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## RESEARCH REPORT

## Examining the Effects of Perceived Pregnancy Discrimination on Mother and Baby Health

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Over the last decade, more than 50,000 pregnancy discrimination claims were filed in the United States (United States Equal Employment Opportunity Commission [U.S. EEOC], 2018a). While pregnancy discrimination claims remain prevalent, research examining the effects of pregnancy discrimination on the well-being and health of working mothers and their babies is lacking. As such, we aim to examine the role of perceived pregnancy discrimination in the workplace on health outcomes for mothers and their babies via mother's stress. We draw on the occupational stress literature and medical research to propose that perceived pregnancy discrimination indirectly relates to mother and baby health via the mother's perceived stress. In our first study, we examine the effects of perceived pregnancy discrimination on mothers' postpartum depressive symptoms via perceived stress. In our second study, we replicate and extend our first study and examine the effects of perceived pregnancy discrimination on mothers' postpartum depressive symptoms and babies' gestational age, Apgar scores, birth weight, and number of doctors' visits, through the mechanism of perceived stress. We find that perceived pregnancy discrimination indirectly relates to increased levels of postpartum depressive symptoms for the mothers, and lower birth weights, lower gestational ages, and increased number of doctors' visits for the babies, via perceived stress of the mothers during pregnancy. Implications for theory and practice, limitations, and future research are discussed.


*Keywords:* pregnancy discrimination, stress, mother health, baby health

For many working women, the excitement and joy they experience after learning that they are expecting a new baby is quickly followed by feelings of anxiety over how their pregnancy will

affect them at work. Research suggests that most women are worried about pregnancy discrimination (Hebl, King, Glick, Singletary, & Kazama, 2007; Johnson, 2008; Jones, 2017), and rightly so. Over the last decade, more than 50,000 pregnancy discrimination claims were filed with the EEOC and Fair Employment Practices Agencies in the United States (U.S. EEOC, 2018a, 2018b). Even though 40 years ago, the Pregnancy Discrimination Act made it unlawful for employers to discriminate based on pregnancy (U.S. EEOC, 2011), research suggests that pregnant employees continue to experience discrimination at work (Bragger, Kutcher, Morgan, & Firth, 2002; Masser, Grass, & Nesic, 2007; Salihu, Myers, & August, 2012).

Pregnancy discrimination is defined as unfavorable treatment of women at work due to pregnancy, childbirth, or medical conditions related to pregnancy or childbirth (U.S. EEOC, 2011). Pregnant women perceive discrimination when they experience subtly hostile behaviors such as social isolation, negative stereotyping, and negative or rude interpersonal treatment (Jones, 2017). Despite the fact that pregnant women are generally admired for fulfilling the

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expectations of the traditional female role (e.g., motherhood), pregnant women in the workplace are often seen as inconsistent with “ideal worker” norms (King & Botsford, 2009; Ridgeway & Correll, 2004; Rosette & Tost, 2010). These negative stereotypes lead to perceptions that pregnant women and mothers in the workplace are more emotional, irrational, less committed to their jobs (Correll, Benard, & Paik, 2007; Halpert, Wilson, & Hickman, 1993), and less competent than other employees (Butensky, 1984; Correll et al., 2007; Morgan, Walker, Hebl, & King, 2013). Such stereotypes and resulting negative treatment toward pregnant women lead to adverse outcomes in the workplace (Fox & Quinn, 2015; Morgan et al., 2013).

While research has begun to examine how pregnant women can cope with negative treatment at work (L. M. Little, Hinojosa, Paustian-Underdahl, & Zipay, 2018; L. Little, Major, Hinojosa, & Nelson, 2015), less research has examined the effects that perceived pregnancy discrimination might have on the well-being and health of working mothers and their babies. The purpose of this paper is to begin filling this gap in the literature by drawing from the occupational stress literature (e.g., Ganster & Schaubroeck, 1991) and medical research on the effects of stress during pregnancy (e.g., Zietlow, Nonnenmacher, Reck, Ditzen, & Müller, 2019), to better understand the health-related consequences of perceived pregnancy discrimination at work for mothers (i.e., postpartum depressive symptoms) and their babies (i.e., gestational age, birth weight, Apgar score, doctors’ visits). In the first of two studies, we examine the impact of perceived pregnancy discrimination on the expectant mother’s stress, and subsequently the mother’s postpartum depressive symptoms. This gave us the opportunity to examine the mechanism by which perceived pregnancy discrimination relates to postpartum depressive symptoms. In a subsequent study, we replicate Study 1 and extend it to include baby health outcomes as a result of the mother’s stress. We propose that perceived pregnancy discrimination acts as a stressor (i.e., a psychosocial job demand) that leads to stress for working women during pregnancy, subsequently affecting the health of mothers and their babies following birth.

By drawing from the workplace stress literature and medical research on the effects of stress during pregnancy, we answer a call in the literature to better understand how workplace stressors can affect not only individual employees, but also their families (Casper, Eby, Bordeaux, Lockwood, & Lambert, 2007). Understanding these relationships is increasingly important to organizations, not only because stress during pregnancy affects the health of both baby and mother (Dunkel Schetter & Glynn, 2011), but also because of the growing percentage of pregnant workers; from 2006 to 2008, 66% of women worked while pregnant with their first child, and this percentage has risen by more than 20% since the 1960s (Laughlin, 2011). We discuss our theoretical foundation and further develop our hypotheses in the following sections.

## Hypotheses Development

### Perceived Pregnancy Discrimination and Maternal Stress

Organizational stressors are perceptions of job demands that elicit cognitive appraisals of being stressful (Ganster & Schau-

broeck, 1991). A job demand can be any organizational, social, or physical feature of the job that requires constant physical or mental effort (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Perceived discrimination at work is often considered to be a job demand because negative treatment at work threatens a pregnant women’s career trajectory and success, requiring physical and mental effort to manage (e.g., Din-Dzietham, Nembhard, Collins, & Davis, 2004; Wadsworth et al., 2007). Indeed, pregnant job applicants often experience greater interpersonal hostility when applying for jobs (Hebl et al., 2007) and are rated as less likely to be hired (Bragger et al., 2002) and promoted (Halpert et al., 1993; Heilman & Okimoto, 2008), than nonpregnant women.

Such differential treatment should have negative consequences for women’s stress, given that perceived discrimination serves as a threat to women’s success and valued outcomes (Hobfoll, 1989, 2001). Consistent with this notion, previous studies have shown that perceived discrimination in other contexts leads to higher levels of stress (Carter & Forsyth, 2010; Dhanani, Beus, & Joseph, 2018; Dion, Dion, & Pak, 1992; Jones, Peddie, Gilrane, King, & Gray, 2016; Pascoe & Smart Richman, 2009; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). As such, we propose that perceived pregnancy discrimination will positively relate to levels of stress among pregnant women.

*Hypothesis 1:* Perceived pregnancy discrimination will be positively associated with perceived stress.

### Stress and Health Outcomes

Further, consistent with the occupational stress literature (e.g., Ganster & Schaubroeck, 1991), medical research on maternal health indicates that women who experience stress during pregnancy often experience negative health consequences such as postpartum depression (Nierop, Bratsikas, Zimmermann, & Ehlert, 2006). Postpartum depression is a mental disorder found in women who recently gave birth. This condition has negative effects on a mother’s quality of life (Beck, 2002), close relationships (Burke, 2003), and maternal-infant interaction during the infant’s first year of life (Righetti-Veltema, Conne-Perréard, Bousquet, & Manzano, 2002). The medical research literature has established that stress increases the risk of postpartum depression (see Swendsen & Mazure, 2000 for a review). This is also consistent with broader findings on the role of discrimination and subsequent stress as a determinant of health and well-being (Pearlin, Schieman, Fazio, & Meersman, 2005; Williams, Neighbors, & Jackson, 2003). Thus, we hypothesize the following:

*Hypothesis 2:* Perceived stress during pregnancy will be positively associated with postpartum depressive symptoms.

Perceived stress can also have adverse consequences for the health of babies. In a study of 124 mothers and infants from the Netherlands, Beijers, Jansen, Riksen-Walraven, and de Weerth (2010) found that when fetuses are exposed to elevated stress hormones in utero, they are at risk for health impairments such as infant illnesses and antibiotic use. Several studies have demonstrated that stress during pregnancy leads to preterm delivery (birth prior to 37 weeks gestation) and low birth weight (for reviews, see Dunkel Schetter & Glynn, 2011; Dunkel Schetter & Tanner, 2012). Similarly, Littleton, Bye, Buck, Amacker et al. (2010) conducted

a meta-analysis of 35 studies involving 31,323 women. They found that psychosocial stress during pregnancy was negatively related to neonatal weight. Consistent with this literature, we propose that mothers' stress resulting from perceived pregnancy discrimination will result in worse health outcomes for babies. Therefore, we hypothesize the following:

*Hypothesis 3:* Perceived stress during pregnancy will be negatively associated with babies' (a) gestational age, (b) Apgar score, (c) birth weight, and positively associated with the (d) number of doctors' visits.

Additionally, we expect perceived pregnancy discrimination will indirectly relate to mothers' and babies' health via mother's perceived stress. Indeed, Ganster and Schaubroeck (1991) suggest that prolonged exposure to job demands (such as perceived discrimination at work) will affect one's health due to the harmful effects of stress. Further, perceived stress has been found to act as a mediator in the relationship between work and life stressors and several dysfunctional outcomes such as depression (Lee, Joo, & Choi, 2013), burnout, and anxiety (Reinecke et al., 2017). Additionally, research in the medical field finds that stress during pregnancy is associated with a number of adverse health outcomes such as maternal postpartum depression, preterm birth, low birth weight, infant complications, and developmental effects lasting into adulthood (Dunkel Schetter & Glynn, 2011). Thus, we hypothesize the following:

*Hypothesis 4:* Perceived pregnancy discrimination will indirectly relate to mothers' postpartum depressive symptoms via perceived stress.

*Hypothesis 5:* Perceived pregnancy discrimination will indirectly relate to babies' (a) gestational age, (b) Apgar score, (c) birth weight, and (d) doctors' visits via perceived stress.

## Method

### Participants and Procedures

**Study 1.** The data presented in this article were part of a broader data collection effort. This study was approved by the Florida State University Institutional Review Board (HSC No. 2016.18426; *Paternalism as a Form of Subtle Bias: Exploring the Experiences of New Mothers in the Workplace*). Online surveys were distributed to pregnant women recruited through the Amazon Mechanical Turk (MTurk) program. Data collected from MTurk respondent pools has produced similar results to traditional respondent pools (Paolacci, Chandler, & Ipeirotis, 2010; Sprouse, 2011), thus making it a viable data collection methodology accepted by top journals in the field (e.g., Chua, 2013). The recruitment posts specified that we needed full-time working women who were pregnant. Participants were asked to respond to two time-separated surveys. The first survey was completed during their third trimester (i.e., between 28 weeks pregnant and birth) and measured demographics, perceived pregnancy discrimination, and perceived stress. We included two quality-check items (e.g., "If you read this question, please select agree"). Participants who failed to respond correctly to either quality-check item were removed from the study. Around four weeks following the babies' due dates, we sent

a second follow-up survey assessing the mother's postpartum depressive symptoms. This survey included five quality-check items; participants were removed from the study if they failed three or more quality-check items. The final sample consisted of 53 respondents, a 13% participation rate. A summary of sample demographics can be found in Table 1.

**Study 2.** Online surveys were distributed to employed pregnant women recruited through posts on online pregnancy forums (e.g., Reddit) and social media (e.g., Facebook, Instagram). These posts advertised that we were looking for pregnant women who were working full-time, to participate in a research study. Respondents were asked to complete three time-separated surveys. We extended Study 1 by including baby health outcomes as well as postpartum depressive symptoms. Women completed the first survey, in which data were collected on demographics and perceived pregnancy discrimination, between 13 and 39 weeks pregnant. Participants received the second survey, assessing perceived stress, approximately three weeks later and completed it between 20 and 41.5 weeks pregnant. We only retained data for participants who were still pregnant when they completed the second survey. Each woman completed the third survey approximately two weeks after her due date. This survey measured mother (i.e., postpartum depressive symptoms) and baby (i.e., gestational age, Apgar score, birth weight, and doctors' visits) health outcomes. Similar to Study 1, we included five quality-check items in each survey. Participants were removed from the study if they failed three or more quality-check items.

Data for this study were collected in two waves as part of a broader data collection effort and both were approved by the Florida State University Institutional Review Board (Wave 1: HSC No. 2016.18041; *Great Expectations: An Analysis of Job Stress and Pregnancy*; Wave 2: HSC No. 27511-Study 00000323; *Pregnancy in the Workplace 2*). Initially, the sample consisted of 122 participants, a 39% participation rate. During the journal review process, we collected additional data to increase our sample size and statistical power. This second data collection resulted in 77 participants, a 14% participation rate. To determine the appropriateness of combining these two samples, we conducted a series of independent samples *t* tests and Fisher's exact tests. The samples did not differ significantly on any of the study variables. In terms of demographics, the participants from the initial sample were significantly younger, were more likely to be first-time mothers, and had a smaller proportion of individuals who had attained advanced graduate degrees (i.e., law degree, medical degree, doctorate), compared to the additional sample. To provide further evidence that the samples could be combined, we ran our hypothesized model controlling for the sample (i.e., dummy coded variable where 1 = initial data and 2 = new data). The results indicated that the sample did not significantly relate to any of our study variables, and the results remained consistent. Thus, all analyses conducted for Study 2 in this article are based on this combined sample ( $N = 199$ ). A summary of sample demographics can be found in Table 1.

### Measures

Unless otherwise indicated, all responses were based on a 5-point Likert scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

Table 1  
Summary Sample Demographics Across Studies

Sample demographics across studies	Study 1	Study 2
Sample size	53	199
Average age (years)	30.25 ( <i>SD</i> = 5.45)	30.22 ( <i>SD</i> = 4.53)
Average organizational tenure (years)	5.97 ( <i>SD</i> = 5.04)	4.12 ( <i>SD</i> = 3.15)
Average hr per week	36.00 ( <i>SD</i> = 8.84)	40.60 ( <i>SD</i> = 5.57)
Married (%)	83.02	89
Race (%)		
White	77	87
Black	9	1
Hispanic	4	4
Asian	8	4
Other	2	4
Education level (%)		
High school diploma	6	3
Some college	21	8
Associate degree	23	10
Bachelor's degree	36	39
Master's degree	15	22
Advanced graduate degree		18
Other		1
Job level (%)		
Nonmanager	53	84
Middle manager	36	14
Senior manager	11	3
Annual household income (%)		
Less than \$50,000	40	13
\$50,000 to \$99,999	47	38
\$100,000 to \$149,999	6	28
More than \$150,000	8	21
Number of children (%)		
None (other than the one expecting)	49	67
1 child at home	28	22
2+ children at home	23	11

**Perceived pregnancy discrimination.** Both studies measured perceived pregnancy discrimination using nine items from James, Lovato, and Cropanzano's (1994) Workplace Prejudice/Discrimination Inventory adapted to focus on pregnancy discrimination. A sample item is "Prejudice toward pregnant workers exists where I work" (Study 1,  $\alpha = .90$ ; Study 2,  $\alpha = .89$ ).

**Perceived stress.** In both studies, mother's stress was measured with Cohen, Kamarck, and Mermelstein's (1983) 14-item Perceived Stress Scale. Respondents were asked to indicate how often they have felt or thought a certain way (1 = *Never*; 5 = *Very Often*). A sample item is "In the last month, how often have you felt nervous or stressed" (Study 1,  $\alpha = .84$ ; Study 2,  $\alpha = .86$ ).

**Postpartum depressive symptoms.** Both studies measured mothers' postpartum depressive symptoms using a 10-item adaptation of Cox, Holden, and Sagovsky's (1987) Edinburgh Postnatal Depression Scale. The scale is a self-report clinical screening measure of postpartum depression but was adapted to have participants respond on a 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). A sample item is "I am so unhappy that I cry" (Study 1,  $\alpha = .88$ ; Study 2,  $\alpha = .87$ ).

**Apgar score.** Study 2 measured babies' Apgar scores. The Apgar score is used by physicians to provide a quick overall assessment of newborns' health. There are five subcategories (i.e., heart rate, respiration, muscle tone, reflex response, and color) rated on a scale of 0 to 2, with a total score of 10. A score of 7 to 10 is considered normal (American Pregnancy Association, 2015).

Apgar score was measured with one item, "What was your baby's Apgar score?"

**Gestational age.** Study 2 measured babies' gestational age with a single item: "How many weeks pregnant were you when you delivered your baby?"

**Birth weight.** Study 2 measured babies' birth weight with a single item: "What was your baby's birth weight?" Respondents were asked to indicate both pounds and ounces.

**Doctors' visits.** Study 2 measured babies' doctors' visits with a single item: "How many times have you taken your baby to the doctor?"

## Analyses and Results

**Study 1.** Means, standard deviations, and correlations for the study variables are reported in Table 2 and path analysis results are reported in Table 3. Hypotheses were tested using path analysis in Mplus (Version 8; Muthén & Muthén, 1998-2017).

We found that perceived pregnancy discrimination was positively associated with perceived stress ( $\beta = .43$ ,  $p = .001$ ), providing support for  $H_1$ . Further, perceived stress was positively associated with postpartum depressive symptoms ( $\beta = .41$ ,  $p = .010$ ), providing support for  $H_2$ . To interpret the indirect effects, we calculated 95% bias-corrected bootstrapped confidence intervals (BCCI) using 5,000 resamples. The bootstrap analysis revealed that the indirect effect of perceived pregnancy discrimina-



Table 2  
Descriptive Statistics and Reliabilities, Study 1

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	30.25	5.45												
2. Organizational tenure	5.97	5.04	.73**											
3. Hr/week	36.00	8.84	-.07	-.15										
4. Marital status	0.83	0.38	.39**	.30*	.10									
5. Race	1.23	0.42	-.18	-.20	-.21	.00								
6. Education	4.34	1.14	.31*	.19	-.04	.40**	.20							
7. Job level	3.60	1.12	-.08	-.11	-.27*	-.07	-.01	-.01						
8. Income	6.42	2.98	.42**	.33*	.13	.51**	-.05	.60**	-.29*					
9. Children	0.51	0.50	.38**	.37**	-.03	.06	-.01	-.34*	-.11	-.14				
10. Discrimination (T1)	2.44	0.82	-.06	.00	-.04	-.25	.00	.09	.09	.01	-.32*	(.90)		
11. Stress (T1)	2.62	0.58	-.08	-.09	.03	-.05	.03	.08	-.12	-.15	-.20	.43**	(.84)	
12. Postpartum (T2)	2.44	0.75	-.19	-.07	-.05	-.29*	.01	-.14	-.08	-.31*	.03	.23	.41**	(.88)

Note.  $N = 53$ . The values in parentheses on the diagonal are the alpha reliabilities. Marital status (0 = not married; 1 = married); Race (1 = White; 2 = non-White); Children (0 = does not currently have children; 1 = currently has children); T1 = Time 1; T2 = Time 2.

\*  $p < .05$ . \*\*  $p < .01$ .

tion on postpartum depressive symptoms through mother's stress was significant (standardized indirect effect = .18; 95% BCCI [.034, .361]), thus, supporting  $H_4$ .

**Study 2.** Means, standard deviations, and correlations for the study variables are reported in Table 4. Analyses were conducted using maximum likelihood estimation in Mplus (Version 8; Muthén & Muthén, 1998-2017). Full information maximum likelihood estimation was used to handle missing data. To create evenly distributed constructs, reduce item-specific error, and reduce the demands placed on the data, a partial disaggregation technique (parceling) was utilized in estimating the measurement and structural models. Specifically, the factorial algorithm technique (Rogers & Schmitt, 2004; T. D. Little, Cunningham, Shahar, & Widaman, 2002) was used to create three parcels for each latent construct. The parceled measurement model had good fit,  $\chi^2(24) = 34.12$ ,  $p = .08$ ; comparative fit index (CFI) = .99; root-mean-square error of approximation (RMSEA) = .05; standardized root-mean-square residual (SRMR) = .03. Further, the measurement model had better fit than a one-factor model (all items forced to load on a single latent factor) and a two-factor model (mother's stress and postpartum depressive symptoms items forced to load on the same latent factor). Next, the hypothesized structural model was estimated and had a good fit to the data,  $\chi^2(53) = 78.00$ ,  $p = .01$ ; CFI = .98; RMSEA = .05; SRMR = .06.<sup>1</sup> To interpret the indirect effects, we calculated 95% BCCI using 5,000 resamples. Table 5 presents the fit statistics for the estimated models; Table 6 presents the results for Study 2.

First, perceived pregnancy discrimination was positively associated with perceived stress ( $\beta = .31$ ,  $p < .001$ ), providing support for  $H_1$ . In support of  $H_2$ , perceived stress was positively associated with postpartum depressive symptoms ( $\beta = .53$ ,  $p < .001$ ). Further, mother's stress was negatively associated with gestational age ( $\beta = -.19$ ,  $p = .017$ ), the baby's birth weight ( $\beta = -.19$ ,  $p = .008$ ), and the number of baby's doctor visits ( $\beta = .17$ ,  $p = .038$ ). However, perceived stress was not significantly related to the baby's Apgar score ( $\beta = -.17$ ,  $p = .238$ ). Thus,  $H_{3a}$ ,  $H_{3c}$ , and  $H_{3d}$  were supported, but  $H_{3b}$  was not supported.

The bootstrap analysis revealed that the indirect effect of perceived pregnancy discrimination on postpartum depressive symptoms through mother's stress was significant (standardized indirect

effect = .16; 95% BCCI [.079, .263]), providing support for  $H_4$ . The indirect effect of perceived pregnancy discrimination on gestational age was significant (standardized indirect effect = .06; 95% BCCI [-.131, -.012]). The indirect effect of perceived pregnancy discrimination on Apgar score through mother's stress was not significant (standardized indirect effect = -.05; 95% BCCI [-.137, .029]). The indirect effect of perceived pregnancy discrimination on birth weight through mother's stress was significant (standardized indirect effect = -.06; 95% BCCI [-.129, -.015]). The indirect effect of perceived pregnancy discrimination on baby's doctors' visits through mother's stress was significant (standardized indirect effect = .05; 95% BCCI [.008, .109]). Thus,  $H_{5a}$ ,  $H_{5c}$ , and  $H_{5d}$  were supported while  $H_{5b}$  was not supported.

## Discussion

Pregnancy discrimination remains prevalent, as demonstrated in a recent *New York Times* article, "Pregnancy Discrimination Is Rampant Inside America's Biggest Companies" (Kitroeff & Silver-Greenberg, 2019). We hope this study brings awareness regarding the extent to which pregnancy discrimination can impact the health and well-being of families. While popular press articles have begun to discuss health implications of pregnancy discrimination (e.g., Silver-Greenberg & Kitroeff, 2018), we believe that the current study is the first empirical study to examine the relationship between perceived pregnancy discrimination and mother and baby health. Across two studies, drawing from the occupational stress literature, coupled with medical research on maternal health, we conceptualized perceived pregnancy discrim-

<sup>1</sup> Per the request of the editorial team and in the pursuit of transparency, we also provide the results of the fully disaggregated measurement model and alternative models here. In the fully disaggregated models (i.e., un-parceled), the measurement model had a better fit ( $\chi^2(492) = 996.64$ ,  $p < .01$ ; CFI = .82; RMSEA = .07; SRMR = .07) than the alternative one-factor model ( $\chi^2(495) = 2013.71$ ,  $p < .01$ ; CFI = .45; RMSEA = .12; SRMR = .13;  $\Delta\chi^2 = 1017.07$ ) and the alternative two-factor model ( $\chi^2(494) = 1319.64$ ,  $p < .01$ ; CFI = .70; RMSEA = .09; SRMR = .08;  $\Delta\chi^2 = 323.00$ ). All factor loadings except one were significant at  $p < .05$  and the standardized loadings ranged from .11 to .81. The insignificant item was from the Perceived Stress Scale (i.e., "In the last month, how often have you dealt successfully with irritating life hassles?").

Table 3  
Path Analysis Results for Study 1

Variable	Stress				Postpartum depressive symptoms			
	<i>b</i>	$\beta$	<i>SE</i>	<i>p</i>	<i>b</i>	$\beta$	<i>SE</i>	<i>p</i>
Discrimination	.31**	.43**	.10	<.01	.53*	.41*	.16	.01
Stress								
<i>R</i> <sup>2</sup>		.19*				.16		

Note.  $N = 53$ .  $\chi^2(1) = .21$ ,  $p = .65$ ; comparative fit index = 1.00; root-mean-square error of approximation = .00; standardized root-mean-square residual = .02.

\*  $p < .05$ . \*\*  $p < .01$ .

ination as a psychosocial job demand that serves as a stressor, leading to adverse health outcomes for mothers and their babies via the mechanism of perceived stress. The results of this research offer several important contributions to research, theory, and the practice of applied psychology.

### Implications for Research and Theory

Other studies have demonstrated that pregnancy discrimination takes place in the workplace (Bragger et al., 2002; Masser et al., 2007) and that women adopt impression management strategies to decrease discrimination (Jones, 2017; L. M. Little et al., 2018; L. Little et al., 2015). Our study builds and expands on this work by examining how and why perceived pregnancy discrimination has detrimental consequences for the health of women and their babies. Our conceptual model advances research in occupational and developmental psychology, as well as the medical field, by showing that workplace experiences can affect not only the health of pregnant women, but also their newly born babies.

Previous research from developmental psychology and the medical field shows that perceived workplace discrimination of parents relates to a host of consequences for children including psychological distress (Ford, Hurd, Jagers, & Sellers, 2013; Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004), increased sickness-

related visits to pediatrician offices for toddlers (Halim, Yoshikawa, & Amodio, 2013), and lower nonverbal ability scores among Black children living in the United Kingdom (Kelly, Becares, & Nazroo, 2013). Our work builds on such findings by showing that negative consequences of perceived workplace discrimination can begin before a child is even born. Further, while most previous studies show associations between workplace discrimination of parents and child outcomes, these studies do not provide a test of any explanatory mechanisms for these associations. Our study expands upon previous work by drawing on the occupational stress literature to highlight the explanatory role of experienced stress as a mechanism by which perceived pregnancy discrimination at work may relate to the health of women and babies. We believe our research sets the stage for the next decade of interdisciplinary research examining the effects organizational stressors on mothers' perceived stress, and psychological and physiological outcomes for mothers and their babies.

While our study does not examine crossover effects explicitly because babies are a part of women's bodies as women are experiencing discrimination and stress, we encourage future research to examine the possible explanatory mechanisms for crossover effects of workplace discrimination on the well-being of children once they are outside the womb. The exact mechanisms of

Table 4  
Descriptive Statistics and Reliabilities, Study 2

Variable	<i>M</i>	<i>SD</i>	<i>N</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age	30.22	4.53	198																
2. Organizational tenure (years)	4.12	3.15	198	.40**															
3. Hr/week	40.60	5.57	199	.24**	.19**														
4. Marital status	0.89	0.31	198	.18*	.08	.12													
5. Race	1.13	0.34	198	.04	.01	-.02	-.01												
6. Education	6.98	1.78	198	.39**	-.02	.21**	.32**	-.15*											
7. Job level	4.64	1.36	198	.18*	-.08	.06	.02	-.03	.29**										
8. Income	9.15	2.75	197	.39**	.20**	.20**	.37**	.01	.37**	.09									
9. Children	0.33	0.47	198	.43**	.03	-.12	-.04	.05	.12	.15*	.10								
10. (T1)	1.96	0.71	199	-.09	-.02	.06	-.16*	-.03	-.08	-.01	-.03	.02	(.89)						
11. Stress (T2)	2.79	0.49	199	.08	.07	.08	-.14	.04	-.08	.08	-.15*	.08	.25**	(.86)					
12. Postpartum (T3)	2.07	0.59	199	-.07	-.02	-.03	-.17*	-.06	-.08	.03	-.22**	.04	.23**	.46**	(.87)				
13. Gestational age (T3)	39.11	1.36	199	.05	.00	.06	-.03	-.18*	.16*	.10	.11	-.05	-.13	-.16*	-.12				
14. Apgar (T3)	8.68	0.81	99	.07	.02	-.01	-.02	.05	.00	-.06	-.05	-.06	.06	-.12	-.15	.11			
15. Birth weight (T3)	7.59	1.00	199	.04	-.10	-.04	.11	-.18*	.09	.16*	.05	.03	-.16*	-.16*	.00	.50**	.00		
16. Doctors' visits (T3)	2.52	1.31	199	.06	.17*	.02	.01	.02	-.15*	-.13	-.13	-.08	-.04	.17*	.10	-.34**	.05	-.13	

Note. The values in parentheses on the diagonal are the alpha reliabilities. Marital status (0 = not married; 1 = married); Race (1 = White; 2 = non-White); Children (0 = does not currently have children; 1 = currently has children); T1 = Time 1; T2 = Time 2; T3 = Time 3.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 5  
Fit Statistics of Estimated Models, Study 2

Model	$\chi^2$	<i>df</i>	CFI	RMSEA	SRMR	$\Delta\chi^2$
Alternative one-factor model	539.60	27	.53	.31	.19	
Alternative two-factor model (Factor 1 = perceived pregnancy discrimination; Factor 2 = perceived stress and postpartum depressive symptoms)	240.97	26	.80	.20	.11	298.63
Measurement model (3 factors)	34.12	24	.99	.05	.03	206.85
Hypothesized structural model	78.00	53	.98	.05	.06	

Note. *df* = degrees of freedom; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual.

crossover depend on the context, the individuals involved, and the psychological state being transferred (Westman, 2001). While we suggest that perceived pregnancy discrimination may crossover to affect spouses and children via the transmission of stress and possibly negative affect due to stress, additional research should further investigate the exact mechanisms of such effects.

While we found support for most of our hypothesized effects, we did not observe a significant relationship between a mother's perceived stress during pregnancy and her baby's Apgar score. One explanation for the nonsignificant findings could be the very small sample size ( $n = 99$ ). Many women simply did not know their infants' Apgar score. The Apgar score is a complex measure involving several health indicators of newly born infants. Many studies do not examine predictors of Apgar scores due to the complex factors involved, and due to limitations of the Apgar assessment (Jepson, Talashek, & Tichy, 1991). Thus, we recommend that future research focuses on more widely studied health indicators for babies such as birth weight, gestational age, and number of doctors' visits.

### Implications for Practice

We found that women who perceived pregnancy discrimination at work were more likely to suffer from postpartum depressive symptoms. Approximately 1 in 9 women experience symptoms of postpartum depression (Ko, Rockhill, Tong, Morrow, & Farr, 2017). In a study examining trends in postpartum depression, Ko

et al. (2017) found that postpartum depression prevalence was highest among new mothers who had three or more stressful life events in the year before birth. Our findings indicate that perceived pregnancy discrimination on the job could serve as one of these stressful life events, affecting future generations' health and well-being.

Managers are in a unique position to provide the kind of work support that pregnant employees need to reduce stress. Managers need to be aware that pregnant employees may be under additional stress during their pregnancy, however, they might make incorrect assumptions about what pregnant employees want, such as assuming a reduced workload is beneficial. Unfortunately, pregnant employees may see a reduced workload as demeaning or even discriminatory. Thus, managers also need to have an open dialogue with their employees about what types of support is needed and desired (Hackney & Perrewé, 2018).

While medical research has led health care organizations to advise pregnant women to reduce stress at home via nutrition, physical activity, stress management, interpersonal relationships, spiritual growth, and health accountability (e.g., Malakouti, Sehati, Mirghafourvand, & Nahangi, 2015), our findings suggest that health care organizations may also want to provide guidance and outreach to workplaces to help pregnant workers reduce stress via reduced pregnancy discrimination and enhanced work-family support for pregnant women. Some steps may include training managers to be more family supportive and less-biased against expect-

Table 6  
Hypothesized Structural Model Results for Study 2

Variable	Perceived stress				Postpartum depressive symptoms				Gestational age			
	<i>b</i>	$\beta$	<i>SE</i>	<i>p</i>	<i>b</i>	$\beta$	<i>SE</i>	<i>p</i>	<i>b</i>	$\beta$	<i>SE</i>	<i>p</i>
Discrimination	.21**	.31**	.08	<.01	.65**	.53**	.07	<.01	-.54*	-.19*	.08	.02
Perceived stress												
$R^2$		.09*				.28**				.04		
	Apgar				Birth weight				Doctors' visits			
Discrimination												
Perceived stress	-.28	-.17	.14	.24	-.40**	-.19**	.07	<.01	.47*	.17*	.08	.04
$R^2$		.03				.04				.03		

Note.  $N = 199$ .  $\chi^2(53) = 78.00$ ,  $p = .01$ ; comparative fit index = .98; root-mean-square error of approximation = .05; standardized root-mean-square residual = .06.

\*  $p \leq .05$ . \*\*  $p < .01$ .



ant mothers. Hammer, Kossek, Anger, Bodner, and Zimmerman (2011) found that family supportive training interventions for managers were associated with increased perceptions of family supportive supervisor behaviors, which in turn related to higher employee job satisfaction, lower turnover intentions, and better physical health.

### Strengths, Limitations, and Future Research

While our study's design has several strengths including utilizing different samples of pregnant employees and multiple waves of data to test our hypotheses, this study is not without limitations. First, because we focused on employees' perceptions of pregnancy discrimination and stress, our study relied on self-report variables, which may increase the likelihood of common method bias. However, we utilized a few procedural remedies recommended by Podsakoff, Mackenzie, Lee, and Podsakoff (2003; i.e., protecting respondent anonymity and temporally separating the measurement of predictor and criterion variables) and we incorporated objective data into the analyses (i.e., Apgar scores, birth weight, gestational age, number of doctors' visits) to help alleviate concerns associated with common method bias.

Our study also highlights several opportunities for additional research on pregnancy discrimination. Future research should examine organizational climate and culture variables, as well as formal and informal support mechanisms which could help reduce perceptions of pregnancy discrimination as threatening, and/or help to buffer against the consequences of perceived pregnancy discrimination on mother and baby health. By assessing such variables, organizational researchers can provide guidance on how to make more inclusive workplaces that eliminate pregnancy discrimination. Future research should examine the influence of individual difference traits or other personal sources of coping with discrimination, such as spousal and family support. Previous research indicates that family support can reduce the harmful effects of perceived discrimination and subsequent psychological distress (Wei, Yeh, Chao, Carrera, & Su, 2013). Additionally, longitudinal data could help pinpoint how women's experienced stress may change throughout the pregnancy based on organizational demands and resources available to expectant parents.

Future research on mothers' perceived stress during pregnancy would benefit from examining more diverse samples of women to better understand the unique challenges they face in the workplace. In the current study, there was limited racial variability among the sample. Future research that includes more women of color could highlight how mothers' stress is different and unique for women of color and for women from diverse backgrounds. Research indicates that African American women experience disproportionately high rates of low birth weight and preterm delivery, and by some accounts researchers argue that prenatal stress is an explanatory mechanism (Giscombé & Lobel, 2005). Consistent with this finding, Giscombé and Lobel (2005) argue that racism is a distinct form of stress and that many, if not most, African American women experience racism, which makes them more vulnerable to negative consequential outcomes of prenatal stress. As such, future research is needed to examine the work environment as a contextual factor for understanding the impact of racial discrimination and pregnancy discrimination on health and work-related outcomes.

Finally, we encourage future research to examine the long-term physiological responses to perceived pregnancy discrimination. For example, it would be important to examine the longitudinal effects of pregnancy discrimination on both the health and work-family outcomes of mothers and their children (e.g., work-life satisfaction, psychological safety, and stress manifested as unhealthy life choices). Given the findings supporting experienced mothers' stress and the baby's health, examining whether this affects the health of the child over time, in addition to the mother's work-family experiences during and following maternity leave, would be important. Indeed, more research is needed to understand how workplace stressors such as discrimination affect not only the employee, but also his or her family members, including children.

### Conclusion

This study has examined the impact of perceived pregnancy discrimination on mothers' and babies' health outcomes. Across two studies, we demonstrated that perceived pregnancy discrimination serves as a threat to women's resources which leads to increased postpartum depressive symptoms for mothers, decreased birth weight and gestational age, and increased doctors' visits for their babies, via mothers' stress. It is our hope that this study will inspire future researchers to address the role of pregnancy and pregnancy discrimination in the workplace. Further, given the potential negative ramifications of perceived pregnancy discrimination and mothers' stress, we hope to encourage organizations to create supportive and nondiscriminatory environments for their employees.

### References

- American Pregnancy Association. (2015). *Your child's first test: The Apgar*. Retrieved from <http://americanpregnancy.org/labor-and-birth/apgar-test/>
- Beck, C. T. (2002). Postpartum depression: A metasynthesis. *Qualitative Health Research, 12*, 453–472. <http://dx.doi.org/10.1177/104973202129120016>
- Beijers, R., Jansen, J., Riksen-Walraven, M., & de Weerth, C. (2010). Maternal prenatal anxiety and stress predict infant illnesses and health complaints. *Pediatrics, 126*, e401–e409. <http://dx.doi.org/10.1542/peds.2009-3226>
- Bragger, J. D., Kutcher, E., Morgan, J., & Firth, P. (2002). The effects of the structured interview on reducing biases against pregnant job applicants. *Sex Roles: A Journal of Research, 46*, 215–226. <http://dx.doi.org/10.1023/A:1019967231059>
- Burke, L. (2003). The impact of maternal depression on familial relationships. *International Review of Psychiatry, 15*, 243–255. <http://dx.doi.org/10.1080/0954026031000136866>
- Butensky, M. C. (1984). Devaluation of the competence of pregnant women: Does the spread phenomenon that operates with disabilities also occur with pregnancy? *Dissertation Abstracts International: B. The Sciences and Engineering, 45*, 718–719.
- Carter, R. T., & Forsyth, J. (2010). Reactions to racial discrimination: Emotional stress and help-seeking behaviors. *Psychological Trauma: Theory, Research, Practice, and Policy, 2*, 183–191. <http://dx.doi.org/10.1037/a0020102>
- Casper, W. J., Eby, L. T., Bordeaux, C., Lockwood, A., & Lambert, D. (2007). A review of research methods in IO/OB work-family research. *Journal of Applied Psychology, 92*, 28–43. <http://dx.doi.org/10.1037/0021-9010.92.1.28>
- Chua, R. Y. (2013). The costs of ambient cultural disharmony: Indirect intercultural conflicts in social environment undermine creativity. *Acad-*

- emy of Management Journal, 56, 1545–1577. <http://dx.doi.org/10.5465/amj.2011.0971>
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385–396. <http://dx.doi.org/10.2307/2136404>
- Correll, S. J., Benard, S., & Paik, I. (2007). Getting a job: Is there a motherhood penalty? *American Journal of Sociology*, 112, 1297–1339. <http://dx.doi.org/10.1086/511799>
- Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry*, 150, 782–786. <http://dx.doi.org/10.1192/bjp.150.6.782>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499–512.
- Dhanani, L. Y., Beus, J. M., & Joseph, D. L. (2018). Workplace discrimination: A meta-analytic extension, critique, and future research agenda. *Personnel Psychology*, 71, 147–179. <http://dx.doi.org/10.1111/peps.12254>
- Din-Dzietham, R., Nembhard, W. N., Collins, R., & Davis, S. K. (2004). Perceived stress following race-based discrimination at work is associated with hypertension in African-Americans. The metro Atlanta heart disease study, 1999–2001. *Social Science & Medicine*, 58, 449–461. [http://dx.doi.org/10.1016/S0277-9536\(03\)00211-9](http://dx.doi.org/10.1016/S0277-9536(03)00211-9)
- Dion, K. L., Dion, K. K., & Pak, A. W. (1992). Personality-based hardiness as a buffer for discrimination-related stress in members of Toronto's Chinese community. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 24, 517.
- Dunkel Schetter, C., & Glynn, L. M. (2011). Stress in pregnancy: Empirical evidence and theoretical issues to guide interdisciplinary research. In R. J. Contrada & A. Baum (Eds.), *The handbook of stress science: Biology, psychology, and health* (pp. 321–347). New York, NY: Springer Publishing Company.
- Dunkel Schetter, C., & Tanner, L. (2012). Anxiety, depression and stress in pregnancy. *Current Opinion in Psychiatry*, 25, 141–148. <http://dx.doi.org/10.1097/YCO.0b013e3283503680>
- Ford, K. R., Hurd, N. M., Jagers, R. J., & Sellers, R. M. (2013). Caregiver experiences of discrimination and african american adolescents' psychological health over time. *Child Development*, 84, 485–499. <http://dx.doi.org/10.1111/j.1467-8624.2012.01864.x>
- Fox, A. B., & Quinn, D. M. (2015). Pregnant women at work: The role of stigma in predicting women's intended exit from the workforce. *Psychology of Women Quarterly*, 39, 226–242. <http://dx.doi.org/10.1177/0361684314552653>
- Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of Management*, 17, 235–271.
- Gibbons, F. X., Gerrard, M., Cleveland, M. J., Wills, T. A., & Brody, G. (2004). Perceived discrimination and substance use in African American parents and their children: A panel study. *Journal of Personality and Social Psychology*, 86, 517–529. <http://dx.doi.org/10.1037/0022-3514.86.4.517>
- Giscombé, C. L., & Lobel, M. (2005). Explaining disproportionately high rates of adverse birth outcomes among African Americans: The impact of stress, racism, and related factors in pregnancy. *Psychological Bulletin*, 131, 662–683. <http://dx.doi.org/10.1037/0033-2909.131.5.662>
- Hackney, K. J., & Perrewé, P. L. (2018). Examining the role of pregnancy at work: Implications for the well-being of the mother and baby. In M. R. Buckley, A. R. Wheeler, & J. R. B. Halbesleben (Eds.), *Research in personnel and human resources management* (pp. 111–139). Oxford, UK: JAI Press/Elsevier Science.
- Halim, M. L., Yoshikawa, H., & Amodio, D. M. (2013). Cross-generational effects of discrimination among immigrant mothers: Perceived discrimination predicts child's healthcare visits for illness. *Health Psychology*, 32, 203–211. <http://dx.doi.org/10.1037/a0027279>
- Halpert, J. A., Wilson, M. L., & Hickman, J. L. (1993). Pregnancy as a source of bias in performance appraisals. *Journal of Organizational Behavior*, 14, 649–663. <http://dx.doi.org/10.1002/job.4030140704>
- Hammer, L. B., Kossek, E. E., Anger, W. K., Bodner, T., & Zimmerman, K. L. (2011). Clarifying work-family intervention processes: The roles of work-family conflict and family-supportive supervisor behaviors. *Journal of Applied Psychology*, 96, 134–150. <http://dx.doi.org/10.1037/a0020927>
- Hebl, M. R., King, E. B., Glick, P., Singletary, S. L., & Kazama, S. (2007). Hostile and benevolent reactions toward pregnant women: Complementary interpersonal punishments and rewards that maintain traditional roles. *Journal of Applied Psychology*, 92, 1499–1511. <http://dx.doi.org/10.1037/0021-9010.92.6.1499>
- Heilman, M. E., & Okimoto, T. G. (2008). Motherhood: A potential source of bias in employment decisions. *Journal of Applied Psychology*, 93, 189–198. <http://dx.doi.org/10.1037/0021-9010.93.1.189>
- Hobfoll, S. E. (1989). Conservation of resources. A new attempt at conceptualizing stress. *American Psychologist*, 44, 513–524. <http://dx.doi.org/10.1037/0003-066X.44.3.513>
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested self in the stress process: Advancing conservation of resources theory. *Applied Psychology: An International Review*, 50, 337–421. <http://dx.doi.org/10.1111/1464-0597.00062>
- James, K., Lovato, C., & Cropanzano, R. (1994). Correlational and known-group comparison validation of a workplace prejudice/discrimination inventory. *Journal of Applied Social Psychology*, 24, 1573–1592. <http://dx.doi.org/10.1111/j.1559-1816.1994.tb01563.x>
- Jepson, H. A., Talashek, M. L., & Tichy, A. M. (1991). The Apgar score: Evolution, limitations, and scoring guidelines. *Birth*, 18, 83–92. <http://dx.doi.org/10.1111/j.1523-536X.1991.tb00065.x>
- Johnson, T. D. (2008). *Maternity leave and employment: Patterns of first-time mothers 1961–2003*. Washington, DC: United States Census Bureau.
- Jones, K. P. (2017). To tell or not to tell? Examining the role of discrimination in the pregnancy disclosure process at work. *Journal of Occupational Health Psychology*, 22, 239–250. <http://dx.doi.org/10.1037/ocp0000030>
- Jones, K. P., Peddie, C. I., Gilrane, V. L., King, E. B., & Gray, A. L. (2016). Not so subtle: A meta-analytic investigation of the correlates of subtle and overt discrimination. *Journal of Management*, 42, 1588–1613. <http://dx.doi.org/10.1177/0149206313506466>
- Kelly, Y., Becares, L., & Nazroo, J. (2013). Associations between maternal experiences of racism and early child health and development: Findings from the U. K. Millennium Cohort Study. *Journal of Epidemiology and Community Health*, 67, 35–41. <http://dx.doi.org/10.1136/jech-2011-200814>
- King, E. B., & Botsford, W. (2009). Managing pregnancy disclosures: Understanding and overcoming the challenges of expectant motherhood at work. *Human Resource Management Review*, 19, 314–323. <http://dx.doi.org/10.1016/j.hrmr.2009.03.003>
- Kitroeff, N., & Silver-Greenberg, J. (2019, February 8). Pregnancy discrimination is rampant inside America's biggest companies. *The New York Times*. Retrieved from <https://www.nytimes.com/interactive/2018/06/15/business/pregnancy-discrimination.html>
- Ko, J. Y., Rockhill, K. M., Tong, V. T., Morrow, B., & Farr, S. L. (2017). Trends in postpartum depressive symptoms—27 states, 2004, 2008, and 2012. *Morbidity and Mortality Weekly Report*, 66, 153–158. <http://dx.doi.org/10.15585/mmwr.mm6606a1>
- Laughlin, L. (2011). *Maternity leave and employment patterns: 2006–2008*. (Current Population Report No. 70–128). Washington, DC: United States Census Bureau.
- Lee, J. S., Joo, E. J., & Choi, K. S. (2013). Perceived stress and self-esteem mediate the effects of work-related stress on depression. *Stress and*

- Health: Journal of the International Society for the Investigation of Stress*, 29, 75–81. <http://dx.doi.org/10.1002/smi.2428>
- Little, L. M., Hinojosa, A. S., Paustian-Underdahl, S., & Zipay, K. P. (2018). Managing the harmful effects of unsupportive organizations during pregnancy. *Journal of Applied Psychology*, 103, 631–643. <http://dx.doi.org/10.1037/apl0000285>
- Little, L., Major, V., Hinojosa, A., & Nelson, D. (2015). Professional image maintenance: How women navigate pregnancy in the workplace. *Academy of Management Journal*, 58, 8–37. <http://dx.doi.org/10.5465/amj.2013.0599>
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9, 151–173. [http://dx.doi.org/10.1207/S15328007SEM0902\\_1](http://dx.doi.org/10.1207/S15328007SEM0902_1)
- Littleton, H. L., Bye, K., Buck, K., & Amacker, A. (2010). Psychosocial stress during pregnancy and perinatal outcomes: A meta-analytic review. *Journal of Psychosomatic Obstetrics & Gynecology*, 31, 219–228.
- Malakouti, J., Sehhati, F., Mirghafourvand, M., & Nahangi, R. (2015). Relationship between health promoting lifestyle and perceived stress in pregnant women with preeclampsia. *Journal of Caring Sciences*, 4, 155–163. <http://dx.doi.org/10.15171/jcs.2015.016>
- Masser, B., Grass, K., & Nescic, M. (2007). ‘We like you, but we don’t want you’—The impact of pregnancy in the workplace. *Sex Roles: A Journal of Research*, 57, 703–712. <http://dx.doi.org/10.1007/s11199-007-9305-2>
- Morgan, W. B., Walker, S. S., Hebl, M. M. R., & King, E. B. (2013). A field experiment: Reducing interpersonal discrimination toward pregnant job applicants. *Journal of Applied Psychology*, 98, 799–809. <http://dx.doi.org/10.1037/a0034040>
- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user’s guide*. (8th ed.). Los Angeles, CA: Author.
- Nierop, A., Bratsikas, A., Zimmermann, R., & Ehlert, U. (2006). Are stress-induced cortisol changes during pregnancy associated with postpartum depressive symptoms? *Psychosomatic Medicine*, 68, 931–937. <http://dx.doi.org/10.1097/01.psy.0000244385.93141.3b>
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on amazon mechanical turk. *Judgment and Decision Making*, 5, 411–419.
- Pascoe, E. A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*, 135, 531–554. <http://dx.doi.org/10.1037/a0016059>
- Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, 46, 205–219. <http://dx.doi.org/10.1177/002214650504600206>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903. <http://dx.doi.org/10.1037/0021-9010.88.5.879>
- Reinecke, L., Aufenanger, S., Beutel, M. E., Dreier, M., Quiring, O., Stark, B., . . . Muller, K. W. (2017). Digital stress over the life span: The effects of communication load and internet multitasking on perceived stress and psychological health impairments in a German probability sample. *Media Psychology*, 20, 90–115. <http://dx.doi.org/10.1080/15213269.2015.1121832>
- Ridgeway, C., & Correll, S. J. (2004). Motherhood as a status characteristic. *Journal of Social Issues*, 60, 683–700. <http://dx.doi.org/10.1111/j.0022-4537.2004.00380.x>
- Righetti-Veltema, M., Conne-Perréard, E., Bousquet, A., & Manzano, J. (2002). Postpartum depression and mother-infant relationship at 3 months old. *Journal of Affective Disorders*, 70, 291–306. [http://dx.doi.org/10.1016/S0165-0327\(01\)00367-6](http://dx.doi.org/10.1016/S0165-0327(01)00367-6)
- Rogers, W. M., & Schmitt, N. (2004). Parameter recovery and model fit using multidimensional composites: A comparison of four empirical parceling algorithms. *Multivariate Behavioral Research*, 39, 379–412. [http://dx.doi.org/10.1207/S15327906MBR3903\\_1](http://dx.doi.org/10.1207/S15327906MBR3903_1)
- Rosette, A. S., & Tost, L. P. (2010). Agentic women and communal leadership: How role prescriptions confer advantage to top women leaders. *Journal of Applied Psychology*, 95, 221–235. <http://dx.doi.org/10.1037/a0018204>
- Salihu, H. M., Myers, J., & August, E. M. (2012). Pregnancy in the workplace. *Occupational Medicine*, 62, 88–97. <http://dx.doi.org/10.1093/occmed/kqr198>
- Sellers, R. M., Caldwell, C. H., Schmeelk-Cone, K. H., & Zimmerman, M. A. (2003). Racial identity, racial discrimination, perceived stress, and psychological distress among African American young adults. *Journal of Health and Social Behavior*, 44, 302–317. <http://dx.doi.org/10.2307/1519781>
- Silver-Greenberg, J., & Kitroeff, N. (2018, October 21). Miscarrying at work: The physical toll of pregnancy discrimination. *The New York Times*. Retrieved from <https://www.nytimes.com/interactive/2018/10/21/business/pregnancy-discrimination-miscarriages.html?mtref=www.nytimes.com&assetType=REGIWALL>
- Sprouse, J. (2011). A validation of Amazon Mechanical Turk for the collection of acceptability judgments in linguistic theory. *Behavior Research Methods*, 43, 155–167. <http://dx.doi.org/10.3758/s13428-010-0039-7>
- Swendsen, J. D., & Mazure, C. M. (2000). Life stress as a risk factor for postpartum depression: Current research and methodological issues. *Clinical Psychology: Science and Practice*, 7, 17–31. <http://dx.doi.org/10.1093/clipsy.7.1.17>
- United States Equal Employment Opportunity Commission. (2018a). *Pregnancy discrimination charges EEOC & FEPA’s combined: FY 1997–2011*. Retrieved from <https://www.eeoc.gov/eeoc/statistics/enforcement/pregnancy.cfm>
- United States Equal Employment Opportunity Commission. (2018b). *Pregnancy discrimination charges FY 2010–2017*. Retrieved from [https://www.eeoc.gov/eeoc/statistics/enforcement/pregnancy\\_new.cfm](https://www.eeoc.gov/eeoc/statistics/enforcement/pregnancy_new.cfm)
- United States Equal Employment Opportunity Commission. (2011). *Fact sheet: Pregnancy discrimination*. Retrieved from <http://www.eeoc.gov/eeoc/publications/index.cfm>
- Wadsworth, E., Dhillon, K., Shaw, C., Bhui, K., Stansfeld, S., & Smith, A. (2007). Racial discrimination, ethnicity and work stress. *Occupational Medicine*, 57, 18–24. <http://dx.doi.org/10.1093/occmed/kql088>
- Wei, M., Yeh, C. J., Chao, R. C. L., Carrera, S., & Su, J. C. (2013). Family support, self-esteem, and perceived racial discrimination among Asian American male college students. *Journal of Counseling Psychology*, 60, 453–461. <http://dx.doi.org/10.1037/a0032344>
- Westman, M. (2001). Stress and strain crossover. *Human Relations*, 54, 717–751. <http://dx.doi.org/10.1177/0018726701546002>
- Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*, 93, 200–208. <http://dx.doi.org/10.2105/AJPH.93.2.200>
- Zietlow, A. L., Nonnenmacher, N., Reck, C., Ditzen, B., & Müller, M. (2019). Emotional stress during pregnancy—Associations with maternal anxiety disorders, infant cortisol reactivity, and mother-child interaction at pre-school age. *Frontiers in Psychology*, 10, 2179. <http://dx.doi.org/10.3389/fpsyg.2019.02179>

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