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ORIGINAL PAPER

Meanings Ascribed to Sex and Commitment Among College-Attending and Non-College Emerging Adults: A Replication and Extension

Spencer B. Olmstead[1] · **Kayley D. McMahan**[1] · **Kristin M. Anders**[2]

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Abstract

The purpose of this study was to examine how meanings ascribed to sex and commitment vary based on educational background, gender, and other correlates using a large sample of college-attending and non-college emerging adults (ages 18–25; $N = 669$). Findings from our content analysis replicated previous research by identifying meanings focused on commitment (47.8%), flexibility (22.7%), and recreation (17.8%). We also found two additional meanings focused on finding a sexual connection (termed *Connectors*; 9.1%) and using sex to test relationship compatibility (termed *Testers*; 2.5%), which were not found in previous studies on sex and commitment. A greater proportion of women than men were in the Committers group, whereas a greater proportion of men than women were in the Recreationers group. A greater proportion of heterosexual than sexual minority participants were in the Committers group, whereas a greater proportion of sexual minority than heterosexual participants were in the Flexibles and Testers groups. A greater proportion of those in committed relationships than those in casual or no relationships were in the Committers group, whereas a greater proportion of those in casual relationships than those in committed or no relationships were in the Recreationers group. Those in the Recreationers group reported the greatest average number of hookup partners in the last 12 months (compared to all others), and those in the Recreationers and Testers groups reported the greatest average number of lifetime sexual partners (compared to all others). Implications for future research and sexual health education for emerging adults are discussed.

Keywords Sex and commitment · Hooking up · Sexual partners · Meanings for sex

Introduction

Sexual activity is common among young adults, although rates of sexual inactivity have increased compared to previous cohorts of those aged 20–24 in the U.S. (6% of those born in the 1960s vs. 15% of those born in the 1990s are sexually inactive; Twenge et al., 2017). Sexual exploration and identity development are considered normative for those in the period of emerging adulthood (ages 18–25; Arnett, 2015), which often includes engaging in sexual activity within the contexts of both committed (Kaestle & Halpern, 2007) and casual sex relationships (Garcia et al., 2012). Emerging adults engage in sexual activity for a variety of reasons, such as pleasure, to increase intimacy, or to cope with challenges (McMahan & Olmstead, 2021) and ascribe a variety of meanings to their sexual experiences (Olmstead et al., 2017).

The meanings that young adults ascribe to their sexual experiences may be influenced by the college environment; socialization within the various college cultures influences sexual experiences (Wade, 2017). For example, Garcia et al. (2012) identified the sexual hookup culture as being prominent on college campuses in the United States. Claxton and van Dulmen (2013) called attention to the need for greater inclusivity in studying the sexual experiences of those from various educational backgrounds, as a focus on

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✉ Spencer B. Olmstead
solmstea@utk.edu

[1] Department of Child and Family Studies, College of Education, Health, and Human Sciences, The University of Tennessee, 115 Jessie W. Harris Building, 1215 W. Cumberland Avenue, Knoxville, TN 37996, USA

[2] Department of Applied Human Services, College of Health and Human Sciences, Kansas State University, Manhattan, KS, USA

college-attending emerging adults may provide a limited perspective of sexual experiences among those in the period of emerging adulthood. For example, in 2019, about one-third of those aged 20–24 who had graduated high school in the U.S. were not college enrolled (Bureau of Labor Statistics, 2020); thus, limiting samples to emerging adults in college may overlook a large proportion of emerging adults and their sexual experiences. To address this limitation, the purpose of this study was to replicate and extend previous research by examining the meanings emerging adults ascribe to sex, and whether these self-identified meanings are, or are not, associated with commitment. We accomplish this purpose using a large sample of college-attending and non-college-attending (hereafter referred to as non-college) emerging adults.

Theoretical Background

Reasons, motivations, and meanings for sex have been studied using a variety of theoretical orientations (see Meston & Buss, 2007). We focused on emerging adulthood (Arnett, 2015) and symbolic interactionism (Burr et al., 1979) as our guiding theoretical orientations.

Emerging adulthood

Our study focused specifically on those residing in the U.S. in the life course period of emerging adulthood (ages 18–25; Arnett, 2000). Recent evidence indicates emerging adults engage in increased sexual identity exploration as they navigate the development of or transitions in their sexual expectations (Anders et al., 2017). Many also explore their sexual interests within committed and casual sex relationships (Claxton & van Dulmen, 2013; Olmstead et al., 2019). One limitation in this literature identified by Claxton and van Dulmen (2013) is the common exclusion of emerging adults who are not attending college.

Indeed, the utility and existence of emerging adulthood as relevant to all during this period in the life course has been the center of debate (Arnett et al., 2011). Some scholars have argued that this developmental period is a college student phenomenon (see Hendry & Kloep, 2010), and that those who are not privileged to attend college do not necessarily experience a moratorium from adult responsibilities, limiting their opportunity to engage in sexual exploration afforded to those attending college (Hendry & Kloep, 2010). The utility of including and comparing emerging adults who are and are not attending college was demonstrated in a recent study on sexual hookup scripts. In this study, Olmstead et al. (2019) found that although their experiences did not widely diverge, subtle distinctions emerged in hookup experiences that were associated with living in a collegiate environment (e.g., the ability to change proximity to hookup). Thus, our study included a sample of emerging adults residing in the U.S. who were attending college as well as those who had never attended college to examine whether meanings ascribed to sex vary as a function of educational background.

Symbolic interactionism

The theory of symbolic interactionism attends specifically to the meanings individuals attach to their experiences (Burr et al., 1979). Socialization is a primary means by which individuals learn about the norms, expectations, and roles of the culture(s) within which they are embedded (White et al., 2019). Individuals attach or ascribe meaning to their sexual experiences, and for those attending college, these meanings may be influenced by the culture within which they are embedded. A culture that is prominent among college-attending emerging adults is the hookup culture (Garcia et al., 2012; Wade, 2017). Many college students engage in hookups because they perceive this is the expectation of their peers (Olmstead et al., 2018) and also perceive their peers as accepting of hooking up, which increases overall involvement in hookups (i.e., pluralistic ignorance; Lambert et al., 2003).

Although the hookup culture may be prevalent on U.S. campuses, many emerging adults also engage in sexual activity within the context of committed relationships. For example, Regnerus and Uecker (2011) found that the prominent sexual script among young adults was serial monogamy (sequential committed sexual partnerships; Arnett, 2015). Thus, emerging adults may ascribe different meanings to sexual experiences based on the level of commitment within which the sexual experience is embedded. For example, Kenney et al. (2014) examined motivations for engaging in non-committed sexual experiences (i.e., hookups), but this study focused primarily on college-attending emerging adults. More recently, Shaw and Rogge (2017) developed the Meanings of Sexual Behavior Inventory (MoSBI) using a large sample collected from an online survey; however, their study focused specifically on those meanings embedded within committed sexual relationships. Our study allowed participants to share in their own words, via open-ended responses, the meanings they ascribe to sex and whether these meanings are associated with commitment.

Replication of Previous Studies

The current study specifically replicates two previous studies that have examined emerging adults' self-ascribed meanings for sex and possible connections with commitment. The first study (Olmstead et al., 2013) focused on college men ($N = 200$) and identified three groups based on their responses to open-ended questions in an online survey. The largest group (46.5%, *Committers*) reported sex as meaningful and should occur within the context of committed relationships. The next largest group (41%, *Flexibles*) reported meanings

that were flexible and could adjust dependent upon the level of commitment to the sexual partner. The smallest group (12%, *Recreationers*) reported meanings that were anatomically based, or focused on meanings indicative of recreation and pleasure. Groups were found to differ in their casual sex experiences (i.e., hookup and friends with benefits partners in the past 12 months): Committers had fewer casual sex partners than Flexibles and Recreationers. A follow-up study conducted by Olmstead et al. (2017) sought to replicate these findings using a sample of first-semester men and women ($N = 268$). They found the same groups based on self-ascribed meanings as those found in the Olmstead et al. (2013) study. We sought to replicate previous study findings using a sample from divergent educational backgrounds. Our first research question (two sub-questions) was as follows:

RQ1a: Do meanings ascribed to sex and commitment replicate using a sample of emerging adults from divergent educational backgrounds?
RQ1b: Do these meanings vary within groups based on college-attendance?

Gender, Sex, and Commitment

Gender is a prominent correlate commonly examined in studies about sex. Consistent with symbolic interactionism, men and women are socialized about sex in different ways. Men are typically socialized to be more dominant and interested in sexual engagement, whereas women are typically socialized to be gatekeepers, regulating the timing and process of sexual activity (Masters et al., 2013). Regarding meanings ascribed to sex, Olmstead et al. (2013) found that the largest proportion of men were Committers; however, Olmstead et al. (2017) found that compared to men, a greater proportion of women were Committers and, compared to women, a greater proportion of men were Flexibles. As such, our second research question was as follows:

RQ2: Do meanings ascribed to sex vary within groups based on gender and do these meanings replicate previous study findings?

Known Correlates of Sex and Commitment

We also examine a number of known correlates based on previous research findings. We focused on sexual orientation, race/ethnicity, and relationship type. Previous studies indicate that sexual minorities are more flexible with regards to sex and relationship structure. For example, sexual minority individuals have been shown to be higher in sexual fluidity and are more willing to adapt their sexual beliefs and behaviors depending on the sexual situation (Manley et al., 2015). Regarding race/ethnicity, Olmstead et al. (2013) found a greater proportion of racial/ethnic minority men in the Flexibles group, whereas a greater proportion of white men were in the Committers group. In terms of relationship type, Olmstead et al. (2017) found a greater proportion of those in a relationship were in the Committers group, compared to those in Flexibles or Recreationers groups. Given these findings, our third research question was as follows:

RQ3: Do meanings ascribed to sex vary within groups based on (1) sexual orientation, (2) race/ethnicity, and (3) relationship type and do these replicate previous study findings?

The Role of Sexual Experience

Emerging adults engage in a variety of sexual experiences, both within committed relationships and with casual sex partners. Previous studies (Olmstead et al., 2013, 2017) have shown that the meanings emerging adults ascribe to sex are associated with casual sex experience. However, these studies focused specifically on college student samples. Thus, we were interested in whether meanings ascribed to sex were associated with number of previous hookup partners and if these findings replicated previous work when including participants from varying educational backgrounds. It is also important to make a distinction between hookup partners, and sexual partners generally. Research has shown that not all hookups include penetrative sexual behaviors (i.e., oral, vaginal, or anal intercourse; Owen et al., 2011). To extend previous work that has focused only on casual sex partners, we included a measure of lifetime number of sexual partners to capture sexual encounters that may not be exclusive to casual sex (such as hookup partners). This distinction is important from a sexual health perspective, because increased numbers of sexual partners is associated with greater exposure to health risks (Kelley et al., 2003). Thus, our fourth research question (two sub-questions) was as follows:

RQ4a: Does number of different hookup partners differ between groups based on meanings ascribed to sex and commitment? If so, does this replicate previous study findings?
RQ4b: Does number of lifetime sexual partners differ between groups based on meanings ascribed to sex and commitment?

Method

Participants

Participants were 803 college-attending ($n = 403$) and non-college ($n = 400$) emerging adults (ages 18–25). Following

the initial screening of participants during data collection and the removal of invalid data and/or participants who did not meet the larger study criteria, a total of 134 participants were removed from the study for the following reasons specific to this study: (a) they did not respond to the question ($n = 15$), (b) responses were deemed "uncodable" ($n = 114$; see discussion below), or (c) the response did not fit into any coding category ($n = 5$; also see below). The final sample ($N = 669$) was mostly women (64.3%). The majority (69.4%) identified as White/Caucasian, heterosexual (69.4%) and were in a committed relationship (52.2%). Participants were either college-attending (49.2%) or non-college (50.8%).

College-attending participants College-attending participants ($n = 329$) were mostly women (69.4%). The majority (69.6%) identified their race/ethnicity as White/Caucasian, followed by Latino/a or Hispanic (9.4%), Black/African American (8.8%), Asian American/Pacific Islander (8.8%), other (2.4%), and Native American/American Indian (0.9%). Most (66.9%) identified their sexual orientation as heterosexual, followed by bisexual (19.8%), gay/lesbian (6.7%), unsure (3.6%), and other (3.0%). A slight majority (51.1%) were in a committed relationship at the time of the study, followed by no relationship (32.8%) and a non-committed relationship (16.1%; e.g., dating non-exclusively). College-attending participants reported an average of 1.99 ($SD = 2.81$) hookup partners in the last 12 months and 4.72 ($SD = 3.68$) lifetime sexual partners.

Non-college participants Non-college participants ($n = 340$) were mostly women (59.9%). The majority (69.1%) identified their race/ethnicity as White/Caucasian, followed by Black/African American (14.1%), Latino/a or Hispanic (9.4%), Asian American/Pacific Islander (3.8%), other (2.4%), and Native American/American Indian (1.2%). Most (72.1%) identified their sexual orientation as heterosexual, followed by bisexual (17.6%), gay/lesbian (5.6%), other (2.6%), and unsure (2.1%). A slight majority (53.2%) were in a committed relationship at the time of the study, followed by no relationship (24.1%) and a non-committed relationship (22.6%; e.g., dating non-exclusively). Non-college participants had an average of 2.30 ($SD = 3.07$) hookup partners in the last 12 months and 5.70 ($SD = 3.71$) lifetime sexual partners.

Procedure

After receiving IRB approval from the sponsoring institution, participants completed an online survey offered on Amazon's Mechanical Turk (MTurk) during June and July of 2016. We chose this form of data collection because crowdsourcing systems have become prevalent in experimental and survey-based research. These systems often increase access to potentially diverse samples, particularly for populations outside of university settings (Ipeirotis, 2010).

Two brief eligibility questionnaires were posted separately on the site to screen for participants who met the inclusion criteria for each population (i.e., college-attending versus non-college). The inclusion criteria for non-college individuals included only those who were the following: (1) between the ages of 18–25 (i.e., emerging adulthood), (2) not currently enrolled in any post-secondary education (i.e., college or trade school), and (3) have never attended or received a degree from a post-secondary education setting. Inclusion criteria for college-attending individuals included: (1) between the ages of 18–25, (2) currently enrolled in post-secondary education, and (3) have never received a degree from a post-secondary education setting, including two- or four-year institutions. Additional exclusion criteria for both samples included individuals who have taken some college/university courses but were no longer currently enrolled, participants who currently lived outside the United States, or participants whose primary language was not English.

Individuals who did not meet the inclusion criteria for either sample (via pre-screening questionnaires) were informed they were ineligible and thanked for their time. Participants who met the inclusion criteria were presented with an informed consent page that described the goal of the survey, the risks and benefits, their ability to withdraw at any point, and described how their responses would remain anonymous. Participants who provided consent then received access to a restricted-use online survey (i.e., Qualtrics) and upon completion received $1.01 in monetary compensation. Further, validity screening and removal of data was conducted throughout the data collection process. Specifically, we used the following techniques to ensure increased validity of the data collected through the crowdsourcing site including: (1) inclusion of attention-check questions throughout the survey, (2) screening of IP address origins, (3) inclusion and screening of a language-check open-ended question, and (4) a validity check of questionnaire responses to examine for consistency. Any responses that did not meet these validity checks were excluded from the study sample. Once 400 participants for each subsample were surveyed (403 for college-attending), the recruitment was removed from the site.

The online survey included a series of open-ended questions, demographic items, and survey measures. For this study, we focused on an open-ended item that asked participants the following series of question regarding sex and commitment (PREP for Individuals Inc., 2005):

1. When you 'have sex' with another person, what meaning does that hold for you?
2. For you, are sex and commitment connected?
3. For you, does one (sex or commitment) occur before the other? Why or why not?

4. How do you expect your views on sex and commitment to affect your future sex life?"

These items are similar to previous studies discussed above (Olmstead et al., 2013, 2017).

Qualitative Analyses

Responses to our open-ended items were analyzed using directed content analysis (Hsieh & Shannon, 2005). To begin our analyses, three coders independently reviewed all 803 responses to first identify those responses that may need to be removed from the study. Of the 803 responses, 129 were removed after this initial review. Fifteen participants did not answer the question (response was left blank). One hundred fourteen responses were considered "uncodable"; these included those who's native language was not English, making it difficult to code due to grammar (e.g., "I want sex with my partner.it feel very happy and sexually enjoy") as well as those responses that clearly did not answer the questions asked (e.g., "I love sex").

Directed content analysis was used as our analytic approach, because it has the flexibility to use theory and research to guide analysis while also considering the development of new categories not previously hypothesized or found in past studies (Hsieh & Shannon, 2005). In this study, we were cognizant of the two previous studies conducted on sex and commitment and the groups identified in these analyses. For example, we anticipated at least three groups of participants to be identified based on previous theory and research: (1) *Committers*, (2) *Flexibles*, and (3) *Recreationers*. To protect against potential bias during the analysis process, given these previous studies, two of the three coders were blinded to these existing studies and had not contributed in any manner to the publication of those data. The third coder (first author on both previous studies) did not discuss the coding of the previous studies. This process is one aspect of triangulation (i.e., investigator triangulation; Carter et al., 2014) that helps to decrease bias, in that the two new coders were included to "corroborate evidence" (Creswell, 2007, p. 208).

To help decrease additional points of bias, prior to coding, the second author prepared the data files so that the other two coders were blind to participant gender and college status. It was not until after all qualitative analyses were completed that the other two coders became familiar with these demographic characteristics. Also, participants' quantitative survey responses were used as a source of triangulation (i.e., method triangulation; Carter et al., 2014) by comparing their written responses to their self-reported number of different hookup partners in the last 12 months and number of lifetime sexual partners (Creswell, 2007).

The three independent coders (after their initial review and removal of non-responders and those responses identified as "uncodable") reviewed and coded 50 participant responses. The coding team then met to discuss similarities and differences among responses. Tentative labels were given at this time for participant groupings using specific phrases and language as indicators (Krippendorff, 2013). A great deal of variation existed among participant responses. Three initial groups were identified that were consistent with previous research. However, the potential for two new groups also became evident. Tentative labels were applied to these two new groups as well, and coding continued independently with the next 50 responses. The coding team then met to discuss again the identified groups and their fit with the previous responses and coded groups. This sequence of coding continued until all responses were coded. Disagreement in coding of responses was noted, and discussion ensued until all coders agreed on how the response should be coded. The percentage of inter-coder agreement was high throughout the process (89.2%), and all response coding was agreed upon at the conclusion of coding phase (i.e., resulted in 100% agreement at the conclusion of coding). Ultimately, five participant responses did not fit with the groups identified during coding, and they were removed from further analyses, leaving a final sample of 669.

Quantitative Measures

The groups that were identified from our qualitative analyses were then quantitatively compared based on demographic characteristics as well as sexual experiences.

Demographic Characteristics

Demographic comparisons within each group included college status (0 = *Non-college*, 1 = *College-attending*), gender (0 = *Female*, 1 = *Male*), sexual orientation (0 = *Identifies as a sexual minority*, 1 = *Heterosexual*), race/ethnicity (0 = *Identifies as a racial/ethnic minority*, 1 = *White/Caucasian*), and relationship type (0 = *Not in a relationship*, 1 = *In a non-committed relationship*, 2 = *In a committed relationship*). Please see the supplemental material for specific items.

Behavioral Experiences

Number of different hookup partners To measure number of different hookup partners, participants first read the following (Lewis et al., 2012; Owen et al., 2010):

> Some people say that a hookup is an event where you were physically intimate (e.g., kissing, sexual touching, oral sex, vaginal intercourse, anal intercourse) with someone whom you were not dating or in a romantic relationship with at the time and in which you under-

stood that there was no mutual expectation of a romantic commitment.

After reading this prompt, participants were then asked the following question: "Based on this definition, how many different individuals did you "hookup" with in the last 12 months?" Response options to this item ranged from (0) *0* to (10) *10 or more*.

Number of lifetime sexual partners To measure lifetime sexual partners, participants were asked, "How many lifetime oral, vaginal, and/or anal sex partners have you had?" Response options ranged from (0) *0* to (10) *10 or more.*

Quantitative Analyses

To examine the demographic measures for our qualitative groups, we conducted a series of Pearson chi-square tests comparing within-group proportions based on college status, gender, race/ethnicity, sexual orientation, and relationship type. We then conducted a series of one-way ANOVAs to examine the mean differences between groups based on number of different hookup partners in the last 12 months and number of lifetime sexual partner.

Results

For our directed content analysis, we identified five distinct groups of participants based on their responses to our series of open-ended questions. Three of these groups replicated previously identified groups (i.e., *Committers, Flexibles,* and *Recreationers*), and two unique groups were also identified: *Connectors* and *Testers* (discussed below). We report on chi-square tests within each group for college status (college-attending vs. non-college) and gender (male vs. female), as these were a primary focus of our study. See Table 1 for all group comparisons.

Table 1 Quantitative group comparisons ($N = 669$)

Chi-Square Analyses	Overall Sample	Committers 47.8%	Connectors 9.1%	Flexibles 22.7%	Testers 2.5%	Recreationers 17.8%	χ^2
College enrollment							
Enrolled	49.2%	49.2%	9.7%	21.9%	3.0%	16.1%	
Not enrolled	50.8%	46.5%	8.5%	23.5%	2.1%	19.4%	
Within-group chi-square		0.51	0.29	0.26	0.65	1.25	
Gender							
Male	35.4%	37.3%	6.4%	26.3%	1.3%	28.8%	
Female	64.6%	53.3%	10.7%	20.9%	3.3%	11.9%	
Within-group chi-square		15.58***	3.45	2.47	2.41	29.84***	
Sexual orientation							
Heterosexual	69.5%	53.3%	8.2%	19.1%	1.7%	17.6%	
Sexual minority	30.5%	35.3%	11.3%	30.9%	4.4%	18.1%	
Within-group chi-square		18.49***	1.65	11.14***	4.15*	0.03	
Race/Ethnicity							
White/Caucasian	69.4%	47.0%	8.6%	24.4%	2.8%	17.2%	
Racial/Ethnic minority	30.6%	49.8%	10.2%	19.0%	2.0%	19.0%	
Within-group chi-square		0.44	0.45	2.30	0.42	0.31	
Relationship type							71.55***
Non-committed	19.4%	33.8%	14.6%	19.2%	0.8%	31.5%	
Committed	52.2%	59.3%	8.0%	22.3%	1.7%	8.6%	
No relationship	28.4%	36.3%	7.4%	25.8%	5.3%	25.3%	
Within-group chi-square		38.72***	5.95	1.95	5.36*	44.23***	
Analysis of variance	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*F*
Diff. Hookup partners[a]	2.15 (2.95)	0.87 (1.66)[b]	2.20 (2.65)[b,c]	2.43 (3.02)[b,d]	3.94 (3.19)[b]	4.95 (3.50)[b,c,d]	39.74***
Lifetime sexual partners[a]	5.22 (3.73)	3.50 (3.27)[b]	5.41 (3.44)[b,c]	6.20 (3.45)[b,d]	9.12 (1.80)[b,c,d]	7.87 (3.09)[b,c,d]	50.94***

[a]Number of hookup partners in last 12 months/lifetime sexual partners; ranged from 0–10 or more

[b,c,d]Significant between-group differences

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Group 1: Committers

Our largest group of participants were labeled *Committers*. This group constituted 47.8% of the sample. For this group of participants, sex and commitment were connected, with commitment typically occurring first. Many in this group specified that sexual activity should only occur within the context of a committed relationship. For example, one non-college woman stated, "Sex and commitment are deeply connected for me. Being committed to each other is absolutely the first step to sex, because for me having enjoyable sex includes some level of emotional connection." A college-attending man said, "Commitment comes first. Once that is established, then sex would be an option with someone who is committed to me." We did not find proportional differences based on college status. We did find proportional differences based on gender, in that a greater proportion of women compared to men were in this group.

Group 2: Flexibles

Our next largest group of participants (22.7%) were given the label of *Flexibles*. These participants' responses indicated dimensions of those in the *Committers* group, but they were also able to be flexible enough to allow for opportunities for non-committed or casual sexual experiences as well. For example, one non-college man stated, "Sex and commitment are not always connected for me, and I believe either can happen at any stage." A college-attending woman said, "I believe sex can just be fun and free sometimes and other times it can mean commitment. It depends on the relationship and situation." We did not find proportional differences within this group based on college status nor gender.

Group 3: Recreationers

Our third largest group was labeled *Recreationers*. This group represented 17.8% of our sample of participants. This group of participants indicated in their responses that sex and commitment were not connected, and their meanings ascribed to sex seemed to focus on sex as a part of human nature or a necessary physical act. For example, one non-college woman said, "Sex occurs before commitment for me because it is a basic human need I have and I don't like to put it off." Similarly, a college-attending woman said, "Sex and commitment are not related. Sex is a natural thing that does not require commitment, only responsibility." Others in this group focused on the meaning of sex as being just for fun or to have a pleasurable experience, with no need for commitment. For example, one non-college man said, "Sex for me is mostly casual. I believe it's something people can do just for fun." A college-attending man said, "Sex before commitment at this point, I mean, we're in college, no need to settle down now, have fun and enjoy it, get to know what you like and don't like." We did not find proportional differences within this group based on college status. We did find that a greater proportion of men than women were in this group.

Group 4: Connectors

A fourth group that was identified within our coding was labeled *Connectors* and constituted 9.1% of our sample. This group of participants seemed to differ from Committers in that they did not discuss sexual activity as being associated with commitment. Instead, they focused on having a connection with their sexual partner in order to be sexual with them. This connection comes with knowing the person or having some emotional experience that brings the two together. For example, one non-college man said "Sex is a close emotional bond, and it's more than physical. I can't do the act with strangers, it's very intimate to me." A college-attending woman said, "I do not need commitment to have sex with someone. I only need to have a trusting relationship with the other person and respect for my boundaries and desires." Thus, in many ways this group was similar to the Committers, but rather than focusing on commitment they focused on a personal connection. We did not find proportional differences within this group based on college status nor gender.

Group 5: Testers

Our smallest group of participants (2.5%) were labeled *Testers*. This group of participants distinguished themselves from the other groups in the way they discussed the role of sex in forming a committed relationship. For these participants, sex was used as a means to test compatibility with a potential romantic partner, determining whether sexual chemistry existed in order for them to pursue a committed romantic relationship with their sexual partner. For example, one non-college woman said "I prefer to have sex with a partner prior to commitment because sexuality is so important in a relationship, you would want to make sure you are with someone [with whom you are] sexually compatible." A college-attending woman said,

> I think that sex occurs first for me. I personally would rather try it before I buy it if you know what I mean. Committing to someone who is no good at sex is not my idea of living life.

We did not find proportional differences within this group based on college status. Due to small cell sizes, we were unable to test for proportional difference based on gender.

Quantitative Group Comparisons

Beyond group comparisons based on college status and gender, we also examined additional demographic characteristics within each group, including sexual orientation, race/ethnicity, and relationship type. We also conducted ANOVAs to compare group means for sexual experiences, including number of different hookup partners in the last 12 months and number of lifetime sexual partners (LSPs).

Demographic comparisons Based on our chi-square analyses (see Table 1), we found some differences within each group. We found proportion differences based on sexual orientation: A greater proportion of heterosexual participants were in the *Committers* group than sexual minority participants. Conversely, a greater proportion of sexual minority participants were in the *Flexibles* and *Testers* groups than heterosexual participants.

We did not find any proportional differences based on race/ethnicity for any of the groups found in our qualitative analyses (see Table 1). We did find differences based on relationship type. Among the full sample, most participants were in a committed relationship, followed by no relationship, and a non-committed relationship. A greater proportion of participants in the *Committers* group were in a committed relationship, followed by no relationship, and a non-committed relationship. A greater proportion of participants in the *Recreationers* group were in a non-committed relationship, followed by no relationship, and a committed relationship. Within the *Testers* group, within-group comparisons could not be conducted for all three relationship types due to a small cell size in the non-committed relationship group. However, we did examine relationship type for *Testers* not in a relationship and in a committed relationship. A greater proportion of *Testers* were not in a relationship than those in a committed relationship.

Number of different hookup partners We also examined differences between groups based on the number of different hookup partners they reported in the last 12 months. We found several differences between groups (see Table 1). Levene's statistic indicated that the variances between groups were not homogenous. Thus, we conducted post hoc comparisons using Dunnett's T3 test. Our post hoc comparisons indicated several between-group differences. *Committers* reported fewer hookup partners than all other groups. *Connecters* reported more hookup partners than *Committers*, but fewer partners than *Recreationers*. *Flexibles* reported more hookup partners than *Committers*, but fewer partners than *Recreationers*. Lastly, *Testers* reported more hookup partners than *Committers*. *Testers* did not differ in number of different hookup partners from *Flexibles*, *Connectors*, nor *Recreationers*. Also, *Connectors* did not differ from *Flexibles* in number of different hookup partners.

Number of lifetime sexual partners We also examined differences based on the number of lifetime sexual partners. (LSPs) We found overall mean differences between groups (see Table 1). Levene's statistic indicated that the variances between groups were not homogenous. As such, we conducted post hoc comparisons using Dunnett's T3 test. Our post hoc comparisons indicated several between-group differences. *Committers* reported fewer LSPs than all other groups. *Connecters* reported more LSPs than *Committers* but fewer LSPs than *Testers* and *Recreationers*. *Flexibles* reported more LSPs than *Committers*, but fewer LSPs than *Testers* and *Recreationers*. *Testers* and *Recreationers* did not differ in LSPs, nor did *Connectors* differ from *Flexibles* in LSPs.

Discussion

The purpose of this study was to replicate and extend previous findings regarding the meanings emerging adults ascribe to sex and commitment and how these meanings differ based on educational background, gender, other demographic characteristics, and sexual experiences.

Meanings for Sex and Commitment

From a symbolic interactionism perspective, individuals attach meanings to their experiences and define the situations in which they find themselves (Burr et al., 1979). This is true for sexual situations, and often individuals are socialized regarding their meanings (White et al., 2019). Three of the groups we found in our study (i.e., *Committers*, *Flexibles*, and *Recreationers*) replicated findings from previous studies. For example, Olmstead et al. (2013) found their largest group of participants ascribed meanings to sex that were indicative of a deep meaning for sex and its connection with being in a committed romantic relationship. Our study replicated this finding, as our largest group was also that of *Committers*. We also found meanings consistent with being *Flexible* as well as focusing on meanings that identify sex as being free of commitment and largely for fun and pleasure (i.e., *Recreationers*). Our study also extended the findings of previous studies as we identified two additional groups of meanings that were not found in these past studies. We note that the emergence of these two groups could be a result of collecting a larger sample than these previous studies, allowing a greater possibility of additional groups to be identified. It also may be that our sample was from a variety of educational backgrounds or that our sample came from participants across the U.S. rather than from a single university.

First, we identified a group of participants that used the language of connection, rather than commitment. Although not as large as the other groups (9.1% of the sample), these participants held a meaning that for sex to occur with a

partner, perhaps a commitment was not needed, but there needed to be a connection. Many of these spoke in terms of an emotional connection, which would potentially reduce the number of sexual partners. These findings are consistent with recent research that found that emerging adults hold goals for establishing an emotional connection prior to engaging in sexual activity, but this emotional connection is not always in the form of a committed relationship (Anders & Olmstead, 2019). However, we know little about the variations in process and duration of time it takes for these connections to be formed, particularly during sexually explorative periods such as emerging adulthood. Thus, although we have uncovered an important variation in meanings ascribed to sex, there is much more that needs to be learned about this group of individuals.

Second, the smallest group (2.5% of the sample) we found were termed *Testers*. These participants engaged sexually with a partner to consider sexual compatibility before determining whether or not to pursue a committed relationship with this partner. Some studies on relationship formation have examined the role of sex in the development of relationships. For example, Busby et al. (2010) tested the role of sexual compatibility and sexual restraint approaches to relationships and how these influenced later relationship outcomes. They found that those who delayed sexual involvement (as opposed to testing sexual compatibility early) reported better relationship outcomes. The participants in our study were focused on sexual chemistry with their partner and a defining feature of the potential long-term success of a future relationship with that person. This seems particularly important for emerging adults, as they engage in more self-focused thinking and explore a variety of relationship options available to them (Arnett, 2015).

Educational Background and Gender

We found relatively equal proportions of college-attending and non-college emerging adults in each of the five groups we identified. Socialization, a key concept in symbolic interactionism, suggests that individuals learn the meanings, norms and expectations associated with the culture(s) within which they are embedded (White et al., 2019). Although research has shown that the college environment and the numerous cultures within that environment act as influential socialization agents (Wade, 2017), our findings indicate that this socialization that shapes their beliefs around sex and commitment likely occurs earlier than post-secondary education settings. Specifically, our findings seem to indicate that whether one attends or does not attend college has little influence on the meanings ascribed to sex and its association with commitment. Thus, it seems important to examine other socialization agents that are influencing these meanings prior to entering the developmental stage of emerging adulthood, including family and peers, as well as the Internet and other media (Ward et al., 2019).

Consistent with previous studies and theory regarding gendered sexual scripts, we found that a greater proportion of women than men were in the *Committers* group and a greater proportion of men than women were in the *Recreationers* group. Traditional gendered sexual scripts suggest that men are more willing to engage in sexual activity when the opportunity arises whereas women act as "gatekeepers" and are more focused on relational sexual activity (Eaton et al., 2016). Our results seem consistent with traditional gendered sexual scripts. These findings also indicate, for both college-attending and non-college men and women, that they have been socialized, to some extent, into the sexual double standard (Crawford & Popp, 2006), wherein it is more acceptable for men to engage in recreational sex whereas women are stigmatized and negatively sanctioned for similar sexual behaviors (Marks & Fraley, 2005). We also emphasize here that many of our participants reported meanings ascribed to sex and commitment that are inconsistent with stereotypical gendered sex roles. For example, almost half of the men in our study were in the committers or connectors groups, and a sizeable proportion of women reported meanings that were not focused on relationships or commitment (over 15%). Thus, it is important to continue to examine those men and women who do not adhere to traditional sexual scripts and their sexual socialization experiences.

Sexual Orientation, Race/Ethnicity, and Relationship Type

Our study also sought to replicate findings on additional correlates of meanings ascribed to sex and commitment. We found a greater proportion of those who identify as heterosexual in the *Committers* group and those who identify as a sexual minority in the *Flexibles* and *Testers* groups. One possible explanation for this finding may relate to sexual minority individuals' more flexible beliefs around sexuality. Specifically, research has shown that sexual minority individuals often have increased sexual fluidity and may adjust their behaviors or beliefs based on a specific context (Manley et al., 2015). This sexual fluidity may allow these individuals to be more flexible around their meanings and expectations of sex and commitment.

Regarding race/ethnicity, we did not replicate findings from previous studies. One explanation is that our study found five groups (rather than three) for sex and commitment and thus our participants had smaller cell sizes for each group. Also, our study included men and women, whereas the previous study that did find racial/ethnic differences (Olmstead et al., 2013) had a sample of only college men. Last, and perhaps not surprisingly, we found a greater proportion of those in a committed relationship were also in the

Committers group, whereas a greater proportion of those in a non-committed relationship were in the *Recreationers* group. Such a finding points to the ongoing need to study meanings ascribed to sex in adolescence and follow participants' meanings as they move in and out of relationships. It is possible that participants' meanings mirrored those of their current experiences. That is, if men and women move into and out of a relationship of different kinds (committed, casual, or no relationship) their meanings may also change to be consistent with their current sexual experience.

Hookup Partners and Lifetime Sexual Partners

The findings from our comparisons based on number of different hookup partners in the last 12 months and number of lifetime sexual partners seemed consistent with the meanings our participants identified in their written responses. On average, those in the *Committers* group had fewer hookup and lifetime sexual partners than all other groups. Holding expectations for sex within the context of a committed romantic relationship would naturally result in a fewer number of casual as well as committed sexual partners. Our findings for the *Connectors* group is also meaningful as these participants had fewer hookup partners than those in the *Recreationers* group and fewer lifetime sexual partners than those in the *Testers* and *Recreationers* groups. Interestingly, they did not differ from those in the *Flexibles* group. One explanation for these differences may be that those identified as *Connectors* are establishing some form of emotional connection prior to engaging in sex and thus would perhaps not identify those sexual experiences as "hookups." In addition, the meanings that this group ascribes to sex and commitment may emphasize that there is a difference between commitment and connection when discussing relationships and sexuality. *Connectors* may be more similar to *Flexibles* in their beliefs around sex occurring outside of a "traditional" committed relationship, as long as there is an emotional connection. Interestingly, these participants did not specify how quickly a connection could be made, but instead discussed their familiarity with partners. Future studies should consider differences between establishing connections (e.g., emotional connections) and more traditional forms of committed relationships as these may be different indicators for the meanings individuals ascribe to sex and commitment.

In looking at Table 1, a clear progression of behavior is able to be specified, giving rise to the idea that meanings may fall along a continuum and that these are associated with casual sexual behaviors as well as lifetime sexual partners. The only exception seems to be with the *Testers* and *Recreationers* with regard to lifetime sexual partners. Interestingly, *Testers* had a greater number of lifetime sexual partners than *Recreationers*. This may be the result of *Testers* using sexual experiences as a means of testing compatibility with someone in whom they may be interested romantically. Thus, *Testers* may be more open to sexual experiences because of the desire to find a romantic partner, but the sexual experiences they are having are not resulting in their involvement in committed relationships.

Limitations

Our study findings should be considered in light of the following limitations. One important noted limitation is the size of our *Testers* group. Although the overall sample was quite large, this group was small in comparison to others. We therefore are unable to make claims about saturation (LaRossa, 2005). Previous research indicates that individuals do take this approach to sex and relationships (Busby et al., 2010), but more research is needed on this group and how they may differ in meaningful ways from other meanings ascribe to sex and commitment. Thus, this group can be considered as an initial indication of the role of sex in relationship decisions among emerging adults, but should not be considered robust.

Another important limitation is that our sample was collected using an online survey. That is, participants responded to a series of open-ended questions online. Such an approach, while yielding a higher number of participants, at times limited the depth of responses. Some were quite limited in terms of length, and it seems unethical to require a certain length for participant responses. We removed a number of participants due to providing "too brief" of responses (e.g., one-word responses), which has biased our data in that we are unable to determine the meanings these participants ascribe to sex and how these meanings may or may not be related to commitment. Qualitative interviews would increase opportunities to gain greater depth and understanding about these meanings, asking follow-up questions, confirming the meanings described, and allowing participants to explain verbally, rather than in typing, their definition of these sexual situations.

Last, we did not define the terms "sex" and "commitment." Although intentional in nature, we acknowledge that participants may be attaching behaviors to these words in different ways, which has the potential to bias the findings due to a lack of conceptual clarity. Perhaps if we provided specific behaviors for the term "sex" and a definition for the term "commitment" participants may have responded in ways inconsistent with their current responses. Previous research has shown that young adults consider "having sex" to include a variety of behaviors, including oral-genital contact and vaginal or anal intercourse (Hans et al., 2010).

Implications

The results of our study have meaningful implications for future research and sexuality education. Regarding research, there are several potentially fruitful avenues to pursue. First, our next step is to examine how meanings ascribed to sex and their connection to commitment are developed. Three approaches may be useful. One approach is to interview adolescents at various ages who have yet to become involved with others sexually. Recruiting younger adolescents and interviewing them about their meanings prior to sexual activity would provide a baseline for meanings. It would also allow the opportunity to learn more about how such meanings are developed. That is, to focus more closely on the socialization process wherein meanings are taught through repeated patterns of interaction with influential others (Burr et al., 1979). Another approach would be to interview early emerging adults (18–19 years) to ask them about how their meanings were developed, who influenced these meanings, and how they were socialized into this process (see Anders & Olmstead, 2019). Another immediate step is to examine meanings ascribed to sex and commitment using latent class analysis to determine if there are underlying variables that serve to differentiate these groups. Latent class analyses could draw upon measures developed previously, such as the Meanings of Sexual Behavior Inventory (MoSBI; Shaw & Rogge, 2017) or the YSEX? Questionnaire (Meston & Buss, 2007), to determine whether there are common underlying attitude, motives, meanings, or beliefs that are consistent (or inconsistent) with the groups identified in our study.

Our study findings also have implications for sexuality education among young adults. One important finding is that there were not differences in meanings based on educational background. Although we know young adults experience important differences in their lives based on the paths they pursue, it seems some aspects of sexuality education may be approached more broadly. Sexuality education should include sections devoted to helping young people consider how they assign meanings to their past, current and/or future sexual experiences. Those who may have more flexible, recreational, or testing meanings ascribed to sex may benefit from increased education about safer sex practices (e.g., condom use), regular testing, and potential increased exposure to health risks (e.g., STIs) due to increased number of sexual partners. Further, research on consistent safer sex practices (e.g., condom use) within relationships has found mixed results, with some finding decreased contraceptive use within romantic relationships and others finding increased use (for review see Manlove et al., 2006). Decreased use may increase potential exposure to negative health outcomes if one or both partners are engaging in extradyadic sex; therefore, education should continue to integrate discussions around healthy sexual practices within all forms of romantic and sexual relationships.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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