



The Differential Effects of Stressors During Pregnancy on the Mental Health of Cohabiting Midwestern Couples

Sara Reyes, Dr. Rebecca Brock
Department of Psychology, University of Nebraska–Lincoln

Introduction

- Stress is a robust risk factor for depression (Howe, Levy, Caplan, 2004; Brown and Harris, 1978)
- Transition into parenthood is a period of enhanced stress (Parcells, 2010) and increased vulnerability for developing depression (Epifanio, Genna, De Luca, Roccella, La Grutta, 2015)
- Prevalence of maternal depression is 7%-19% (O'Hara & McCabe, 2013)

Purpose and Hypotheses

Purpose

Due to the prevalence of depression during the transition to parenthood, it is important to clarify whether pregnancy-specific stress is associated with higher levels of depression when controlling for perceived stress and socioeconomic status (i.e., annual joint income).

Hypotheses

1. Perceived stress, annual joint income, and pregnancy concerns will be associated with higher levels of depression.
2. Each form of stress will predict depressive symptoms when controlling for the influence of the others.
3. Concerns specific to pregnancy, delivery, and labor will predict general depression beyond global perceived stress and annual joint income.

Materials and Methods

Participants

- 50 couples recruited through flyers
- Eligibility: Over the age of 19, biological parents of target child, cohabiting, pregnant with only one child, English-speaking
- 88% mothers and 84% fathers were white; 10% mothers and 12% father identified as Hispanic or Latino
- 77% of couples were married; 44% were new parents
- Mean age of mothers was 28 ($SD = 4.06$) and fathers was 31 ($SD = 4.55$)
- On average, mothers were in the 27th week of pregnancy (end of 2nd trimester)

Procedures

- Couples attended a 3-hour laboratory appointment during which they completed interactive tasks, interviews, and questionnaires

Measures

- Perceived Stress Scale (Barbosa-Leiker et al., 2012)
- IDAS-II: *General Depression* scale (Watson et al., 2012)
- Concerns about Pregnancy Delivery, & Labor Questionnaire (Nylen, 2009)
- Annual joint income (self-reported)

All measures demonstrated adequate internal consistency (α s > .80)

Results

Descriptive Statistics

Annual Joint Income: Possible range: less than \$9,999 to more than \$90,000

- Observed range: less than \$9,999 to more than \$90,000
- Mode: \$90,000 (combined)

Global Stress: 10 items with a possible range of 0-40

- Mom: Observed range 1-28 ($N=50$, $M= 14.5$, $SD = 5.69$)
- Dad: Observed range 0-25 ($N=48$, $M= 13.14$, $SD 5.84$)

Concerns about Pregnancy: 10 items with possible range of 0-30

- Mom: Observed ranged 0-28 ($N = 49$, $M = 7.69$, $SD = 5.89$)
- Dad: Observed range of 0-18 ($N = 49$, $M = 8.22$, $SD = 4.64$)

Depressive Symptoms: 20 items with possible range of 20-100

- Mom: Observed range 23-59 ($N = 50$, $M = 37.52$, $SD = 8.76$)
- Dad: Observed range 22-64 ($N = 49$, $M = 35.42$, $SD = 9.66$)

Correlations

	Total Income	Global Stress	Pregnancy Concerns	Depressive Symptoms
Total Income	-			
Global Stress	-.167	.226	-.277	.725**
Pregnancy Concerns	-.091	.364*	.210	.133
Depressive Symptoms	-.268	.551**	.518**	-.060

Figure 1. * $p < .05$ ** $p < .01$ *** $p < .001$
Father correlations are in red and mother correlations are in blue. Correlations along the diagonal represent associations between mother and father scores.

Hierarchical Regression Results

Predictor	Maternal Model			Paternal Model		
	ΔR^2	β	t	ΔR^2	β	t
Step 1	.280***			.519***		
Income		-.167	-1.33		-.089	-.822
Global Stress		.488	3.88***		.690	6.34***
Step 2	.122***			.001		
Income		-.145	-1.25		-.088	-.795
Global Stress		.353	2.84**		.687	6.177***
Concerns about Pregnancy		.376	3.03***		.024	.233

Figure 2. * $p < .05$ ** $p < .01$ *** $p < .001$
The final regression model accounted for 40% of the variance in maternal depression and 52% of the variance in paternal depression.

Discussion

- Higher levels of perceived stress during pregnancy are associated with higher levels of depression in both mothers and fathers
- Annual joint income was not associated with depression for mothers or fathers
- Higher levels of pregnancy-specific stress were associated with higher levels of depression in mothers but not fathers
- Concerns about pregnancy uniquely predicted maternal depression when controlling for annual joint income and perceived stress

Implications

OBGYNs should screen for pregnancy-related concerns

- Administer a 5-minute questionnaire
- Doctor could answer questions to help alleviate concerns
- Provide resources (e.g., brochure about stress management) and/or referral to counseling if stress is elevated

Screening for pregnancy-related concerns may reduce the risk for not only maternal depression, but also preterm birth (Turner, Grindstaff, & Phillips, 1990; Talge, Neal, Glover, 2007), low birth weight, and infant abnormalities (Woods et al., 2010).

For both mothers and fathers, higher levels of global perceived stress during pregnancy significantly predicted higher levels of depression. Annual joint income was not associated with depression. Concerns specific to pregnancy, delivery, and labor uniquely predicted general depression, but only for mothers.

References

- Barbosa-Leiker, C., Kostick, M., Lei, M., McPherson, S., Roper, V., Hoekstra, T., & Wright, B. (2013). Measurement invariance of the perceived stress scale and latent mean differences across gender and time. *Stress and Health, 29*, 253-260. doi: 10.1002/smi.2463
- Brown, G.W., & Harris, T.O. (1989). Social origins of depression: A study of psychiatric disorder in women. London: Tavistock Publications.
- Epifanio, M.S., Genna, V., De Luca, C., Roccella, M., & La Grutta, S. (2015). Paternal and maternal transition to parenthood: The risk of postpartum depression and parenting stress. *Pediatric Report, 7*, 38-44. <http://dx.doi.org/10.3389/fpsyg.2016.00938>
- Howe, G.W., Levy, M.L., & Caplan, R.D. (2004). Job loss and depressive symptoms in couples: Common stressors, stress, transmission, or relationship disruption?. *Journal of Family Psychology, 18*, 639-650. doi: 10.1037/0893-3200.18.4.639
- Nylen, K. (2009). Effects of prenatal maternal distress on reproductive outcomes. Retrieved from <http://ir.uiowa.edu/etd/313/>
- O'Hara, M., & McCabe, J. (2013). Postpartum Depression: Current status and future directions. *Annual Review of Clinical Psychology, 9*, 379-407. doi: 10.1146/annurev-clinpsy-050212-185612
- Parcells, D.A. (2010). Women's mental health nursing: Depression, anxiety and stress during pregnancy. *Journal of Psychiatric and Mental Health Nursing, 17*, 813-820. doi: 10.1111/j.1365-2850.2010.01588.x
- Talge, N.M., Neal, C., Glover, V., & The Early Stress, Translational Research and Prevention Science Network: Fetal and Neonatal Experience on Child and Adolescent Mental Health (2007). Antenatal maternal stress and long-term effects on child neurodevelopment: How and why?. *Journal of Child Psychology and Psychiatry, 48*, 245-261. doi:10.1111/j.1469-7610.2006.01714.x
- Watson, D., O'Hara, M.W., Naragon-Gainey, K., Koffel, E., Chmielewski, M., Kotov, R.,...Ruggero, C.J. (2012). Development and validation of new anxiety and bipolar symptom scales for an expanded version of the IDAS (the IDAS-II). *Assessment, 19*, 399-420. doi: 110.1177/107319111244985
- Woods, S.M., Melville J.L., Guo, Y., Fan, M.Y., Gavin, A. (2010) Psychosocial stress during pregnancy. *American Journal of Obstetrics and Gynecology, 202*, 61e1-61e7. doi: <http://dx.doi.org/10.1016/j.ajog.2009.07.041>