Gender Differences in Depression across Parental Roles

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Abstract

Prior research has focused on the relationship between parenthood and psychological well-being with mixed results. Some studies have also addressed potential gender differences in this relationship, again yielding varied findings. One reason may be methodological choices pursued in these studies, including the lack of focus on combined parental roles (i.e., biological parent and stepparent). We use data from the National Longitudinal Survey of Youth, 1979 (NLSY, n= 6276) and multinomial treatment models to address how combined roles influence depressive symptoms in mothers and fathers. Further, we explore potential gender differences. Our results indicate that numerous parental roles are negatively associated with psychological well-being for both men and women, while childlessness is negative for women, and specific parental role combinations affect mothers and fathers differently. Within the context of changing family structure in the U.S., these results to understand any link between parenting and depression and gendered parental roles and issues.

Keywords: children, depression, gender, parenting

Gender Differences in Depression Across Parental Roles

Approximately one in six adults will experience a major depressive episode during their lifetime (Kessler, 2003). Because of its prevalence, depression has been termed an American "epidemic" (e.g., Levine, 2007), and is associated with a variety of negative outcomes such as lower socioeconomic attainment (Coryell, Endicott, & Keller, 1990), lost work days and wages (Kessler, et al., 2006), poorer physical health (Evans, et al., 2005), and poor parenting (Goodman, et al., 2011). Interestingly, women tend to experience, or at least report, more depressive symptoms than men. In fact, some estimates suggest that women are 2-3 times more likely to report depressive symptoms (Parker & Brotchie, 2010). Yet, our understanding of what influences such differences is less well understood. One potential reason for the difference is that parenthood has unique effects on the psychological well-being of men and women.

Many parents report that having children is immensily remwarding (Nelson, Kushlev, English, Dunn, & Lyubomirsky, 2013), yet this seemingly does not translate to improvements in mental health (Evenson & Simon, 2005). Importantly, however, some parent-child relationships appear to be more problematic for psychological well-being than others (Pace & Shafer, in press). Although several studies have examined the psychological well-being of parents by their gender (e.g., Evenson & Simon, 2005; Simon, 1998), most do not address the moderating effect of gender across numerous parental roles, limiting the ability to draw conclusions about psychological well-being in complex family structures in society. This is unfortunate, given the substantial changes in family structure (i.e., divorce, cohabitation, remarriage, etc.) over recent decades that has led to greater diversification of parental roles among American adults (Cherlin, 2010). Furthermore, understanding the risk factors for depression, and if they differ by gender, among parents is important, given that parenting quality and child outcomes are related to depressive symptoms in parents. Yet, screening for depression is less successful and treatment

less common among mothers and fathers (National Research Council & Institute of Medicine, 2009).

This paper's goal is to specify risk factors for depressive symptoms, within the context of changing family structures in the U.S., to help improve clinical care and screening among social workers and other mental health professionals. To do so, we address how various parent-child relationships may be associated with depressive symptoms differently for men and women using data from the National Longitudinal Survey of Youth, 1979 cohort (NLSY79), a nationally-representative longitudinal study of adults who were 14-22 years old in 1979. In the next sections we describe relevant research and theory concerning the link between parenting and psychological well-being, and how various parental roles might be associated with psychological well-being across gender.

Gender, Parenting, and Depression

Several studies report seemingly contradictory findings regarding any link between parenting and depression, let alone gender differences in this relationship. Some studies have shown a positive relationship between parenting and depression regardless of gender (Helbig, et al., 2006; Solmeyer & Feinberg, 2011), while others show that fatherhood may lead to more adverse psychological effects than motherhood (Read & Grundy, 2011). Still others indicate women with children are more depressed than their male counterparts (Carlson, 2011; Cunningham & Knoester, 2007).

Why might the literature produce such divergent findings? Variability in how parenthood is measured may be one reason. Often, studies compare parents to non-parents, while others consider residential and non-residential children, child age, or the child's relationship to the parent (see Evenson & Simon, 2005 for a full discussion of these differences). Further, many studies dichotomize different parental roles (i.e., has a biological child or not), without

consideration of how these roles may combine with one another (e.g., coresidential biological and step-children). Finally, selectivity into parental roles may also matter. Men and women who are willing to become a stepparent, divorce, or cohabit may differ in substantial ways from other individuals (Amato, 2010). This means that selection effects must be taken into account when considering any link between parenting and psychological well-being.

In something of a contrast to the approach of prior studies on gender differences in the association of parenting and psychological well-being, we use a parental roles perspective (Scott & Alwin, 1989). This framework suggests that various parent-child relationships and, more importantly, combinations of such relationships may be associated with psychological well-being. For instance, Pace and Shafer (in press), found that individuals with multiple parental roles (e.g., biological parent and stepparent) have poorer psychological well-being than parents with a single role. Furthermore, gender is central to understanding how parental roles are differentially associated with depressive symptoms (e.g., Umberson, et al., 1996; Evenson & Simon, 2005). For example, women may feel caught between their biological children and stepchildren because of traditional gender norms surrounding caregiving in families, while men may experience much weaker pressure from holding both roles (Stewart, 2007).

One important consideration is the number of parental roles an adult has. While many men and women take on one role, the number of individuals with combined roles has increased in recent decades. This is due, in part, to dramatic changes in family demography including increased cohabitation, more non-marital fertility, and substantial repartnering after divorce (Cherlin, 2010). Numerous parental roles may be psychologically difficult for men and women because of the need to balance such roles. For example, many remarried couples care for biological children, stepchildren, and have a new biological child (Stewart, 2007). These children are often viewed as “cement children” that will bond a stepfamily together (Stewart, 2005).

However, this may increase stress among adults because of the complex family systems they create. Other complex roles may be stressful, as well. For example, Johnson & Wu (2002) show that having a baby can lead to psychological distress if a couple already has a child.

Gender and Parental Roles

We expect gender differences in the relationship between number of parental roles and psychological well-being. In one respect, multiple parental roles may have more negative effects on men than women. Men's parental expectations can vary substantially depending on the biological and residential status of their children. To provide one among many potential examples, it is relatively common for a remarried man to have a non-residential biological child from their first marriage. Ambiguity in the non-residential parental role can manifest itself in a variety of ways—from total disengagement to a breadwinner-only attitude to increased involvement. Yet, many fathers report they want to be accessible to and involved with their children (Trolio & Coleman, 2012; 2013). In contrast, they may take on a more fatherly role with their stepchildren because of their residential status (Stewart, 2007). This conflict could cause substantial stress in fathers. In contrast, many women take on the primary caregiver role, even for non-biological children (Nielsen, 1999; Shapiro & Stewart, 2011). It is possible that similar expectations across roles may not harm mental health because such roles do not necessarily conflict with one another.

Alternatively, the expectation that women take on the role of a mother, even for non-biological children, could lead to role conflict among women. To illustrate, stepmothers may feel stress because they are held in low regard by their stepchildren, despite the expectation that they take on the primary caregiver role (Fellmann, Galan, & Lloreda, 2008; Shapiro & Stewart, 2011). The cement child phenomena can be particularly stressful for women. Women can feel caught between competing interests in the home—particularly between biological children who

feel that they will be put aside for the new child from their new relationship—increasing role strain in the process (Stewart, 2007). While this is one example of how multiple roles may affect women and men differently, it also suggests that multiple roles can be problematic for the psychological well-being of women more than men.

A third possible outcome is that there are no gender differences in the association between multiple parental roles influence on psychological well-being. This would suggest that although the sources of stress for mothers and fathers may be different, as we have detailed above, the net effect of various parental roles on psychological well-being should be similar for men and women.

In this paper we test for differences between men and women in the association between number of parental roles and depressive symptoms. Furthermore, as we have noted throughout the numerous examples we discussed above, there are likely to be differences by parental role combinations. In order to account for this we run models to specifically focus on different sets of roles.

Method

Data

Our data come from the National Longitudinal Survey of Youth, 1979 cohort (NLSY79), a cohort sample of 12,686 men and women born from 1957 to 1965. Through various data restrictions we arrived at a final sample size of 6,276. These restrictions include: (1) data collected between 1979 and 1991 was excluded because of depression first being measured in 1992; (2) 1,259 respondents were lost due to data attrition between T1 and T2; and (3) 1,347 individuals refused to answer the depression questions at baseline. In some cases we were able to substitute depression score values from 1994 for depression scores in 1992. We tested for statistically significant differences between 1992 and 1994 respondents, finding no difference in

their baseline scores, nor in the effect of baseline depression on T2 depression score. Full sample characteristics can be found in Table 1.

Measures

Depressive Symptoms. Our dependent measure comes from the CES-D scale—a reliable and often used measure of depressive symptoms (Radloff, 1977). The seven items included in the scale assess the frequency of feeling depressed or sad, problems eating or sleeping, difficulty focusing, and extra effort to complete normal tasks. Each individual item was assessed on a 4-point Likert scale (scored from 0 to 3), which was then combined for a scale ranging from 0 to 21. Higher scores indicated the presence of more depressive symptoms. Because we were concerned with issues of selection around depression, we measured depression at baseline (1992 or 1994), between the ages of 27 and 37, and followed up with a depression measure at age 40 or 50 (T2). T2 scores were part of the NLSY health evaluation for 40 and 50 year olds. These evaluations started in 1998 when the oldest respondents turned 40. Because this would have resulted in a 4-6 year gap in evaluations, we used depression scores at age 50 whenever possible. As a result, the vast majority of T2 scores were obtained in the 2000-2006 waves, resulting in an 8-12 year gap between T1 and T2 depression. Overall, Cronbach's Alpha was excellent for the T1 and T2 scales at 0.97 and 0.86, respectfully.

Parental Roles. We measure parental roles in several ways, although all of our measures are derived from the NLSY79 household roster which includes information on each individual's relationship to the respondent and specific questions on children and their residential status. In our first set of models we consider number of parental roles. In this case we consider the number of unique parental roles held by a respondent. These parental roles can include: a residential biological child, a non-residential biological child, a new biological child between T1 and T2, a residential stepchild, a non-residential stepchild, and no children. We include dichotomous

variables for 0, 1, 2, or 3 parental roles. Finally, we include variables for different combinations of parental roles from the list above.

Gender. We include a dichotomous variable for whether the respondent is female or male.

Control variables. We include controls for depression score at T1, marital status, full-time employment, family income (logged), educational attainment, urban residence, Southern residence, racial/ethnic identification, religious identification and attendance, and age at which T2 depression was measured.

Analytic Strategy

One methodological concern is that entering particular parental roles is a selective process. For example, individuals who willingly form stepfamilies or choose to have a new child may be qualitatively different from those that do not (e.g., Shafer & James, 2013). Because of our concern regarding selection on the key independent variable, we use Multinomial Treatment Models (MTM; Deb & Trivedi, 2006) which account for selection into different parental roles. MTMs are done in two stages. In the first stage, selection is modeled via a set of variables which may be associated with entry into various parental roles, including sociodemographic factors, psychological well-being, and other characteristics (these variables are listed in Table 1, excluding depression score at T2 and parental roles variables). In the second stage, we model CES-D depression score onto the independent and control variables. Because the second stage includes corrections for selection (as noted by Λ variables), the model allows us to better isolate any association between parental roles and psychological well-being with diminished or eliminated selection issues.

Results

Descriptive Results

The means and standard deviations for T2 depression score are reported in Table 2. Three separate mean scores, for the full sample, females, and males, are provided. With regard to number of roles, we find that, overall, individuals with no child or three parental roles report the highest depression scores, which is present regardless of gender—although women report more depressive symptoms if they have no children than three parental roles. We also note that across number of roles that females report higher levels of depressive symptoms than men, which can be seen in greater detail within Table 2.

Main Effects Models

The results of our main effects regressions are reported in Table 3. In the first regression we focused on the number of parental roles held by the respondent. Overall, we found that compared to having one parental role (i.e., biological parent, stepparent only) that having three parental roles was significantly associated with poorer psychological well-being ($b = 0.764$, $p < .05$). We also note that women had higher depression scores than men ($b = 0.763$, $p < .001$). The variables entered into the regression to account for self-selection are not significant, except in the case of $\Lambda_{(\text{two roles})}$ which is significant and positive, suggesting that the unobserved characteristics associated with selection into two parental roles are positively associated with higher depression scores.

In the next model we limited our subsample to only those respondents who reported having a biological child. Here, we see some differences based on parental roles. Compared to those with only biological children at home, individuals with both residential and non-residential biological children ($b = 1.436$, $p < .001$), a residential biological child and stepchild ($b = 1.422$, $p < .001$), and with a biological, step, and new child in the home ($b = 1.236$, $p < .01$) had higher depression scores. Again, we find a significant difference in the depression scores of men and women ($b = 0.500$, $p < .001$). $\Lambda_{(\text{RB-NRB})}$ and $\Lambda_{(\text{RB-S})}$ are significant and negative, suggesting that

the selective factors associated with entry into these parental roles are negatively associated with depressive symptoms. In Model 3 we compared three parental role types or combinations to individuals with a biological child and a stepchild. Our results showed that, compared to this group, only respondents with a non-residential biological, stepchild, and new child experienced significantly higher levels of psychological distress than the reference group ($b = 1.490$, $p < .01$). Again, we found a significant difference between females and males in their psychological well-being and many of the significant control variables in Models 1 and 2 are also significant in Model 3. Only $\Lambda_{(NRB\text{-}S\text{-}NEW)}$ is significantly and negatively associated with depression score.

Interaction Models

Table 4 reports the main and interaction effects between female and parental roles. Note that we include all of the controls reported in Table 3, but do not report them here because of substantial similarities in coefficient size and statistical significance in the main effects and interactive models. In Model 1, which addresses number of parental roles, the main effects show that both men and women experience an increase in depressive symptoms when they have three parental roles—though no gender difference was found. A significant gender difference was found between men and women without children, with women having depression scores 0.631 points higher than childless men. Similarly, women with one parental role also report more depressive symptoms than their male counterparts—as noted by the significant main effect ($b = 0.441$, $p < .01$).

In Model 2, where we limited the subsample to only individuals with a biological child, we found differences between men and women with only biological children and those with residential biological and new children. For individuals with only a biological child, women had depression scores which were, on average, 0.406 points higher than those for men ($p < .05$). Meanwhile, while having a residential biological and new child decreases depressive symptoms

in men (b= -0.686, p< .05), they actually increase the number of depressive symptoms in women (b= 0.747, p< .01). In Model 3, which includes only respondents with a stepchild, we found that compared to men with a residential biological child and stepchild, men with a non-residential biological child, stepchild, and new child had depression scores that were, on average, almost 2.2 points higher (p< .01). In contrast, women with the same set of roles had depression scores lower than their male counterparts (b= -1.179, p< .05).

Discussion & Conclusion

Overall, our results suggest that having a high number of parental roles is problematic for both men and women. For men this may result from the different expectations placed upon fathers, depending on their relationship to their child(ren). For example, our models showed that having "cement children" where biological, step, and new children co-exist is highly stressful—particularly for men if their biological child does not regularly reside with them. In such a scenario these roles can conflict; does the father owe more time and fathering to their biological child, in spite of the fact that they do not co-reside? Or, does attention fall to the stepchild? And, does the presence of a new child make both the biological and stepchild feel pushed aside for the new child from the new relationship? These are questions not easily answered and are frequently confronted by men or women; yet, they are becoming more common as families in the U.S. become increasingly diverse (Sweeney, 2010).

We found other gender differences, as well. Women without children experienced more depressive symptoms, on average, than men. To some extent, this seems to be in contrast to the notion that non-parents tend to have better mental health than any type of parent (Evenson & Simon, 2005). However, some of this may do with the pressure many women, particularly in this age group, face to become mothers; or, the realization that they may never become a (biological) mother, given that the women at T2 are either 40 or 50 years old. Men, on the other hand, appear

to feel no ill effects of childlessness. When we focused on more specific parental roles and combinations of parental roles, we found that women with a biological child and a new child have higher levels of distress than men. This makes sense within the context of the higher demands placed on women with new children, such as feeding, sleeplessness, and the like (Hunter, Rychnovsky, & Yount, 2009). As we mentioned above, the only combination of roles where men experienced more depressive symptoms than women was when they had a non-residential biological child, stepchild, and new child.

It is important to recognize that, more often than not, different parental roles have a similar influence on the psychological well-being of men and women. One potential reason for this comes from the changes in views of mothering and fathering in recent decades. Today, the division of childcare and household responsibilities are somewhat more equally distributed between parents than before as women are participating more in the labor market (Bianchi, Milkie, Sayer, & Robinson, 2000; Lee, Schneider, & Waite, 2003). It is arguable that parental roles are becoming less traditional, and might explain the overall similarities across gender.

Of course, there are limitations to our study. Depression was only measured at two time points—age 27-37 and age 40 or 50. It would have been beneficial if NLSY measured symptoms more frequently. Other child characteristics beyond the nature of the parent-child relationship, such as child sex, were not included in our models—mostly due to the lack of sufficient data on non-biological children and the substantial complexity of some households in the NLSY sample. Despite these limitations, our study possesses strengths. We used nationally-representative longitudinal data with considerably detailed family demographics, while accounting for issues of selectivity. We included men and women in our sample, and tested a considerable number of potential gender differences across numerous parental roles, while the majority of studies on

parenting only include women in their respective samples and usually lack detail in the modeling of parental roles.

Unfortunately, most screening programs for depression do not assess whether the adult is a parent (National Research Council and Institute of Medicine, 2009, p. 5). While any parental role might be problematic for mental health on the individual level, our findings provide empirical evidence for certain inquiries. For men, among the most problematic parental roles are having a non-residential biological child, stepchild, and a new child; or having a residential biological and a non-residential child. For women, childlessness might be a risk factor; and having a residential biological and new child might also be problematic. Both genders appear to be at greater risk when they experience three parental roles, If any of these risk factors are identified during the administration of a screening tool, or during an interview or therapeutic session, we recommend professionals inquire further to determine any influence these roles might have on the consumer's mental health and their perhaps their parenting practices (Goodman, et al., 2011).

Depression is a considerably prevalent mental health condition in society. Parenthood is one of the risk factors for increased depressive symptoms, and certain parental roles are clearly more problematic than others. We found that across numerous roles, men and women seem to experience similar risk for higher depressive symptoms, yet there also were important differences across gender. Indeed, our research has demonstrated the utility of utilizing detailed family demographics and addressing some of the complexities of post-modern parenthood in explaining parental mental health.

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Table 1. NLSY79 Sample Characteristics by Gender

			Female (n= 3,180)		Male (n= 3,096)	
	Min	Max	Mean	S.D.	Mean	S.D.
Depression score at T2	0	21	4.01	4.46	3.07	4.02
Number of parental roles						
No roles	0	1	0.27		0.41	
1 role	0	1	0.39		0.32	
2 roles	0	1	0.28		0.22	
3 roles	0	1	0.06		0.06	
Has Biological child						
Biological only	0	1	0.54		0.48	
Residential & non-residential biological	0	1	0.07		0.03	
Residential biological & stepchild	0	1	0.20		0.25	
Non-residential biological, stepchild, & new	0	1	0.04		0.04	
Residential biological & new child	0	1	0.11		0.14	
Residential bio, Residential step, & new child	0	1	0.04		0.06	
Has Stepchild						
Residential biological & stepchild	0	1	0.54		0.50	
Non-residential biological, stepchild, & new	0	1	0.17		0.33	
Residential bio, Residential step, & new child	0	1	0.19		0.07	
Stepchild only	0	1	0.08		0.07	
Marital Status						
Never married	0	1	0.13		0.17	
Previously married	0	1	0.22		0.17	
Cohabiting	0	1	0.07		0.09	
Remarried	0	1	0.17		0.15	
Currently in first marriage			0.40		0.42	
Depression score at T1	0	21	4.62	4.28	3.74	3.69
Full-time employed	0	1	0.63		0.67	
Log of income	0	14	9.92	2.74	10.03	2.76
Educational attainment						
Less than high school	0	1	0.10		0.13	
High school graduate	0	1	0.41		0.46	
Some college	0	1	0.26		0.20	
College graduate			0.23		0.21	
Southern residence	0	1	0.41		0.39	
Urban residence	0	1	0.79		0.79	
Racial/Ethnic Identification						
non-Hispanic Black	0	1	0.30		0.31	
Hispanic	0	1	0.20		0.20	
non-Hispanic White			0.50		0.49	
Religious affiliation						
Catholic	0	1	0.36		0.34	
Conservative Protestant	0	1	0.30		0.30	
Other religious affiliation	0	1	0.11		0.11	
No religious affiliation	0	1	0.03		0.05	
Mainline Protestant			0.20		0.21	
Attends church frequently	0	1	0.20		0.16	
Age 50 at T2	0	1	0.26		0.24	2.61

Table 2. Descriptive Statistics for Depression Score at T2 for the Full Sample and by Gender

	Full Sample (n= 6276)		Female (n= 3180)		Male (n= 3096)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Number of parental roles (n= 6276)						
No roles*	4.04	4.63	4.75	4.94	3.56	4.34
1 role*	3.03	3.89	3.42	4.07	2.54	3.59
2 roles*	3.50	4.15	4.05	4.40	2.78	3.69
3 roles*	4.05	4.57	4.46	4.40	3.59	4.71
Has Biological child (n= 3534)						
Biological only*	2.89	3.72	3.32	3.95	2.21	3.21
Residential & non-residential biological	4.27	4.60	4.49	4.77	3.43	3.87
Residential biological & stepchild*	3.52	4.05	4.04	4.19	2.92	3.79
Non-residential biological, stepchild, & new	3.89	4.54	4.25	4.89	4.05	5.06
Residential biological & new child*	2.98	3.97	3.86	4.69	2.02	2.69
Residential bio, Residential step, & new child*	4.05	4.39	4.86	4.18	3.73	4.83
Has Stepchild (n= 1626)						
Residential biological & stepchild*	3.51	4.05	4.04	4.19	2.92	3.79
Non-residential biological, stepchild, & new	4.13	4.52	4.25	4.89	4.05	5.06
Residential bio, Residential step, & new child*	3.89	4.54	4.86	4.18	3.73	4.83
Stepchild only*	4.05	4.39	4.01	4.35	3.31	4.46

Table 3. Main Effects Multinomial Treatment Models of CES-D Depression Score on Parental Roles, Gender, and Control Variables

	Model 1 # of Parental Roles			Model 2 Has Biological Child			Model 3 Has Step Child		
	b	s.e.		b	s.e.		b	s.e.	
Parental roles									
No parental roles	-0.223	0.294							
One parental role	*REF*								
Two parental roles	-0.281	0.286							
Three parental roles	0.764	0.368	*						
Residential biological only				*REF*					
Residential & non-residential biological (RB-NRB)				1.436	0.391	***			
Residential biological & stepchild (RB-S)				1.422	0.278	***			
Non-residential biological, stepchild, & new (NRB-S-NC)				0.423	0.402		1.490	0.513	**
Residential biological & new child (RB-NC)				-0.288	0.319		*REF*		
Residential bio, Residential step, & new child (RB-S-NC)				1.236	0.395	**	0.801	0.503	
Stepchild only (SO)							-0.466	0.400	
Female	0.673	0.107	***	0.500	0.137	***	0.495	0.213	*
Marital status									
First married	*REF*			*REF*					
Never married	0.799	0.223	***	0.993	0.287	**	0.828	0.531	
Previously married	0.819	0.161	***	0.732	0.193	***	0.785	0.291	**
Cohabiting	0.196	0.211		0.247	0.278		0.460	0.437	
Remarried	0.337	0.148	*	-0.053	0.180		0.546	0.263	*
Depression at T1	0.283	0.013	***	0.283	0.017	***	0.310	0.025	***
Full-time employment	-0.910	0.124	***	-0.801	0.154	***	-1.039	0.232	***
Log of income	-0.128	0.021	***	-0.079	0.030	**	-0.083	0.045	
Educational attainment									
Less than high school	1.134	0.198	***	0.843	0.267	**	1.853	0.397	***
High school graduate	0.451	0.138	**	0.459	0.166	**	0.367	0.274	
Some college	0.261	0.151		0.263	0.182		0.211	0.301	
College graduate	*REF*			*REF*					
Southern residence	0.117	0.110		0.087	0.139		-0.168	0.222	
Urban residence	-0.071	0.124		0.058	0.154		0.035	0.244	
Racial/ethnic identification									
non-Hispanic White	*REF*			*REF*					
non-Hispanic Black	-0.339	0.140	*	-0.484	0.181	**	-0.599	0.266	*
Hispanic	-0.268	0.154		-0.368	0.186	*	-0.508	0.293	
Religious affiliation									
Mainline Protestant	*REF*			*REF*					
Catholic	-0.221	0.155		-0.352	0.189		-0.375	0.304	
Conservative Protestant	0.209	0.158		0.250	0.202		0.178	0.313	
Other religious affiliation	0.152	0.189		0.085	0.237		0.305	0.363	
No religious affiliation	0.138	0.276		0.465	0.358		1.421	0.564	*
Frequently attends church	-0.050	0.031		0.011	0.039		-0.078	0.061	
Age 50 at T2	0.100	0.025	***	-0.042	0.038		0.098	0.020	***
Constant	-196.505			87.568			3.466		
N	6276			3534			1626		
X^2	3307.29	***		2057.99	***		672.24	***	
Log pseudo-likelihood	-23885.63			-13171.60			-6502.19		
ln(σ)	1.347	0.018	***	1.186	0.033	***	1.293	0.042	***
Λ(no roles)	0.474	0.299							
Λ(two roles)	0.574	0.291	*						
Λ(three roles)	-0.105	0.347							
Λ(RB-NRB)				-0.936	0.309	**			
Λ(RB-S)				-1.214	0.248	***			
Λ(NRB-S-NC)				0.347	0.265		-1.254	0.421	**
Λ(RB-NC)				0.439	0.284				
Λ(RB-S-NC)				-0.177	0.258		-0.330	0.419	
Λ(SO)							0.203	0.357	

Source: NLSY79. Note: ***p<.001, **p<.01, *p<.05

Table 4. Multinomial Treatment Models of CES-D Depression Score with Interactions Between Gender and Parental Roles

	Model 1 # of Parental Roles		Model 2 Has Biological Child		Model 3 Has Step Child	
	b	s.e.	b	s.e.	b	s.e.
Parental roles						
No parental roles	-0.519	0.319				
One parental role	*REF*					
Two parental roles	-0.354	0.321				
Three parental roles	0.875	0.221 *				
Residential biological only			*REF*			
Residential & non-residential biological (RB-NRB)			1.742	0.654 **		
Residential biological & stepchild (RB-S)			1.366	0.331 ***	*REF*	
Non-residential biological, stepchild, & new (NRB-S-NC)			0.886	0.553	2.194	0.669 **
Residential biological & new child (RB-NC)			-0.686	0.197 *		
Residential bio, Residential step, & new child (RB-S-NC)			0.988	0.291 *	0.557	0.610
Stepchild only (SO)					-0.402	0.667
Female	0.441	0.171 **	0.406	0.184 *	0.434	0.295
Interactions						
Female x no roles	0.631	0.122 **				
Female x two roles	0.137	0.260				
Female x three roles	-0.224	0.443				
Female x RB-NRB			-0.394	0.658		
Female x RB-S			0.094	0.316		
Female x NRB-S-NC			-0.777	0.636	-1.179	0.351 *
Female x RB-NC			0.747	0.221 **		
Female x RB-S-NC			0.504	0.606	0.470	0.677
Female x SO					0.465	0.498
Constant	-19.926		8.823		3.445	
N	6276		3534		1626	
X^2	3318.50 ***		2066.01 ***		678.58 ***	
Log pseudo-likelihood	-23881.44		-13168.20		-6499.75	
ln(σ)	1.347	0.018 ***	1.186	0.034 ***	1.292	0.042 ***
Λ(no roles)	0.456	0.304				
Λ(two roles)	0.576	0.147 *				
Λ(three roles)	-0.096	0.351				
Λ(RB-NRB)			-0.918	0.322 **		
Λ(RB-S)			-1.215	0.252 ***		
Λ(NRB-S-NC)			0.345	0.269	0.174	0.363
Λ(RB-NC)			0.437	0.289		
Λ(RB-S-NC)			-0.189	0.264	0.628	0.424
Λ(SO)					-0.334	0.421

Source: NLSY79. Note: ***p<.001, **p<.01, *p<.05; All control variables included in Table 2 are included in these models.