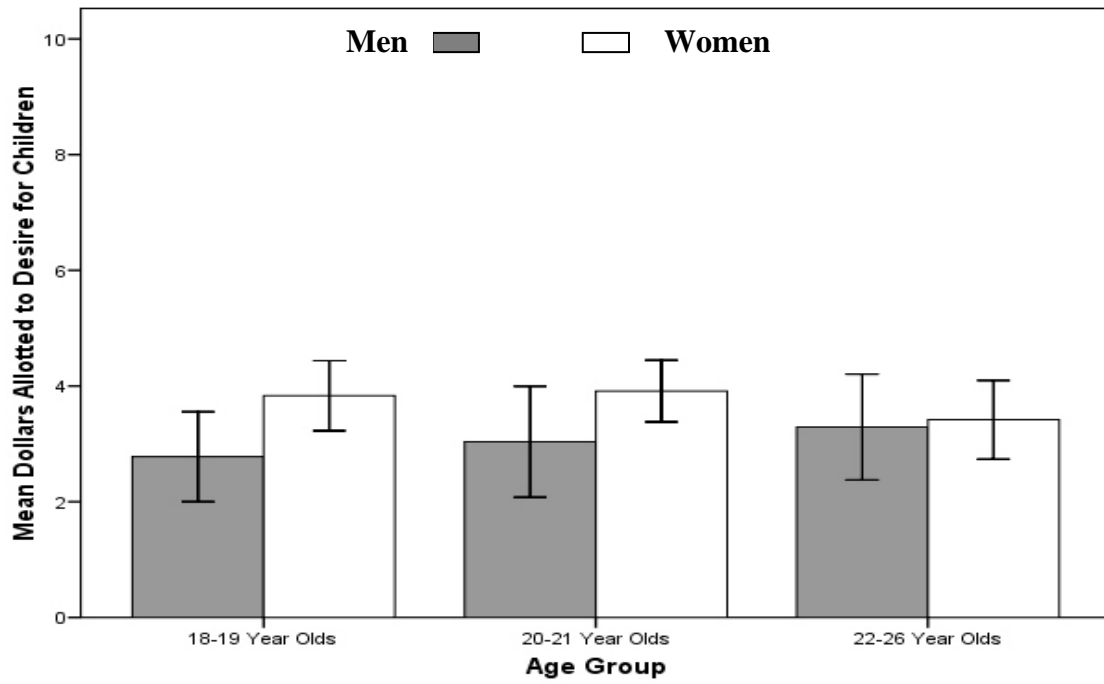
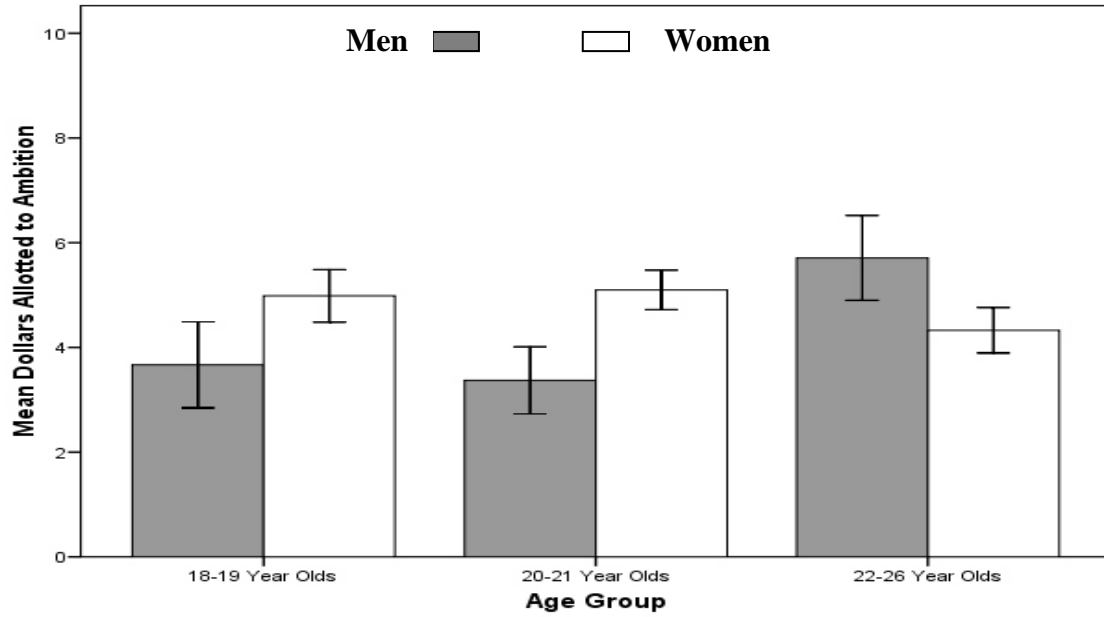
Figure 4. Study 3 participants' mate dollar allotments as a function of sex and age group.

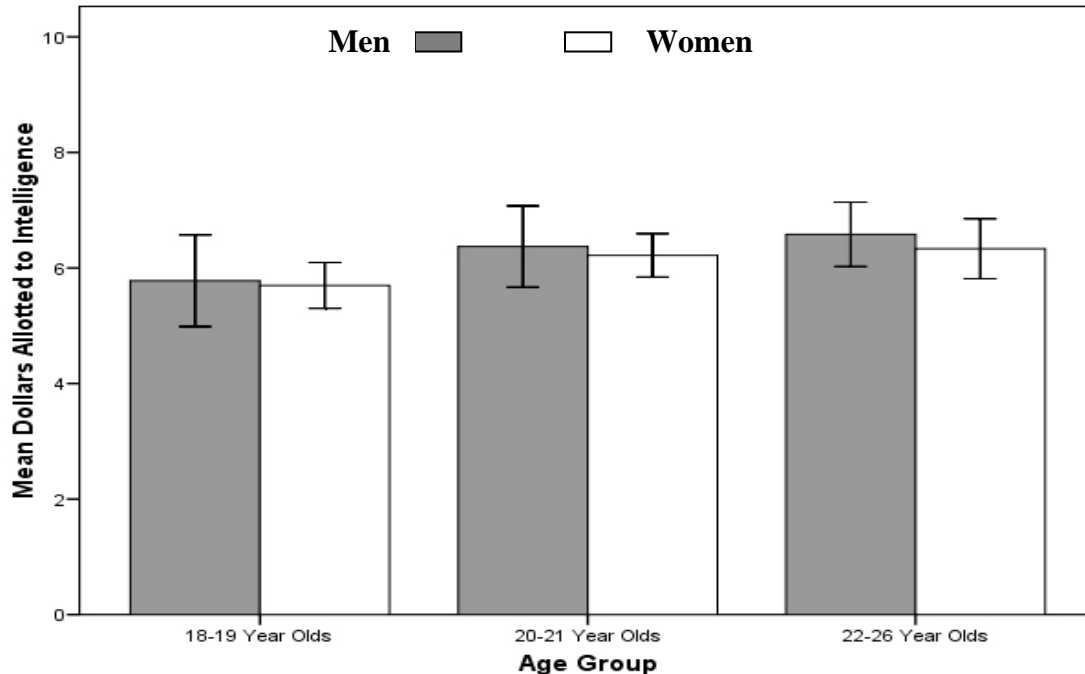


Beliefs versus reality



Beliefs versus reality





Sex differences in mating strategies and mate preferences

Figure 3 (above) illustrates sex differences in mating desires. Men ($M = 1.86$, $SD = 2.68$) reported a somewhat greater number of sex partners in the past year than did women ($M = 1.31$, $SD = 1.60$), $t(123.118) = 1.84$, $p = .07$, $d = .33$; this sex difference was marginally significant ($p = .06$) among 18-19 year olds and not significant within the other age groups. Across age group, men saw themselves with a greater number of partners over the next five years ($M = 4.73$, $SD = 6.63$) than did women ($M = 2.50$, $SD = 3.46$), $t(115.974) = 3.09$, $p = .003$, $d = .57$; again, this sex difference was revealed only within the 18-19 year olds, $p = .02$. Across age, men also scored higher in short-term mating strategy ($M = 4.05$, $SD = 1.55$) than did women ($M = 2.84$, $SD = 1.33$), $t(139.361) = 6.30$, $p < .001$, $d = 1.07$; this sex difference in short-term mating strategy occurred within each age group, all $ps \leq .05$. Across age group, men ($M = 6.21$, $SD = .89$) and women ($M = 6.33$, $SD = .82$) were similar in long-term mating strategy, $t(282) = -1.08$, $p = .28$; only among the 18-19 year olds did men ($M = 5.94$, $SD = 1.10$) score lower than women ($M = 6.36$, $SD = .83$), $t(91) = -2.09$, $p = .04$.

Table 4 displays mean mate dollar allotments, across sex and age, in descending order of allotment. Table 4 also displays dollar allotments, by sex. Across age, women allotted more dollars than men did to *similar values* and *desire for children*, and men allotted more dollars than women did to *physical attractiveness* and *emotional stability*. As seen in Figure 4, the only sex difference that replicated in each age group was men's greater investment in physical attractiveness, all $ps < .001$. The sex difference was large in magnitude within each age group, $ds = .80$, 1.06 , and 1.00 .

Table 4. Study 3 mean mate dollar allotments

| | Sexes Combined | Men | Women | <i>t</i> | <i>df</i> | <i>p</i> | <i>d</i> |
|--------------------------------------|----------------|-------------|-------------|----------|-----------|----------|----------|
| Faithfulness | 7.46 (2.30) | 7.09 (2.35) | 7.62 (2.26) | -1.82 | 296 | .07 | -.21 |
| Intelligence | 6.19 (1.78) | 6.41 (1.70) | 6.09 (1.80) | 1.43 | 296 | .15 | .17 |
| Emotional Stability ^b | 5.66 (2.04) | 6.07 (1.94) | 5.48 (2.06) | 2.30 | 296 | .02 | .27 |
| Sense of Humor | 5.64 (1.99) | 5.44 (2.03) | 5.72 (1.97) | -1.10 | 296 | .27 | -.13 |
| Physical Attractiveness ^b | 5.29 (2.16) | 6.68 (1.98) | 4.69 (1.95) | 8.05 | 296 | .00 | .93 |
| Similar Values ^a | 5.05 (2.31) | 4.50 (2.08) | 5.29 (2.36) | -2.76 | 296 | .01 | -.32 |
| Ambition | 4.67 (2.01) | 4.33 (2.33) | 4.82 (1.84) | -1.77 | 139 | .08 | -.30 |
| Potential for Financial Success | 4.25 (2.11) | 3.92 (2.00) | 4.39 (2.15) | -1.76 | 296 | .08 | -.20 |
| Desire for Children ^a | 3.54 (2.51) | 3.11 (2.39) | 3.73 (2.54) | -1.95 | 296 | .05 | -.23 |
| Social Popularity | 2.25 (1.79) | 2.44 (1.89) | 2.17 (1.74) | 1.23 | 296 | .22 | .14 |

Note. Male *n* = 90; Female *n* = 208. Values in parentheses represent standard deviations.

^aWomen allotted more dollars than did men; ^bMen allotted more dollars than did women.

General Discussion

In Study 1, the majority of our college student participants believed that their peers look increasingly toward long-term committed relationships as they near graduation. Further, over half of the students also believed that emerging adults place increasing value on partners' internal attributes, and less emphasis on their physical attributes, as they near college graduation. Although our participants did not spontaneously mention changes in the reverse direction, a solid direction for future research would be to provide participants with all possible directions of change (e.g., more emphasis on physical attractiveness as well as less emphasis on physical attractiveness), and ask them to rate each one for the extent to

which they believe it occurs as emerging adults progress through their twenties.

Studies 2 and 3 of this research documented that emerging adults of varying ages, and in varying stages of their education, did not vary systematically in their mating desires. Consequently, the sex differences that were observed were of consistent magnitude across age: In every age group, men invested more than women did in physical attractiveness, expressed more interest in pursuing sexual opportunities, and (in Study 2) foresaw themselves having more sex partners in the future. These findings coincide with those of studies that have involved both college student and non-college student samples (Grammer, 1992; Pawlowski and Koziel, 2002; Shackelford, Schmitt, and Buss, 2005), and they also fit with sex differences, across age groups, in sex drive (e.g., Klusman, 2006). We caution against over-interpreting the findings on foreseen number of sex partners, because an evolutionary analysis does not necessitate that men and women have any conscious awareness of a desire for future sex partners. Notably, Penke and Asendorpf (2008) have introduced a valid and reliable, differentiated measure of short-term sexual strategy that does *not* include an estimate of future number of sex partners. We recommend its use in subsequent research on short-term sexual strategy.

A couple of trends in the data highlight the need for future research in this topic with broad, representative samples of emerging adults of varying ages. For example, in Study 3, in which we acquired an internet sample through a variety of popular sites, we found in the overall sample less emphasis on physical attractiveness with age, and greater emphasis on emotional stability and intelligence with age. We are currently in the process of designing a longitudinal study to investigate these trends further. That said, the primary limitation of the current investigation is its cross-sectional design. Study 2 and Study 3 data were not collected prospectively, and thus do not serve as clear indicators of stability in mating desires and preferences over time. However, there is little reason to suspect cohort effects. It is reasonable to expect that, in overall distributions, the 18 year olds in the sample will be similar at age 25 to those participants in the sample who are currently 25. Regardless, we hope that this initial research prompts researchers to conduct prospective investigations of individuals' mating desires and preferences. An initial sample of graduating high school seniors, followed up at various points over a decade, could determine whether and how various factors, such as education, marriage and divorce, children, and changes to one's mate value, are tied to change in men's and women's mating orientations and mate preferences.

Conclusion

We have documented that young adults believe that their peers' mating desires and preferences change as they move through their college years and approach graduation. Specifically, young adults believe that their fellow counterparts become more long-term oriented and less short-term oriented, and more invested in internal characteristics and less invested in external characteristics (such as attractiveness). However, the findings from our two subsequent studies of emerging adults of varying ages suggest that men's and women's mate preferences, short-term mating desires, and long-term mating desires vary little between the ages of 18 and 26; sex differences in short-term mating desires and in value placed on a mate's physical attractiveness do not vary with age, either. In 1994, writing in reference to their 1988 national probability dataset out of the United States that revealed consistent gender differences in marital preferences, Sprecher et al. (1994) concluded with the suggestion that, "gender differences in mate selection preferences could narrow in the next two decades as young males and females are socialized to value the same traits and are presented with equal opportunities in the larger social structure." (p. 1079). Our research, two decades later and with samples clearly embedded in that egalitarian social structure, has failed to support their prediction. Cross-cohort consistencies are suggesting stability over time in men's and women's disparate mating desires, perhaps yet again offering "testimony to the long reach of human nature." (Pinker, 2002, p. 254). Only prospective investigations will clarify whether and how mating strategies and partner preferences might change within individuals over time.

Endnote: 1. The original sample size was 330; however, those whose mate dollar allotments summed to greater than or less than \$50 were omitted (we prevented this situation in Study 3), as were those who allotted more than \$10 to any single characteristic (e.g., several people allotted more than \$10 to faithfulness). Data from three individuals who did not provide their age and sex were also omitted.

Acknowledgements: We thank the following individuals for their help with data collection and for their helpful comments on previous drafts of this manuscript: Allyson Adams, Katherine Beeson, Kyle Bonnell, David Buss, Jamie Callahan, Breinn Dakins, Molly Filipek, Elizabeth Frickelton, Crystal Gardner, Kathryn Glodowski, Leah Greenwood, Martie Haselton, Nicole Jacoby, Samantha Jefferson, Kelsey Johnson, Melissa Lighthall, Jeffrey Miller, Kelly Neri, Noah Novinska, P. Joseph Picotte, Philip Reчек, Megan Schulz, John West, and Christina Wolff.

Received 05 January 2009; Revision submitted 20 March 2009; Accepted 10 April 2009

References

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55, 469-480.
- Baize, H. R., and Schroeder, J. E. (1995). Personality and mate selection in personal ads: Evolutionary preferences in a public mate selection process. *Journal of Social*

- Behavior and Personality*, 10, 517-536.
- Buss, D. M. (1985). Human mate selection. *American Scientist*, 73, 47-51.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, 12, 1-49.
- Buss, D. M., and Barnes, M. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology*, 50, 559-570.
- Buss, D. M., and Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100, 204-232.
- Buss, D. M., Shackelford, T. K., Kirkpatrick, L. A., and Larsen, R. J. (2001). A half century of American mate preferences. *Journal of Marriage and the Family*, 63, 491-503.
- Clarke, R. D., and Hatfield, E. (1989). Gender differences in receptivity to sexual offers. *Journal of Psychology and Human Sexuality*, 2, 39-55.
- Ellis, B. J., and Symons, D. (1990). Sex differences in fantasy: An evolutionary psychological approach. *Journal of Sex Research*, 27, 527-556.
- Gangestad, S. W., and Simpson, J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*, 23, 573-587.
- Grammer, K. (1992). Variations on a theme: Age-dependent mate selection in humans. *Behavioral and Brain Sciences*, 15, 100-102.
- Haselton, M. G., and Buss, D. M. (2000). Error Management Theory: A new perspective on biases in cross-sex mind-reading. *Journal of Personality and Social Psychology*, 78, 81-91.
- Hatfield, E., and Sprecher, S. (1995). Men's and women's mate preferences in the United States, Russia, and Japan. *Journal of Cross-Cultural Psychology*, 26, 728-750.
- Jackson, J. J., and Kirkpatrick, L. A. (2007). The structure and measurement of human mating strategies: Toward a multidimensional model of sociosexuality. *Evolution and Human Behavior*, 28, 382-391.
- Kenrick, D. T., Neuberg, S. L., Zierk, K. L., and Krones, J. M. (1994). Evolution and social cognition: Contrast effects as a function of sex, dominance, and physical attractiveness. *Personality and Social Psychology Bulletin*, 20, 210-217.
- Kenrick, D. T., Sadalla, E. K., Groth, G., and Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality*, 58, 97-116.
- Klusman, D. (2006). Sperm competition and female procurement of male resources as explanations for a sex-specific time course in the sexual motivation of couples. *Human Nature*, 17, 283-300.
- Krane, D., and Cottreau, A. (1998). *Generation 2001: A survey of the first college graduating class of the new millennium*. Milwaukee, WI: Louis Harris and Associates.
- Li, N. P., Bailey, J. M., Kenrick, D. T., and Linsenmeier, J. A. W. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology*, 82, 947-955.
- Li, N. P., and 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.
- McCrae, R. R., and Costa, P. T. (1994). The stability of personality: Observation and evaluations. *Current Directions in Psychological Science*, 3, 173-175.

- Pawlowski, B., and Koziel, S. (2002). The impact of traits offered in personal advertisements on response rates. *Evolution and Human Behavior*, 23, 139-149.
- Penke, L., and Asendorpf, J. B. (2008). Beyond global sociosexual orientations: A more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology*, 95, 1113-1135.
- Pinker, S. (2002). *The blank slate: The modern denial of human nature*. New York, NY: Penguin Books.
- Schmitt, D. P. (2005). Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences*, 28, 247-311.
- Schmitt, D. P. and 118 members of the International Sexuality Description Project. (2003). Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands. *Journal of Personality and Social Psychology*, 85, 85-104.
- Schmitt, D. P., Shackelford, T. K., and Buss, D. M. (2001). Are men really more “oriented” toward short-term mating than women? *Psychology, Evolution, and Gender*, 3, 211-239.
- Shackelford, T. K., Schmitt, D. P., and Buss, D. M. (2005). Universal dimensions of human mate preferences. *Personality and Individual Differences*, 39, 447-458.
- Simpson, J. A., and Gangestad, S. W. (1989). *Two month test-retest reliability of the Sociosexual Orientation Inventory*. Unpublished data, Texas A&M University.
- Simpson, J. A., and Gangestad, S. W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology*, 60, 870-883.
- Sprecher, S., Sullivan, Q., and Hatfield, E. (1994). Mate selection preferences: Gender differences examined in a national sample. *Journal of Personality and Social Psychology*, 66, 1074-1080.
- U. S. Census Bureau. (2006). American Community Report. Accessible online at http://factfinder.census.gov/home/saff/main.html?_lang=en&_ts=.
- Toro-Morn, M., and Sprecher, S. (2003). A cross-cultural comparison of mate preferences among university students: The United States vs. the People’s Republic of China (PRC). *Journal of Comparative Family Studies*, 34, 151-170.