Sexual Orientation Concordance And (Un)Happiness About Births

CONTEXT: *A woman's happiness about a pregnancy and birth has implications for her child's health and her own well-being. Sexual orientation and, particularly, the extent of concordance across its dimensions (sexual identity, behavior and attraction) may be related to happiness about these events, but research on this relationship has been lacking.*

METHODS: *Data on 5,744 pregnancies ending in births among women aged 15–44 in three waves of the National Survey of Family Growth (2006–2015) were examined. Weighted linear regression models examined the relationship between sexual orientation concordance and women's happiness about a birth. Analyses also explored whether birth intention and male partnership characteristics mediated the relationship, and whether it varied by intention status.*

RESULTS: *Women who identified as heterosexual but reported same-sex attraction or behavior (categorized as "heterosexual-identified discordant") were less happy about their births than were women who were exclusively heterosexual (or "heterosexual-identified concordant"). The difference was more than half a point on a scale of 0–10 (coefficient, –0.7). This association was partially explained by the fact that births were less likely to be intended, and that relationships with male partners were less favorable for births, among discordant than among concordant women. Moreover, the happiness gap between concordant and discordant women was larger when births were unwanted (predicted score, 4.9 vs. 4.1) than when they were intended (9.3 vs. 9.1).*

CONCLUSIONS: *To help ensure optimal reproductive health care for all women, research should explore whether providers take into account all dimensions of individuals' sexual orientation.*

Perspectives on Sexual and Reproductive Health, 2017, 49(4):213–221, doi:10.1363/psrh.12043

By Caroline Sten Hartnett, Lisa Lindley, Katrina M. Walsemann and Daniela V. Negraia

Caroline Sten Hartnett is assistant professor, Department of Sociology; Katrina M. Walsemann is associate professor, Department of Health Promotion, Education, and Behavior; and Daniela V. Negraia is a graduate student—all at the University of South Carolina, Columbia. Lisa Lindley is associate professor, Department of Global and Community Health, George Mason University, Fairfax, VA.

Happiness is an important and understudied dimension of pregnancy and birth desirability.[1,2] Unhappiness about a pregnancy is associated with negative outcomes for mothers and children, including prenatal substance use, inadequate prenatal care and low birth weight.[3–5] Furthermore, births represent important events in women's lives, and how women feel about pregnancies leading to births may have significant implications for their mental health and well-being, in both the short term (during pregnancy) and the long term (when they are parents).[3,6,7] While a large body of literature has examined pregnancy intention (i.e., intended versus unintended),[7–9] relatively little research has focused on happiness, even though happiness is more strongly associated with many prenatal health behaviors and outcomes than is intention.[3–5] Moreover, no research has examined pregnancy happiness among sexual minority women (i.e., women who are other than exclusively heterosexual), even though pregnancies and births are common life events for them.[10] In this study, we analyze U.S. births and examine whether sexual orientation concordance is associated with women's reported happiness (or unhappiness) about the pregnancies that led to them. While the indicator of interest is how happy women were about a given pregnancy, because our study is limited to pregnancies ending in birth, we refer to this measure as "birth happiness."

BACKGROUND

Sexual Orientation Concordance

Sexual orientation is a multidimensional construct, consisting of sexual identity, sexual attraction and sexual behavior. Sexual orientation "concordance" refers to consistency across these three dimensions.[11] Thus, a woman who identifies as heterosexual, reports being attracted only to men and engages in sexual behaviors only with men would be considered concordant in her sexual orientation, as would a woman who identifies as lesbian, reports only same-sex attractions and engages only in same-sex behaviors. However, a woman who identifies as heterosexual but reports same-sex attractions or behaviors would be considered discordant in her sexual orientation; we refer to this as "heterosexual-identified discordant." A woman who identifies as lesbian but reports mostly being attracted to men also is discordant. However, heterosexual-identified discordant women are of particular interest for this study because they are more likely than other sexual minority women or heterosexual-identified concordant women to engage in risky sexual behaviors (e.g., have more sex partners, have intercourse under the influence of drugs or alcohol) and to experience unintended pregnancies.[12–15] Likely explanations for these disparities may include both sexual minority stress and the stress that discordant individuals experience

as a result of internalized homophobia or efforts to conceal their same-sex attractions or behaviors.[16–18]

Theoretical Framework

Several characteristics may be related to women's happiness about their pregnancies, and we examine these characteristics as potential mediators of any association between sexual orientation concordance and happiness. First, although the existing research is limited, it suggests that happiness differs depending on whether the pregnancy was intended. Women are nearly always happy about intended pregnancies, whereas their feelings about unintended pregnancies are more mixed.[3,19] As a result, we expect that, compared with heterosexual-identified concordant women, sexual minority women may be unhappier about their births, because a higher proportion of these are the result of unintended pregnancies.[14,20–22] In other words, if there are differences in birth happiness by sexual orientation concordance, we expect that intention status may mediate this association.

A second characteristic that may be associated with birth happiness and may differ by sexual orientation concordance is the nature of the woman's relationship with the father of the baby (when a relationship is involved). Women's reported happiness varies depending on partner context, including whether the woman wants to have a baby with a particular partner and how the partner reacts to the idea of having a baby.[3,23,24] While some heterosexual-identified discordant women may become pregnant via artificial insemination, we expect that the majority who become pregnant do so by a male partner, since these women identify as heterosexual. Heterosexual-identified discordant women may have conflicted feelings about their sexual orientation, as well as about their relationships with male partners, which may result in a poorer quality relationship with—and less support from—the father of the child. Therefore, we expect that if these women are unhappier about their births, it may be partially because their relationships with male partners are less favorable for a birth.[3,23,24]

In addition, we explore whether the intention status of births moderates the association between sexual orientation concordance and birth happiness. In particular, there may be little, if any, difference by sexual orientation concordance in happiness about intended births, since women tend to be almost universally happy about such births.[3,19] In contrast, women's happiness about mistimed or unwanted births may be related to a range of characteristics, and there is more variation in happiness about these types of births.[3,23,24] Since contextual characteristics such as partner relationships and familial support may be more relevant for happiness about mistimed or unwanted births, we expect a larger happiness gap by sexual orientation for these births than for intended births. The expectation that heterosexual-identified discordant women will have weaker interpersonal support for their pregnancies stems from research showing higher rates of both physical and sexual abuse among sexual minority women than among heterosexual women.[20,23,25,26]

THE CURRENT STUDY

This study addresses a number of research questions. First, does birth happiness vary by sexual orientation concordance? We hypothesize that heterosexual-identified discordant women will be unhappier about their births than will heterosexual-identified concordant women.

Second, do birth intentions and male partner relationship characteristics mediate any associations found between sexual orientation concordance and birth happiness? We hypothesize that if heterosexual-identified discordant women are unhappier than heterosexual-identified concordant women about their births, it is partly because they are more likely to have mistimed and unwanted births (as opposed to intended ones), and their male partnerships are less favorable for a birth.

Third, does birth intention moderate associations between sexual orientation concordance and birth happiness? In other words, is the happiness gap by sexual orientation concordance the same for intended births as it is for mistimed and unwanted births? We hypothesize that the difference in happiness between heterosexual-identified discordant and concordant women will be particularly large for mistimed and unwanted births.

METHODS

Data

We used data from the National Survey of Family Growth (NSFG), which examines a nationally representative sample of the civilian, noninstitutionalized female population aged 15–44.[27–29] Women are interviewed face-to-face, and computer-assisted interviewing is used for sensitive questions, including those related to sexual orientation. The survey is cross-sectional, and we pooled data from 2006 to 2015 (the most recent year available) to capture a sufficiently large number of cases. The response rate was 78% for the 2006–2010 data collection period, 73% for 2011–2013 and 69% for 2013–2015.[29]

Pregnancy happiness was assessed for all pregnancies within the three years prior to interview. We limited the analysis to pregnancies that ended in birth for two reasons. First, unhappiness would presumably have longer term consequences for pregnancies ending in birth than for those ending in miscarriage or abortion. Second, the data for births are relatively complete. In contrast, data on the full group of pregnancies are considered biased, since pregnancies ending in abortion are underreported (as in all U.S. survey data), and the extent of underreporting varies by socioeconomic status and other characteristics.[30]

The data set included a total of 6,002 births. We excluded the 21 births that reportedly occurred before the women were 15 and the 13 reported by women who did not choose one of the specified categories to describe their sexual orientation. Births were dropped from the analyses if data were missing for a key variable: happiness (11 births), sexual orientation (103), attraction (35, including cases for which the response was "not sure"), sexual experiences with female partners (six), religion in which

the respondent was raised (10), birth intention (55) and whether the respondent wanted to have a birth with her partner (one). In addition, three births to women who had never had sex with a man were excluded. The final analytic sample consisted of 5,744 births.

Measures

•***Sexual orientation concordance.*** Respondents were asked about three dimensions of sexual orientation. First, they were asked whether they thought of themselves as "heterosexual or straight," "homosexual, gay or lesbian" or "bisexual." Respondents were categorized as having heterosexual identity if they chose the first option, or as having lesbian or bisexual identity if they chose one of the other options. Second, they were asked which of the following best described their sexual attraction: "only attracted to males," "mostly attracted to males," "equally attracted to males and females," "mostly attracted to females" or "only attracted to females." Respondents who chose the first option were considered to have heterosexual attraction; all others were considered to have some same-sex attraction. Finally, respondents were asked about their sexual experiences with male and female partners. They were considered to have had female sex partners if they reported "any sexual experience of any kind with another female." All women in the analytic sample had had sexual intercourse with a man. Those who had had only male partners were coded as heterosexual in their behavior, while those who had also had female partners were coded as having engaged in same-sex sexual behavior.

Respondents were then classified into three mutually exclusive categories: Some 4,491 women were heterosexual-identified concordant (signifying heterosexual identity, attraction and behavior), 941 were heterosexual-identified discordant (denoting heterosexual identity but same-sex attraction or at least one female partner) and 312 were lesbian- or bisexual-identified. Respondents in the last two categories were considered to be sexual minority women.

•***Birth happiness.*** To assess happiness about a birth, respondents were asked how they felt when they found out about the pregnancy; on a scale of 0–10, options ranged from "very unhappy to be pregnant" to "very happy to be pregnant." In our analyses, this measure was treated as a continuous variable.

•***Birth intention.*** Pregnancy intention, which we are considering reflective of birth intention in this sample, was assessed using two questions. Women were first asked, "Right before you became pregnant, did you yourself want to have a(nother) baby at any time in the future?" If they answered in the affirmative, they were then asked, "Would you say you became pregnant too soon, at about the right time, or later than you wanted?" Some 3,353 pregnancies were categorized as intended (i.e., having occurred at the right time or later than desired), 1,416 as mistimed (i.e., having occurred too soon) and 975 as unwanted (i.e., having occurred although pregnancy was not wanted at any time).

•***Male partnership context.*** We examined three variables to capture the extent to which women's relationships with male partners were favorable for a birth. First, using the NSFG measures of marital status at time of conception and relationship status (including marriage or cohabitation) at time of birth, we classified women into three categories: married at time of conception, unmarried at conception but married or cohabiting at birth, and unmarried at conception and neither married nor cohabiting at birth. Second, women were asked if they had wanted to have a baby with the partner involved in the pregnancy; women were categorized as wanting a baby with the partner ("definitely yes" or "probably yes") or not actively wanting one ("definitely no," "probably no" or "don't know"). Third, women's reports of the father's feeling about the pregnancy were coded as intended, mistimed or unwanted, or indifferent or unknown.

NSFG questions pertaining to partners during a pregnancy assume that these partners are men; the survey does not collect information to ascertain whether a pregnancy resulted from a female's using donor sperm. However, since our focus is on heterosexual-identified discordant women, the vast majority of the reported pregnancies likely resulted from partnerships with men. This assumption is based on the fact that nearly all respondents (about 95%) provided answers for the question about the male partner's intention, and the proportion giving valid responses did not differ between heterosexual-identified concordant and discordant women.

•***Covariates.*** Sociodemographic covariates included self-reported race and ethnicity (white, black, Hispanic or other); education level of the respondent's mother (less than high school, high school graduate or GED, some college, bachelor's degree or higher, or respondent has no mother figure); household income as a percentage of the federal poverty level (less than 100%, 100–199%, 200–299%, or 300% or higher); religion in which the respondent was raised (none, Catholic, Protestant or other); age at conception; birth order (first, second, third, or fourth or higher); and survey wave (2006–2010, 2011–2013 or 2013–2015).

Analysis

Data were analyzed using the *svy* commands in Stata SE 13.0, which account for the complex sampling design, including the clustering of births by women (706 individuals contributed more than one).[27–29,31] First, we calculated descriptive statistics and used t tests to examine the bivariate relationships between sexual orientation concordance and various characteristics. To address our research question of whether birth happiness varied by sexual orientation concordance, we employed linear regression models to examine whether happiness scores differed between heterosexual-identified concordant and sexual minority women. The models controlled for all sociodemographic covariates.

To answer our question of whether birth intentions and male partner context mediated any association between

sexual concordance and birth happiness, we added first the former and then the latter to the baseline model.

To address our question of whether birth intentions moderated the relationship between sexual orientation concordance and level of happiness, we added interaction terms (sexual orientation concordance by birth intention) to the baseline model. We then used this model to estimate predicted happiness scores associated with different combinations of sexual orientation concordance and birth intention.

Finally, we conducted three sensitivity tests. In the first, we tested a dichotomized measure of birth happiness. Because the distribution of happiness scores was substantially different for intended, mistimed and unwanted births, we dichotomized scores at the median for each intention category: Respondents were considered happy about intended births if their score was 10, about mistimed births if it was 7 or higher, and about unwanted births if it was 5 or higher. In the second test, we reestimated our main models using a more limited definition of same-sex behavior; only respondents who reported having had oral sex with a woman, rather than those reporting "any sexual experience of any kind with another female," were considered to have experienced same-sex behavior. In the last test, we broadened the definitions of nonheterosexual identity and attraction to include those who answered "don't know" or "not sure" in response to these survey questions or refused to answer. We used these adjusted measures to recode the concordance variable and then reestimated the regression models.

RESULTS

Descriptive and Bivariate Findings

Among all respondents, the average level of reported happiness about pregnancies ending in birth was 8 out of 10 (Table 1). Fifty-seven percent of births were to whites, 22% were to Hispanics, 15% were to blacks and 6% were to women of another race or ethnicity. The highest proportion of births were to women whose mothers had a high school degree or GED (31%). Three in 10 births were to women living below the federal poverty level, and a similar proportion were to women living at 300% of this level or higher. The largest share of births were to women who were raised Protestant (46%), followed by those raised Catholic (34%), in another religion (10%) and with no religion (10%). The average age at conception was 27, and the majority of births were first- or second-order (39% and 33%, respectively). Most births were intended (65%), most pregnancies occurred within marriage (54%) and the vast majority (85%) of women had wanted to have a baby with the father. According to the mother, 66% of births were considered intended by the father. Births were approximately evenly divided across the three survey waves.

Bivariate results reveal key differences across groups. Compared with heterosexual-identified concordant women, heterosexual-identified discordant women were unhappier about their births, younger at conception and less likely to have intended their births. In addition, these respondents were less likely to be married at conception, to have wanted a baby with their partner and to report that their partner had considered the birth intended. Lesbian- and bisexual-identified women also were unhappier about their births, younger at conception and less likely to have intended births than were heterosexual-identified concordant women. Finally, in comparison with the reference group, lesbian- and bisexual-identified women were less likely to have been married at conception, to have wanted a baby with their partner and to report that their partner had considered the birth intended.

Regression Findings

Heterosexual-identified discordant women and lesbian- and bisexual-identified women were unhappier about their births than were heterosexual-identified concordant women (Table 2, model 1). The difference was more than half of a point on the 0–10 scale (coefficients, –0.7 and –0.8, respectively). According to our second model, women who had had mistimed or unwanted births were unhappier than those whose births had been intended (–2.9 and –4.7, respectively). Moreover, when women's birth intention was added to the model, the coefficient for lesbian- and bisexual-identified women was no longer significant, indicating that the association identified in model 1 was accounted for entirely by this group's reduced likelihood of having intended births. For heterosexual-identified discordant women, the coefficient was reduced but still significant (–0.5), suggesting that the association was partially mediated by their decreased likelihood of intended births.

Variables capturing male partnership context also appeared to partially mediate the association between discordance and birth happiness (model 3). Happiness scores were reduced among women who had been unmarried at conception and not in a union at birth (coefficient, –0.4) and those who reported that their partner had considered the pregnancy unintended (–0.8 to –0.9), and were elevated among women who had wanted a baby with the partner involved in the pregnancy (1.6). The inclusion of these measures further reduced the coefficient for heterosexual-identified discordant women (–0.4), suggesting that part of the reason this group was unhappier about their births was that their relationships with male partners were less favorable for a pregnancy.

As expected, birth intention moderated the association between sexual orientation concordance and birth happiness (Table 3). The interaction term between the heterosexual-identified discordant group and unwanted births was sizable and significant (coefficient, –1.04), indicating that the happiness gap between heterosexual-identified concordant and discordant women was especially large for unwanted births.

To expand on the findings from our regression analyses, we generated predicted happiness scores associated with the various combinations of sexual orientation concordance and birth intention. When control variables were held at their means, a small happiness gap was evident among intended births: The predicted score was 9.3 for

TABLE 1. Selected characteristics of women aged 15–44 who reported a pregnancy ending in birth, by sexual orientation concordance, National Survey of Family Growth, 2006–2015

Characteristic	All (N=5,744)	Heterosexual-identified concordant (N=4,491)	Heterosexual-identified discordant (N=941)	Lesbian- or bisexual-identified (N=312)
Mean happiness about birth (range, 0–10)	8.0	8.2	7.4*	6.9*
Race/ethnicity				
White	56.5	55.0	63.4*	58.1
Black	15.1	15.1	14.1	18.5
Hispanic	22.3	23.4	17.8*	17.7
Other	6.1	6.4	4.7	5.7
Respondent's mother's education				
<high school	25.6	27.4	17.9*	22.6
High school/GED	31.3	30.8	34.1	31.4
Some college	24.2	23.2	27.9	26.8
≥college	17.9	17.9	17.9	17.2
No mother figure	1.0	0.7	2.2	2.0
Household income as % of federal poverty level				
<100	31.4	30.2	32.5	48.3*
100–199	23.2	23.2	23.1	23.7
200–299	15.1	14.9	16.9	12.2
≥300	30.2	31.6	27.5	15.9*
Religion raised in				
Protestant	46.3	46.5	45.2	47.3
Catholic	33.7	35.0	29.4	26.2
Other	9.8	10.2	8.2	8.7
None	10.2	8.3	17.2*	17.7*
Mean age at conception (range, 15–43)	27.0	27.3	26.5*	23.1*
Birth order				
First	38.8	38.0	41.3	44.7
Second	33.3	32.8	35.0	34.4
Third	17.9	18.6	16.2	11.8*
≥fourth	10.0	10.6	7.4	9.1*
Respondent's feeling about birth timing				
Intended	65.1	67.1	61.3*	44.8*
Mistimed	20.9	20.1	23.2	27.2
Unwanted	13.9	12.8	15.5	28.0*
Union status				
Married at conception	54.1	57.4	45.2*	28.6*
Unmarried at conception, in union at birth	30.2	28.3	37.0*	40.0
Unmarried at conception, no union at birth	15.7	14.4	17.8*	31.4*
Wanted a baby with the partner involved in the pregnancy				
Yes	85.3	86.9	81.0*	71.9*
No	14.7	13.1	19.0	28.1
Partner's feeling about birth timing†				
Intended	66.4	68.4	61.3*	50.2*
Mistimed/unwanted	28.9	27.1	34.4*	40.4*
Indifferent/unknown	4.7	4.5	4.3	9.5
Survey wave				
2006–2010	33.7	34.4	31.7	28.2
2011–2013	30.9	30.9	30.4	33.2
2013–2015	35.4	34.7	37.9	38.6

*Different from figure for heterosexual-identified concordant group at p<.05. †As reported by respondent. *Notes:* See Methods for definitions of sexual orientation concordance. Unless otherwise noted, data are percentages. All data are weighted. Percentages may not add to 100.0 because of rounding.

heterosexual-identified concordant women, compared with 9.1 for heterosexual-identified discordant women and 8.9 for those who identified as lesbian or bisexual (Figure 1). For mistimed births, no differences in predicted scores were found by sexual orientation concordance. In contrast, the happiness gap for unwanted births was substantial (and larger than that for intended births): Scores were 4.9 for heterosexual-identified concordant women, 4.1 for heterosexual-identified discordant women and 3.4 for lesbian and bisexual individuals.

TABLE 2. Coefficients from linear regression analyses assessing associations between selected characteristics and women's happiness about birth

Characteristic	Model 1	Model 2	Model 3
Sexual orientation			
Heterosexual-identified concordant (ref)	na	na	na
Heterosexual-identified discordant	–0.71**	–0.51**	–0.42**
Lesbian- or bisexual-identified	–0.79**	–0.20	–0.08
Race/ethnicity			
White (ref)	na	na	na
Black	–0.86**	–0.26*	–0.12
Hispanic	–0.10	0.40**	0.28*
Other	–0.16	0.21	0.20
Respondent's mother's education			
<high school (ref)	na	na	na
High school/GED	–0.12	0.01	0.05
Some college	–0.09	0.01	0.01
≥college	–0.02	0.04	0.04
No mother figure	0.32	0.11	0.24
Household income as % of federal poverty level			
<100 (ref)	na	na	na
100–199	0.41**	0.16	–0.03
200–299	0.64**	0.23	0.04
≥300	0.97**	0.40**	0.09
Religion raised in			
Protestant	0.36	0.11	0.05
Catholic	0.59*	0.20	0.18
Other	0.35	0.02	–0.03
None (ref)	na	na	na
Age at conception	0.08**	0.02*	0.02*
Birth order			
First (ref)	na	na	na
Second	0.09	0.17	0.08
Third	–0.63**	–0.07	–0.11
≥fourth	–1.23**	–0.32	–0.33*
Respondent's feeling about birth timing			
Intended (ref)	na	na	na
Mistimed	na	–2.91**	–2.20**
Unwanted	na	–4.69**	–3.26**
Union status			
Married at conception (ref)	na	na	na
Unmarried at conception, in union at birth	na	na	–0.09
Unmarried at conception, no union at birth	na	na	–0.40**
Wanted a baby with the partner involved in the pregnancy	na	na	1.61**
Partner's feeling about birth timing†			
Intended (ref)	na	na	na
Mistimed/unwanted	na	na	–0.78**
Indifferent/unknown	na	na	–0.86**
Constant	*5.47***	*8.44***	*7.40***

*p<.05. **p<.01. †As reported by respondent. *Notes*: See Methods for definitions of sexual orientation concordance. Happiness about birth was assessed on a scale of 0–10. Models controlled for survey wave. ref=reference category. na=not applicable.

Sensitivity Analyses

Our alternative models that used a dichotomous coding of the happiness variable revealed the same general pattern of results as did our main models: A marginally significant finding suggested that heterosexual-identified discordant women were unhappier about unwanted births than were their heterosexual-identified concordant counterparts (coefficient, –0.76, p<.10 in the baseline model). When our more restrictive definition of same-sex behavior was used (i.e., participation in oral sex), the results still showed greater unhappiness among heterosexual-identified discordant women (–0.73, p<.01 in the baseline model). Finally, the same was true when respondents who answered "don't know" or "not sure" to the sexual identity and attraction questions (or refused to answer) were coded as having nonheterosexual identity or attraction (–0.67, p<.01 in the baseline model). Full results of the sensitivity analyses are available from the authors on request.

DISCUSSION

A woman's level of happiness about a birth is important for several reasons: It is an indicator of her personal well-being (which is important in its own right), it potentially affects her other relationships (including the way she parents her other children) and it has been linked to prenatal health behaviors (which can have long-lasting impacts on children's health).[3,5,7] Prior research has found differences between sexual minority and exclusively heterosexual women on various reproductive health indicators,[14,20,21] but we believe this article represents the first investigation of birth happiness by sexual orientation discordance using a nationally representative sample of women of reproductive age. We found that heterosexual-identified discordant women were less happy about their births than were their concordant counterparts, in part because their births were less likely to be intended and their relationships with male partners were less favorable for a birth. In addition, birth intention moderated the association: The difference in happiness between heterosexual-identified concordant and discordant women was larger when births had been unwanted than when they had been intended.

However, intendedness and male partnership context did not fully account for the association between sexual orientation concordance and birth happiness. Sexual minority stress may have contributed to unhappiness for heterosexual-identified discordant women.[16,18] For instance, discordant women may experience stress because they need to conceal same-sex attractions; they experience stigma, discrimination, or internalized homophobia or biphobia; or they are in concurrent relationships with male and female partners.[16,18]

The literature on sexuality and pregnancy suggests several other possible explanations for the higher levels of unhappiness we found among heterosexual-identified discordant women. First, women often report feeling that a pregnancy affirms the relationship in which it occurs, as well as the sexual orientation that the relationship implies.[32]

Experiencing a pregnancy within a heterosexual relationship and symbolically emphasizing that relationship with a baby may therefore create feelings of unhappiness for women who have same-sex attractions or engage in same-sex behaviors. Second, in the United States there is a high degree of pressure to fit heteronormative expectations and to "prove" heterosexuality.[33] Pregnancy is one avenue through which women might prove their heterosexuality, but if a woman does not truly want a baby, she may find herself unhappy about a pregnancy. Third, pregnancy may make a heterosexual-identified discordant woman feel "invisible." Bisexual-identified women often report that pregnancy makes them feel invisible since people assume they are heterosexual.[34] A pregnancy may make a heterosexual-identified woman with same-sex attractions or behaviors feel misunderstood or marginalized, thereby leading to unhappiness. Finally, for discordant women who feel conflicted about living a heterosexual life, a birth with a male partner could mean being "stuck" in such a life for the foreseeable future, which may create unhappiness. Additional in-depth research is necessary to identify factors that contribute to pregnancy unhappiness among heterosexual-identified discordant women.

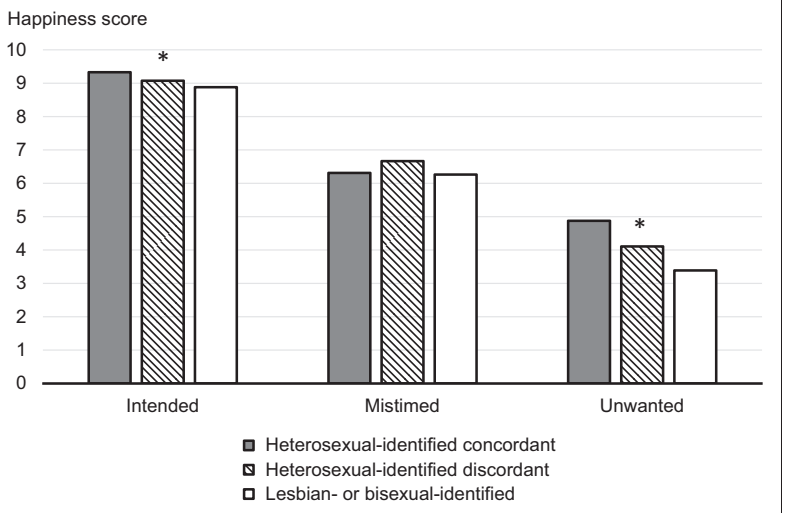
Our results are generally consistent with findings from earlier research. Other studies have found that sexual minority women (particularly those who have both male and female sex partners, and discordant women) are more likely than their exclusively heterosexual counterparts to engage in a variety of risky sexual behaviors (e.g., young age at sexual debut, greater number of sex partners, use of alcohol or drugs prior to intercourse) and experience more negative sexual health outcomes (e.g., forced sex, teenage pregnancy, unintended pregnancy, STDs).[14,20,25,35–37] Greater unhappiness about births—particularly unwanted births—among heterosexual-identified discordant women can now be added to the latter list. As the evidence continues to mount, it is increasingly clear that these concerns are not being addressed sufficiently. Even more apparent is the gaping hole in the research literature about how best to reach and educate sexual minority women, and how to tailor sexual and reproductive health programs and services for them. Future research efforts should attempt to fill these gaps by identifying the best practices for doing so.

TABLE 3. Coefficients from linear regression analyses assessing moderating effects of birth intention status on associations between sexual orientation concordance and women's happiness about birth

Characteristic	Coefficient
Sexual orientation	
Heterosexual-identified concordant (ref)	na
Heterosexual-identified discordant	–0.45**
Lesbian- or bisexual-identified	–0.25
Respondent's feeling about birth timing	
Intended (ref)	na
Mistimed	–3.02**
Unwanted	–4.46**
Concordance × intention status	
Heterosexual-identified discordant × mistimed	0.40
Heterosexual-identified discordant × unwanted	–1.04**
Lesbian- or bisexual-identified × mistimed	0.61
Lesbian- or bisexual-identified × unwanted	–0.51

**p<.01. *Notes*: See Methods for definitions of sexual orientation concordance. Models controlled for race and ethnicity, respondent's mother's education, household income, religion that respondent was raised in, age at conception, birth order and survey wave. ref=reference category. na=not applicable.

FIGURE 1. Predicted scores of women's happiness about birth, by sexual orientation concordance and birth intention



*Different from score for heterosexual-identified concordant group at p<.05. *Note*: Predicted scores were generated from the linear regression models shown in Table 3.

Limitations

This study has several limitations. First, the survey does not provide data on respondents' female partners at the time of a pregnancy. We believe the vast majority of pregnancies among heterosexual-identified discordant women occurred with male partners. However, it would be useful for the NSFG and other surveys to account for a wider range of circumstances regarding each pregnancy. For instance, determining whether women had a female partner at the time of pregnancy and birth, as well as the level of support received from this partner, would allow researchers to better account for the full range of women's experiences. Likewise, being able to identify how each conception occurred (i.e., through heterosexual sex, donor sperm, in vitro fertilization) would have been advantageous. We hope the NSFG will begin to collect such information.

A second limitation is that we were unable to compare happiness levels by sexual orientation discordance for pregnancies that did not end in birth. This is because abortions are severely underreported in U.S. surveys (including the NSFG), and the degree of underreporting varies by women's characteristics.[30] One advantage of examining only births, however, is that they constitute a fairly uniform group. In addition, how one feels about a birth may have serious long-term consequences for well-being, whereas feelings about a pregnancy that ends in abortion or miscarriage may have limited effects on well-being.[38]

Conclusions

Our findings suggest that the extent to which clinicians and others involved in sexual and reproductive health care are inclusive of sexual minority women in their programs and services merits exploration. For example, research may examine whether providers are in the habit of—and are comfortable with—asking women about their sexual attractions and their behaviors and relationships with men, women and transgender individuals. Asking such questions in various ways, such as on intake forms or during counseling and care sessions, might inform a nonjudgmental dialogue about issues specific to the sexual, reproductive, contraceptive and relationship concerns of each woman. Such efforts, when done in a sensitive and competent manner, would likely help ensure the sexual and reproductive health of sexual minority women, including by helping them time their pregnancies such that they consider those pregnancies a source of happiness.

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Acknowledgments

This study was supported by grant R40MC28314–01–00, MCH Research Program, from the Maternal and Child Health Bureau (Title V of the Social Security Act), Health Resources and Services Administration, Department of Health and Human Services.

Author contact: *hartnetc@mailbox.sc.edu*