

Race/Ethnicity and Pregnancy Decision Making: The Role of Fatalism and Subjective Social Standing

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Abstract

Objective: Rates of unintended pregnancy in the United States differ by race and ethnicity. We examined whether these differences might be explained by maternal fatalism and subjective social standing.

Methods: We used data from 1070 pregnant women of sociodemographically diverse backgrounds enrolled in prenatal care in the San Francisco Bay area. Logistic regression was used to explore the relationship between attitude variables and a measure of pregnancy decision making ("not trying to get pregnant").

Results: African American women were more likely than others to report not trying to get pregnant with the current pregnancy (adjusted odds ratio [AOR] 2.04, 95% confidence interval [95% CI] 1.22-3.43, $p = 0.007$). Higher subjective social standing was associated with a lower likelihood of not trying among white and U.S.-born women only (AOR 0.67, $p = 0.001$ and AOR 0.75, $p < 0.001$, respectively). Fatalism was associated with not trying in bivariate but not multivariable analyses.

Conclusions: In this population, the likelihood of reporting not trying to get pregnant was higher among racial/ethnic minorities regardless of subjective social standing. Programs aimed at reduction in unintended pregnancy rates need to be targeted to a broader population of women.

Introduction

UNINTENDED PREGNANCY is a major public health problem in the United States; in 2001, approximately one half of all pregnancies were either unwanted or mistimed, and, overall, these rates have changed little over the past two decades.¹ Women belonging to racial/ethnic minority groups are generally at greater risk of unintended pregnancy, as are women who are poor, young, and single and who have lower levels of education.¹⁻⁴ Some, though not all, studies have demonstrated an increased risk of perinatal outcomes, such as low birth weight, preterm birth, and lower breastfeeding rates, associated with unplanned pregnancies.⁵⁻⁹ Women with unintended pregnancies are less likely to seek early prenatal care and may have health behaviors during pregnancy that are associated with adverse outcomes.¹⁰⁻¹² There are also numerous social and economic costs, at the personal and community levels, to unplanned pregnancy.^{2,13,14}

Although efforts to decrease rates of unintended pregnancy through increased contraceptive access and education have been modestly successful, the risk of unplanned pregnancy among minority women remains particularly high.^{4,15} In

2001, 69%, 48%, and 42% of all pregnancies to African American, Latina, and white women, respectively, were unplanned.¹ Relatively few studies have investigated the role of attitudes and social standing in the prediction of unintended pregnancy.¹⁶⁻¹⁸

Reproductive decision making and pregnancy intent are complex constructs; one element of such decision making involves conscious behaviors on the part of women and their partners. Here, we explore whether a woman reports having tried to get pregnant with her current pregnancy as one dimension of pregnancy intendedness.

We sought to examine if subjective social standing or the endorsement of a specific maternal attitude, namely, fatalism, mediates differences in the risk of not having tried to get pregnant among women of different race/ethnicities enrolled in prenatal care, as a means to explain the prevalent racial/ethnic disparities in unintended pregnancy. We have previously demonstrated that fatalism, or a belief that outcomes are predetermined or controlled by external forces, is associated with and, in some cases mediates, various reproductive values and behaviors.^{19,20} We, therefore, set out to test the hypothesis that the decision by a higher proportion of women reporting not

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having tried to get pregnant among African Americans would be mediated or modified by higher levels of fatalism, believing that women whose locus of health control is more external than internal would be less likely to report proactive reproductive behaviors.

In addition, we tested the hypothesis that the effect of subjective social standing, a measure of relative social status, on trying to get pregnant would vary by race/ethnicity. Subjective social standing has been measured in diverse populations, and has been found to be associated with self-rated health,²¹ physiological and psychological functioning,²² depression, and chronic disease.²³ It often acts independently of other more traditional measures of socioeconomic status (SES), such as income and education.^{22,24} Stewart et al.²⁴ proposed that examination of nontraditional measures of SES might be prudent among their population of young pregnant women, in whom educational attainment to date and current income might not accurately describe true SES. They found relatively low correlations between subjective social standing and maternal income or education, with higher correlations among white women. Given the known associations between SES and unintended pregnancy, we hypothesized that lower subjective social standing would be an independent predictor of our outcome of interest.

Materials and Methods

Sample

We used baseline data collected as part of a longitudinal investigation of predictors of prenatal test use, in which a diverse group of pregnant women were recruited for participation from obstetrical clinics and practices in the San Francisco Bay area in 1997 and 1998.¹⁹ The study was approved by the Committee on Human Research at the University of California, San Francisco, the San Francisco General Hospital, and Kaiser Permanente Northern California Institutional Review Boards.

Measures

As part of the original study, women completed a demographic and attitudinal questionnaire that included a number of items related to reproductive history. The questionnaire was completed in written form by the participant or was administered orally by fluent bilingual interviewers if the participants preferred. The outcome of interest, "not trying to get pregnant," was assessed with the following question: How difficult was it for you to get pregnant? Responses included needed medical assistance, difficult, easy, and was not trying. To measure fatalism, a two-item scale measured cultural, religious, and fatalistic attitudes. Respondents were asked to rate the following statements on a 7-point scale (range 0–6, from strongly disagree to strongly agree): "God would not give me more than I can handle," and "In my culture, we learn to accept what we are given." Scale scores were calculated by averaging each respondent's item score. These items have been used previously in multiple studies among diverse populations.^{19,25}

To measure subjective social standing, we used a social ladder, in which participants were asked to place an X on the rung of a graphic representation of a ladder with a 1–9 rung scale, where they think they stand relative to other people in

the United States. This tool was created as a measure of subjective social standing and has been shown to be associated with self-rated health, physiological functioning, and psychological functioning in women from diverse backgrounds.^{21,22} The top rung of the ladder (9) is meant to represent those in the United States who are the best off, with "the most money, the most education and the most respected jobs." The bottom rung (1) represents those who are the least well off, with "the least money, the least education, and the worst jobs or no job."²² In cases in which women marked spaces between rungs, a mid-point score was assigned to approximate the position of the X on the ladder (e.g., 5.5).

Statistical modeling

The primary outcome for this analysis was the response "not trying to get pregnant" to the question: How difficult was it for you to get pregnant? The primary predictor was maternal self-reported race/ethnicity. We used logistic regression models to estimate the effect of sociodemographic characteristics, including subjective social standing, reproductive history, and attitudes on the likelihood of the outcome. Variables were considered to be significant predictors of the outcome if their effects had *p* values of <0.05. If fatalism or subjective social standing proved a significant predictor in the adjusted model, we then tested its potential as a mediator by exploring the significance of the indirect effect of race/ethnicity on the outcome, via the predictor in question. Lastly, we tested whether either fatalism or subjective social standing modified the effect of race/ethnicity on "not trying to get pregnant" by modeling interaction terms. When a significant interaction (*p* < 0.10) was detected, the effect of the attitude within each race/ethnicity group was reported separately.

Because the data contained missing values, each substantive model was fit to 20 multiply imputed datasets created with SAS PROC MI (SAS Institute, Cary, NC). Imputed values for binary and categorical variables were rounded and truncated to the nearest category.^{26,27} All covariates were included in the imputation models, in addition to interaction terms between race/ethnicity and fatalism, healthcare distrust, happiness about the pregnancy, abortion view, unintended pregnancy, subjective SES, and religion. Values for the reproductive history variables were highly skewed and were log transformed before imputation and back-transformed for analyses. All parameter estimates and significance tests were calculated by combining results across the imputed 20 datasets.^{28,29} All analyses were conducted using SAS v.9.1.

Results

We used data from the 1070 women who reported that their racial/ethnic category was white (32.0%), Asian (27.0%), Latina (22.6%), or African American (18.4%). Those choosing the "other" category (*n* = 11) were excluded. The mean age was 32.7 years (range 16–47 years). The mean gestational age at enrollment was 17.0 ± 5.8 weeks. Table 1 presents sociodemographic, reproductive history, and attitudinal characteristics of the overall population, and by the outcome of interest.

Over a third (34.6%) of the women in this cohort indicated that they had not been trying to become pregnant with the current pregnancy. The proportion was highest among

TABLE 1. STUDY POPULATION

Feature	Overall (n = 1070)	Not trying to get pregnant (n = 370)	All others (n = 700)	p value
Sociodemographics				
Maternal age	32.7 ± 0.2	31.0 ± 0.4	33.7 ± 0.2	<0.001
Race/ethnicity				<0.001
African American	18.3	32.9	10.6	
Asian	27.0	24.9	28.1	
Latina	22.6	20.7	23.7	
White	32.0	21.4	37.6	
Less than high school education	12.8	15.6	11.2	<0.001
Family income <\$25,000 per year	34.8	44.6	29.6	<0.001
Occupational category				<0.001
Unemployed	5.9	8.5	4.5	
Blue collar	6.9	7.0	6.8	
Less skilled administrative	13.9	15.5	13.1	
More skilled administrative	21.1	27.1	18.0	
White collar	34.7	31.9	36.1	
Professional	17.5	10.0	21.4	
Married or living with partner	83.8	74.4	88.7	<0.001
U.S. born	56.1	64.9	51.5	<0.001
Religious affiliation				<0.001
Catholic	32.0	29.3	33.5	
Christian (other than Catholic)	24.8	34.9	19.5	
Other religion	15.4	10.4	18.0	
No religious affiliation	27.7	25.5	29.0	
Reproductive history				
Previous pregnancy	73.3	74.9	72.4	0.38
Previous live birth	49.9	56.9	46.2	<0.001
Previous abortion	50.2	53.8	48.3	0.13
Attitudes				
Fatalism ^a	2.0 ± 0.05	3.0 ± 0.10	2.5 ± 0.07	<0.001
Subjective social standing ^b	5.1 ± 0.06	4.7 ± 0.1	5.4 ± 0.07	<0.001

Values are listed as percent of total (column percent) or mean ± standard error.

^aValues range from 0 (least fatalistic) to 6 (most fatalistic).

^bAs measured by the social ladder tool. Values range from 1 (lowest rung on ladder, or lowest relative social standing) to 9 (highest rung on ladder, or highest relative social standing).

African Americans (62.1%) and lowest among white women (23.1%). African Americans represented 18.3% of the total sample yet accounted for 32.9% of women who indicated that they were not trying to get pregnant. As compared with all other women, women who were not trying to get pregnant had higher fatalism scores ($p < 0.001$) and lower levels of subjective social standing ($p < 0.001$) (Table 1).

Point estimates for the adjusted effects of race/ethnicity on the outcome are shown in Table 2. All models were adjusted for the covariates presented, in addition to marital status, education, occupation, and income. Significant predictors of not trying to get pregnant include maternal age, race/ethnicity, nativity, religion, ever having had a live birth, and subjective social standing. In adjusted models, fatalism was not significantly associated with not trying to get pregnant; thus, we determined that it was unlikely to mediate the effect of race/ethnicity on this outcome. Of note, the measure of fatalism was highly associated with the outcome in unadjusted analyses; however, when we adjusted for race/ethnicity, the effect of fatalism was statistically nonsignificant.

When we tested for effect modification among race/ethnicity, fatalism, and subjective social standing, a significant interaction between race/ethnicity and subjective social standing (p value for the interaction term = 0.04) emerged.

Specifically, we found that subjective social standing was significantly associated with the “not trying to get pregnant” response only among white women. For these women, each step up the social ladder was associated with a lower odds of this outcome (adjusted odds ratio [AOR] = 0.67, 95% confidence interval (CI) 0.54-0.82, $p = 0.001$). For women of other race/ethnicities, however, there was no significant effect of subjective social standing (Table 3). To further explore the role of subjective social standing on “not trying to get pregnant,” we performed a *post hoc* analysis and found a significant interaction between being U.S.-born and subjective social standing in predicting the outcome ($p = 0.02$). That is, among women born in the United States, increased subjective social standing was associated with decreased risk of not trying to get pregnant (AOR 0.75, 95% CI 0.66-0.85, $p < 0.001$), whereas for foreign-born women, there was no relationship between subjective social standing and not trying (AOR 0.92, 95% CI 0.80-1.06, $p = 0.25$).

Discussion

Despite attempts to expand access to contraceptive technologies and to encourage family planning, unintended pregnancy remains a major public health problem in the

TABLE 2. MULTIVARIABLE PREDICTION MODEL FOR NOT TRYING TO GET PREGNANT

Predictor	AOR ^a (95% CI)	p value
Race/ethnicity		0.0002
African American	2.04 (1.22-3.43)	0.007
Asian	1.61 (1.02-2.54)	0.042
Latina	0.73 (0.43-1.25)	0.26
White	1.00	
Maternal age, years		<0.0001
≤17	7.06 (1.48, 33.6)	0.014
18-24	3.47 (2.13, 5.67)	<0.001
25-29	1.76 (1.18, 2.62)	0.005
≥30	1.00	
U.S. born	1.64 (1.11, 2.43)	0.013
Less than high school education	1.20 (0.70, 2.04)	0.51
Married or living with partner	0.69 (0.44, 1.09)	0.11
Occupational category		0.94
Unemployed	0.99 (0.42, 2.30)	0.97
Blue collar	0.96 (0.42, 2.22)	0.93
Less skilled administrative	0.99 (0.49, 1.98)	0.98
More skilled administrative	1.23 (0.67, 2.25)	0.50
White collar	1.26 (0.709, 1.94)	0.56
Professional	1.00	
Family income <\$25,000 per year	1.58 (0.76, 3.28)	0.57
Religious affiliation		0.006
Catholic	0.92 (0.60, 1.42)	0.72
Other Christian	1.22 (0.79, 1.87)	0.37
Other religion	0.50 (0.30, 0.83)	0.007
No religion	1.00	
Previous pregnancy	0.98 (0.64, 1.51)	0.87
Previous live births		<0.0001
0	1.00	
1	1.47 (0.97, 2.23)	0.07
≥2	3.53 (2.16, 5.77)	<0.0001
Previous abortion	1.20 (0.83, 1.73)	0.33
Fatalism ^b	0.99 (0.90, 1.08)	0.81
Subjective social standing ^c	0.82 (0.74, 0.91)	0.0001

^aAdjusted for all other covariates in the model.

^bAOR associated with 1 point increase in 7-point scale item, where 0 = least fatalistic and 6 = most fatalistic.

^cAOR associated with 1 point increase in 9-point scale item, where 1 represents the bottom rung of the social ladder tool and 9 represents the top rung.

AOR, adjusted odds ratio; CI, confidence interval.

United States. African American women are at particularly high risk compared with women of other races and ethnicities. In our study population of pregnant women already enrolled in antenatal care, which primarily consists of women who have elected to continue their pregnancy, we were able to confirm this disparity in one behavioral dimension of pregnancy intent—whether or not the woman was trying to get pregnant.

Although we expected that higher levels of fatalism might mediate the higher rate of not trying to get pregnant noted among African American women, we were not able to demonstrate this in this study, nor did we see interactions in these relationships by race/ethnicity. This is in contrast to our previous findings in prenatal testing, in which levels of fatalism were found to mediate differences in testing strategy between women of different races/ethnicities.¹⁹ Of note, we

regard with interest the mitigation of the significant effect of fatalism on the outcome once race/ethnicity was accounted for. Our findings might suggest that the effect of race/ethnicity is mediated by a construct related to fatalism, although one that was not measured in this study. Perhaps with a measure of fatalism more specifically related to pregnancy, we might have discovered a stronger effect or evidence of mediation.

We did observe that subjective social standing was an independent predictor of not trying to get pregnant in our overall prediction model. However, further exploration revealed that this construct was only a significant predictor among white women and among women born in the United States. This finding is consistent with a prior study that documented that after adjustment for objective measures of SES (such as income and education), subjective social standing was related to self-rated health among white women but not among African Americans or Latinas.²¹ This finding should be taken into account as we examine target populations' efforts to reduce unintended pregnancy. Many programs are aimed toward women of lower SES via public financing streams, but more attention should be paid to racial and ethnic minorities of higher social standing. Although they are not typically the focus of public health campaigns, these women remain at higher relative risk of unintended pregnancy than others and may need to be considered separately as health messages are developed and marketed. Similarly, in the clinical arena, patients who seek care should be evaluated for their individual risk of unintended pregnancy regardless of their SES, social standing, or insurance type.

The current study is not without its limitations. The study sample was drawn from the San Francisco Bay area and was limited to women enrolled in prenatal care; thus, this group may not be representative of the entire population of reproductive-aged women at risk for unintended pregnancy in this country. However, we believe our study provides a unique view of a special population not often studied in examinations of unintended pregnancy, specifically, women who have elected to continue their pregnancies. Women who have unintended pregnancies but choose to continue their pregnancies should be of particular interest to clinicians and public health practitioners. These women, specifically those with unwanted pregnancies (as contrasted with mistimed pregnancies), have been shown to have increased risks of high-risk behaviors during pregnancy, such as use of tobacco, alcohol, and illicit drugs, coming late to prenatal care, and not breastfeeding.^{30,31} They are also probably more likely to have unintended pregnancies in the future. Identification of these women during the course of pregnancy may provide valuable opportunities for counseling and intervention.

In terms of reproductive history, the proportion of women with unplanned pregnancies in our cohort is similar to other quoted U.S. rates, although the proportion of women reporting having undergone an abortion in this cohort is higher than the U.S. average.³² The initial design of the study sought to oversample women from minority backgrounds, which may partly account for the higher abortion rate, but the recruitment of this diverse sample is also clearly a strength of this study population. The parent investigation was designed to study prenatal testing decision making, and, thus, we were limited to those attitudes explored as part of this original research question.

TABLE 3. MULTIVARIABLE PREDICTION MODEL FOR NOT TRYING TO GET PREGNANT, INCLUSIVE OF INTERACTION TERM (SUBJECTIVE SOCIAL STANDING×RACE/ETHNICITY), AND CALCULATED EFFECT OF SUBJECTIVE SOCIAL STANDING BY RACE/ETHNICITY

Predictor	AOR ^a (95% CI)	p value
Race/ethnicity		
African American	0.61 (0.13, 2.89)	0.54
Asian	0.24 (0.06,1.02)	0.05
Latina	0.21 (0.05, 0.85)	0.03
White		
SSS	0.67 (0.54, 0.82)	0.0002
SSS by race/ethnicity interaction		0.04
SSS × African American	1.25 (0.94, 1.65)	0.12
SSS × Asian	1.42 (1.10, 1.82)	0.007
SSS × Latina	1.27 (0.97, 1.66)	0.09
SSS × white	1.00	
Calculated effect of SSS within race/ethnicity category		0.0003
SSS among African Americans	0.83 (0.68, 1.01)	0.06
SSS among Asians	0.94 (0.78, 1.14)	0.55
SSS among Latinas	0.84 (0.70, 1.03)	0.09
SSS among whites	0.67 (0.54, 0.82)	0.001

^aAdjusted for all other covariates in the model, plus maternal age, nativity, education, marital status, occupation, income, religion, reproductive history, and fatalism score.

AOR, adjusted odds ratio; CI, confidence interval; SSS, subjective social standing.

Our outcome measure has not been validated previously, nor did the retrospective nature of the study allow for a validation within this population. We believe, however, that the phrasing of the survey question allowed for an unbiased account of behaviors and planning related to the index pregnancy. We did note a correlation between the outcome as measured and women reporting being “very happy” about their pregnancy (AOR, 95% CI for the outcome 0.46, 0.25-0.86 among women who were “very happy”), a suggestion that our measure may track with intent. Santelli et al.³³ recently reported a moderate correlation between trying to get pregnant and happiness about pregnancy and described “trying” as one cognitive factor predictive of pregnancy intent.³⁴ Other measures have endured varied criticisms of their ability to measure unintended pregnancy as well, and currently there is no gold standard for the determination of pregnancy intent.^{35,36} Many measures in current use are quite transparent in their attempts to glean information on wantedness of pregnancies; responses to these measures may be skewed toward social desirability. The measure used in the current study may carry an advantage in that it would seem to be probing a more clinical and behavioral construct. It may prove to be the case that pregnancy planning is not a meaningful construct for all women, and further exploration of this within diverse populations is warranted.

Continued efforts to develop effective means of preventing unintended pregnancy are needed. Improving the ability of all women to seek healthcare outside of the context of pregnancy to promote health, prevent disease, and allow for healthy pregnancy timing will be key to improving the health of women and children in the United States. Our findings suggest, however, that the populations of women traditionally thought of as being in need of services may not represent the entire population of women at risk for unplanned pregnancy. Racial and ethnic minorities, regardless of subjective socioeconomic standing, are at high risk of unintended pregnancy. Expanding access to family planning for low-income

women is clearly laudable, but limiting efforts to these strategies will not serve all women at risk. Future investigations should continue to focus on the role of cultural and reproductive attitudes on unintended pregnancy risk to allow for better tailored behavioral and educational interventions.

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Disclosure Statement

The authors have no conflicts of interest to report.

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