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The impact of prenatal employment on breastfeeding intentions and breastfeeding status at one week postpartum

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Abstract

Background—Postpartum employment is associated with non-initiation and early cessation of breastfeeding, but less is known about the relationship between prenatal employment and breastfeeding intentions and behaviors.

Objective—To estimate the relationship between prenatal employment status, a strong predictor of postpartum return to work, and breastfeeding intentions and behaviors.

Methods—Using data from the Listening to Mothers II national survey ($N = 1573$), we used propensity score matching methods to account for non-random selection into employment patterns and to measure the impact of prenatal employment status on breastfeeding intentions and behaviors. We also examined whether hospital practices consistent with the Baby Friendly Hospital Initiative (BFHI), assessed based on maternal perception, were differentially associated with breastfeeding by employment status.

Results—Women who were employed (vs. unemployed) during pregnancy were older, more educated, less likely to have had a previous cesarean delivery, and had fewer children. After matching, these differences were eliminated. Although breastfeeding intention did not differ by employment, full-time employment (vs. no employment) during pregnancy was associated with decreased odds of exclusive breastfeeding one week postpartum (adjusted odds ratio [AOR] 0.48; 95% CI [0.25, 0.92]; $p=0.028$). Higher BFHI scores were associated with higher odds of breastfeeding at one week, but did not differentially impact women by employment status.

Conclusions—Women employed full-time during pregnancy were less likely to fulfill their intention to exclusively breastfeed, compared to women who were not employed during pregnancy. Clinicians should be aware that employment circumstances may impact women's breastfeeding decisions; this may help guide discussions during clinical encounters.

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Keywords

Breastfeeding behaviors; exclusive breastfeeding; prenatal employment; propensity score matching

Background

In the United States, 66% of new mothers who had a first birth between 2006 and 2008 reported having been employed during their pregnancies.¹ Prenatal employment is a strong predictor of postpartum return to work: among women who worked during their pregnancy, 58.6% had returned to work within 3 months of giving birth, and 79.2% had returned within one year. In contrast, only 15.3% of women who did not work during pregnancy were working 3 months postpartum.¹ Employment may present significant challenges for breastfeeding mothers. Full-time maternal employment has been identified as a reason for early cessation of breastfeeding, and intention to return to work and full-time postpartum employment are associated with non-initiation of breastfeeding.²⁻⁵

The American Academy of Pediatrics recommends exclusive breastfeeding for six months, as well as continued breastfeeding (supplemented with other foods) for a year or more, as long as is mutually desired by the mother and infant.⁶ Breastfeeding levels in the U.S. have been increasing, particularly for ever-breastfeeding, but fell short of the goals set by Healthy People 2010 for exclusive breastfeeding; while 76.9% of infants born in 2009 were ever breastfed, only 16.3% were exclusively breastfed for six months.⁷ Even women intending to exclusively breastfeed have difficulty fulfilling those intentions. A recent analysis showed that nearly two-thirds of women intending to exclusively breastfeed did not achieve their intended duration, and 15% were not doing so at the time they left the hospital.⁸

Our study builds on prior research about maternal employment and breastfeeding by examining the relationship between prenatal employment, breastfeeding intentions, and early breastfeeding behaviors. The link between prenatal employment and early breastfeeding behaviors is important from a public health perspective, because it addresses a group of women who may perceive heightened barriers to breastfeeding, thus providing an opportunity for early intervention and support. We hypothesized that women who were employed during pregnancy might be less likely to continue breastfeeding if they planned to return to work. We also accounted for hospital practices consistent with the Baby Friendly Hospital Initiative's (BFHI) Ten Steps to Successful Breastfeeding,⁹ which have been shown to be associated with breastfeeding behaviors,¹⁰⁻¹² and investigated whether such practices have a different impact on employed women vs. women who were not employed. While we did not expect hospital practices to vary based on a woman's employment status, we hypothesized that hospital practices might have a different effect on women who were employed during pregnancy because they might perceive heightened barriers to breastfeeding, making supportive practices even more important.

Additionally, much of the existing research on the relationship between employment and breastfeeding is limited by the fact that women who are employed are very different from those who are not. Most prior research attempts to address this problem by statistically controlling for characteristics associated with both employment and breastfeeding, such as marital status, education, income, birth order and childcare arrangements.^{3,13,14} We improved upon this conventional method by using propensity score matching, which compares outcomes for women who are statistically similar along multiple dimensions and differ only in their employment status. Given the public health importance of breastfeeding and the prevalence of employment during pregnancy, a careful examination of the

relationship between prenatal employment status and the intention to breastfeed, and early breastfeeding behaviors fills a gap in currently-available research. The goal of this study was to measure the relationship between prenatal employment and breastfeeding intent and status one week postpartum, minimizing selection bias through the use of multidimensional propensity score matching and accounting for BFHI-consistent hospital practices.

Methods

Data and Study Population

Data for this study come from a nationally-representative survey of women who gave birth to a single baby in a U.S. hospital in 2005 (Listening to Mothers II Survey, $N=1573$). The survey was commissioned and made publicly available by Childbirth Connection;¹⁵ it was conducted by Harris Interactive using validated sampling methods and both online and telephone modalities.^{16,17} The survey was fielded from January to July 2006. The Listening to Mothers surveys are a unique data source, providing the first information on the childbirth experiences of a nationally-representative sample of U.S. women since the 1988 National Maternal and Infant Health Survey.¹⁸ The data from this survey have been previously used in maternal and child health research, including research examining breastfeeding intentions and behaviors,¹⁹ but the role of employment status has not yet been explored.

Data used in this analysis are de-identified and publicly available; the study was therefore granted exemption from review by the Institutional Review Board at the University of Minnesota (Study Number 1011E92983).

Measures

Outcomes for this analysis were breastfeeding intention and breastfeeding status at one week postpartum, conditional on intention. Survey respondents (all responding after their baby's birth) were asked how they had intended to feed their baby as they neared the end of their pregnancy: breast milk only, formula only, or a combination. We categorized women as intending to breastfeed if they said that they were planning to feed their baby breast milk only or a combination of breast milk and formula, and intending to exclusively breastfeed if they were planning to feed their baby with breast milk only. We defined women as breastfeeding at one week if they reported feeding their baby with breast milk only or a combination of breast milk and formula one week after the baby's birth, and as exclusively breastfeeding if they reported feeding their baby with breast milk only one week postpartum.

Our exposure of interest was prenatal employment status. Survey respondents were asked, "Were you employed when you were pregnant?" Responses were coded as full-time employment (more than 30 hours per week), part-time employment (less than 30 hours per week), or not employed during pregnancy. Women who reported being self-employed either part- or full-time ($n=75$) were excluded to focus on women working for external employers. To measure the extent to which hospital breastfeeding support was consistent with the 10-step BFHI,⁹ we identified nine questions that corresponded to eight of the ten BFHI steps in our data, which we then combined into a numeric scale (1–9). We assigned one point for each of the hospital practices that women reported experiencing, such that higher scale scores indicate maternal perception of greater hospital compliance with these steps. For further information on the construction of this scale, see Table 1.

Analysis

Our analysis included both descriptive statistics and multivariable statistics. In the first stage, we examined summary characteristics of our sample by employment status. Differences by employment group were assessed using cross-tabulations with Pearson ²

tests for categorical variables and ANOVA for differences in means. BFHI scale scores were non-normally distributed; therefore, we report median scores for each employment group and used the Kruskal-Wallis test to assess differences across groups. Because of substantial differences by employment status, we chose an analytic strategy that allowed us to account for these differences and estimate the effects of prenatal employment on breastfeeding intention and behavior.

To create explicit causal contrasts based on employment status,²⁰ we used propensity score matching to construct comparable groups of exposed and unexposed women.^{21–23} Our primary causal contrast represents women who worked full-time (exposed) compared to women who did not work during pregnancy (unexposed). As a secondary analysis, we also constructed matched groups of women who worked full-time (exposed) compared to women who worked part-time during pregnancy (unexposed), and women who worked part-time (exposed) compared to women who did not work during pregnancy (unexposed). Within each of the three contrasts, the probability of exposure (propensity score) was estimated for each woman using logistic regression. Each exposed woman was then matched to a woman with the same probability of exposure, but who was, in fact, not exposed. We matched with replacement, meaning that after an exposed woman was matched to an unexposed woman, the unexposed woman was returned to the pool to potentially be matched again. We defined acceptable propensity score matches to be within a caliper of ± 0.025 .

To estimate the propensity scores, we created a model including all covariates that we expected to differ by prenatal employment status and that preceded employment decisions during pregnancy. We assessed quality of the propensity score matching process by comparing the distribution of covariates by employment status before and after matching to reduce or eliminate differences. The final propensity score estimation model included: age, education, race, marital status, region, unintended pregnancy, mistimed pregnancy, parity, fertility treatment, prior cesarean delivery, and interaction terms for race and parity, parity and region, and age and marital status.

For each of the matched groups, we used logistic regression to assess the relationship between employment status during pregnancy and odds of 1) intending to breastfeed at all, 2) breastfeeding at all one week postpartum (among those who intended to breastfeed), 3) intending to exclusively breastfeed, and 4) exclusively breastfeeding one week postpartum (among those who intended to exclusively breastfeed). Logistic regression models included several additional covariates.²⁴ While age and race were included in the propensity score matching model, we included them as covariates in this second stage because they are known to be associated with breastfeeding.^{4,25–27} We also included several variables that were not included in the propensity score model because they either occur as a result of working or are related to breastfeeding but do not predict work. These covariates were income category, cesarean delivery, and the BFHI scale. Income data were unavailable for nearly 200 survey respondents; we imputed income values for these respondents using hot deck imputation, a method of substituting empirically derived values for missing data.^{28–30} We also used interaction terms to test whether the effect of the BFHI steps differed by employment status. Clustered standard errors were used in all logistic regression models to account for correlation within the matched pairs.

Results

In the overall analytic sample before matching ($N=1,498$), 632 women reported full-time employment during pregnancy, 250 reported part-time employment, and 616 reported no employment during pregnancy. Table 2 presents descriptive statistics for the sample by employment status, which are broadly comparable to U.S. singleton hospital births in

2003.³¹ However, our sample had a larger percentage of white women and lower percentage of Hispanic women and was somewhat older and more educated than the overall population.

Prior to matching, there were statistically significant differences in several covariates among employment groups. After matching, these differences were eliminated, achieving covariate balance across these critical factors. Full characteristics of the matched and unmatched samples for each employment group comparison are available in Appendix 1.

Table 3 presents breastfeeding behaviors by employment status. Intention to breastfeed, either exclusively or in combination with formula, was high (82.0% for any breastfeeding; 63.6% for exclusive breastfeeding) and fairly uniform across employment groups. Among women who intended to breastfeed, over 90% in every employment category were breastfeeding at one week. Of these women, over 75% were exclusively breastfeeding one week postpartum. Neither the intent nor the practice of exclusive breastfeeding differed by employment status in the unmatched sample. In each employment group, the median score on the 9-point BFHI scale was 5.

Table 4 presents the results from multivariate logistic regression analysis using matched cohorts and comparing women who were employed full-time during pregnancy with those who were not employed. There were no statistically significant differences in breastfeeding intention based on employment status or in exclusive breastfeeding intention. However, for women who intended to exclusively breastfeed, those employed full-time (vs. not employed) had significantly lower odds of exclusively breastfeeding at one week postpartum (AOR=0.48, 95% CI [0.25, 0.92]; p=0.028). We conducted similar analyses comparing women who were employed part-time with those who were employed full-time or not at all during pregnancy and found no significant differences in breastfeeding intention or breastfeeding at one week by employment status for these comparisons (results not shown).

Higher scores on the BFHI scale were associated with significantly higher odds of breastfeeding (at all or exclusively); interactions between the BFHI scale and employment status were not statistically significant (results not shown), indicating that the association between hospital practices and breastfeeding behaviors did not differ by employment status.

Discussion

Our results show that, even though women's breastfeeding intentions did not vary by prenatal employment status, women who were employed full-time (vs. not employed) during pregnancy were significantly less likely to fulfill their intention to exclusively breastfeed at one week postpartum. The primary contribution of our study is the finding that prenatal employment identifies a group of women at risk of not fulfilling their intention to establish exclusive breastfeeding. As a secondary contribution, we demonstrate the utility of propensity score matching strategies, which more rigorously control for differences between employment groups than do conventional regression methods.

Since employed women appear to be at greater risk for not meeting their breastfeeding goals compared with those who are not employed, it is important that breastfeeding challenges and barriers be recognized and addressed during pregnancy. It is possible that the link between full-time employment during pregnancy and exclusive breastfeeding at one week even after accounting for breastfeeding intentions may result from a combination of both actual and anticipated future breastfeeding challenges, such as those associated with returning to work; indeed, 61% of women in our sample had returned to work by 12 weeks postpartum. Enhanced counseling and support for women's decision to exclusively breastfeed could be provided during prenatal, postpartum, and well-child visits, while recognizing that employment circumstances may impact women's breastfeeding decisions.

Additionally, hospitals should be encouraged to adopt practices consistent with BFHI to support successful breastfeeding initiation among women intending to breastfeed. These practices have the potential for large impacts because they not only affect breastfeeding initiation rates,^{12,19} but evidence shows that several of these BFHI practices are also associated with increases in breastfeeding duration.³² Our study adds to the evidence base for the positive association of BFHI practices with early breastfeeding behaviors.

Improvements in workplace support for breastfeeding may also help more employed mothers to fulfill their intention to exclusively breastfeed. The 2010 Patient Protection and Affordable Care Act (ACA) contains provisions for break time and space for expressing breast milk at the workplace and health insurance coverage for breastfeeding support and supplies.³³ This coverage must include lactation support and counseling as well as the costs of renting breast-feeding equipment, both of which will be covered without cost-sharing as part of required health plan coverage for women's preventive services.³⁴ These provisions may reduce some of the barriers to breastfeeding for employed mothers. If women are aware that these supports will be available to them when they return to work, they may have greater incentive to persist through early breastfeeding challenges. This is an important area for future research.

In our analysis, there was not a consistent trend in the relationship between prenatal employment status (full-time, part-time, and not being employed) and early breastfeeding behaviors. There are two potential explanations for this. One is limited sample size (especially among those employed part time, $n=250$), which is also discussed below; another is the heterogeneity of the group of women employed part-time during pregnancy. Both of these issues may limit our ability to detect a relationship between part-time employment status and early breastfeeding. Interestingly, the lack of effect of part-time employment on breastfeeding compared to not being employed is consistent with previous studies;^{2,35} this is another potential area for future research.

Strengths and Limitations

Many nationally-representative datasets and routinely-reported statistics do not allow for examination of employment status and breastfeeding behaviors in tandem. We capitalized on a rich data source that supported the use of rigorous methods to address the study question.

Our statistical analyses were limited by the size of the available sample. The retrospective self-report of breastfeeding intention and behaviors used in this analysis may be subject to both recall bias and social desirability bias. However, any such bias would be unlikely to differ by employment status. Breastfeeding behaviors are known to differ by occupational category,^{5,36} but our data do not contain information on occupational category, so we were unable to explore this level of analysis. Our data also lacked information on women's postpartum employment plans, which may be the mechanism by which prenatal employment affects breastfeeding. We were also unable to examine breastfeeding duration as an outcome; breastfeeding duration was investigated in a follow-up survey with a lower response rate, and duration information was right-censored depending on the timing of the postpartum survey administration. While our analytic sample was drawn from a national sample, the propensity score matching methods precluded the use of survey weights. Thus, while we have reduced potential bias in the estimation of the relationship between prenatal employment and breastfeeding, results from our matched sample, while broadly generalizable in a causal context, may not be nationally representative. Future studies using prospectively collected, nationally-representative data on breastfeeding intentions and behaviors that include more specific information about occupational type, future employment plans, and job conditions would be helpful.

Conclusions

Our findings show that, among pregnant women who intend to exclusively breastfeed, women employed full-time are less likely to fulfill that intention than those who are not employed. Current public health policy should focus on supporting all women who want to breastfeed through implementation of supportive workplace policies enacted in the ACA and through increasing psychosocial support in clinical and community settings. This may include both increasing awareness among clinicians of the salience of work demands to breastfeeding behaviors as well as hospital policies such as those advocated by BFHI. Supporting women's intention to breastfeed involves recognition of the particular barriers working women face and embracing evidence-based strategies to support women in achieving their breastfeeding goals.

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Well Established

Breastfeeding has well-documented benefits. Women who return to work postpartum are less likely to breastfeed and breastfeed for a shorter duration, but less is known about the relationship between prenatal employment and breastfeeding intentions and behaviors.

Newly Expressed

Our results show that full-time prenatal employment identifies a group of women at risk of not fulfilling intentions to establish exclusive breastfeeding. Supportive hospital practices were associated with increased odds of breastfeeding at one week regardless of prenatal employment status.

Table 1
 Baby Friendly Health Initiative Scale Components Among Women Giving Birth to a Single Baby in a U.S. Hospital in 2005, Before Matching.

Baby Friendly Hospital Practices	Corresponding question(s) used to construct Baby Friendly Hospital Initiative Scale	Not employed ^a (n=616)	Part-time work ^a (n=250)	Full-time work ^a (n=632)	P Value ^b
Inform all pregnant women about the benefits and management of breastfeeding.	Hospital staff encouraged breastfeeding	0.64	0.64	0.67	0.371
Help mothers initiate breastfeeding within one hour of birth.	Baby spent first hour in mother's arms	0.35	0.35	0.31	0.212
Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.	Hospital staff helped get started breastfeeding	0.60	0.67	0.68	0.015
	Hospital staff showed how to position baby for breastfeeding	0.53	0.56	0.60	0.027
Give newborn infants no food or drink other than breastmilk, unless medically indicated.	Hospital staff did not provide water or formula supplements	0.60	0.52	0.56	0.105
Practice "rooming in" -- allow mothers and infants to remain together 24 hours a day.	Baby roomed in with mother	0.60	0.57	0.56	0.528
Encourage breastfeeding on demand.	Hospital staff encouraged breast feeding on demand	0.67	0.68	0.67	0.981
Give no pacifiers or artificial nipples to breastfeeding infants.	Hospital staff did not give baby a pacifier	0.50	0.48	0.48	0.623
Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic	Hospital staff told about breast feeding resources in the community	0.58	0.60	0.62	0.428
Have a written breastfeeding policy that is routinely communicated to all health care staff.	NA				
Train all health care staff in skills necessary to implement this policy.	NA				
	BFHI scale median (interquartile range)	5(4)	5(4)	5(3)	0.719

Notes:

^a Values presented for each scale component represent the proportion reporting experiencing each step

^bp-values are based on Pearson χ^2 tests for scale components, Kruskal Wallis test for overall scale score comparison.

Table 2

Characteristics of Women Giving Birth to a Single Baby in a U.S. Hospital in 2005 by Pregnancy Employment Status, Before Matching.

	Not employed (n=616)	Part-time work (n=250)	Full-time work (n=632)	Total (N=1498)	P Value
<i>Age Category (%)</i>					
18-19	3.4	3.6	0.5	2.2	
20-24	22.9	26.8	15.2	20.3	
25-29	31.0	34.0	37.8	34.4	
30-34	27.4	25.6	30.7	28.5	
Over 35	15.3	10.0	15.8	14.6	<0.001
<i>Race/ethnicity (%)</i>					
White	68.8	71.2	66.8	68.4	
Black/African American	11.0	12.4	13.9	12.5	
Hispanic	14.3	12.4	13.1	13.5	
Other/Multiple race	5.8	4.0	6.2	5.7	0.58
<i>Education Attainment (%)</i>					
No high school degree	6.3	2.8	1.3	3.6	
High school degree/GED	21.3	16.8	11.9	16.6	
Some college, no degree	37.7	42.0	32.0	36.0	
Associate's degree	9.7	8.8	13.0	11.0	
College (e.g. B.A., B.S.)	16.7	18.8	24.8	20.5	
Some graduate school	2.9	3.2	5.9	4.2	
Graduate degree	5.4	7.6	11.2	8.2	<0.001
<i>Married (%)</i>	76.3	71.6	75.5	75.2	0.340
<i>Income (%)</i>					
Less than \$50,000	66.4	61.6	46.4	57.1	
\$50,000 to 99,999	29.2	32.0	43.7	35.8	
100,000 or more	4.4	6.4	10.0	7.1	<0.001
<i>Previous cesarean delivery (%)</i>	19.8	16.0	12.8	16.2	0.004
<i>Cesarean delivery (%)</i>	27.6	31.2	34.3	31.0	0.040
<i>Number of children (mean(SD))</i>	2.39 (1.27)	1.96 (1.02)	1.79 (0.98)	2.06 (1.15)	<0.001

Note: P values are based on Pearson χ^2 tests for categorical variables, ANOVA for differences in means.

Table 3

Breastfeeding Intentions and Behaviors at One Week Postpartum by Pregnancy Employment Status, Before Matching (N=1,498).

	Not employed		Part-time work		Full-time work		Total		P Value
	n	%	n	%	n	%	n	%	
<i>Any intention to breastfeed</i>	503	81.7	203	81.2	522	82.6	1228	82.0	0.86
<i>Any breastfeeding at one week (conditional on intention)</i>	457	90.9	190	93.6	472	90.4	1119	91.1	0.39
<i>Intention to exclusively breastfeed</i>	392	63.6	161	64.4	399	64.1	952	63.6	0.94
<i>Exclusively breastfeeding at one week (conditional on intention)</i>	308	78.6	126	78.3	287	71.9	721	75.7	0.07

Note: P values are based on Pearson χ^2 tests

Table 4

Logistic Regression Results, Breastfeeding Intentions and Behaviors One Week Postpartum, Comparing a Propensity-Score Matched Group of Women Employed Full-Time During Pregnancy to Those Not Employed During Pregnancy.

	Any breastfeeding intention (n=1254)	Any breastfeeding one week postpartum (n=1038)	Exclusive breastfeeding intention (n=1254)	Exclusive breastfeeding one week postpartum (n=818)
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Full time work during pregnancy (Ref=no work)	0.87 (0.54, 1.39)	0.61 (0.30, 1.21)	0.82 (0.57, 1.17)	0.48 (0.25, 0.92) ^a
Age, continuous	0.97 (0.92, 1.02)	1.04 (0.97, 1.11)	0.99 (0.95, 1.03)	0.99 (0.93, 1.05)
Black/African American (Ref=white)	0.54 (0.24, 1.21)	0.61 (0.23, 1.60) ^b	0.41 (0.23, 0.74) ^b	0.67 (0.31, 1.44)
Hispanic (Ref=white)	1.44 (0.72, 2.87)	1.14 (0.48, 2.67)	0.88 (0.52, 1.47)	0.68 (0.33, 1.39)
Other/Multiple race (Ref=white)	2.68 (1.03, 6.97) ^a	1.86 (0.50, 6.94)	0.88 (0.45, 1.72)	0.56 (0.21, 1.52)
Income less than \$50,000 (Ref=\$50–100k)	0.16 (0.06, 0.43) ^b	0.42 (0.13, 1.30)	0.49 (0.26, 0.92) ^a	0.77 (0.15, 3.96)
Income 100,000 or more (Ref=\$50–100k)	0.18 (0.07, 0.47) ^b	0.56 (0.18, 1.76)	0.45 (0.23, 0.87) ^a	1.30 (0.31, 5.40)
Baby friendly breastfeeding practices scale		1.30 (1.11, 1.53) ^b		1.34 (1.16, 1.55) ^b
Cesarean delivery		0.70 (0.34, 1.43)		0.43 (0.25, 0.72) ^b

Note: Models use clustered standard errors to account for correlation within matched pairs.

^a p<0.05;

^b p<0.01

Appendix 1

Sample Characteristics for Each Employment Comparison Group, Before and After Matching.

	Full-time employment vs. no employment				Full-time vs. part-time employment				Part-time employment vs. no employment							
	Unmatched		Matched		Unmatched		Matched		Unmatched		Matched					
	Full-time	No work	P Value	Full-time	No work	P Value	Full-time	No work	P Value	Part-time	No work	P Value				
<i>Education</i>																
No H.S. diploma	0.01	0.06	0.000	0.01	0.02	0.488	0.01	0.03	0.113	0.01	0.02	0.464	0.03	0.03	0.03	1.000
H.S. diploma	0.12	0.21	0.000	0.12	0.13	0.608	0.12	0.17	0.052	0.12	0.13	0.551	0.17	0.17	0.19	0.638
Some college	0.32	0.38	0.035	0.32	0.33	0.904	0.32	0.42	0.005	0.32	0.33	0.718	0.42	0.42	0.45	0.524
Associate's degree	0.13	0.10	0.072	0.13	0.10	0.094	0.13	0.09	0.083	0.13	0.11	0.291	0.09	0.09	0.08	0.625
Bachelor's degree	0.25	0.17	0.000	0.25	0.25	0.896	0.25	0.19	0.055	0.25	0.23	0.32	0.19	0.19	0.16	0.477
Some grad school	0.06	0.03	0.012	0.06	0.06	0.808	0.06	0.03	0.107	0.06	0.05	0.806	0.03	0.03	0.04	0.805
Graduate degree	0.11	0.05	0.000	0.11	0.12	0.723	0.11	0.08	0.108	0.11	0.13	0.265	0.08	0.07	0.05	0.567
<i>Race</i>																
White	0.67	0.69	0.437	0.67	0.67	0.857	0.67	0.71	0.204	0.67	0.69	0.466	0.71	0.71	0.71	1.000
Black	0.14	0.11	0.124	0.13	0.16	0.202	0.14	0.12	0.551	0.14	0.10	0.057	0.12	0.12	0.17	0.159
Hispanic	0.13	0.14	0.554	0.13	0.13	0.933	0.13	0.12	0.77	0.13	0.12	0.932	0.12	0.12	0.10	0.388
Other/multi-race	0.06	0.06	0.808	0.06	0.04	0.129	0.06	0.04	0.205	0.06	0.08	0.222	0.04	0.04	0.02	0.191
<i>Age</i>																
18-19	0.00	0.03	0.000	0.00	0.00	0.317	0.00	0.04	0.000	0.00	0.01	0.413	0.04	0.04	0.00	0.002
20-24	0.15	0.23	0.001	0.15	0.19	0.114	0.15	0.27	0.000	0.15	0.16	0.587	0.27	0.27	0.30	0.422
25-29	0.38	0.31	0.011	0.38	0.36	0.448	0.38	0.34	0.290	0.38	0.41	0.273	0.34	0.34	0.31	0.500
30-34	0.31	0.27	0.205	0.30	0.27	0.170	0.31	0.26	0.134	0.31	0.26	0.091	0.26	0.25	0.29	0.416
35+	0.16	0.15	0.784	0.16	0.18	0.228	0.16	0.10	0.025	0.16	0.16	0.938	0.10	0.10	0.10	1.000
<i>Region</i>																
Northeast	0.17	0.15	0.204	0.17	0.17	0.940	0.17	0.14	0.304	0.17	0.19	0.273	0.14	0.14	0.16	0.450
Midwest	0.27	0.25	0.569	0.27	0.27	1.000	0.27	0.31	0.226	0.27	0.25	0.367	0.31	0.30	0.30	0.844
South	0.37	0.37	0.957	0.37	0.38	0.683	0.37	0.31	0.113	0.37	0.33	0.173	0.31	0.32	0.34	0.631
West	0.19	0.23	0.091	0.19	0.18	0.665	0.19	0.24	0.139	0.19	0.23	0.127	0.24	0.24	0.20	0.326
Married	0.75	0.76	0.734	0.76	0.75	0.743	0.75	0.72	0.235	0.76	0.73	0.218	0.72	0.72	0.68	0.279

