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Material Hardship and Internal Locus of Control over the Prevention of Child Obesity in Low-Income Hispanic Pregnant Women

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Abstract

Objective—To determine the relations between household material hardships and having a low internal locus of control over the prevention of child obesity in low-income Hispanic pregnant women.

Methods—We performed a cross-sectional analysis of baseline data collected during a third trimester prenatal visit from women participating in the Starting Early Study, a randomized controlled trial to test the efficacy of a primary care-based family-centered early child obesity prevention intervention. Using multiple logistic regression analyses, we determined whether four domains of material hardship (food insecurity, difficulty paying bills, housing disrepair, neighborhood stress), considered both individually and cumulatively, were associated with having a low internal locus of control over the prevention of child obesity.

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Results—The sample included 559 low-income Hispanic pregnant women, with 60% having experienced at least one hardship. Food insecurity was independently associated with a low internal locus of control over the prevention of child obesity (AOR 2.38, 95% CI 1.50 – 3.77), controlling for other hardships and confounders. Experiencing a greater number of material hardships was associated in a dose-dependent relationship to an increased odds of having a low internal locus of control.

Conclusions—Prenatal material hardships, in particular food insecurity, were associated with having a lower prenatal internal locus of control over the prevention of child obesity. Longitudinal follow-up of this cohort is needed to determine how relations between material hardships and having a low internal locus of control will ultimately impact infant feeding practices and child weight trajectories.

Keywords

Poverty; Pregnancy; Infant; Locus of Control; Weight

INTRODUCTION

Poverty-related disparities in early child obesity have significant public health implications, including adverse impacts on child health[1] and the increased risk of obesity across the life-course.[2] Ethnic disparities also exist, with Hispanic children having the highest prevalence of overweight in the first two years of life compared to non-Hispanic white and African-American children.[3] Research has identified modifiable maternal behaviors associated with child obesity risk during infancy, such as breast or formula feeding.[4] An understanding of maternal characteristics related to these behaviors is important for the development of obesity prevention strategies. Since feeding intentions and attitudes are established during pregnancy and predict infant feeding behaviors, it is essential to identify the contributing characteristics that influence these attitudes during pregnancy.[5]

Internal locus of control, defined as one's sense of personal control over life outcomes, is a prenatal characteristic that may serve as an early antecedent of child obesity-promoting behaviors.[6] Individuals with a low internal locus of control believe that they are not able to control their own life outcomes. Those with a more external locus of control believe that their life outcomes are controlled by powerful others, fate or luck. With respect to health, beliefs that one's own actions lead to positive health outcomes is thought to motivate healthy behaviors. During pregnancy, the degree to which a woman perceives that she is responsible for the health of her fetus has been related to multiple prenatal health behaviors as well as intentions regarding postnatal behaviors.[7–9] Specific to infant feeding, pregnant women who have higher internal locus of control with regard to fetal health are more likely to intend to breastfeed.[10]

Low internal locus of control may mediate multiple negative parenting and child health behaviors linked to living in poverty.[11] A few studies have linked challenges associated with poverty, in particular household material hardships, to having a low internal locus of control. During pregnancy, food insecurity has been linked to beliefs in greater control by others or chance rather than themselves.[12] The daily hassles and anxiety that commonly accompany

poverty and high neighborhood deprivation have been related to lower self-perceived control.[13,14] Furthermore, a broad body of evidence suggests that experiencing an increasing number of hardships has greater impacts on child health and development.[15,16]

To our knowledge, no prior studies have comprehensively assessed whether individual material hardships during pregnancy, such as food insecurity, difficulties paying bills, housing disrepair and neighborhood stress, as well as their cumulative effects, are associated with prenatal internal locus of control related to preventing child obesity. Therefore, we sought to understand how material hardships, considered both individually and cumulatively, are associated with prenatal internal locus of control over the prevention of child obesity in low-income Hispanic pregnant women.

METHODS

Study Design

We performed a cross-sectional analysis of data from pregnant women participating in the Starting Early Study, a randomized controlled trial (RCT) to test the efficacy of a primary care-based family-centered early child obesity prevention intervention. The Starting Early intervention was designed for low-income Hispanic families. It begins in the third trimester of pregnancy and continues until child age three years old. Data used in these analyses was collected between August, 2012 and December, 2014 prior to randomization during a baseline survey at a third trimester prenatal visit. Trained bilingual research staff conducted an interviewer-administered survey in either English or Spanish. This study was approved by the Institutional Review Boards of New York University School of Medicine and the Albert Einstein College of Medicine, by Bellevue Hospital Center and by the New York City Health and Hospitals Corporation. This study was registered on clinicaltrials.gov (NCT01541761).

Study Sample

This study took place in the prenatal clinics of a large urban public hospital and an affiliated satellite neighborhood health center. Inclusion criteria were: 1) age ≥ 18 years old; 2) self-identification as Hispanic/Latina; 3) fluent in English or Spanish; 4) singleton uncomplicated pregnancy; and 5) intention to receive prenatal and pediatric care at the study sites. Exclusion criteria were: significant medical or psychiatric illness, homelessness, substance abuse or severe fetal anomalies on ultrasound. At a prenatal visit between 28–32 weeks gestational age, women were approached and assessed for eligibility. Women interested in participating signed written informed consent and completed baseline assessments.

Assessments

Independent Variables—Household Food Insecurity was assessed using the Core Food Security Module from the US Department of Agriculture[17] based on a 12-month period which overlapped the pregnancy. Continuous scores were generated from 10 questions (Cronbach's alpha (α)=.53) and dichotomized using recommended cut-points. Women were classified as "food secure" if they report no more than two food-insecure conditions and "food insecure" if they report three or more.

Difficulties Paying Bills was assessed using two questions from the Survey of Income and Program Participation (SIPP)[18]: 1) “Have you had serious financial problems or been unable to pay monthly bills, rent or mortgage during the last 12 months?”; 2) “Has there been a time when your household had service turned off by the gas or electric company, or the telephone company?” Continuous scores were generated based on the sum of the responses (α=.53). A categorical variable was defined as responding “yes” to either of these questions.

Housing Disrepair was measured using questions from the SIPP.[18] We asked women “Are any of the following conditions present in your home?” Responses included 1) a leaking roof or ceiling, 2) a toilet, hot water heater or other plumbing that doesn’t work, 3) broken windows, 4) exposed electric wires, 5) rats, mice, roaches or other insects, 6) holes in floor (large enough to trip in) and 7) open cracks or holes in the walls or ceiling.

Continuous scores were generated based on the number of housing conditions experienced (α=.51). A categorical variable for housing disrepair was defined as responding “yes” to any of the housing conditions.

Neighborhood Stress was measured using questions from the Pregnancy Risk Assessment Monitoring System (PRAMS).[19] Mothers were asked: “Did you do any of the following things because you felt it was unsafe to leave or return to the neighborhood where you live?”: 1) miss doctor or other appointments; 2) limit grocery or other shopping; and 3) stay with other family members or friends. Responses were based on a 5-point Likert scale (never, almost never, sometimes, fairly often and always). Continuous scores were generated from the sum of the three questions (α=.59). A categorical variable was defined as never versus ever experiencing neighborhood stress.

Dependent Variable—Internal Locus of Control over the Prevention of Child Obesity (LOC-PCO) was assessed using questions adapted from the Parental Health Belief Scale to measure sense of personal control over providing a healthy child diet and preventing child obesity.[6] Women stated whether they agreed with the following four statements: 1) “I can do a lot of things to prevent my child from becoming overweight”; 2) “There is nothing I can do to prevent my child from becoming overweight”; 3) “I can do a lot to make sure my child has a healthy diet”; 4) “I can do a lot to make sure that my child has a healthy weight”. Responses were based on a 5-point Likert scale (strongly disagree, somewhat disagree, no opinion, somewhat agree and strongly agree). A continuous score was generated from the sum of the 4 questions each scored 1–5 (α =.44). Question 2 was reverse coded. To minimize the effects of the responses being skewed, the variable was also dichotomized, with low internal LOC-PCO defined as the lowest quartile.[20,21]

Additional Covariates—Prenatal depressive symptoms were measured using the Patient Health Questionnaire-9 (PHQ-9),[22] a validated tool that measures symptoms in the last two weeks. Depressive symptoms (scale of 0–27) were dichotomized at recommended cut-points with no symptoms (0–4) versus mild or greater depressive symptoms (5–27).

Other socio-demographic characteristics: education (less than high school, high school or more), marital status (single, married), employment (non-working, working), country of

birth (non-US born, US born), other children (first child, ≥1 children) were assessed. Pre-pregnancy body mass index (BMI; kg/m2) was calculated using weight and height from medical record review and categorized as underweight (<18.5), normal weight (18.5–24.9), overweight (25–29.9), and obese (≥30).[23]

Statistical Analysis

Data analyses were performed using SPSS statistical software version 18.0 (SPSS Inc, Chicago, IL). The distribution of the dependent variable, LOC-PCO, was left-skewed (skewness[SE]=−1.92[.10]). We first performed bivariate analyses of the relationships between the individual material hardships (food insecurity, difficulty paying bills, housing disrepair, neighborhood stress) and internal LOC-PCO scores using the Mann–Whitney U-test. We next performed multiple linear and logistic regression analyses to explore independent associations between material hardships and LOC-PCO. Multiple linear regressions were performed utilizing a log-transformation of LOC-PCO scores that had been reversed to account for left skewing.[24] Multiple logistic regressions were performed predicting LOC-PCO in the lowest quartile. Each of these regressions was performed utilizing two models. Model 1 included all four individual material hardships entered simultaneously. Model 2 regressions further adjusted for potential covariates, including education, marital status, employment, country of birth, other children, prenatal depressive symptoms and pre-pregnancy weight status. Next, individual hardships were summed to determine the total number of hardships experienced by each subject. Scores ranged from experiencing no hardship to four hardships. Multiple linear and logistic regression analyses were conducted to determine relationships between the number of hardships and both the continuous internal LOC-PCO score and the dichotomous low LOC-PCO variable respectively, using ‘no hardship’ as the reference group. Multiple regression analyses were also conducted using the total number of hardships as a predictor, in order to determine the adjusted odds ratio per increase in hardship.

RESULTS

Study sample

Nine-hundred and thirty-three low-income Hispanic pregnant women were found eligible for the Starting Early RCT. Three-hundred and sixty-seven (39%) of these women declined to participate, leaving 566 women who signed consent. 559 women completed baseline assessments prior to randomization and were included in these analyses. The majority was non-US born, with most from Mexico (46.0%), Ecuador (15.6%) and the Dominican Republic (5.7%). In addition, 32.9% had less than a high school education, 29.6% were single, and 34.9% reported depressive symptoms (Table 1). Material hardships were high, with 30.7% reporting food insecurity, 27.2% reporting difficulty paying bills, 33.5% reporting housing disrepair and 8.6% reporting neighborhood stress. The mean (SD) internal LOC-PCO score was 19.0 (1.66), ranging from 12 and 20. The bottom quartile represented scores between 12 and 18 (24%). Less education and prenatal depressive symptoms were associated with lower internal LOC-PCO scores (Table 1).

Material Hardship and Locus of Control

In unadjusted bivariate analyses (Table 2), women with food insecurity had lower mean LOC-PCO scores (18.52 vs. 19.21, p<.001) and increased likelihood of low LOC-PCO compared to mothers with food security (38.1% vs. 17.7%, p<.001). Women with neighborhood stress had lower mean LOC-PCO scores (18.46 vs. 19.05, p=.003) and increased likelihood of low LOC-PCO compared to mothers without neighborhood stress (37.5% vs. 22.3%, p<.03). Women with housing disrepair had lower mean LOC-PCO scores (18.83 vs. 19.09, p=.07) and increased likelihood of low LOC-PCO compared to mothers without housing disrepair (29.4% vs. 20.7%, p<.03). Difficulties paying bills was not significantly associated with LOC-PCO.

Using multiple linear regression models with all four hardships entered simultaneously, food insecurity was found to be independently associated with having a lower internal LOC-PCO in both unadjusted (beta .20, 95% CI .07–.17 [Model 1]) and adjusted (beta .16, 95% CI . 04–.15 [Model 2]) analyses (Table 2). Similar results were found using logistic regression models with the dichotomous LOC-PCO outcome, in which food insecurity was independently associated with having a low internal LOC-PCO in both unadjusted (AOR 2.75, 95% CI 1.77–4.27 [Model 1]) and adjusted (AOR 2.38, 95% CI 1.50–3.77 [Model 2]) analyses.

Cumulative Number of Hardships

In multiple linear regression models, experiencing 3–4 hardships was associated with having a lower internal LOC-PCO score compared to having no hardships in both unadjusted (beta . 16, 95% CI .07–.22 [Model 1]) and adjusted (beta .13, 95% CI .03–.20 [Model 2]) analyses (Table 3). Experiencing 1–2 hardships was associated with having lower internal LOC-PCO scores, but these findings were not statistically significant. Using logistic regression with the dichotomous LOC-PCO outcome, experiencing a greater number of hardships was related in a dose-dependent relationship, using “no hardship” as the reference. Families with one hardship had an adjusted odds ratio (AOR) of having a low LOC-PCO of 1.74 (95% CI 1.04–2.93), while families with experiencing 3–4 hardships had an AOR of 2.70 (95% CI 1.35–5.41), compared to having no hardships. Using multiple logistic regression, including the number of hardships as a predictor variable, each additional hardship was associated with an AOR of 1.42 (95% CI 1.16–1.74) for predicting a low internal LOC-PCO.

DISCUSSION

In this study of low-income, Hispanic pregnant women, we found that material hardship was associated with having a lower internal locus of control related to the prevention of child obesity. Pregnant women who experienced multiple hardships demonstrated a dose-dependent relationship between the increasing number of hardships and having a low internal locus of control. Food insecurity was found to be the hardship with the strongest association. These results suggest that prenatal material hardships may play an important role in reducing internal locus of control over preventing child obesity.

Living in poverty significantly increases the risk of obesity beginning in infancy and its sustained effects throughout the life-course.[3] Socioeconomic disparities in the rates of early child obesity exist, with children from low-income households most affected.[3] Despite the awareness of these disparities, the mechanism through which poverty impacts child obesity remains unclear, hindering efforts to develop effective obesity prevention strategies for low-income families. Understanding the early antecedents of parent behaviors related to early child obesity is essential to developing prevention strategies. Our findings suggest that material hardships function as potentially important early antecedents.

Given that material hardships commonly occur in clusters rather than as individual occurrences, it is important to consider their cumulative effects. Our finding that experiencing multiple prenatal hardships demonstrated a dose-dependent relationship with having a low internal locus of control, corresponds well with evidence documenting the negative impacts of cumulative risks. Studies of cumulative risks, such as adverse childhood experiences, have demonstrated that more risks result in a stronger, dose-dependent relationship with numerous health, social and behavioral problems.[15,16,25,26] Cumulative material hardships, such as having both housing instability and food insecurity, have been associated with poor child health, growth and development,[16] and have been shown to mediate the relationship between poverty and child weight.[27]

Of the four material hardships studied, food insecurity was found to be the most strongly associated with prenatal locus of control regarding child obesity prevention. Given that food insecurity is the only food-specific hardship studied, it is not surprising that it is most related to attitudes about infant weight. Food insecurity has been previously associated with maternal feeding styles and attitudes that increase obesogenic feeding practices and child obesity. A study of low-income Hispanic mothers of infants in the first six months of life, showed that food-insecure mothers are more likely to exhibit controlling feeding styles, mediated by concern for the infant becoming overweight.[28] Food insecure families also have decreased parental self-efficacy to make fruit and vegetables available for children.[29] Our current findings expand on these prior studies by showing that food insecurity is related to important infant feeding attitudes during pregnancy.

Studies have demonstrated that pregnancy, which often represents a unique time of transition for a family, can make women vulnerable for increased material hardship.[12,30,31] During pregnancy, increasing nutritional demands, shifts in household responsibilities and changes in employment, have been shown to change the family budget and require families to adjust to a lower income. A qualitative study of pregnant Latina women found high levels of stress about not having enough money to buy nutritious foods to feed themselves, their unborn baby, and their family.[32] Our findings further document that material hardships commonly occur during this vulnerable period, with about sixty percent of our sample experiencing at least one hardship. These findings are concerning because prenatal stressors are likely to influence attitudes strongly related to later parenting practices and have long-term impacts on child outcomes.[5,33] Our findings support the need for two generational obesity prevention strategies beginning during pregnancy.

Given that prenatal attitudes are strongly related to later parenting practices, our findings have clinical implications. Prenatal internal locus of control may be a critical antecedent of obesity-promoting feeding behaviors during infancy in low-income families experiencing material hardship. This corresponds with studies documenting that higher internal locus of control during pregnancy is associated with positive prenatal health behaviors and breastfeeding intentions.[7–9] Pregnant women with a greater internal locus of control regarding fetal health demonstrate better adherence with limiting caffeine,[7] avoidance of smoking,[7] participation in physical activity,[8] and health information-seeking.[9] Breastfeeding high self-efficacy and intentions during pregnancy are known to predict higher breastfeeding rates.[5,34] Later in childhood, an external parental locus of control has been associated with unhealthier child diets.[35] Further longitudinal study is needed to understand how prenatal internal locus of control will impact maternal-child feeding behaviors and child weight trajectories.

This study has several limitations. First, our sample is a cohort of low-income Hispanic women, which may limit generalizability to all pregnant women. Although the study controlled for a range of potential confounders, additional family and community level confounders may exist. Second, given that no measure of locus of control regarding the prevention of child obesity existed, it was necessary to adapt questions from a pre-existing health related parental locus of control questionnaire validated in a Hispanic, Puerto Rican population.[6] Using this adapted measure, we found that internal LOC-PCO scores were generally high in our sample of pregnant women who originated primarily from Mexico and Ecuador. Given that perceived locus of control was assessed during pregnancy, some women may have had difficulty with questions that were oriented towards after the birth of the baby, and therefore hypothetical. In addition, it remains unclear how the mothers interpreted the terms "overweight" and "healthy diet". It is possible that their interpretation of these terms could differ based on experiencing food insecurity or other hardships. Although locus of control is believed to be a complex, multi-dimensional construct, we were only able to study internal locus of control. In particular, we did not assess external locus of control, including beliefs that the prevention of child obesity is controlled by powerful others, such as medical professionals, or by fate, chance, or luck. We also did not assess other health specific aspects of locus of control, and it is possible that our findings could be due to overall locus of control orientation rather than obesity-related locus of control. Furthermore, the cross-sectional design prevents making conclusions that material hardship directly causes a low internal locus of control. The cross-sectional design during pregnancy prevents us at this time from studying impacts on subsequent feeding practices or obesity. Following the cohort longitudinally throughout the child’s first three years of life will help to determine how material hardship and prenatal locus of control regarding preventing child obesity will impact parenting behaviors and ultimately child weight status.

Conclusions

Findings suggest that prenatal material hardships, in particular food insecurity, are associated with a mother’s belief in her own role in promoting healthy child diet and growth. Experiencing multiple material hardships demonstrated a dose-dependent relationship. Further work is needed to understand how the relationship between prenatal material

hardships and a low internal locus of control impacts child feeding practices and child growth trajectories. Future studies need to determine if interventions should aim to improve internal locus of control or need to focus further downstream on decreasing material hardships during pregnancy. Given that low-income pregnant women experience high rates of material hardship, screening for these hardships during pregnancy may be critical to intervening early. These findings also highlight that early child obesity prevention beginning in pregnancy will likely need to combine health-care programs with public health efforts to address the complex, multifactorial challenges faced by families in poverty. Such efforts could include coordinating with population-based programs, such as the Supplemental Nutrition Assistance Program for Women, Infant and Children (WIC), and affordable housing assistance programs. These efforts to reduce health disparities may need to target material hardship during pregnancy to impact prenatal attitudes that influence parenting behaviors associated with child obesity.

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What's new

We found that prenatal material hardships are linked to a low internal locus of control over the prevention of child obesity. These findings link poverty-related challenges to prenatal attitudes that may ultimately increase obesity-promoting infant feeding practices and weight trajectories.

Table 1

Family Characteristics and Prenatal Internal Locus of Control over the Prevention of Child Obesity (LOC-PCO)

Characteristics		Study Sample (n=559) n (%)	Internal LOC-PCO[a] Mean (SD)	p-value
US born	Yes No	117 (20.9) 442 (79.1)	19.26 (1.49) 18.94 (1.70)	.05
Education, less than HS	Yes No	184 (32.9) 375 (67.1)	18.56 (1.87) 19.22 (1.50)	<.001
Marital status, single	Yes No	165 (29.6) 393 (70.4)	18.81 (1.75) 19.08 (1.61)	.06
Working	Yes No	143 (25.6) 416 (74.4)	19.13 (1.69) 18.96 (1.65)	.08
First child	Yes No	212 (38.0) 347 (62.1)	19.12 (1.61) 18.93 (1.68)	.08
Depressive symptoms	Yes No	195 (34.9) 363 (65.1)	18.84 (1.65) 19.09 (1.66)	.02
Pre-pregnancy BMI ≥ 25	Yes No	344 (61.5) 215 (38.5)	18.97 (1.67) 19.07 (1.64)	.41

[a]Internal LOC-PCO scores were based the sum of four questions with scores ranging from 4 to 20. Higher scores represent higher internal locus of control.

Table 2

Relationship between Household Material Hardships and Internal Locus of Control over the Prevention of Child Obesity (LOC-PCO)

Material Hardships		Internal Locus of Control (Continuous Score)					
				Model 1[a]		Model 2[b]	
		Mean (SD)	p-value	Beta[c]	95% CI	Beta	95% CI
Food insecure	Yes No	18.52 (1.85) 19.21 (1.54)	<.001	.20	.07 to .17	.16	.04 to .15
Difficulty paying bills	Yes No	18.88 (1.78) 19.05 (1.61)	.41	−.04	−.08 to .03	−.04	−.08 to .03
Housing disrepair	Yes No	18.83 (1.76) 19.09 (1.60)	.07	.06	−.02 to .08	.05	−.02 to .08
Neighborhood stress	Yes No	18.46 (1.86) 19.05 (1.63)	.003	.09	.003 to .17	.08	−.01 to .16
		Low Internal Locus of Control (Categorical Variable)					
		n (%) with low LOC	p-value	AOR	95% CI	AOR	95% CI
Food insecure	Yes No	64 (38.1) 67 (17.7)	<.001	2.75	1.77 – 4.27	2.38	1.50 – 3.77
Difficulty paying bills	Yes No	42 (27.6) 90 (22.1)	.18	.82	.51 – 1.32	.79	.48 – 1.30
Housing disrepair	Yes No	55 (29.4) 77 (20.7)	.03	1.45	.95 – 2.21	1.43	.92 – 2.22
Neighborhood stress	Yes No	18 (37.5) 114 (22.3)	.03	1.75	.90 – 3.40	1.60	.80 – 3.18

[a]Model 1 uses regression models with all four material hardships (food insecurity, difficulties paying bills, housing disrepair and neighborhood stress) entered simultaneously into model.

[b]Model 2 uses regression models with all four material hardships entered simultaneously into model as well as additional potential confounders including US born, maternal education, marital status, working status, first child, depressive symptoms, and pre-pregnancy BMI ≥ 25.

[c]Multiple linear regressions were performed utilizing a log-transformation of LOC-PCO scores that had been reversed to account for left skewing. Higher Betas represent lower LOC-PCO scores.

Table 3

Cumulative Material Hardship and Internal Locus of Control over the Prevention of Child Obesity

Cumulative Hardships			Model 1[a]		Model 2[b]	
	Internal Locus of Control (Continuous Score)[c]					
	Total n (%)	Mean (SD)	Beta	95% CI	Beta	95% CI
No Hardship	218 (39.9)	19.22 (1.64)	REF		REF	
1 Hardship	180 (32.9)	19.04 (1.50)	.07	−.01 to .09	.05	−.03 to .08
2 Hardships	91 (16.6)	18.79 (1.64)	.11	.02 to .15	.09	−.004 to .13
3–4 Hardships	58 (10.6)	18.36 (2.13)	.16	.07 to .22	.13	.03 to .20
	Low Internal Locus of Control (Categorical Variable)					
	Total n (%)	With low LOC n (%)	OR	95% CI	AOR	95% CI
No Hardship	218 (39.9)	33 (15.1)	REF		REF	
1 Hardship	180 (32.9)	46 (25.6)	1.92	1.17 – 3.17	1.74	1.04 – 2.93
2 Hardships	91 (16.6)	30 (33.0)	2.75	1.56 – 4.88	2.40	1.30 – 4.42
3–4 Hardships	58 (10.6)	22 (37.9)	3.42	1.80 – 6.54	2.70	1.35 – 5.41

[a]Model 1 uses regression models with number of hardships entered simultaneously into model, using “no hardship” as the reference group.

[b]Model 2 uses regression models with number of hardships entered simultaneously into model as well as additional potential confounders including US born, maternal education, marital status, working status, first child, depressive symptoms, and pre-pregnancy BMI ≥ 25, using “no hardship” as the reference group

[c]Multiple linear regressions were performed utilizing a log-transformation of LOC-PCO scores that had been reversed to account for left skewing. Higher Betas represent lower LOC-PCO scores.