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Concerns and Structural Barriers Associated with WIC Participation among WIC-eligible Women

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ABSTRACT

Objectives: To examine sociodemographic, psychosocial concerns, and structural barriers associated with women's participation in the USDA's Women, Infants, and Children (WIC) program among those eligible for the program.

Design and Sample: 1,634 White, African American, Hispanic, and Asian/Pacific Islander (A/PI) women from the New York City area completed the Pregnancy Risk Assessment Monitoring System (PRAMS) from 2004-2007, a population-based survey.

Measurements: Data on WIC eligibility and participation, sociodemographic details, unintended pregnancy, social support, and structural barriers were evaluated.

Results: Hispanics and Blacks were 4.1 and 2.4 times more likely to participate, respectively, in the WIC program relative to Whites. Mothers reporting unplanned pregnancies, fewer social supports, and more structural barriers (e.g., transportation) were less likely to participate in WIC. Race-stratified analyses revealed race/ethnic differences in the pattern of barriers; unintended pregnancy and structural problems were barriers associated with WIC participation particularly for A/PI.

Conclusions: WIC-eligible women with unintended pregnancies and fewer social supports tend to participate in WIC, but those who experience more structural barriers are less likely to participate. A/PI women may face specific challenges to WIC participation. Careful attention is needed to understand the unique attitudes and behaviors in the process of participating in WIC.

Keywords: Asian Americans, health care disparities, PRAMS, secondary data analysis, prenatal care, public assistance, social support

BACKGROUND

Administered by the U.S. Department of Agriculture (USDA), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides nutritious foods, nutrition counseling, and referrals to health and other social services for low-income pregnant and postpartum women and their infants and children up to age 5 years. Women are eligible for WIC if they reside in a household with income at or below 185% of the Federal poverty threshold; if they are enrolled in another assistance program, such as the Food Stamp Program (FSP), Temporary Assistance for Needy Families (TANF), or Medicaid; or if they are assessed to be nutritionally at risk, defined as having a medically-based risk (e.g., anemia, underweight, overweight, history of pregnancy complications or poor outcomes) or having diet-based risks such as the failure to meet dietary guidelines. The WIC program has been demonstrated to improve infant outcomes, with studies documenting decreased prematurity, decreased low infant weight, and decreased neonatal death from WIC participation during pregnancy (Bitler & Currie, 2005; Gai & Feng, 2011).

Not everyone who is eligible participates in WIC. For instance, the coverage rate in 2012 for pregnant women was 70.9% (Johnson, Huber, Giannarelli, & Betson, 2015). There are a number of reasons for why eligible women might not enroll in WIC: they may face barriers to applying, may not know that they can apply, or do not perceive a need for the program (Black, 2004; Geltman & Meyers, 1999). Ambivalence about receiving government aid may also deter those eligible to apply (Stuber & Kronebusch, 2004; Stuber & Schlesinger, 2006).

Psychosocial factors such as stressful life events during the eligibility period may also compound the difficulties in program access and consequently impede a women's enrollment into the WIC program. Structural barriers regarding access to WIC such as transportation or

work conflict may also prevent participation. These are common barriers often faced by minorities and immigrants in accessing health care (Scheppers, van Dongen, Dekker, Geertzen, & Dekker, 2006). These barriers may also vary by racial or ethnic groups. For instance, Latinos and Asians may face greater linguistic barriers in navigating the system and gaining access to services (Alegria et al., 2002; Mullins, Blatt, Gbarayor, Yang, & Baquet, 2005). Attitudes about help seeking may also vary by group. For example, Black and Latino respondents expressed more confidence in the health care system compared to white respondents. Such attitudes may impact the extent to which individuals overcome structural barriers to take part in these services (Dornelas, Fischer, & DiLorenzo, 2014). Linguistic and cultural factors are just a couple of reasons for which a diverse population of women does not take part in government assistance, even when they are eligible.

Although a handful of studies have been conducted to characterize WIC-eligible participants and non-participants (Besharov & Germanis, 2001; Bitler & Currie, 2005; Martin-Anderson, 2013; Swann, 2003), to our knowledge, none have considered sociodemographic, psychosocial concerns, and structural barriers as factors associated with receiving assistance, and whether these factors generalize across race/ethnicity. Using the NYC Pregnancy Risk Assessment Monitoring System (PRAMS), a population-based survey dataset of women who recently gave birth, we examined sociodemographic status, psychosocial concerns (unintended pregnancy, social support), and structural barriers among WIC-eligible women and their association with WIC participation. We then explored associations of all factors and WIC participation by race/ethnicity.

METHODS

Design and Sample

The NYC PRAMS 2004-2007, a population-based survey administered to NYC postpartum women provided by the NYC Department of Health and Mental Hygiene (DOHMH), was used. The PRAMS collects data regarding women's behaviors and experiences before, after, and during their pregnancy, and is coordinated by the Centers for Disease Control and Prevention.

Each month, NYC mothers during the previous 2-4 months were contacted to take part in the PRAMS. Approximately mothers of 180 infants with registered birth certificates were contacted each month. Eighty-three percent responded by mail and 17% by phone. The sample was randomized without replacement and stratified by birth weight. The final dataset was weighted for stratification, non-selection, and non-response.

Response rates greater than 70% from July to December of 2004, May to December of 2005, and January to December of 2006, and the response rate from January to December of 2007 greater than least 65%. From 2004-2007, there were a total of 4,813 responses. For 2004-2005, 2006, and 2007, these responses were weighted to respectively represent 138,266, 119,079, and 122,222 live births. The data analysis that was conducted focuses specifically on women eligible for WIC.

Measures

Sample Selection. To identify those who were WIC-eligible, we relied on affirmative responses in the PRAMS survey to the following three questions: "Just before you got pregnant, were you on Medicaid?" "During the 12 months before your new baby was born, what were the sources of your household's income?" and "How was your prenatal care paid for?" Responses for the latter two questions were counted as affirmative if the mother respectively indicated "Aid such as Temporary Assistance for Needy Families (TANF), welfare, WIC, public assistance,

general assistance, food stamps, or Supplemental Security Income" or "Medicaid," as a source of assistance. Specifically, New York state requirements indicated that a WIC participant must "meet the income eligibility guidelines, or receive benefits from food stamps, Medicaid or Temporary Assistance for Needy Families."

Sociodemographic Variables. The PRAMs dataset contained information from the birth certificate, which provided information on maternal race/ethnicity and nativity (i.e., U.S. or non-U.S. born mothers). Based on self-report, women were classified as Hispanic or non-Hispanic. Non-Hispanic women were categorized in one of the following groups: White, African American, Asian/Pacific Islander (A/PI), and American Indian/Alaskan Native. Maternal age, nativity (U.S. born versus foreign born) and education (categorized as: 0-8, 9-11, 12, 13-15, and >16 years) were based at the time of infant birth. Mean infant age at the time of survey completion was 9.7 weeks.

The PRAMS survey sought information about Household Income, where women were asked to indicate "total household income before taxes in the 12 months before the new baby was born" by checking off one of the following options: <$10,000, $10,000-$14,999, $15,000-$19,999, $20,000-$24,999, $25,000-$34,999, $35,000-$49,999, $50,000-$74,999, and $\geq$$75,000.

Psychosocial Concerns. Unintended Pregnancy was obtained through a response (yes/no) to the following question: "When you got pregnant with your new baby, were you trying to get pregnant?" Social Support was determined by participants' responses to the following question: "During your most recent pregnancy, would you have had the kinds of help listed below if you asked for them?" Mothers were provided with four situations: "someone to loan me $50," "someone to help me if I were sick and needed to be in bed," "someone to take me to the clinic

or doctor's office if I needed a ride," and "someone to talk with about my problems." The sum of "yes" responses to these four situations led to the Social Support variable.

Structural Barriers. The structural barriers to obtaining prenatal care were assessed through four responses to the following prompt: "Here is a list of problems some women can have getting prenatal care. The items included "I couldn't get an appointment when I wanted one," "I had no way to get to the clinic or doctor's office," "I couldn't take time off from work," and "I had no one to take care of my children." The sum of "yes" responses from these items yielded the Structural Barriers variable.

WIC Participation. The outcome variable as defined by an affirmative response to the following question: "During your most recent pregnancy, were you on WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children)?"

Missing Items. Responses with these missing variables or items that comprised of these variables were eliminated. The items with less than a 100% response rate included WIC Participation (98.8%), Medicaid Participation (99.5%), Public Aid (99.9%), Medicaid prenatal care (98.6%), Race (99.9%), Household Income (86.9%), Maternal Education (99.7%), Nativity (99.5%), Social Support (95.7%, when considering the completion of all four questions), and Structural Barriers (88.0% when considering the completion all four questions) resulting in an un-weighted study sample of 1,634.

Analytic Strategy

To account for the stratified and weighted sample, the data was analyzed using Stata 12.0 (StataCorp, 2011, College Station, TX). The "tabulate" command yielded the weighted proportions with proportion testing used to compare across variable. Next, a series of three logistic regressions were conducted, using Whites as the reference group, where the variables of

interest (Race/Ethnicity, Sociodemographic, Unintended Pregnancy, Social Support, Structural Barriers) were sequentially added to the model. This allowed for incremental examination of the variables' effects in determining WIC participation by race (Table 2). Unless otherwise noted, all reported proportions represent weighted averages. Finally, to compare the characteristics of WIC-eligible participants and WIC-eligible non-participants and to understand associated predictors, race-stratified logistic regressions incorporated Sociodemographic, Unintended Pregnancy, Social Support, and Structural Barriers.

RESULTS

Of all those eligible in this sample, 83.0% participated in the WIC program. Racial/ethnic differences in the rate of participation among those eligible were observed. Specifically, 90.1% of all eligible Hispanic women participated. In contrast, 83.7% of eligible Blacks, 75.0% of eligible A/PIs, and 64.8% of eligible Whites participated.

Table 1 displays the proportion of WIC-eligible women that were participants or non-participants by sociodemographic characteristic. The race/ethnic breakdown among all WIC-eligible women is as follows: Hispanics (44.1%) comprised the largest group, followed by Blacks (33.1%), Whites (13.9%), and A/PIs (8.6%). Proportion tests comparing the proportion at each level of the predictor revealed significant differences in participants and non-participants in WIC-eligible Hispanic, White, and A/PI women (Table 1).

A greater proportion of eligible participants than WIC-eligible non-participants were obtained among women younger than 20 years (10.2% vs. 5.4%), women with 9-11 years of education (21.2% vs. 12.3%) and a trend was observed in this direction with women at lower incomes (<$10,000: 43.9% vs. 37.6%; $10,000-$14,999: 19.1% vs. 14.8%). A greater proportion of WIC-eligible non-participants was observed for women with incomes at $20,000-$24,000

(12.6% vs. 8.3%) and >$50,000-$74,999 (5.1% vs. 2.7%). The multiple pathways to WIC eligibility may explain the small percentage of mothers who report relatively higher household incomes (e.g. ≥$75,000) and who participate in WIC.

There were also greater proportions of WIC-eligible participants than non-participants in the following characteristics: U.S. born (52.4% vs. 42.2%), Spanish-speaking (25.2% vs. 13.7%), those with an unintended pregnancy (62.7% participants vs. 48.7% non-participants). There were greater proportions of WIC-eligible non-participants who had endorsed two and all four social support items relative to WIC-eligible participants (2 items: 7.4% vs. 4.0%; 4 items: 76.2% vs. 65.7%).

The Non-Race Stratified Model compared race/ethnicity in WIC participation (Table 2). In the first model, we examined the relationship between race/ethnicity and WIC participation, without adjusting for other variables. Eligible racial/ethnic minorities were more likely to participate in WIC compared to White women (Asians: OR=1.6, CI=1.0-2.6; Hispanics: OR=5.0, CI=3.5-7.2; Blacks: OR=2.8, CI=2.0-4.0).

Next, we adjusted for Maternal Age, Household Income, Maternal Education, and Nativity in predicting WIC participation. Following this, eligible A/PIs s were no more likely to participate compared to eligible Whites. However, Hispanic and Black WIC-eligible mothers were 4.3 (CI=2.9-6.3) and 2.7 (CI=1.9-3.7) times more likely, respectively, to participate in WIC than Whites.

To consider psychosocial concerns and structural barriers, we added the Psychosocial Concerns, specifically, Unintended Pregnancy, Social Support, and also Structural Barriers into the last model. Unintended Pregnancy was associated with an increase in likelihood of WIC participation (OR=1.6, CI=1.2-2.1). On average, each additional affirmative response to a Social

Support item was associated with a decrease in WIC participation odds (OR=0.9, CI=0.7-1.0), and each additional affirmative response to a Structural Barrier item was associated with a decrease in WIC participation odds (OR=0.8, CI=0.7-1.0).

To better understand the relationship between the associated predictors and race/ethnicity, race-stratified logistic regressions incorporated all predictors (Table 3). Maternal Age was associated with an increase in WIC participation likelihood for A/PI mothers (OR=1.1, CI=1.0-1.2), but a decrease in likelihood for Hispanic mothers (OR=0.9, CI=0.9-1.0). Household Income was associated with a decrease in WIC participation but only for Whites (OR=0.9, CI=0.8-1.0). Unintended Pregnancy was significantly associated only with White (OR=2.8, CI=1.5-5.2) and A/PI mothers (OR=2.7, CI=1.1-6.5). A trend was observed whereby each additional endorsement of a Social Support prompt was associated with a lower likelihood of WIC participation for A/PI and Black mothers (A/PI: OR=0.7, CI=0.5-1.0; Black: OR=0.8, CI=0.6-1.0). Similarly, each additional endorsement of a Structural Barrier was also associated with lower participation, significantly for eligible A/PI and as a trend for Blacks (A/PI: OR=0.5, CI=0.3-1.0; OR=0.7, CI=0.5-1.0).

DISCUSSION

The purpose of this study was to examine sociodemographic factors, psychosocial concerns, and structural barriers associated with WIC participation among WIC-eligible women. Our finding that eligible Blacks and Hispanics were more likely to participate in WIC is consistent with previous research (Black, 2004), which shows that race/ethnic groups often deemed more vulnerable for nutritional and prenatal risk are likely to participate in WIC.

Unintended Pregnancy and Social Support

Unique to our study, however, was the demonstration that those who experience sociodemographic and psychosocial stressors such as unintended pregnancy and fewer social supports are more likely to participate in WIC but that women with more structural barriers are less likely to participate in WIC. Pregnant WIC-eligible women faced with difficult circumstances may be more inclined to obtain nutritional provisions from WIC. Our follow-up analyses, stratified by race/ethnicity, further showed that the association between unintended pregnancy and WIC participation differs by group. Unintended pregnancy appeared more associated with WIC participation for Whites and A/PIs. Previous analyses with this sample have found that White and A/PI women tend to have lower rates of unintended pregnancy (Liu & Tronick, 2013a). Low acceptance regarding their unintended pregnancy within their communities or feeling less confident or knowledgeable about handling their pregnancy and the birth of their child may explain the association between unintended pregnancy and WIC participation for Whites and A/PIs.

We also found that fewer social supports to be associated with higher WIC participation among those eligible. As with unintended pregnancy, women with fewer resources may find WIC provisions to be useful. It is possible that women with greater social supports have alternative means for accessing nutritional and health resources for themselves and their children, or do not prefer the nutritional options provided through WIC. However, it is unknown whether these women obtain equivalent provisions for nutritional and prenatal care relative to those who participate in WIC. Although causality cannot be determined from these analyses, the finding does raise the possibility that increasing social support could assist women in obtaining nutritional and prenatal care besides those provided by WIC.

Structural Barriers

Our findings suggest that those who are eligible but who do not participate in WIC could face structural barriers that prevent them from participating in WIC, including difficulties in obtaining an appointment, transportation, or child care and taking time off from work. This is consistent with previous work showing that has found that being on a waiting list, missing an appointment, having no time to pick up vouchers, needing to reapply, moving, living in a shelter, not being able to receive an appointment, or having no identification are barriers to WIC participation. (Black, 2004; Rosenberg, Alperen, & Chiasson, 2003; New York State Department of Health, 2001).

Our results, however, extend the existing literature, with structural barriers associated with lower WIC participation for A/PIs relative to other racial/ethnic groups. Language may be a barrier to access particularly for A/PIs, given the many Asian language and dialects that exist and the lack of translations required in the process of accessing services. Receiving WIC provisions and support for caregiving may be more stigmatizing to A/PI women, given that the act of receiving government assistance may be frowned upon culturally (Clough, Lee, & Chae, 2013). Further data collection efforts and research questions should determine if these barriers indeed prevent A/PI from seeking WIC support.

Strengths and Limitations

As far as we know, this analysis is the first to incorporate psychosocial factors in understanding WIC participation rates among those eligible. Analyses of participation in government programs often include sociodemographic variables, but not psychosocial factors. Our paper raises the idea that psychosocial factors may be associated with prenatal resources. Furthermore, identifying psychosocial concerns and structural barriers in participation may help to ensure greater efficiency in the administration of WIC funding.

However, there are limitations to this study. First, because we use only the NYC PRAMS data for this analysis, our results may not be generalizable to other locales, especially since there is variability in the eligibility and enrollment process for WIC across states. Second, this study utilizes a dataset from 2004-2007. Changes to WIC provisions, for instance, those made in 2007 to promote sound nutrition and accommodations to specific cultural groups could now have a different impact on WIC participation among those eligible. While these analyses do not reflect these changes, our findings establish a reference point for future work on WIC participant after policy and program implementation. Third, our determination of eligibility may be a limitation, as is true with other studies, given the variability in the categorization with WIC eligibility across studies (Bitler, Currie, & Scholz, 2003; El-Bastawissi, Peters, Sasseen, Bell, & Manolopoulos, 2007; Joyce, Gibson, & Colman, 2005; Pooler, Perry, & Ghandour, 2013). For instance, when there are insufficient funds to serve all eligible applicants, those with the greatest nutritional needs are served first (Oliveria & Frazao, 2009). We were unable to determine the priority of individuals for eligibility. Unlike other studies, however, our study allowed us to categorize eligibility not only based on births covered by Medicare but also mothers' participation in other social services, which is a more accurate measure of eligibility. Fourth, limitations with these variables include the reliance of retrospective report, the broad categories in determining race/ethnic groups which do not capture the heterogeneity of experiences and attitudes in each subgroup, and the limited items used to assess psychosocial concerns, structural barriers, and unintended pregnancy, as they do not provide a thorough understanding of the circumstances that surround their reported experiences. Fifth, multiple comparisons may result in Type 1 error, although Type 2 error may be possible given some small cell sizes. Finally, causality cannot be established with this data.

Summary

Overall, these findings highlight the role of sociodemographic status, unintended pregnancy, social support, and structural barriers in WIC participation among those who are eligible. Psychosocial problems are prevalent during the prenatal period, and are predictive of problematic postpartum problems (Liu & Tronick, 2013b), which may be alleviated by government assistance during the perinatal period. While current criteria are based on financial need, our analyses alert us to the possibility that psychosocial problems may drive WIC participation.

Public health nurses should be aware of the factors that affect WIC participation in order to translate the findings to their daily practice. Given that these psychosocial concerns could systematically affect WIC participation for certain race/ethnic groups, careful attention is needed to understand the unique attitudes and behaviors underlying the process of participating in WIC. For instance, in working with community members, public health nurses may inquire how their clients' life circumstances and social relationships affect their WIC participation, provide knowledge to their clients about WIC resources, and help them weigh their options in light of this information. Public health nurses may also use these findings to advocate for policies and efforts that improve the structures for better access to WIC, given that they are providers familiar with the positive outcomes for families when women receive such provisions.

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TABLES

Table 1 Weighted percentage distribution of WIC-eligible participants and WIC-eligible non-participants by socio-demographic characteristics, and Significance of proportion tests comparing participant and non-participants

	Total (n=1,634)	Participant (n=1,357)	Non-participant (n=277)	Proportion Test
Race				
White	13.9	10.8	28.8	**
Asian/Pacific Islander	8.6	7.7	12.6	**
Hispanic	44.1	47.8	25.6	**
Black	33.1	33.3	31.8	
Maternal Age				
<20	9.4	10.2	5.4	*
20-34	76.9	76.5	79.1	
≥35	13.7	13.3	15.5	

	Total (n=1,634)	Participant (n=1,357)	Non-participant (n=277)	Proportion Test
Maternal Education				
0-8	7.3	7.5	6.1	
9-11	19.7	21.2	12.3	**
12	39.8	40.0	38.6	
13-15	21.8	20.7	27.1	*
≥16	11.5	10.6	15.9	*
Income				
<10,000	42.7	43.9	37.6	^
10,000-14,999	18.4	19.1	14.8	^
15,000, 19,999	10.5	10.7	9.4	
20,000-24,999	9.0	8.3	12.6	*
25,000-34,999	9.8	9.5	11.2	
35,000-49,999	5.1	5.1	5.4	
≥50,000-74,999	3.1	2.7	5.1	*

	Total (n=1,634)	Participant (n=1,357)	Non-participant (n=277)	Proportion Test
≥75,000	1.4	0.8	4.0	
Maternal Nativity				
U.S. Born	43.1	52.4	42.2	***
Non-U.S. Born	56.9	47.7	57.9	***
Language of Questionnaire				
English	76.7	74.8	86.3	***
Spanish	23.3	25.2	13.7	***
Intention for Pregnancy				
No	60.3	62.7	48.7	***
Yes	39.7	37.3	51.3	***
Social Support				
0	4.7	4.7	4.7	
1	4.4	4.9	2.2	**
2	6.8	7.4	4.0	**

	Total (n=1,634)	Participant (n=1,357)	Non-participant (n=277)	Proportion Test
3	16.7	17.4	13.0	^
4	67.4	65.7	76.2	***
Structural Barriers				
0	78.4	78.7	76.9	
1	14.0	13.9	14.8	
2	4.2	3.9	5.4	
3	2.1	2.1	2.5	
4	1.3	1.5	.4	

^p<.10, *p<.05, **p<.01, ***p<.001

Table 2 Logistic regression models to determine likelihood of WIC participation across race/ethnicity

	Unadjusted			Adjusted[1]			Adjusted[2]		
	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
White	1.0			1.0			1.0		
Asian/Pacific Islander	1.6*	1.0, 2.6	0.04	1.5	0.9, 2.4	0.2	1.3	0.8, 2.2	0.3
Hispanic	5.0***	3.5, 7.2	<.001	4.3***	2.9, 6.3	<.001	4.1***	2.8, 6.2	<.001
Black	2.8***	2.0, 4.0	<.001	2.7***	1.9, 3.7	<.001	2.4***	1.7, 3.5	<.001
Maternal Age				1.0	1.0, 1.0	0.3	1.0	1.0, 1.0	0.4
Household Income				0.9	0.9, 1.0	0.01	0.9	0.9, 1.0	0.02
Maternal Education				0.9	0.8, 1.1	0.2	0.9	0.8, 1.0	0.1
Nativity				0.9	0.7, 1.2	0.3	0.9	0.7, 1.2	0.5
Unintended Pregnancy							1.6***	1.2, 2.1	0.01
Social Support							0.9*	0.7, 1.0	0.03
Structural Barriers							0.8*	0.7, 1.0	0.03

*p<.05, **p<.01, ***p<.001

[1]Includes Maternal Age, Household Income, Maternal Education, Nativity. Maternal Education and Income are categorical variables; see "Measures" for details.

[2]Includes variables in the first Adjusted model as well as Unintended Pregnancy, Social Support and Structural Barriers.

Table 3 Logistic regression models to determine likelihood of WIC participation by race and ethnicity

	White (N=227)		Asian/Pacific Islander (N=136)		Hispanic (N=720)		Black (N=540)	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Maternal Age	1.0	0.9, 1.0	1.1**	1.0, 1.2	0.9**	0.9, 1.0	1.0	1.0, 1.1
Household Income	0.9*	0.8, 1.0	0.8	0.6, 1.0	1.0	0.9, 1.1	1.0	0.9, 1.1
Maternal Education	0.9	0.6, 1.3	0.9	0.6, 1.3	0.9	0.7, 1.1	0.9	0.7, 1.1
Maternal Nativity	0.7	0.3, 1.3	-	-	0.7	0.4, 1.2	1.2	0.7, 1.9
Unintended Pregnancy	2.8***	1.5, 5.2	2.7*	1.1, 6.5	1.4	0.8, 2.3	1.0	0.6, 1.7
Social Support	0.9	0.6, 1.2	0.7^	0.5, 1.0	1.0	0.8, 1.2	0.8^	0.6, 1.0
Structural Barriers	0.9	0.5, 1.9	0.5*	0.3, 1.0	0.9	0.7, 1.2	0.7^	0.5, 1.0

^p<.10, *p<.05, **p<.01, ***p<.001

[1]Includes Maternal Age, Household Income, Maternal Education, Nativity. Maternal Education and Income are categorical variables; see "Measures" for details.

[2]Includes variables in the first Adjusted model as well as Unintended Pregnancy, Social Support and Structural Barriers.