The Influence of Social Context on Abortion Reporting in the National Survey of Family Growth

Introduction

It is well-established that survey respondents underreport sensitive behaviors in surveys in order to provide more socially desirable responses, choosing to not report behaviors that deviate from desired social norms. This underreporting has implications for data quality and validity, and may impact not only the estimated prevalence of sensitive behaviors, but also identification of underlying social processes if underreporting occurs differentially. Despite these challenges, over the last 30 years or so many national surveys, including the National Survey of Family Growth (NSFG), have expanded the range of sensitive behaviors they ask respondents to report, in diverse topics including drug use, interpersonal violence, sexual behaviors and abortion. In response, a large body of research has been developed studying factors associated with underreporting of sensitive behaviors. Most of this research focuses on either survey-level factors (such as use of a self-administered versus interviewer administered survey), or individual-level characteristics associated with underreporting of sensitive behaviors.

Our study innovates by looking beyond survey and individual-level characteristics associated with underreporting in order to explore the influence of social context on the quality of reporting of sensitive behaviors. Our focus is on the reporting of abortion in the NSFG. Despite its frequency in the United States, abortion remains a highly sensitive, stigmatized and thus difficult-to-measure behavior. We hypothesize that the local climate around abortion may influence the likelihood that abortion is perceived by a respondent as a sensitive behavior and thus influence reporting. For example, in the United States there is geographic variation in attitudes towards abortion, as well as differing laws and policies; evidence suggests these influence abortion *rates*, but there has been no investigation of their influence on abortion *reporting*. Using restricted NSFG contextual data, our study examines variation in abortion reporting patterns by the abortion climate of the states in which respondents live. The analysis focuses on two main research questions:

1. To what extent is abortion stigma at the state level associated with the underreporting of abortions among women residing in those states? Does the NSFG underestimate the number of abortions to women living in high-stigma states to a greater degree than it does the number of abortions to women living in low-stigma states?
2. Among women who reported abortions in the audio computer assisted self-interviewing mode (ACASI) of the NSFG, to what extent is state-level abortion stigma related to the likelihood that they report the same number in the computer assisted personal-interviewing (CAPI) portion? How is this hypothesized association mediated by the attentiveness and mood of the respondent, and moderated by the environment in which the interview was conducted? Finally, does this relationship differ for men, who may feel less stigma around abortion reporting?

Background

NSFG documentation has noted abortion underreporting since 1982, and has explicitly discouraged researchers from using the data since 1995; the current Data Users Guide warns that the NSFG abortion reports "should not be used for substantive research focused on the determinants or consequences of abortion." [1] Despite this guidance, many researchers still use these abortion reports and risk drawing incorrect or biased conclusions because underreporting is not random.

In the most recent in-depth assessment of abortion underreporting using data from the 2002 National Survey of Family Growth (NSFG), Jones and Kost (2007) found that only 47% of induced abortions that occurred were reported by women in face-to-face interviews, based on comparisons to data from

abortion providers and patients collected by the Guttmacher Institute.[2] This finding was consistent with prior estimates from the 1976, 1982, and 1995 NSFGs. A more limited assessment of the 2011-13 NSFG data estimated that women interviewed in the survey reported only 38% of abortions obtained in the United States in the period 2006–2010.[1]

While the precise reasons underlying this underreporting is unknown, it is likely related to the substantial stigma that still remains associated with abortion in the United States. This stigma is theorized to influence the survey process, as respondents may not report stigmatized or sensitive behaviors in order to provide more socially desirable responses.[3] Kumar et al., in one of the first papers to formally define abortion stigma, characterizes it as "as a negative attribute ascribed to women who seek to terminate a pregnancy that marks them, internally or externally, as inferior to ideals of womanhood."[4] This is despite the relatively high prevalence of abortion in most parts of the world; in fact, Kumar et al. identify the silence of women who have had abortions (and thus the understatement of its prevalence in the popular imagination) as a fundamental mechanism by which abortion stigma is reproduced.

Norris et al., in an article largely focusing on abortion stigma in the United States, point to several other key causes of abortion stigma, including legal restrictions on the procedure, views of abortion as 'dirty' or 'unhealthy', and the intentional use of stigmatizing or ostracizing behaviors by groups of people with religious or ethical oppositions to abortion.[5] In almost all conceptualizations within the literature, abortion stigma (like other forms of stigma) is a multilevel process, operating within the legal system and institutions while being concurrently enacted and reified at the community and interpersonal levels.

Research to date on abortion underreporting has focused investigation almost solely on individual-level or survey level factors, and only among women. Jones and Kost examined aggregate underreporting among subgroups of women, and found that Hispanic and black women, as well as those with low income, had the highest levels of underreporting.[3] Other studies have focused on the patterns of reporting between the CAPI and ACASI portions of the NSFG. The sense of privacy and confidentiality afforded by ACASI is designed to decrease the motivational bias to omit reports of the sensitive behavior; differences in abortion reporting between the ACASI and the CAPI interview have been interpreted as an indicator of the sensitivity of abortion. Peytchev et al., examined discrepancies in abortion reports between the CAPI and ACASI portions of the NSFG, and found that respondents with the lowest propensity to participate in the NSFG in the first place were also the most likely to underreport ever having had an abortion in the face-to-face portion of the questionnaire.[6] Lindberg and Scott recently have examined differentials in reporting of abortion between the CAPI and ACASI portions of the NSFG, documenting higher reporting in the ACASI and identifying individual-level factors associated with less reporting in the CAPI.[7]

No study, to our knowledge, has examined the influence of state-level abortion stigma on the likelihood of reporting an abortion in a nationally representative sample such as the NSFG. Within the United States, it is likely that levels of abortion stigma vary widely across states, and as a result, the sensitivity of the behavior may not be equal across all respondents or settings. Recent work has identified associations between variations in state and neighborhood stigma on the health of individuals residing in those communities across a range of measures.[8,9] In much of this work, state-level policies are taken as markers of institutional or structural stigmatization of identities or behaviors. We hypothesize that structural abortion stigma can similarly be operationalized through the state policy environment, as well as access to services, and plan to exploit state-level variation in this environment to investigate impacts on the underreporting of abortion in the NSFG. In addition, we will include state-level attitudinal

measures towards abortion, as well as the general social/cultural climate of the state which are hypothesized to also be associated with differential rates of underreporting. Given the relationship between abortion stigma and ideals of motherhood, we hypothesize that relationships between our measures of state-level stigma and abortion underreporting will be weaker among men.

Methods

We plan to conduct two related analyses of abortion underreporting in the NSFG. The first will compare aggregate reports of abortions within specific geographic regions with "gold standard" estimates from a census of abortion providers in the United States. We will first carry out this analysis using the four regions in the NSFG restricted file (Northeast, Midwest, South, West), calculating, for each, the total number of abortions reported in the NSFG CAPI and ACASI interviews by women residing in that region in the five years previous to the interview, and the total number of abortions reported by providers in those regions in the corresponding period.

We will then take a similar approach for alternate groupings of states categorized by their level of abortion stigma, which we will determine based on a range of measures. These measures roughly fall into two categories: structural stigma (which encompasses state policies as well as access to services within a state), and interpersonal stigma (which we operationalize using community-level attitudes towards abortion). In addition, we draw upon some measures of the general political and social and cultural climate of the state (unrelated specifically to abortion), as these may capture other factors related to the underreporting of abortion on demographic surveys.

In order to measure structural stigma, we will use a variable constructed by the Guttmacher Institute that characterizes the strength of abortion restrictions within a given state (states are either categorized as either hostile to abortion, supportive, or 'middle-ground'), as well as indicators of general abortion access: the abortion rate per 1,000 women of reproductive age, the median distance to an abortion clinic for a woman of reproductive age, number of abortion providers per 1,000 women of reproductive age and the abortion ratio. For each measure, we will categorize states into low, middle and high categorizations, and compare the number of abortions reported by women residing in these pooled geographic categories with the gold standard estimates of the number of abortions obtained by residents of those same pooled states. As a robustness check, we will run the same analysis with reports of births; since births are not underreported in the NSFG, the ratio between aggregate counts in the NSFG and vital statistics reports for the same pooled geographic area should be close to 1. Finally, as the NSFG is not designed to be representative of sub-national areas, we will partially assess sampling coverage by comparing the weighted population of women aged 15-44 in each pooled geographic category to the enumerated population of women residing in that same region.

In order to measure interpersonal stigma, we will use state-level data from the 2007 and 2014 survey years of the Religious Landscape Survey on abortion attitudes; states will be categorized according to the proportion of respondents within their state that believe abortion should be legal in all or most circumstances. Finally, the general political and cultural climate of the state will be operationalized through Lieske's unidimensional scale of state culture, identifying states that are "dominant traditional", "dominant moralistic" and "dominant individualistic."[10] This latter measure will be complemented by state-level measures of religiosity and religious attendance from the Religious Landscape Survey. As with our measures of structural stigma, we will use each measure to group states into three categories and compare the number of abortions and births in each with our external gold standard estimates.

We will complement this aggregate analysis with an individual-level analysis of discrepancies in women and men's abortion reporting between the CAPI and ACASI portions of the questionnaire. This will allow us to control for demographic characteristics known to be associated with differential levels of reporting, as well as explore how individual-level characteristics may interact with state level measures. The outcome measures for this analysis will be a discordant report of number of abortions in the five years prior to the survey between the ACASI and CAPI portions of the questionnaire (among women who reported any abortions in the ACASI mode), and a discordant report of lifetime number of abortions between the ACASI and CAPI portions of the questionnaire (among men who reported any abortions in the ACASI mode).

We will then fit a series of multivariable logistic regression models, stratified by gender, predicting the relevant outcome measure using both individual level characteristics as well as the state level measures described above. For the 2011-2015 survey only, we will leverage newly available paradata which includes interviewer observations of the respondent's mood and attentiveness, as well as descriptions of the interview context (location of interview and whether there were other people within hearing range).

Findings

We have recently been given preliminary approval to access the NSFG restricted data files, pending minor revisions to our restricted data proposal; we will be travelling to the Research Data Center in Hyattsville, Maryland in mid-October to carry out the analyses described above. We anticipate that findings will be available by late Fall of this year.

References

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