Articles

Social Network and Emotional Intelligence in Pregnancy and Postpartum

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Abstract

Although evidence supports the role of social support in perinatal women's well-being, the dynamics of these relationships remain unclear. We examined changes in social support and social network from prenatal to postpartum periods from 168 perinatal women. Individual differences in emotional intelligence (EI) were examined as moderating these changes. Results suggest that functional social support increases in postpartum while social network decreases. EI significantly moderated change in functional social support from fathers such that functional social support from a woman's father was significantly higher in women with higher EI. Changes in social network were not significantly affected by EI.

Keywords: perinatal, social support, emotional intelligence, postpartum, father involvement

Social support and social network are consistently identified as key components contributing to overall health (Holt-Lunstad, Smith, & Layton, 2010; Yang et al., 2016). Indeed, they are thought to be particularly important when one is dealing with challenging life circumstances or changes (Gallo et al., 2015; Yang et al., 2016). Yet, one's social support and social network are fluid resources which change throughout one's life, often as a result of the very life events where these resources play a critical role in the coping process (Antonucci, Ajrouch, & Birditt, 2014). One particularly important life event that has received considerable attention in the social support literature is birth of a child (Emmanuel, St. John, & Sun, 2012; Lau & Wong, 2008; Scheidt et al., 2012; Tay, Tan, Diener, & Gonzalez, 2013). For women, the transition from pregnancy to postpartum is a transformative life experience, often accompanied by a shift in social support (Webster, Nicholas, Velacott, Cridland, & Fawcett, 2011). However, while much research has examined the relative importance of specific aspects of a woman's social support and social network during postpartum (i.e., the role of the new Mom's mother), little research has examined how this major life event affects the effectiveness and structure of these resources, or the factors that may affect these adjustments in social resources during this time of major life change.

To address these gaps, this paper looks at change in functional social support and social network during a time of major life transition and how an individual difference central to the emotional processes underlying effective interpersonal relationships and intrapersonal coping may be related to social support change. Functional social support is conceptualized in this study as one's perceived value of emotional and tangible support from others.

In other words, functional social support is how much one perceives that they could rely on others for emotional and tangible support. Social network is conceptualized as interpersonal links connecting people who can provide support (Haber, Cohen, Lucas, & Baltes, 2007; Wrzus, Hänel, Wagner, & Neyer, 2013). This extends the research on social support and social network during postpartum in two ways. First, it provides a comprehensive examination of how a mother's social support and social network change after the birth of a child. Previous research has focused almost exclusively on social support provided by the mother or spouse of the new mom, and has ignored other potentially important aspects of the social network such as the friends, siblings and father of the new mom. Second, it examines how emotional intelligence, a skill that has been positively associated with the quality of social relationships in previous research, may affect social support and social network changes following childbirth (Brackett, Warner, & Bosco, 2005).

The results of this study have both practical and theoretical implications. From a theoretical standpoint, the results will provide insights into how major life events affect the amount of functional social support received and the number of resources available in one's social network. Further, the results will contribute to understanding of how individual differences may affect these social resource changes. From a practical standpoint, the results of this study may provide key insights into programs that more effectively utilize existing social support and social network. With respect to the specific population and life event included in the present studies, the results may help identify those who may be at risk of losing key social support and social networks during postpartum.

Social Support and Social Networks

A meta-analysis involving 308,849 persons in the general population found that those with adequate social relationships have a 50% greater likelihood of survival (mortality), over an average study period of 7.5 years, than those with poor or insufficient social relationships (Holt-Lunstad et al., 2010). The strength of this effect exceeds that of obesity, physical inactivity, and smoking. The significant part social support plays in the health of perinatal women has been well documented (Emmanuel et al., 2012; Lau & Wong, 2008; Scheidt et al., 2012; Tay et al., 2013).

Social convoy theory suggests that social ties with family remain stable while other relationships adapt or adjust through life changes (Antonucci et al., 2014). Evidence suggests that the transition to parenthood, considered a normative life change, reduces social network size (Wrzus et al., 2013). Concurrently, the beneficial effects of social network size may lessen in the transition to parenthood, as potential role conflict in multiple social groups may increase stress rather than support (Yang et al., 2016). Using this theoretical assumption, we would expect that pregnant women's functional social support from family resources remains strong into postpartum, while social network resources from friends and other sources may decrease. However, existing research largely examines social support in perinatal women as an absolute value; an isolated value in one instance. Scant research examines changes in social support and social networks, which are assumed to take place following childbirth. Many studies investigating social support in perinatal women have examined social support provided by specific persons including the woman's spouse, partner, and/or mother. Evidence suggests that functional social support from these relationships often increases in postpartum and is a strong predictor of maternal well-being (Emmanuel et al., 2012; Jeong et al., 2013). Others have found that the number of persons one has in their social network prior to delivery impacts the mother's health following delivery (Morikawa et al., 2015). Yet, how a woman defines her social network and which relationships provide primary social support may be complex and defy the traditional assumptions of relationships with significant other and mother as primary social

support resources (Emmanuel et al., 2012). Researchers frequently overlook the role of support from the perinatal woman's father, siblings, and friends in examinations of perinatal social support and social networks. Examining the composition of a woman's social network during her prenatal and postpartum period may reveal otherwise overlooked support.

A perinatal woman's significant other's (husband or partner) support in the perinatal period is well supported (Orr, 2004). Similarly, the role of maternal support to her perinatal adult child is well supported with evidence of increased functional support (Balaji et al., 2007). These two relationships (significant other and maternal) are consistently examined as primary sources of social support within one's social network. However, changing demographics in the American family justifies a closer examination of additional social support relationships and social network composition. The mean age of women having their first child in all states, and across all racial and ethnic backgrounds is rising (Cooke, Mills, & Lavender, 2010). Social support and social networks may look different in a generation of women with older mothers and more established adult friendships. Alternatively, geographic distance was once considered a barrier in social relationships (Wilding, 2006). However, an explosion of technology, which allows for relatively frequent and inexpensive communication across the globe, may challenge traditional assumptions of social support and social networks in perinatal women (Muñoz et al., 2015). Although these trends are unlikely to alter the role of social support from a significant other, it is unclear if this trend may affect a woman's social support received from other relationships.

In addition, as gender roles shift, and men are seen as more than the disciplinarian and breadwinner of the family, fathers may be able to offer greater levels of affective support than in the past (Cabrera & Tamis-LeMonda, 2013). Despite the plethora of research supporting the relationship of paternal engagement and social, behavioral, psychological and cognitive outcomes in children (Cabrera & Tamis-LeMonda, 2013; Carlson, 2006; Flouri, Buchanan, & Bream, 2002; Leidy, Schofield, & Parke, 2013; McWayne, Downer, Campos, & Harris, 2013; Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008). There is a dearth of literature on the influence of the grandfather's support on and engagement with his adult daughter and her child. One study examining teen mothers found a significant correlation between (a) the grandfather's nurturance of his grandchild and his teenage daughter's nurturance of her child, and (b) the grandfather's involvement with his grandchild and his teenage daughter's perception of his support Oyserman, Radin, and Benn (1993). These grandfather influences were demonstrated as both a mediated negative affect on grandchild negative affect (via teen daughter perception of grandfather support) and also as a direct negative relationship on grandchild's negative mood. This suggests that grandfathers may provide a substantial amount of social support for perinatal women which are not yet captured in social support research.

It is possible that friends or siblings may in fact play a more important role in today's generation of perinatal women. Social support in pregnancy from friends and siblings who share generational perspectives and values has been examined primarily in adolescents. This parallels evidence of an increased social network through adolescence and young adulthood (Wrzus et al., 2013). The unique contribution of sibling and friend support in adult women has not been well investigated, with relationships often omitted from perinatal research, or collapsed into an overall measure of social support. While support from adult siblings is generally assumed to lessen into adulthood, there is evidence of increased of sibling support when one adds a child to their family (White, 2001). The value of friendship for adult perinatal women has been largely examined surrounding "novel" friendships within antenatal or postnatal groups (Nolan et al., 2012; Scott, Brady, & Glynn, 2001). Research is needed which examines how existing peer support may change beyond adolescent populations.

The process of changing social relationships and the mechanisms affecting affect these changes, particularly for someone experiencing ongoing major life events, remains unclear. Thoits (2011) recognized that although the connection between social support and health is strongly supported, researchers continue to focus on levels of support and well-being rather than looking at the mechanisms affecting the changes in social support. Social support is not a static resource; rather, it is an ongoing process of give and take that likely requires skill in its effective utilization. Research has not fully examined how individual differences may affect levels of functional social support and the composition of social network.

Emotional Intelligence and Social Support

Mayer and colleagues' ability-based model of emotional intelligence has four dimensions: perceiving, using, understanding, and managing emotions (Mayer, Salovey, Caruso, & Sitarenios, 2001). Perceiving emotions is one's ability to recognize emotions in one's self and in others. Using emotions involves incorporating emotions strategically to facilitate thoughts and actions. Understanding emotions encompasses one's ability to anticipate and reason about changing emotions, while managing emotions includes one's ability to manage emotions and emotional relationships to prioritize personal growth.

EI has consistently been linked to many aspects of social interaction, with research showing that emotional intelligence may help one develop deeper relationships with others (Lopes et al., 2004; Reis et al., 2007). Young adults with higher emotional intelligence perceive themselves to have more social support from others, which helps decrease their mental distress and increase their life satisfaction (Kong, Zhao, & You, 2012). However, research into how emotional intelligence may affect changes in social support over time is in its infancy. Much of the research focuses on emotional intelligence and its link to a snapshot view of social relationships (Brackett et al., 2005; Lopes et al., 2004). How emotional intelligence might affect a longitudinal perspective of relationships over time; in other words, how emotional intelligence might affect one's adaptation to increased social support needs in changing life circumstances has not been studied. For example, emotional intelligence may improve women's ability to recognize and harness social support in postpartum. New mothers are often overwhelmed with the initial responsibilities of infant care (Barnes et al., 2008). This may be accompanied by feelings of low self-worth or guilt for self-care (Barkin & Wisner, 2013).

Two branches of emotional intelligence, *understanding emotions* and *managing emotions* may contribute to women's social support in the perinatal period. *Understanding emotions* is a skill in affective forecasting (Mayer, Caruso, & Salovey, 2016). Caring for an infant may bring circumstances such as increased isolation, and increased responsibility. One's ability to forecast how social support may assist them in these circumstances may increase their motivation to utilize their social support. For example, anticipating the emotional connection and empathy from a mother or friend and prompt a phone call to a helpful support resource. Similarly, anticipating the beneficial effects of a social date with a spouse or partner, away from the new infant, may motivate a new mother to elicit additional resources for child care. In this case, social support would be used for both child care and for support from spouse. These emotional intelligence skills may assist a woman to better anticipate (understanding emotions) the benefits of self-care, including increased mood and energy, perceiving that those consequences will help her with infant care (Neff & McGehee, 2010; Richter, 2004). *Managing emotions* skills may also increase use of social support. A new mother may better manage their emotions, both in direction and intensity, to achieve a desired outcome (Mayer, Caruso, & Salovey, 2016). For example, a mother may feel sad and isolated due to the constant demands of infant care. Managing the direction of those emotions may provide

motivation to seek out social support, rather than avoid it. This may draw on social resources that will reduce negative mood and feelings of isolation (Thoits, 1986). Further, managing intensity of negative mood may enhance social interactions, thus strengthening social ties. Examining emotional intelligence skills as a factor in one's changing social support and social network may begin to explain differences in levels of social support following childbirth.

The purpose of this study was to examine the changing characteristics of social support and social networks before and after childbirth for perinatal women and to investigate the relationship of emotional intelligence to both of these changes.

Hypothesis #1: Functional social support from all support relationships will significantly increase from pregnancy to postpartum.

Hypothesis #2 Total social network members will significantly decrease from pregnancy to postpartum.

Hypothesis #3: Emotional intelligence will significantly affect the changes in functional social support from pregnancy to postpartum, so that women with higher levels of emotional intelligence will report a larger increase in functional social support from the prenatal to postpartum period than women with lower levels of emotional intelligence.

Hypothesis #4: Emotional intelligence will significantly affect the changes in social network from pregnancy to postpartum, so that women with higher levels of emotional intelligence will report less of a loss in social network members than women with lower levels of emotional intelligence.

Method

Participants

We used a convenience sample and cohort design with two data collection time points: pregnancy (Time 1) and postpartum (Time 2). Participants were recruited with flyers from five OB/GYN offices in Southern Ohio from 2011-2012. Eligibility required women to be 18 years of age or older, be in their third trimester of pregnancy, and have access to an email account. No other inclusion/ exclusion criteria were applied. Potential participants found a description of the study and explanation of consent through the research study web address shown on each flyer. Each participant indicated consent via the website and then proceeded with the on-line survey.

Procedures

The study was approved by the author's university institutional review board. Participants completed their Time 1 survey in their third trimester of pregnancy. Time 1 measures included functional social support, social network, prenatal depression and emotional intelligence. Women received an email invitation to complete the Time 2 survey nine weeks following their estimated date of delivery. Time 2 measures included social support, social network, and postpartum depression. Participants received a $20 grocery gift card for completion of each survey.

Materials

Emotional Intelligence

To measure emotional intelligence, we used the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT V2.0). Collected in Time 1, this measure of emotional intelligence comprises 141 items and provides a global score of emotional intelligence. The instrument reflects Mayer, Salovey, & Caruso's (2008) ability-based model discussed above. As an ability-based instrument, the MSCEIT provides an objective measure of emotional intelligence, with evidence of discriminant validity from social desirability (Rode et al., 2008). Following convention, we used consensus scoring method. Previous research supports the instrument's internal validity and reliability (Mayer, Salovey, Caruso, & Sitarenios, 2003; Rode et al., 2008). Cronbach alpha for this study was 0.74.

Functional Social Support

Collected in Time 1 and Time 2, the Norbeck Social Support Questionnaire (NSSQ) solicits information on functional social support and social network (Norbeck, Lindsey, & Carrieri, 1981). The NSSQ asks participants to list up to 20 people in their lives who provide them with support. Participants are asked to rate each person on six items of functional social support. Ratings reflect participant perceptions of how much each individual could provide functional social support (0 = not at all to 4 = a great deal) resulting in a possible score of 0-24 for each person. Participants also indicate the role of each person they identify (mother, etc.). Using the NSSQ, Functional Social Support was calculated as an average score of functional social support provided from each support role: significant other, mother, father, siblings, and friends. The average amount of functional support provided within each support role provided a value that was not influenced by the number of people mentioned in each relationship role. For example, average functional support from 'mother' and from 'friend' would both have a maximum value of 24, despite a potentially high number of friends listed. These values better reflect the depth of support given by persons in each relationship (friend, mother, etc.) and therefore, the number of persons in each role minimally affected each value. This measure demonstrates acceptable validity and reliability in pregnant women (Norbeck et al., 1981; Norbeck, Lindsey, & Carrieri, 1983).

Change in Functional Social Support

Using the NSSQ, the change in functional social support was calculated as the difference in functional social support from each relationship role from Time 1 (pregnancy) to Time 2 (postpartum).

Social Network

Using the NSSQ, Social Network was calculated as the number of persons listed as providing support to each participant within each relationship role. This was collected in time 1 and Time 2.

Change in Social Network

Using the NSSQ, the change in social network was calculated as the difference in social network from pregnancy to postpartum.

Control Variable: Depression

The Postpartum Depression Screening Scale is a 35-item screening scale for symptoms of depression following childbirth was collected in Time 2. The instrument demonstrates excellent specificity, reliability (α = .83 - .94) and convergent validity with other measures of depression (Beck & Gable, 2001).

Results

Sample Characteristics

Time 1 data was collected for 206 participants during their pregnancy. Time 2 data collection captured 82% of those participants in postpartum, resulting in a final sample size of *n* = 168. Participants were on average 33.5 weeks pregnant when they completed Time 1 data collection and on average 10 weeks postpartum when they completed Time 2 data collection. Demographic results are displayed in Table 1.

Table 1

Demographic Characteristics of Participants

Variable	Frequency Percentage *(n)*	*M* (*SD*)	Skewness (Kurtosis)	Range	% Valid Data *(n)*
Age		29.3 (5.0)	-.009 (.188)	18-45	99 (167)
Relationship Status					99 (167)
Married	83 (139)				
Non-married relationship	10 (17)				
Single	6 (10)				
Widowed	0.6 (1)				
Number of children (not including current pregnancy)		0.86	3.079 (.187)	0-10	100 (168)
0	51 (85)				
1	29 (48)				
2	13 (21)				
3	5 (9)				
> 3	3 (5)				
Education					100 (168)
8th grade or lower	0.6 (1)				
Some HS	3.6 (6)				
HS graduate	26.2 (44)				
Associates degree	8.3 (14)				
Bachelor's degree	34 (57)				
Master's degree	23 (39)				
Doctoral degree	4.2 (7)				
Income					98 (164)
Under $30,000	18 (30)				
$30,000 – 49,999	19 (32)				
$50,000 – 74,999	24 (41)				
$75,000 – 100,000	23 (38)				
Over $100,000	14 (23)				
Racial / Ethnic Category					100 (168)
Asian	1.8 (3)				
Black	6 (10)				
Hispanic	1.8 (3)				
White	89.3 (150)				
Other	1.2 (2)				

Participants ranged in age from 18-45 years old and were primarily Caucasian (89%). Education and income were, in general, higher than the national average, with 37% of participants with household income less than $50,000, 24% of participants' income between $50,000 - $74,000 and 37% of participants with household in-

come over \$74,000 ([US Census Bureau, 2014](#)). Seventy percent of participants held at least an associates-level college degree. Means and correlations are displayed in [Table 2](#). All relationships were in anticipated directions.

Table 2

Means, Standard Deviations and Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Emotional Intelligence	103.0	12.9	–							
2. Social Support T1	137.5	76.3	.10	–						
3. Social Support T2	150.5	106.4	.15	.63**	–					
4. Change in SS	13.3	31.3	.15*	-.05	.50**	–				
5. Social Network T1	10.5	5.4	.08	.80	.51**	-.04	–			
6. Social Network T2	8.0	4.9	.14	.57**	.84**	.38**	.68**	–		
7. Change in Social Network	-2.2	4.1	.03	-.35**	.30**	.44**	-.49**	.31**	–	
8. PDSS Maternal Change in	63.3	20.2	-.22**	-.05	-.07	.06	.08	-.02	-.10	–

*p < .05. ***p* < .01.

Functional Social Support Change

Hypothesis #1 stated that functional social support from all support relationships will significantly increase from pregnancy to postpartum. A paired samples t-test was conducted to compare functional social support in pregnancy and postpartum. Displayed in [Table 3](#), hypothesis #1 was supported with a significant increase in functional social support ($t(167) = 2.0$, $p = .047$). Ad hoc analyses were completed for individual relationship roles: significant other, mother, father, siblings, and friends. Functional social support from significant other ($t = 7.5$, $p < .01$), mother ($t = 4.3$, $p < .01$), siblings ($t = 2.6$, $p < .01$) and friends ($t = 3.1$, $p < .01$) demonstrated significant increases in postpartum. Functional social support from father role was not significantly different in pregnancy to postpartum.

Table 3

Comparison of Change in Functional Social Support Between Time 1 and Time 2

	Average SS				
	Time 1		Time 2		
Functional social support	*M*	*SD*	*M*	*SD*	*t*
Total FSS	137.5	76.3	150.5	106.4	-2.0*
Significant other	20.9	6.2	25.2	9.1	-7.5**
Mother	18.8	7.3	22.1	11.0	-4.3**
Father	14.4	9.6	15.5	13.4	-1.2 (ns)
Siblings	12.3	9.3	14.6	12.7	-2.6**
Friends	14.9	8.4	17.3	11.8	-3.1**

*p < .05. ***p* < .01. ns = not significant.

Social Network Change

Hypothesis #2 stated that total social network members will significantly decrease from pregnancy to postpartum. A paired samples t-test was performed to compare number of members in one's social network from pregnancy to postpartum. Hypothesis #2 was supported, as results displayed in [Table 4](#) show a significant decrease

in total members of social network (t = -6.85, p < .01). Ad hoc analyses of individual relationship roles demonstrated a significant decrease in significant other network members (t = -2.13, p < .05) father network members (t = -3.31, p < .01), and friend network members (t = -4.14, p < .01). There were no significant differences in mother and sibling network members from Time 1 to Time 2.

Emotional Intelligence Effect on Functional Social Support Change

Hypothesis #3 stated that emotional intelligence will significantly affect the changes in functional social support so that women with higher levels of emotional intelligence will report a larger increase in functional social support from the prenatal to postpartum period than women with the lower levels of emotional intelligence. A multivariate multiple regression (n = 168) was performed to investigate changes in the prenatal to postpartum functional social support levels based on participants' emotional intelligence. Emotional intelligence was used as an independent variable with postpartum depression included as a covariate to better capture relationships that exist above and beyond depressive symptoms in Time 2. Five dependent variables included change in functional social support from significant other, mother, father, siblings, and friends, Assumptions were tested for normality, linearity, univariate and multivariate outliers, homogeneity of variance matrices, and multicollinearity, with no serious violations noted. Significant multivariate main effects were noted for emotional intelligence, Wilk's λ = .92, F(5, 161) = 2.564, p = .03; η_p^2 = .07. Therefore, participants with high emotional intelligence tended to report a larger increase in functional social support from prenatal to postpartum periods than participants with low emotional intelligence. A test of between subjects effects demonstrated significant differences only in change in functional social support from father, F(1, 165) = 10.24, p = .002, η_p^2 = .06. These results suggest that women with high emotional intelligence often reported increased average functional social support from their fathers, while women with low emotional intelligence reported a decrease in average father functional social support. Hypothesis #3 was partially supported.

Emotional Intelligence Effects on Social Network Change

Hypothesis #4 stated that emotional intelligence will significantly affect the changes in social network from pregnancy to postpartum, so that women with higher levels of emotional intelligence will report less of a loss in social network members than women with lower levels of emotional intelligence. A multivariate regression (n = 168) investigated differences in change in social network reported from each social relationship identified as providing social support, from Time 1 to Time 2 levels, based on level of emotional intelligence. Five dependent variables included change in total social network members from significant other, mother, father, siblings, and friends, as well as a covariate of postpartum depression. Assumptions were tested for normality, linearity, univariate and multivariate outliers, homogeneity of variance matrices, and multicollinearity with no serious violations. A multivariate main effect for social network was not significant between women with high emotional intelligence and low emotional intelligence on the combined independent variables. Therefore, emotional intelligence did not have a significant overall effect on changes in number of members in one's social network for perinatal women from Time 1 to Time 2. Hypothesis #4 was not supported.

Table 4

Structural Characteristics of Networks

Variable	Time 1	Time 2	*t*
	Network size		
M (*SD*)	10.5 (5.4)	8.01 (7.9)	-6.85**
Range	2 - 20	1 - 20	
Number of members, % (*n*)			
1-3	6.6 (11)	14.9 (25)	
4-6	24.3 (41)	35.7 (60)	
7-9	19.1 (32)	18.4 (31)	
10-12	21.9 (37)	7.8 (13)	
13-15	7.8 (13)	11.9 (20)	
16-18	4.8 (8)	3.6 (6)	
19-20	15.5 (26)	6 (10)	
	Network composition		
Significant other support			
M (*SD*)	0.96 (.25)	0.92 (0.30)	-2.13*
Number of members, *n*			
0	11	16	
1	157	152	
Mother support			
M (*SD*)	1.03 (0.52)	0.96	(ns)
Number of members, *n*			
0	18	29	
1	133	117	
2	17	22	
Father support			
M (*SD*)	0.82 (0.59)	0.65 (0.60)	-3.31**
Number of members, *n*			
0	46	70	
1	107	87	
2	14	11	
3	1	0	
Sibling support			
M (*SD*)	1.46 (1.6)	1.25 (1.81)	(ns)
Number of members, *n*			
0	54	70	
1	51	50	
2	30	24	
3	17	11	
> 3	16	13	
Friend support			
M (*SD*)	2.79 (2.77)	2.05 (2.34)	-4.14**
Number of members, *n*			
0	36	50	
1	30	41	
2	28	25	
3	23	16	
4	16	13	
> 4	36	23	

*p < .05. **p < .01. ns = not significant.

Discussion

Our analysis of changes in functional social support (H1) from prenatal to postpartum periods largely supports previous research (Wrzus et al., 2013), suggesting that a normative life change, such as childbirth, tends to an increase the level of functional support provided. Functional social support from father roles, however, did not reveal a significant change from Time 1 to Time 2. Displayed in Table 3, the highest amount of functional social support was provided by significant others in both Time 1 and Time 2 (20.9, 25.2). Siblings and friends were well represented as providing functional social support, though at lower levels than significant others and mothers.

Our analysis of changes in social network (H2) largely matched existing theory suggesting that social network size decreases following childbirth. Our results found significant overall loss in social network size. When analyzed within each relationship role, losses were significant for the roles of significant others, fathers, and friends. A loss in significant others suggests that in this sample fewer women in postpartum reported a significant other as a member of their social network. The role of significant other is often considered to provide the highest level of functional social support, therefore a loss in this resource is assumed to have a large impact on a woman's traditional social resources.

Results reveal that an average of 12% of participants over Time 1 and Time 2 identified more than one source of mother support and 7% of participants identified more than one source of father support. Participants who did not identify mother or father support roles in Time 1 and Time 2 totaled 14% and 34% respectively. These results reflect a change in traditional family structures, including an increase in single family homes and second marriages.

Challenging traditional assumptions of social support primarily provided by significant other and mother, this sample of perinatal women recognized fathers, siblings, and friends as sources of support. This may be due to the increasing age of mothers having babies or to increased access to technology which can enhance relationships beyond traditional support roles of significant other and mother (Street, Gold, & Manning, 2013). Additional research is needed to further explore the changing composition of today's perinatal women.

The overall model of emotional intelligence in positively affecting change in functional social support was supported (H3). However, when examined for individual effects only average functional social support provided by fathers was significant. This may clarify our findings from H1 which suggest that when examining father support in the general population, father social support does not increase for postpartum women. However, including emotional intelligence in this relationship analysis revealed that women who have higher emotional intelligence have an advantage in that they are better able to garner father functional social support in postpartum than are women with low emotional intelligence. Emotional intelligence did not have an effect on changes in social support from other relationship members (mother, significant other, siblings, or friends). This suggests that emotional intelligence ability will not positively or negatively affect changes in support provided by these relationships; in other words, these relationships are inherently stronger without regard to a new mother's level of emotional intelligence. These results are interesting as emotional intelligence is believed to contribute to stronger social relationships. In this study, the contributions were not equal across all relationships.

Father support was significantly affected by their adult daughter's level of emotional intelligence, resulting in more social support for women with higher levels of emotional intelligence. This suggests that new mothers

with lower levels of emotional intelligence have a more fragile assurance of social support from their fathers, while new mothers with higher levels of emotional intelligence have a more stable assurance of social support from their fathers.

It is unclear why the relationship of emotional intelligence and father social support exists. Without extensive longitudinal data, we cannot be sure if women with high emotional intelligence are more skilled at eliciting paternal support, or if pre-existing paternal support may have contributed to their higher levels of emotional intelligence, or both. It may be that women with emotional intelligence are better able to perceive and understand their father, resulting in a stronger relationship. Alternatively, this finding may be an indirect result of parenting from a father who emphasized and encouraged emotional intelligence in their child. This unique finding warrants further research to better understand the relationship of fathers, social support, and emotional intelligence in both perinatal and general populations.

When analyzing social network (H4), emotional intelligence was not found to be significant. This may be due to methodological limitations. The number of friends and multiple siblings overshadow the traditionally viewed support relationships of significant other and mother. Additionally, changes in social network may be difficult to capture in this study's short time frame. Reduced social network size is likely a long-term trend rather than a change that occurs in the first months of motherhood. Alternatively, it may reflect limitations in the effects of emotional intelligence in maintaining multiple social relationships following childbirth.

Conclusion

Though our results must be interpreted with caution, as we used a convenient, small, homogeneous sample that limits generalizability of the study, they begin to explore the mechanisms that may affect changes in social support. The unique relationship of emotional intelligence and father social support is one which warrants further investigation.

Many studies investigating social support in perinatal women have assumed that social support is primarily derived from the roles of significant other or mother. We examined social support and social network in a broader sense, based on participant's identification of support resources. Recognizing diverse roles of social support for perinatal women and what factors affect these social support roles needs further investigation. Although our results suggest that emotional intelligence may be a minor factor in the dynamics of paternal social support, more research is needed to explore and clarify these relationships.

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