Relationships & Contraceptive Behavior in a Population-Based Sample of Non-Heterosexual Young Women

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Abstract:

The LGBT population has been largely excluded from an otherwise rich literature on relationships and contraceptive behaviors of young women in the United States. Using longitudinal data from the Relationship Dynamics and Social Life study, we describe the relationship characteristics and contraceptive behavior of a population-based sample (n=579) of young women (including women of color and women not enrolled in college, who are often neglected in the sexuality literature). These data include detailed information about relationships and sex over 30 months, and innovative measurement of sexuality, including separate measures for sexual behavior, attraction, and identity. About one-third of the sample gave a non-heterosexual response to at least one of our sexuality measures. We find that where non-heterosexual women differ from exclusively heterosexual women, they do so in ways that put them more at risk of unintended pregnancy (e.g. more frequent sex with men and less frequent contraceptive use).

Introduction:

The study of sexuality has long been of interest to sociologists, who are increasingly expanding the scope of their focus from marriage, fertility, and household composition to include sexual behavior (e.g., sexual practices, contraceptive use), attraction, and identity. This means that LGBT populations and those traditionally thought of as sexual minorities are increasingly the purview of family demographers and other social scientists interested in sexuality (Chandra et al. 2011; Moore & Stambolis-Ruhstorfer 2013).[1] The wealth of information we have about young women's sexual lives in the transition to adulthood has not adequately included non-heterosexual people or perspectives. Same-sex romantic and sexual experience are not uncommon, even among straight-identified young women, yet traditional demographic surveys have neglected to include any measures to even identify these same-sex relationships or non-hetero women. However, there are many reasons to do so. In comparison with heterosexuals, non-hetero young women are less likely to receive appropriate health screenings and to seek health care when needed (Heck 2006). This gap in basic health education and access leads to higher rates of STIs, some cancers, and unintended pregnancy among non-hetero young women (Saewyc 2004). They are also more likely to use alcohol and drugs, be diagnosed with generalized anxiety disorder, and report seeing a mental health provider (Conron 2010). Notably, the CDC's Healthy People 2020 initiative includes LGBT health as an objective for the first time. This surge in attention to LGBT health disparities requires improved measures of sexuality

[1] A brief note about terminology: while we are engaged in and contributing to literature on LGBT people, we choose to use "non-heterosexual" ("non-hetero" for short) instead. This foregrounds that our sample is a sexual minority, while maintaining a focus on the center group and concept of heterosexuality, since we believe measuring the axes of behavior, attraction, and identity is a necessary first step for all research on sexuality – not just for so-called minorities. The terms that have been used in research reflect the focus and priorities of research agendas and traditions. We are not advocating the universal adoption of our terms, but in light of no single terminology being ideal, they work well for us here.

in survey research, but researchers have only begun to revise traditional areas of demographic research to include and even focus on non-hetero young women.

In this paper, we use new demographic data to provide a preliminary look at relationships and contraceptive behaviors among non-hetero young women in a population-based sample. Our analyses show that relationship characteristics and contraceptive behavior of non-heterosexual women differ in many ways from those of heterosexual women, yet not all axes of sexuality are equally important for all outcomes. For instance, women in our sample who have ever engaged in same-sex sexual behavior spend more time than other women in relationships, report heterosexual intercourse in a greater proportion of their relationship weeks, and report a higher number of romantic partners during the study period. Same-sex attraction is associated with less *overall* contraceptive use in sexually active weeks, while same-sex sexual behavior is associated with less *perfect* use (ie. use of some method at every instance of intercourse) during weeks with some contraceptive use. Non-heterosexual identity is the only axis of sexuality significantly associated with contraceptive *method selection* among contraceptive users: women in our sample who identify as non-heterosexual use long-acting reversible contraceptive (LARC) methods less often and rely on condoms more often. Our preliminary analyses support the decomposition of "sexuality" into multiple axes of measurement – behavior, attraction, and identity.

Research Objectives:

Despite the rich literature on relationships and contraceptive behaviors and attitudes of young women in the United States, we know very little about this in the LGBT population. Demographers have only recently begun to measure non-heterosexuality, and the lack of suitable data has impeded important research about the lives of LGBT people across many domains,

including but certainly not limited to health, fertility, family, and economic well-being. We are able to identify respondents with non-heterosexual behavior, attraction, and/or identity in our population-based sample of young women, which allows us to pursue this research in a population that has previously been difficult to identify. Our research objectives are to describe relationship and contraceptive outcomes in this population, and to advocate for new best practices for the measurement of non-heterosexual people and practices within demography and survey research.

We will begin with a consideration of the importance of counting and including non-heterosexual women fully in research on contraception, focusing on the impact for public health. We aim to challenge assumptions about who non-hetero women are by extending our focus to women traditionally left out of social science research on sexuality (mainly women of color and those women outside of the college-attending population). We will then introduce the reader to the innovative measures of sexuality in a new demographic longitudinal survey of young women, highlighting our unique contributions at the intersection of research on sexuality and contraception. After an orientation to our analytic methods, we will summarize our preliminary results. We will conclude with a discussion of the relationships we found between young women's contraceptive practices and non-heterosexual behavior, attraction, and identity, as well as the implications of these findings for future survey research. We underline the analytical payoff of measuring multiple dimensions of sexuality, given the internal heterogeneity of our sample of non-heterosexual women and the varying importance of same-sex sexual behavior, attraction, and identity with respect to particular outcomes, and we advocate for the inclusion of similarly nuanced measures of sexuality in other social surveys.

Background:

We aim to extend existing research on contraceptive practices and relationship experiences to the under-researched population of non-heterosexual young women. We argue that the dominant contemporary method of studying sexuality varies for men and women, with a focus on sexual behavior for men and a focus on sexual identity for women. While not outright unfounded, we maintain that this difference is responsible for some particular oversights around women's sexuality. By expanding our attention to include, but differentiate between, multiple aspects of sexuality, we are better able to measure populations, develop theories of sexual identity development, gauge risk, and improve public health (not to mention science).

Early models of sexual identity development were very linear, with clearly defined stages and processes ultimately forming a coherent sexuality in which behavior, attraction, and identity cleanly matched (Erikson 1968). Psychologists would go on to adapt these theories, adding room for development processes that doubled back in time, did not order linearly, skipped certain stages, and even incorporated seeming incoherence and ambivalence. In this tradition, contemporary scholars of sexuality who develop explicit theories of sexuality often come out of the discipline of psychology. This legacy is still felt within the field of sociology today, influencing the sub-field of social psychology. Psychologist and sexuality scholar Lisa Diamond's work fits within this lineage and sits unchallenged as the best and most inclusive model of young women's sexuality to-date (Diamond 2009). Diamond's major contribution has been the concept of "sexual fluidity", which is applied to women who have sexualities that change over time. In her popular book (and the academic papers that came out of the same research), Diamond details her longitudinal study in which she follows a cohort of (mostly white and affluent) college-attending women for a decade past graduation. She finds that label changes

are common (typically toward the normative direction, with lesbians changing their label to bisexuality, and bisexuals saying they are straight). She and her research participants make the case for a fluid notion of sexuality—a sexuality that changes throughout one's life, and is an essential and unique aspect to women's sexuality. Rather than moving between defined sexual subjectivities across the life course, is there a way to think about sexuality as able to encompass incoherence (what we have come to think of as "messy heterosexualities)?

Even the better research on sexuality has been affected by exclusionary research practices of normative social science. Most studies of sexuality either do not adequately consider minority experiences and perspectives in research design, or they limit their focus to groups traditionally represented in research (namely college-attending populations, which are likely to have an under-representation of low SES participants and women of color). We begin with the premise that issues of representation and giving voice to those left out of research is an important epistemological and methodological consideration. There is a great body of literature that makes this case, extending from interventions in feminist methodology to science studies (Epstein 2007). There are an increasing number of prominent sociologists studying demographic topics about sexuality, including measuring the population in various ways (number of same-sex families, number of children being raised by gay parents, number of gay-identified teenagers). The sociology of sexuality is increasingly the purview of demographers, focusing primarily on measuring the LGBT population, understanding household composition, and asking broader questions about sexual practices (Laumann et al. 2000; Gates 2012; Black et al. 2000; Moore & Stambolis-Ruhstorfer 2013). The mutually constitutive relationship between science and social values has also been explicitly taken up as a topic of interest by family demographers in a study of how survey design and inclusion effects everyday American attitudes on same-sex relations

and definitions of family (Powell et al. 2012).

Approaches to studying sexuality vary widely for men and for women, as well as by discipline. While research on women's sexualities has gone in the direction of fluidity, research on men's sexuality focuses in large part on behavior, regardless of identity (consider the ubiquitous attention paid to "MSM", or "men who have sex with men" in the field of public health). While this is not without good cause, some argue that the nature and substance of these different theories are motivated by reductionist beliefs about gender. Our data support a shift toward foregrounding behavior in research on women's sexualities.

There has been some scholarship focusing on straight-identified women's same-sex romantic and sexual behavior. This research has typically been conducted in sex-segregated locations, such as prisons, boarding schools, or separatist communities (Tolman 2002; Stein 1997). Though the argument could be made that this research largely tells a story of straight women turning to each other in the absence of men and downplaying the significance of these acts and relationships to the detriment of scholarship on women's sexuality, this literature does open the possibility for sexuality to be strategic, intentional, adaptive, and responsive to social context. My data suggest that women also have "behavior only" non-hetero experiences within the general population. There has been some call for attention to a recent phenomenon dubbed "straight girls kissing" (Rupp & Taylor 2010). "Straight girls kissing" typically refers specifically to women whose behavior is interpreted as performing for the pleasure of men, under the pressure of men, as part of the college party scene (Hamilton 2007).

There are also practical implications of studying "behavior only" and other types of messy heterosexualities in social science research. For example, in comparison with heterosexuals, LGB young women are less likely to receive appropriate health screenings and to

seek health care when needed (Heck 2006). This gap in basic health education and access leads to higher rates of STIs, some cancers, and unintended pregnancy among LGB young women (Saewyc 2004). They are also more likely to use alcohol and drugs, be diagnosed with generalized anxiety disorder, and report seeing a mental health provider (Conron 2010). We find ourselves in an important moment of transition in how we seek to understand and address the greater health and well-being risks LGB women face. Notably, the CDC's Healthy People 2020 initiative includes LGBT health as an objective for the first time. This surge in attention to LGB health disparities requires improved measures of sexuality in survey research.

Ultimately, we do not argue for reducing the study of sexuality to behavior, but rather to allow for the differentiation of identity, attraction, and behavior and a more complex and nuanced understanding of sexuality based on the demonstrated interplay between these axes. We aim to bring the knowledge generated by this improved attention to inclusion and measurement back to demography - our contribution is to extend research on relationships and contraceptive practices to the under-researched population of non-heterosexual young women.

Data & Methods:

The Relationship Dynamics & Social Life (RDSL) Study

We rely on new data from the Relationship Dynamics and Social Life (RDSL) study, a longitudinal demographic survey project conducted by principal investigator Jennifer Barber at the University of Michigan's Institute for Social Research. The RDSL study follows a population-based sample of 1,003 young women residing in a Michigan county over a period of 30 months. The sample includes 18- and 19-year-old women and was randomly selected from the Michigan Department of State driver's license and Personal Identification Card (PID) database. The RDSL study began with an in-person baseline interview that covered a range of

sociodemographic topics, after which 992 of the original respondents enrolled in a weekly survey (taken online or over the phone). Respondents were also invited to participate in three one-time survey supplements, each with a particular substantive focus. The primary interest of the RDSL study is unintended pregnancy, and the mismatch between intentions and behavior around related topics (e.g., attitudes toward relationships, parenting, contraceptive use).

Creation of Analytic Sample

Of the original 1,003 women who completed a baseline interview, 992 women enrolled in the weekly journal study. Of these 992 women, 594 completed a one-time supplementary survey called the Social Life Journal Supplement (SLJS), which contains the sexuality variables that are the focus of our analyses. Thus, our sample includes the 579 respondents who participated in the journal study and SLJS and are not missing data on any of our three sexuality measures. Together, these respondents contributed a total 47,806 weekly journals. We drop weeks in which the respondent is pregnant for a final sample of 579 women and 45,609 journals. However, the actual number of journals used to construct particular outcome measures varies by topic. (For instance, our contraceptive use variable is based only on journals in which respondents report sexual activity because some contraceptive methods can only be used during intercourse.) We describe the creation of this and other variables important to our analyses in greater detail below. All predictors and control variables are summarized in Table 1.

Sexuality Measures

Following the standards of the field, RDSL did not explicitly include questions pertaining to same-sex sexuality in either the baseline interview or the weekly journal survey instrument (e.g., the respondent's partner's sex was not collected). However, some non-heterosexual respondents wrote in to complain about or question the apparent heterosexual focus of the study.

These responses, in part, motivated Budnick's design and inclusion of new sexuality measures in the Social Life Journal Supplement (SLJS), one of the supplemental surveys mentioned above. Sexuality questions in the SLJS correspond closely to those of the National Longitudinal Survey of Adolescent Health (Add Health), and ask respondents about separate "axes" of sexuality: sexual behavior, attraction, and identity. Drawing on qualitative research about how young women talk about sexuality and labels, she wrote revised response options for each question.

The sub-section of the SLJS on non-heterosexuality begins with a short intro reading, "These next questions are about your sexuality." All three questions were displayed on the same page, and respondents could change their answers or skip as necessary. The question used to capture non-heterosexual behavior reads, "Have you ever had physical or emotional contact, such as kissing dating, spending time together, sex, or activities with a woman?" The response options are "yes" and "no". This question mirrors the way respondents are asked about (presumably) heterosexual encounters, and is meant to be broad enough to capture a range of romantic and sexual experiences. Just over 28% of the total women responding to the SLJS answered "yes."[2]

The question used to capture non-heterosexual attraction reads, "When I think about who I am romantically and sexually attracted to, it is…", and the response options include, "Always women", "Usually women, but sometimes men", "A person's gender isn't really important when it comes to who I'm attracted to", "Usually men, but sometimes women", or "Always men." Just over 22% of the total SLJS respondents chose an answer that was not "Always men."

The question used to capture non-heterosexual identity reads, "Please choose the description that best fits how you think about yourself…", and the response options included,

[2] This number may seem high. However, based on Budnick's qualitative fieldwork focusing on same-sex behavior among the straight-identified women in this sample, we are confident that this number accurately reflects the prevalence of these experiences.

"Lesbian, gay, or queer", "Bisexual", "Straight", and "I don't label myself in this way." Just over 16% of SLJS respondents selected a response that was not "Straight."

Sociodemographic characteristics

Sociodemographic characteristics measured during the baseline interview include race, mother's age at her first birth, childhood family structure, religious importance, receipt of public assistance during childhood, current receipt of public assistance at the time of the baseline interview, and educational attainment and enrollment at baseline. Respondents' race is measured with the question, "Which of the following groups describe your racial background? Please select one or more groups: American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Black or African American, or White." We create a dichotomous Black/non-Black variable based on this measure since the number of respondents in our analytic sample identifying as American Indian/Alaska Native, Asian, or Native Hawaiian/Pacific Islander is too small for separate analyses of these groups to be feasible. Mother's age at first birth is measured with the question, "How old was your biological mother when she had her first child?" and is used to create a dummy variable indicating whether the respondent's mother had a child as a teenager. The childhood family structure variable indicates whether or not the respondent's primary childhood residence was a two-parent household. For our purposes, a two-parent household could include two biological parents *or* one biological parent and a step-parent. Religious importance was measured with the question "How important if at all is your religious faith to you – would you say not important, somewhat important, very important, or more important than anything else?" We collapse this variable into a dichotomous indicator of high religiosity in which respondents describing their religious faith as "very important" or "more important than anything else" are coded 1 and all other respondents are coded 0.

Receipt of childhood public assistance is measured with the question, "While you were growing up, did your family ever receive public assistance?" Respondents are also asked about their receipt of various types of public assistance at the time of the baseline interview: "Are you currently receiving public assistance from any of the following sources? WIC (Women, Infants, and Children Program), FIP (Family Independence Program), Cash welfare, or Food Stamps." If respondents reported participating in any of these programs, they are considered to be current public assistance recipients at baseline. Finally, *baseline educational attainment and enrollment* are captured in a series of dummy variables: dropped out of high school and not currently enrolled; currently enrolled in high school; high school graduate *not enrolled* in a postsecondary institution (the reference group); and high school graduate *enrolled* in a postsecondary institution.

Relationship and Contraceptive Outcomes

In each weekly journal, respondents are asked whether they have had a "special romantic relationship with anyone" and whether they have had "physical or emotional contact, such as kissing, dating, spending time together, sex, or other activities with a partner" since the previous journal. We calculate the proportion of relationship weeks by summing the number of weeks in which a woman reports either a romantic relationship *or* physical or emotional contact with a partner and dividing by her total number of journals submitted. Our use of the term "relationship weeks" does not necessarily reflect the seriousness of a relationship or how the respondent might describe her relationship *status*; rather, we use the term to indicate the presence of some romantic or sexual partner during that week. For our purposes, it is also important to note that the question text does not specify the gender of the partner, so this question most likely captures both male and female romantic partners.

Each time that a partner is reported, respondents are asked, "Is this a partner you have talked about in a previous interview?" If so, they are asked to select that partners initials from a list of all partners reported during the journals study. If the partner is new, they are asked to supply the new partner's initials. Thus, we are able to count the number of unique partners a woman ever mentioned during the study. We also calculate respondents' average duration of relationships by summing the length of each relationship (in months) and dividing by the number of unique partners. For respondents who were in a relationship at the beginning of the journal study, this includes time spent in that relationship prior to the study. In cases where weeks with a specific partner are not consecutive (i.e. a couple broke up and then got back together later in the study) all weeks spent with that partner are considered to be one relationship.

In weeks in which women report a partner, the weekly journal includes a question about sexual activity. We calculate the proportion of relationship weeks with sexual activity by dividing the number of relationship weeks in which a respondent reports sex by her total number of relationship weeks. Since the question explicitly defines sex as heterosexual penetration ("…did you have sexual intercourse with __? By sexual intercourse, we mean when a man puts his penis into a woman's vagina"), our analyses of women's sexual behavior are concerned with heterosexual contact, though we cannot rule out the possibility that some respondents may have used this question to report sex with female partners. Since women are only at risk of pregnancy in during weeks in which they have intercourse with men, we also use the survey question about heterosexual sex to define the analytic sample for our analyses of contraceptive behavior.

Summary measures of contraceptive use and method choice are constructed from a series of questions in the weekly journal. All respondents are initially asked, "Did you use or do anything that can help people avoid becoming pregnant, even if you did not use it to keep from

getting pregnant yourself?" Respondents who answer that they did use some contraceptive method are asked a series of follow-up questions about particular non-coital methods, including oral contraceptive pills, patch, Nuva-Ring, Depo-Provera, implant, IUD, and rhythm. Respondents reporting sexual intercourse in that journal are also asked a second set of questions about their use of coital-specific contraceptive methods, including condoms (male and female), diaphragm/cervical cap, spermicide, and withdrawal. Respondents are coded as contraceptive users that week if they indicated anywhere in the journal that they used at least one of the above methods. We calculate the proportion of contraceptive use weeks by summing the number of weeks in which a woman used any method of contraception and dividing by her total number of sexually active journal weeks.[3] Respondents were also asked, "…since the last interview, did you or your partner use some method of birth control every time you had intercourse (even if you are not trying to prevent pregnancy)?" We calculate the proportion of perfect use weeks by dividing the total number of weeks in which the respondent used contraception at every instance of intercourse by her total number of weeks with any contraceptive use.

We classify contraceptive use weeks into mutually exclusive method categories: withdrawal, male or female condom, pill/patch/ring, and finally LARC (long-acting reversible contraceptive) methods, which include IUD, implant, and Depo-Provera injections.[4] In weeks in which women used multiple methods, they are coded according to the most effective method used that week. For instance, journals classified as withdrawal weeks are journals in which the respondent relied on withdrawal as the best or only contraceptive method; if a respondent used

[3] Although respondents could and did report using non-coital methods in weeks in which they did not have sex, our analyses are limited to sexually active weeks because some methods can only be used during sex.

[4] In 92 journals, or 0.7% of the 14,787 journals in which respondents reported using contraception, the respondent did not specify the method used. These weeks are coded as use weeks in the general contraception use variable, but are dropped from analyses of specific methods.

withdrawal and condoms, that week is considered a condom week. For each specific method, we calculate the proportion of use weeks by dividing the number of journals in which the respondent used that method by her total number of sexually active contraceptive use weeks. Similarly, we create the proportion of dual method use weeks by dividing the number of journals in which a respondent used both condoms and some hormonal contraceptive method by her total number of contraceptive use weeks.

Finally, we construct the number of contraceptive use spells. We define a spell as a period of continuous use of *some* method of contraception. (The method need not be the same every week: if a woman switched from the pill to condoms without any gaps in coverage, this would be considered only one spell. If a woman used only the pill but had gaps in coverage, this would be considered multiple spells.)

Analytic Method

We estimate a series of ordinary-least-squares (OLS) regression models predicting each of the relationship, sex, and contraceptive outcomes described above. In Model 1, we begin by regressing each outcome on the three sexuality variables without any other controls. In Model 2, we add variables related to childhood and family background, including race, religiosity, mother's age at first birth, childhood family structure, and childhood receipt of public assistance. In Model 3, we add educational enrollment/attainment, current employment, and receipt of public assistance at the time of the baseline interview.[5]

[5] We also intend to consider past sexual experiences, including prior pregnancies, given their relevance to many of our outcomes of interest. These variables are not included in the analyses we present here due to some collinearity-related problems that that we are working to resolve.

Results:

Relationship Outcomes

Table 2 presents models predicting the proportion of relationship weeks, the proportion of relationship sex weeks, the average number of unique romantic or sexual partners, and the average duration of relationships. Neither same-sex attraction nor non-heterosexual identity is significantly associated with the proportion of weeks women spend in relationships. Women who report same-sex sexual behavior spend 12.8% more of their journal weeks in relationships than other women, an effect which is significant at the $p < 0.001$ level. This coefficient shrinks only slightly in subsequent models: once childhood and baseline variables are added in Model 3, same-sex behavior is significantly associated with 11.9% more relationship weeks and remains significant at the $p < 0.01$ level. Compared to the women in the sample who have never had a sexual experience with another woman, women who have engaged in same-sex sexual behavior report (heterosexual) intercourse in 15.0% more of their relationship weeks after controlling for childhood and baseline characteristics. Conversely, non-heterosexual identity is significantly associated with 8.7% fewer (hetero)sexually active relationship weeks.

Women reporting same-sex sexual behavior also have more unique romantic partners during the journal study than other women: on average, these women report 1.244 more unique partners after adjusting for childhood and baseline characteristics ($p<0.001$). This seems to be a function of their overall greater amount of time spent in relationships relative to the rest of the sample, *not* an indication of shorter relationship duration. In fact, none of the axes of sexuality are significantly related to the average duration of women's romantic relationships in any of the models.

Contraceptive Outcomes

Table 3 displays our regression models estimating our more general contraceptive use outcomes: the proportion of sexually active weeks in which some contraceptive method is used, the proportion of contraceptive use weeks in which some method is used at every instance of intercourse, the number of contraceptive use spells, and finally the proportion of contraceptive use weeks in which respondents use dual methods (condoms and any hormonal method). Neither same-sex behavior nor non-heterosexual identity predicts contraceptive use in sexually active weeks. Women reporting same-sex attraction use some method of contraception in 6.5 % fewer of the weeks in which they have sexual intercourse with men, after controlling for childhood and baseline characteristics ($p<0.05$).[6]

In sexually active journal weeks in which women *do* use some method of contraception, women who have had same-sex sexual experiences have a lower proportion of perfect use weeks (i.e. using some method at every instance of intercourse during that journal week), although this association disappears after controlling for baseline variables (education, employment, and receipt of public assistance). Behavior is the only axis of sexuality that is significantly related to the number of contraceptive use spells over the course of the study period. Women who have had a same-sex sexual experience report, on average, 0.433 more contraceptive use spells than other women in the sample, net of childhood and baseline characteristics. None of the three sexuality variables significantly predict use of dual contraceptive methods among contraceptive users.

Finally, Table 4 presents analyses of women's use of specific contraceptive methods in sexually active weeks in which they do use some method of contraception. Neither same-sex

[6] On the other hand, in weeks in which these same women *do* use contraception, they may be more likely to use contraception at every instance of intercourse. Since this association is only significant in Model 2, we are working to determine whether this is a meaningful finding. For instance, we are considering the possibility that other respondent characteristics may influence both willingness to report same-sex attraction and perfect contraception use.

behavior, same-sex attraction, nor non-heterosexual identity predicts the mean proportion of weeks in which women use the pill/patch/ring or withdrawal as their main method of contraception. Non-heterosexual identity is significantly related to reliance on condoms; these women use condoms in 11.3% more of their contraceptive use weeks than women who identify as heterosexual ($p<0.10$), but this association seems to be explained away with the addition of childhood and baseline variables. Therefore, axes of sexuality do not appear to dramatically influence method selection among contraceptive users, with one exception: non-heterosexual identity does predict significantly less use of LARC methods (including the IUD, implant, and Depo-Provera) in contraceptive use weeks in Models 2 and 3.

Discussion:

While social surveys often measure just one axis of sexuality or ignore non-heterosexuality altogether, our findings demonstrate the prevalence of non-heterosexual attraction, behavior, and identities as well as their importance to social science research. We find that that non-heterosexual women are an internally heterogeneous group, and that the salience of particular axes of sexuality varies by the outcome of interest. In our sample, same-sex sexual behavior is associated with the amount of time spent in relationships, the frequency of sex within relationships, and the number of partners, though it is *not* associated with the length of relationships. Both same-sex attraction and same-sex sexual behavior predict use of some method of contraception within heterosexual unions, while non-heterosexual identity is the axis of sexuality most salient to contraceptive method selection among women using contraception during sexual intercourse with men.

These descriptive statistics focusing on non-hetero women's relationships and contractive behaviors are in themselves an important, innovative contribution to scholarly conversation on

young women's sexualities, especially in light of the representation of women of color and women not enrolled in college, two groups neglected by much of the social research on sexuality. Our research also demonstrates the potential of sexuality research to enrich the demographic literature on fertility, contraceptive use, relationships, and sex, a literature which has often failed to explicitly include non-heterosexual women or to extend findings beyond the presumed heterosexual majority. For instance, the tendency of women in our sample with non-heterosexual identities to use LARC methods less often and to rely on condoms more often during sexual encounters with men is consistent with past demographic research suggesting that (ostensibly heterosexual) women who do not expect to have frequent sexual contact with men often rely on less effective coital-specific methods of contraception when they do have intercourse. This has implications for unintended pregnancy since these methods are more difficult to use correctly, and are more likely to fail even when used perfectly (Trussell 2004).

In short, by using incorporating more nuanced measures of sexuality into the kinds of demographic analyses that have historically focused on heterosexual women, we find that non-heterosexuality is fairly widespread, that different dimensions of sexuality influence many outcomes of interest to demographers, and that ignoring non-heterosexual women distorts our understanding of relationships, contraceptive use, and therefore pregnancy risk among heterosexual *and* non-heterosexual women. Thus, we wish to underline the necessity of incorporating more complex measures of sexuality into demographic research. It is in the interest of the entire social science community for survey researchers to include rich, nuanced measures of sexuality that will serve the needs of scholars with various research goals.

Table 1: Sample characteristics

	N	Min	Max	Mean	SD
Sexuality					
Exclusively heterosexual	579	0	1	.63	.48
Same-sex attraction or behavior, heterosexual identity	579	0	1	.20	.40
Non-heterosexual identity	579	0	1	.16	.37
Sociodemographic characteristics					
African American	579	0	1	.27	.44
High religious importance	579	0	1	.56	.50
Childhood disadvantage scale	579	0	3	1.04	1.00
Baseline public assistance	579	0	1	.21	.40
High school GPA	579	0	4.17	3.21	.56
Employed	579	0	1	.51	.50
Relationship outcomes					
% weeks R reported a romantic partner	579	.00	1.00	.65	.35
% partnered weeks R reported sexual intercourse	555	.00	1.00	.50	.34
Number of partners	555	1	23	3.39	3.12
Average relationship duration (months)	555	.20	132.11	19.30	21.08
Contraceptive outcomes					
% sex weeks R used contraception (any method)	463	.00	1.00	.89	.22
% use weeks with perfect use	458	.00	1.00	.75	.30
Number of use spells	458	1	14	1.84	1.68
Number of methods ever used	456	1	6	2.24	1.03
Number of method switches	456	0	25	3.36	4.03
% of use weeks in which R used LARC	456	.00	1.00	.09	.23
% of use weeks in which R used pill/patch/ring	456	.00	1.00	.40	.40
% of use weeks in which R used condoms	456	.00	1.00	.32	.35
% of use weeks in which R used withdrawal	456	.00	1.00	.18	.28
% of use weeks in which R used a dual method	456	.00	1.00	.19	.27

Table 2: OLS regression models estimating relationship characteristics

	Proportion of weeks R reported a partner		Proportion of partnered weeks R reported sex		Number of partners		Average relationship duration (months)	
	M1	M2	M1	M2	M1	M2	M1	M2
Sexuality (ref: exclusively heterosexual)								
Same-sex attraction or behavior, heterosexual identity	.13 ***	.12 ***	.16 ***	.13 ***	1.09 ***	1.09 ***	-1.12	-1.81
	(.04)	(.04)	(.04)	(.04)	(.33)	(.33)	(2.26)	(2.25)
Non-heterosexual identity	.10 **	.10 **	.08 *	.04	.42	.47	-.54	-1.48
	(.04)	(.04)	(.04)	(.04)	(.36)	(.37)	(2.48)	(2.51)
Sociodemographic characteristics								
African American		-.12 **		-.02		.94 **		-4.62 *
		(.04)		(.04)		(.34)		(2.29)
High religious importance		.01		-.08 **		-.67 *		-1.52
		(.03)		(.03)		(.29)		(1.94)
Childhood disadvantage scale		.02		.05 **		-.21		.12
		(.02)		(.02)		(.15)		(1.04)
Baseline public assistance		.05		.05		-.64 *		9.68 ***
		(.04)		(.04)		(.35)		(2.35)
High school GPA		.01		-.06 *		.24		.22
		(.03)		(.03)		(.24)		(1.64)
Employed		.07 **		.08 **		-.16		3.35 *
		(.03)		(.03)		(.27)		(1.81)
r2	.03	.06	.04	.10	.02	.05	.00	.05

*p<0.05; **p<0.01; ***p<0.001 (one-tailed tests)

Note: Standard errors in parentheses.

Table 3: OLS models estimating contraceptive use and consistency

	Proportion of…				Number of…					
	Sex weeks with any contraceptive use		Contraceptive use weeks with perfect use		Use spells		Methods ever used		Method switches	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Sexuality (ref: exclusively heterosexual)										
Same-sex attraction or behavior, heterosexual identity	-.07 **	-.06 **	-.04	-.03	.57 **	.53 **	.26 *	.22 *	.62	.52
	(.02)	(.02)	(.03)	(.03)	(.19)	(.19)	(.12)	(.12)	(.46)	(.47)
Non-heterosexual identity	-.12 ***	-.10 ***	-.05	-.02	.59 **	.53 **	.25 *	.15	.63	.35
	(.03)	(.03)	(.04)	(.04)	(.22)	(.22)	(.13)	(.14)	(.53)	(.54)
Sociodemographic characteristics										
African American		.03		.00		-.16		.00		-.39
		(.02)		(.03)		(.20)		(.12)		(.49)
High religious importance		-.01		-.03		.13		-.20 *		-.25
		(.02)		(.03)		(.17)		(.10)		(.42)
Childhood disadvantage scale		-.03 **		-.05 ***		.11		.12 *		.23
		(.01)		(.02)		(.09)		(.06)		(.22)
Baseline public assistance		-.03		.02		.08		.11		-.13
		(.02)		(.03)		(.20)		(.12)		(.48)
High school GPA		.05 **		.09 ***		-.45 ***		-.03		-.10
		(.02)		(.02)		(.14)		(.09)		(.34)
Employed		.02		.04		.16		-.02		-.80 *
		(.02)		(.03)		(.16)		(.10)		(.39)
r2	.05	.10	.01	.09	.03	.06	.01	.04	.01	.02

*p<0.05; **p<0.01; ***p<0.001 (one-tailed tests)

Note: Standard errors in parentheses.

Table 4: OLS regression models estimating proportion of sexually active contraceptive use weeks in which women used specific methods

	LARC		Pill/patch/ring		Condom		Withdrawal		Dual method	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Sexuality (ref: exclusively heterosexual)										
Same-sex attraction or behavior, heterosexual identity	.03	.03	.00	.01	-.05	-.05	.02	.01	-.07 *	-.06 *
	(.03)	(.03)	(.05)	(.04)	(.04)	(.04)	(.03)	(.03)	(.03)	(.03)
Non-heterosexual identity	-.02	-.04	-.06	-.01	.04	.02	.05	.02	-.10 **	-.08 *
	(.03)	(.03)	(.05)	(.05)	(.05)	(.05)	(.04)	(.04)	(.03)	(.04)
Sociodemographic characteristics										
African American		.03		-.11 **		.11 **		-.03		-.01
		(.03)		(.04)		(.04)		(.03)		(.03)
High religious importance		-.02		.03		.00		.00		.03
		(.02)		(.04)		(.04)		(.03)		(.03)
Childhood disadvantage scale		.01		-.07 ***		.03 *		.02		-.03 *
		(.01)		(.02)		(.02)		(.02)		(.01)
Baseline public assistance		.11 ***		-.07 *		-.03		-.01		.04
		(.03)		(.04)		(.04)		(.03)		(.03)
High school GPA		-.01		.12 ***		-.03		-.08 ***		.03
		(.02)		(.03)		(.03)		(.02)		(.02)
Employed		.01		.09 **		-.06 *		-.04		.02
		(.02)		(.04)		(.03)		(.03)		(.03)
r2	.01	.06	.00	.15	.01	.06	.00	.04	.02	.05

*p<0.05; **p<0.01; ***p<0.001 (one-tailed tests)

Note: Standard errors in parentheses.

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