

Bond University  
Research Repository



## Support during Pregnancy as an Influencing Factor on the Transition to Parenthood

McKee, Christine; Stapleton, Peta; Pidgeon, Aileen

*Published in:*  
Journal of Prenatal & Perinatal Psychology & Health

*Licence:*  
CC BY-NC-ND

[Link to output in Bond University research repository.](#)

*Recommended citation(APA):*  
McKee, C., Stapleton, P., & Pidgeon, A. (2017). Support during Pregnancy as an Influencing Factor on the Transition to Parenthood. *Journal of Prenatal & Perinatal Psychology & Health*, 32(2), 99-127.

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.

1  
2  
3  
4 **Support during Pregnancy as an Influencing Factor**  
5 **on the Transition to Parenthood**  
6

7 Christine McKee, Peta Stapleton, Aileen Pidgeon  
8

9  
10 Abstract: This study was the first of four within a Ph.D. program of research which examined  
11 factors that were perceived to be important considerations when designing, developing, and  
12 delivering pre- and perinatal (PPN) parenting programs for the 21<sup>st</sup> Century. In this  
13 research, 54 mothers and seven fathers ( $N=61$ ) who had attended a PPN parenting program,  
14 completed an online questionnaire that examined program content strengths, gaps, and  
15 limitations. Braun and Clarke's (2006) thematic analysis was undertaken and revealed that  
16 "support during pregnancy" was a topic deemed to be important when assessing PPN  
17 parenting programs; as consistent with the literature, a lack of support was a commonly  
18 reported causes of stress for expecting parents during the time of pregnancy. Whilst some  
19 research advocates that existing programs mitigate these concerns, the current research did  
20 not concur. The findings add to the literature in PPN psychology by highlighting a wide  
21 range of topics identified as being essential content for future PPN parenting programs,  
22 resulting in future development of a range of PPN parenting programs, as well as measuring  
23 effectiveness through pre and post-test randomized clinical trials utilizing large sample sizes  
24 and control groups. It is predicted that outcomes may result in sustainable PPN care,  
25 positive parenting post birth, needs-based inclusion of fathers, and supported transition for  
26 couples into parenthood.  
27

28 Keywords: pre- and perinatal psychology, pre- and perinatal parenting education, pre- and  
29 perinatal parenting programs, prenatal support. pregnancy, parenting  
30  
31  
32

---

**Christine McKee** is a registered psychologist and Ph.D. candidate at Bond University (Australia). Christine specializes in pre- and perinatal psychology and is a published author, certified Biodynamic Craniosacral Therapist, HeartMath™ coach and trainer in Neuro Linguistic Programing. Associate Professor Peta Stapleton is a registered clinical and health psychologist. Peta is a world leader and researcher in Emotional Freedom Techniques. She was awarded the greatest contribution to the field of Energy Psychology by the Association of Comprehensive Energy Psychology in 2016. Peta is Program Director of the Masters of Clinical Psychology program at Bond University (Queensland). Dr. Aileen Pidgeon is a clinical psychologist and A/Professor of Psychology at Bond University, Gold Coast. She has co-authored over 30 publications. Her Ph.D. resulted in publishing and disseminating the Pathways Triple P-Positive Parenting Program for at-risk families. Dr Pidgeon sits on a number of boards and advisory groups in the field of education and research. Correspondence concerning this article should be addressed to Christine L. McKee via email: [christine.mckee@student.bond.edu.au](mailto:christine.mckee@student.bond.edu.au) / [chris@beinstitute.com.au](mailto:chris@beinstitute.com.au)

---

The transition to parenthood is often perceived as stressful, resulting in a decline in relationship satisfaction (Cowan & Cowan, 2000; Gottman, Driver, & Tabares, 2002). This is consistent across ethnicities, including the USA (Gottman et al., 2002), Europe (Salmela-Aro, Aunola, Saisto, Halmesmaki, & Nurmi, 2006), and Asia (Lu, 2006).

A plethora of research has explored adaptive and maladaptive ways of coping with stress during a pregnancy (Feldman, Dunkel-Schetter, Sandman, & Wadhwa, 2000; George, Luz, De Tyche, Thilly, & Spitz, 2013; Huizink, Robles de Medina, Mulder, Visser, & Buitelaar, 2003). Prenatal stressors are specifically linked to negative outcomes for the mother, father, and baby triad. Examples include maternal anxiety (Huizink et al., 2003), maternal depression (Pawlby, Hay, Sharp, Waters, & Pariante, 2011), negative relationship with father of the child (Halford, Petch, & Creedy, 2010), reduction in fetal growth, low birth weight for gestational age, and reduced development of the fetal brain (Feinberg, Roettger, Jones, Paul, & Kan, 2015; Glover & Sutton, 2012) due to large quantities of cortisol (known as the stress hormone) passing through the placental barrier when a pregnant mother is pervasively stressed (O'Donnell, et al., 2012).

### **Adaptive Coping Strategies**

When the adaptive coping strategy of social support was considered, Feldman et al. (2000) found that a lack of social support is correlated with low birth weight babies, and low birth weight is a primary cause of infant mortality. This has been supported in recent literature (Salihu et al., 2014).

#### **Support as an Adaptive Coping Strategy**

When stressed during pregnancy, women report that accessing social support when needed is important (Cameron, Wells, & Hobfall, 1996) and it has long been linked to psychological wellbeing, perceived ability to influence solutions to stressful situations, and increased self-worth (Cobb, 1976; Kalil, Gruber, Conley, & Syntaic, 1993). In pregnancy, social support has been shown to be a critical factor in overall physical, mental, and emotional wellbeing of the expecting mother (Dunkel-Schetter, Sagrestano, Feldman, & Killingsworth, 1996). Feldman et al. (2000) examined 247 pregnant women, and found that those with multiple types of social support (including the father of the baby) had higher birth weight babies. Wahn and Nissen (2008) further determined that women with access to social support were at lower risk of depression during pregnancy than women with no perceived social support.

Research also indicates that women who perceive being able to access a range of social support (e.g., family and friend support, obstetric

78 support) during pregnancy (Feldman et al., 2000; Rodrigo, Almeida, &  
 79 Reichle, 2016) tend to seek health and prenatal information and care early  
 80 in pregnancy (Sable, Stockbauer, Schramm, & Land, 1990; Zambrana,  
 81 Dunkel-Schetter, & Scrimshaw, 1991; Rodrigo et al., 2016).

82 The inclusion of a midwife and/or doula as a support option has been  
 83 shown to have positive benefits during the labor and birthing processes  
 84 including shorter labor, lower cesarean section rates, and greater levels of  
 85 presence and alertness of the mother immediately after birth (Sosa,  
 86 Kennell, Klaus, Robertson, & Urrutia, 1980). These outcomes enable  
 87 greater connection, communication, and bonding opportunities with the  
 88 newborn (Sosa et al., 1980).

### 90 **Lack of Social Support as a Maladaptive Coping Strategy**

91  
 92 The absence of adaptive coping strategies and support networks being  
 93 available for a pregnant mother can result in negative outcomes such as  
 94 depression during pregnancy (Bennett, Einarson, Taddio, Koren, &  
 95 Einarson, 2004; Da Costa et al., 2010), postnatal depression (Huizink,  
 96 Robles de Medina, Mulder, Visser, & Buitelaar, 2002a; Milgrom et al.,  
 97 2008) and anxiety disorders (Giardinelli et al., 2012). Brugha et al.'s  
 98 (1998) study with 40,333 participants based in Leicester, UK,  
 99 demonstrated that low partner support was a key risk factor during the  
 100 prenatal period for postnatal depression. Whilst the size of the support  
 101 network has been shown not to influence the development of postnatal  
 102 depressive symptoms, the availability of support when needed has  
 103 (Brugha et al., 1998). Brugha et al. (1998) recommend that PPN  
 104 interventions should target enhancing support networks.

105 Research conducted between 2005 and 2007 on prevalence and inter-  
 106 correlations of psychosocial risks during the prenatal time with 1,386  
 107 prenatal patients from Minneapolis, Minnesota, USA, found that 75% of  
 108 the participants reported having a lack of social support (Harrison &  
 109 Sidebottom, 2008). This translated to circumstances where expecting  
 110 mothers reported having no one to count on in times of need, and for those  
 111 who did have a partner there was reported unhappiness with the  
 112 communication and support within the relationship. Post-birth results  
 113 indicate higher rates of depression in mothers, which has a negative  
 114 impact on postpartum bonding and low birth weight babies (Harrison &  
 115 Sidebottom, 2008). The results from this study may not be generalizable  
 116 across populations as all respondents were from one city and were from a  
 117 low income cohort. Further, the data was self-reported by respondents  
 118 which may impact the validity of the findings. At the time of the study,  
 119 Harrison and Sidebottom (2008) identified that their next step was set to  
 120 validate critical domains to include structured diagnostic interviews to  
 121 assess prenatal risk components that mitigate them; social support being  
 122 one. Lancaster et al. (2010) review of 20 articles relating to social support

and depressive symptoms during pregnancy concluded that one of the most important risk factors of depression during pregnancy was lack of social support for mothers.

### **The Couple Relationship as Source of Social Support**

The transition to parenthood for couples is commonly linked to a decline in couple relationship satisfaction that shows up in a variety of ways such as reduced intimacy, increased conflict, reduced communication, and decreased perception of supportiveness (Bradbury & Karney, 2004; Halford et al., 2010; Nomaguchi & Milkie, 2003). Petch and Halford (2008) further postulate that the quality of partner relationship directly impacts the quality of care given to a baby post birth.

### **The Impacts of a Non-Supportive Couple Relationship During Pregnancy**

Pregnant women who report having a non-supportive partner relationship (denoted by not being close and having poor communication) have been found to be at greater risk of birthing a low birth weight baby (Mutale, Creed, Maresh, & Hunt, 1991). Birth weight has long been correlated with levels of prenatal stress (Cassel, 1976; Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993; Harrison & Sidebottom, 2008; Hoffman & Hatch, 1996) and more recently is considered to be one of the most important markers of health for a baby post-birth (Hussaini, Holley, & Ritenour, 2011). In the absence of a solid supportive relationship with the father of the pre-born, an expecting mother is vulnerable to the onset of mood disorders both during the pregnancy and postpartum (Cantwell & Smith, 2006; Giardinelli et al., 2012; Rubertsson, Waldenstrom, & Wickberg, 2003). Mehl-Madrona (2002) found an association between lack of partner support and increased obstetrical risks, with marital satisfaction linked to uncomplicated birth outcomes. Liamputton and Naksook (2003) report that women consider their partner's support to be important during the transition to motherhood.

Milgrom et al. (2008), in an Australia wide study encompassing 40,333 participants who self-reported on postnatal depression via the Edinburgh Postnatal Depression Scale (EPDS), found that low partner support during the prenatal period was a key predictor for postnatal depression (Milgrom et al., 2008; Leigh & Milgrom, 2008). The authors acknowledge that whilst self-reporting may have reduced validity, due to the large scale of the study conducting diagnostic interviewing was not practical. Rosand, Slinning, Eberhard-Gran, Roysamb and Tambs (2011) mother-child cohort study ( $n= 51,558$  mothers) measuring 37 risk factors on levels of emotional distress, found that relationship dissatisfaction is the strongest predictor of maternal emotional distress ( $\beta=0.25$ ;  $p<.001$ ). This finding is

168 consistent with existing literature when women's mental health during  
 169 pregnancy is considered (Morse, Buist, & Durkin, 2000). Causation could  
 170 not be determined as there was no way of knowing directionality, whether  
 171 relationship dissatisfaction causes emotional distress or vice versa  
 172 (Rosand et al., 2011). As with the Milgrom et al. (2008) study, the use of a  
 173 self-report measure whilst practical for such a large sample size, may have  
 174 the downside of reduced validity of findings. Rosand et al., (2011)  
 175 recommends that future PPN parenting programs extend beyond  
 176 traditional content that focus on birth, to include topics on ways to  
 177 strengthen the couple relationship. Kaye et al. (2014) concurs.

### 178 **Study Aims, Research Questions, and Hypotheses**

181 This study was exploratory in nature, where subjective experiences of  
 182 parents were elicited to further understand: (a) perceived benefits and  
 183 disadvantages or limitations from existing PPN parenting programs and  
 184 recommendations to improve them; (b) the challenges and stressors  
 185 mothers and fathers experience during pregnancy; and (c) the types of  
 186 coping strategies and support commonly utilized during pregnancy.

187 A qualitative research approach was utilized to allow for categories  
 188 relating to the PPN experience of mothers and fathers to emerge for  
 189 identification and further investigation. Five research questions were  
 190 posed.

- 191
- 192 – What types of PPN interventions do parents attend?
- 193 – What are the current strengths, gaps, and limitations in
- 194 intervention programs offering support to parents?
- 195 – Are there differences in stressors experienced during pregnancy
- 196 and beyond by mothers and fathers?
- 197 – Are there differences in coping strategies used and support
- 198 accessed through pregnancy and beyond by mothers and fathers?
- 199 – What are the differences in type of support accessed depending on
- 200 partner response to the pregnancy?
- 201

202 Five hypotheses relating to the research questions included that:

- 203
- 204 – More parents would attend PPN parenting programs that focus on
- 205 practical skills in preparation for labor and birth than programs
- 206 that focus on parenting spanning conception through to post-birth.
- 207 – More mothers would attend PPN parenting programs than
- 208 fathers. Mothers would identify more stressors relating to anxiety
- 209 about the safety and health of the baby, of being supported by
- 210 their partner, and of giving birth, whilst fathers would identify

more stressors relating to practical life aspects (e.g., financial stability) and role identity and transition.

- Men would use more problem-focused coping strategies, whilst women would use more emotion-focused coping strategies (those that aim to regulate emotional response; Huizink, Robles de Medina, Mulder, Visser, & Buitelaar, 2002b) during stressful times throughout a pregnancy. For those mothers who perceive their partner's response to their pregnancy to be negative, support types outside of the partner relationship would be accessed more so than for those whose partner had a positive response to the pregnancy.

The aim of this study was to extend the limited empirical base of the stressors and psychosocial outcomes that occur during pregnancy, the transition to parenthood, and the fourth trimester. Additionally, the information was gathered to gain understanding of the respondent's perceptions of what content future PPN parenting programs would need to include to be deemed beneficial.

## Method

Ethical approval was granted by Bond University Human Research Ethics Committee (BUHREC)—Application ID 15474 and data were collected between February and June 2016.

### Participants

A total of 61 respondents voluntarily participated in this study. Inclusion criteria to participate was that all participants needed to be currently pregnant (or, if male, have a partner expecting), or already have birthed one or more children; and English had to be their first language or they needed to be fluent at reading and writing English. The sample comprised of 54 females (88.5%) and 7 males (11.5%), aged between 19 and 65, ( $M = 38.98$ ,  $SD = 9.74$ ). Demographic characteristics of participants are reported in Table 1 (below).

Table 1

*Demographic Characteristics of Study 1 and Study 2 Participants*

| Variable                                    | n  | %     | M<br>(years) | SD<br>(years) | Range<br>(years) |
|---|----|-------|--------------|---------------|------------------|
| Age   |    |       | 38.98        | 9.74          | 19-65            |
| Gender                                      |    |       |              |               |                  |
| Female                                      | 54 | 88.5  |              |               |                  |
| Male  | 7  | 11.5  |              |               |                  |
| Nationality                                 |    |       |              |               |                  |
| American                                    | 23 | 37.7  |              |               |                  |
| Australian/NZ                               | 26 | 42.6  |              |               |                  |
| Canadian                                    | 2  | 3.3   |              |               |                  |
| European                                    | 6  | 9.8   |              |               |                  |
| Other                                       | 1  | 1.6   |              |               |                  |
| Relationship length                         | 61 | 100.0 | 5.61         | 2.14          | <1 to 20+        |
| Education level                             |    |       |              |               |                  |
| High school                                 | 13 | 21.3  |              |               |                  |
| Vocational                                  | 7  | 11.5  |              |               |                  |
| Diploma                                     | 18 | 29.5  |              |               |                  |
| Bachelor's degree                           | 18 | 29.5  |              |               |                  |
| Master's degree                             | 3  | 4.9   |              |               |                  |
| Doctoral                                    | 2  | 3.3   |              |               |                  |
| Pregnancy planned<br>and wanted (pl_wa)     |    |       |              |               |                  |
| Yes   | 46 | 75.4  |              |               |                  |
| No  | 15 | 24.6  |              |               |                  |
| Pregnancy unplanned<br>and wanted (unpl_wa) |    |       |              |               |                  |
| Yes   | 21 | 34.4  |              |               |                  |
| No  | 40 | 65.6  |              |               |                  |
| Pregnancy unwanted                          |    |       |              |               |                  |
| Yes   | 1  | 1.6   |              |               |                  |
| No  | 60 | 98.4  |              |               |                  |
| Pregnancy ambivalent                        |    |       |              |               |                  |
| Yes   | 57 | 93.4  |              |               |                  |
| No  | 4  | 6.6   |              |               |                  |
| Attended pregnancy<br>program               |    |       |              |               |                  |
| Yes   | 23 | 37.7  |              |               |                  |
| No  | 38 | 62.3  |              |               |                  |
| Currently pregnant                          | 3  | 4.9   |              |               |                  |
| Birthed 1+ children                         | 58 | 95.1  |              |               |                  |
| Partner response to<br>pregnancy            |    |       |              |               |                  |
| Positive                                    | 36 | 59.0  |              |               |                  |
| Mixed                                       | 15 | 24.6  |              |               |                  |
| Negative                                    | 9  | 14.8  |              |               |                  |



## Materials

A series of demographic questions plus qualitative open-ended questions under five subheadings (self-regulation, intentionality, co-regulation, bonding post-birth, and support) was completed by the respondents via the online survey program, Psychdata.

## Procedure

Respondents clicked on the link provided in the recruitment advertisements which guided them to the online survey titled, “Bonding and attachment between mom, dad, and baby during pregnancy and beyond” on Psychdata. Upon reading the explanatory statement respondents were asked to indicate their understanding and consent by checking “Y” before being granted access to the survey questions. Once consent had been given, respondents completed the demographic and open-ended questions that related to them.

## Results

### Qualitative Analysis

Braun and Clarke’s (2006) manual thematic analysis was undertaken to organize, analyze, and examine themes and trends from the information obtained in the open-ended question surveys. The sample size of 61 was deemed adequate to ensure patterns can emerge and reach saturation point (Bernard, 2000; Creswell, 1998; Guest, Bunce, & Johnson, 2006), yet not be too large for data management (Fugard & Potts, 2015). The data were analyzed to allow categories to emerge and Braun and Clarke’s (2006) five-step thematic analysis approach was diligently followed to ensure coding represented an accurate reflection of the subject’s intended meaning. Themes identified by the author were also confirmed by a second person, who is a professional researcher. The five steps followed for each open-ended question manual analyzed included:

- Familiarizing yourself with your data.
- Generating initial codes.
- Searching for themes.
- Reviewing themes.
- Defining and naming themes.

The online survey contained 19 questions pertaining to the topic of “support during pregnancy.” Five sub-sections emerged as a result of completing step one of the thematic analysis process, and are:

- 291
- 292       – How current pregnancy programs do not address support needs
- 293       during pregnancy.
- 294       – Things that create stress during pregnancy.
- 295       – Self-support (positive and negative strategies).
- 296       – Partner support.
- 297       – Wider support network.

298

299       Each was thematically analyzed separately and the outcomes are

300       reported below.

301

302       **How current pregnancy programs do not address support**

303       **needs during pregnancy.**

304

305       Of the 61 subjects, 23 (37.7%) subjects reported attending a program

306       where the focus was on pregnancy education; the remaining 38 (62.3%)

307       did not. The thematic analysis is based on the verbatim feedback of the 23

308       subjects (only one of whom was male, 2.63%). Three themes emerged when

309       asked about type of pregnancy program attended. They are:

- 310
- 311       – *Labor and Birth Related*: indicated by participants recording they
- 312       attended a program delivered by the hospital they birthed at.
- 313       Examples include: “antenatal classes for labor and birth,”
- 314       “Lamaze,” “childbirth.”
- 315       – *Post-Birth Related*: indicated by participants reporting that they
- 316       attended classes that specifically related to post birth skills.
- 317       Examples include: “breastfeeding,” “settling.”
- 318       – *Conscious Birthing*: indicated by participants recording they
- 319       attended classes to assist with natural birth. Examples include:
- 320       “hypnobirthing,” “yoga baby for labor and birth.”

321

322       Two themes became evident when asked about topics that were

323       perceived as useful and not useful, including:

- 324
- 325       – *Labor and Birth Related*: indicated by participants recording
- 326       topics relating to labor and birth. Examples include: “stages of
- 327       labor,” “watching videos of births,” “breathing through labor,”
- 328       “pain relief options.”

329

330       Respondents also provided clear feedback on what topics were not

331       useful. Examples include: “information was too generic and high level,”

332       “delivery was condescending,” “too much focus on invasive procedures,”

333       “too much emphasis in drug options,” “so much focus on what could go

334       wrong, it made me more anxious.”

- 335  
336 – *Post-Birth Related*: indicated by participants recording topics  
337 relating to post-birth. Examples include: “breastfeeding.”  
338

339 No feedback was provided regarding topics perceived as not useful  
340 with this theme.  
341

342 The one male reported attending prenatal classes and that he found  
343 “knowledge on pain relief options for my wife was helpful.”  
344

345 When asked to provide details on topics that would have been useful  
346 in PPN parenting programs, the same two themes emerged. Examples  
347 include:  
348

- 349 – *Labor and Birth Related*: “how to have a natural and drug-free  
350 birth at hospital,” “how to get what you need during labor and  
351 birth at a hospital.”  
352 – *Post-birth Related*: “attachment parenting,” “role of dad and how  
353 he can bond as he can’t breastfeed,” “bonding and attachment  
354 skills,” “how to stay connected as a couple,” “how to work as a  
355 team,” “how to communicate needs when they differ,” “emotional  
356 changes,” “sleep and soothing training,” “how to soothe baby.”  
357

358 The one male stated that he “wanted skills on how to work as a team  
359 with his wife and strengthen our relationship.”  
360

### 361 **Things that create stress during pregnancy.**

362 The resultant themes, which were consistent between females and  
363 males, were:  
364  
365

- 366 – *Fears*: indicated by subjects recording issues they were fearful of  
367 in relation to being pregnant and post birth. Examples include: “I  
368 would have a miscarriage,” “baby would have birth defects,”  
369 “terrified of labor,” “I’ll be a bad parent,” “I am unprepared,” “I’ll  
370 die in labor,” “I will get it wrong as a parent and make lots of  
371 mistakes.”  
372 – *Emotions*: indicated by participants responding that they had  
373 negative emotional responses when pregnant and/or post-birth.  
374 Examples include: “Intense negative emotions,” “mood swings,”  
375 “anxiety,” “depression,” “self-doubt,” “irrational thoughts,”  
376 “overwhelm.”  
377 – *Physical aspects*: indicated by participants responding they had  
378 physical responses that were challenging when pregnant and/or

- 379 post birth. Examples include: “body shape change,” “morning  
 380 sickness,” “back pain,” “sleep deprivation,” “fatigue,” “foggy  
 381 brain.”
- 382 – *Lack of support*: indicated by participants reporting they felt  
 383 unsupported during pregnancy and post-birth. Examples include:  
 384 “isolated,” “fighting in relationship,” “change in couple  
 385 relationship,” “partner does not understand emotional changes,”  
 386 “unsupportive family,” “lack of couple time/intimacy,” “bullying  
 387 doctors and nurses through labor and birth.”  
 388

### 389 **Self-support (positive and negative strategies).**

390  
 391 The resultant themes identified that participants reported choosing  
 392 the following strategies to mitigate stress, anxiousness, fear, and worry  
 393 during pregnancy were:  
 394

- 395 – *Mindful Activities*: indicated by participants or reported that they  
 396 were consciously choosing positive behaviors that increased  
 397 awareness of being in the present in the midst of the challenging  
 398 situation or thoughts. Examples include: “mantras,” “breathing  
 399 exercises,” “positive affirmations,” “journal,” “meditate,” “talk to  
 400 younger self,” “gratitude exercises,” “Emotion Focused Therapy”  
 401 (EFT).
- 402 – *Movement*: indicated by participants stating they were choosing  
 403 various forms of exercise. Examples include: “run,” “walk,” “yoga,”  
 404 “swim.”
- 405 – *Seeking Support*: indicated by participants recording they were  
 406 choosing to talk about and share their situation, feelings, and  
 407 thoughts with a variety of perceived people who are supportive.  
 408 Examples include: “partner,” “friends/family,” “Facebook,” “pets,”  
 409 “midwife, doula,” “professional counselor,” “helplines.”
- 410 – *Relaxation*: indicated by participants recording they were  
 411 choosing to engage in perceived calming activities. Examples  
 412 include: “massage,” “read,” “music,” “sleep,” “garden,” “nature,”  
 413 “sing,” “bath.”
- 414 – *Problem-Focused Strategies*: indicated by participants recording  
 415 they were choosing to adopt linear and rational processes.  
 416 Examples include: “logic,” “strategize and prioritize solution,”  
 417 “plan way out,” “internet research,” “internalize,” “action lists,”  
 418 “evaluate all factors.” *Dissociation Strategies*: indicated by  
 419 participants recording they were choosing to detach from the  
 420 immediate situation and thoughts/feelings about it. Examples  
 421 include: “overeat,” “sugar/carbs,” “alcohol,” “binge watch  
 422 television,” “cannabis, “over clean,” shop,” “bite nails.”

- 423  
424  
425  
426
- *Emotional Responses*: indicated by participants recording they were choosing to respond outwardly with emotions. Examples include: “cry,” “temper,” “tantrum.”

427  
428  
429

Of note, males did not record any verbatim comments that met the thematic coding for “mindfulness” or “relaxation.”

430  
431

### **Partner support.**

432  
433  
434  
435

Two aspects were thematically analyzed under “partner support.” The first was “perceived partner response to the pregnancy.” The resultant themes were three-fold and include:

- 436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449
- *Positive*: indicated by participants recording that their partner was absolutely in favor of the pregnancy when hearing about it. Examples included: “joy,” “thrilled,” “elated.”
  - *Mixed*: indicated by participants recording that their partner had a dichotomy of responses when hearing about the pregnancy. Examples include: “happy and nervous,” “excited and scared,” “he did not feel ready to have another child initially, but was happy about it after he had time to adjust.”
  - *Negative*: indicated by participants recording that their partner was absolutely not in favor of the pregnancy when hearing about it. Examples include: “didn’t want the baby and wanted me to have an abortion,” “scared,” “I don’t want a baby, what do you want to do?”

450  
451  
452  
453

The second aspect investigated pertained to ways respondents perceived that their partner was supportive during pregnancy. The emergent themes were:

- 454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466
- *Emotionally*: indicated by participants recording that their partner actively engaged in activities that were emotionally supportive. Examples include: “listened,” “humor,” “quality time,” “asked how I was feeling and what my needs were,” “talked about the life change together,” “shared appreciation,” “counseling,” “give each other time and space when needed,” “ask one another what we need,” “give each other positive feedback.”
  - *Affection*: indicated by participants recording that their partners engaged in physical touch and intimacy. Examples include: “massage,” “foot rubs,” “sex,” “rubbed stretch mark cream in,” “made sure I was comfortable as I got bigger,” “made love.”
  - *Practical Support*: indicated by participants reporting their partners took shared responsibility for day-to-day practical life

- 467 needs being met. Examples include: “cooking,” “shopping,”  
 468 “chores,” “provided financially,” “took care of the other kids,” “let  
 469 me sleep in/rest,” “tag team difficult times and situations.”
- 470 – *Taking a Genuine Interest in the Pregnancy*: indicated by  
 471 participants recording their partner was inclusive and took an  
 472 active interest. Examples include: “I gave him baby books,” “he  
 473 honored and protected my birth plan,” “watched birth videos,”  
 474 “pregnancy classes together,” “came to doctor’s appointments,”  
 475 “labor support,” “sharing what the baby was doing at different  
 476 stages.
  - 477 – *Not Supportive*: indicated by participants recording they did not  
 478 provide support for their partner or did not feel they were  
 479 supported. Examples include: “I shut my partner out,” “was all  
 480 about what he could do for me,” “I was selfish, it was about me as  
 481 I was pregnant,” “I was financially and socially isolated during  
 482 pregnancy,” “work is too busy,” “we grew apart,” “we lived our own  
 483 lives,” “nothing deliberate; went about our lives,” “we fight a lot,”  
 484 “we don’t have any connection,” “I have plenty of ideas but there  
 485 is no engagement from my partner.”  
 486

487 One interesting gender difference was of the 54 female participants,  
 488 30 (55.56%) reported not considering if their partner had specific needs  
 489 relating to the pregnancy or transition to parenthood, as it “was all about  
 490 them,” as they were pregnant. They further reported that it did not occur  
 491 to them to discover if their partner needed specific support during the  
 492 pregnancy and transition to parenthood. A further 22 female subjects  
 493 (40.74%) gave clear examples of being a support to their male partner  
 494 during the pregnancy and transition to parenthood, and the remaining  
 495 two (3.70%) did not make comment. All seven males provided clear  
 496 examples of support for their partner’s during pregnancy.  
 497

### 498 **Wider support network.**

499  
 500 The resultant themes that related to specific support mechanisms  
 501 (people, things, and practices) that participants reported having in their  
 502 life overall, included:  
 503

- 504 – *Spiritual Practice*: indicated by participants recording they found  
 505 a range of ritualized practices to be supportive. Examples include:  
 506 “mantras,” “church,” “positive affirmations,” “journal,” “meditate,”  
 507 “visualizations,” “spiritual teachings,” “prayer,” “EFT.”
- 508 – *Movement*: indicated by participants recording they found various  
 509 forms of exercise to be supportive. Examples include: “run,”  
 510 “walk,” “yoga,” “swim.”

- 511 – *Social Connection*: indicated by participants recording they had a  
512 wide array of people (other than partner) to be supportive.  
513 Examples include: “friends/family,” “Facebook,” “pets,” “doctor,”  
514 “online support groups,” “mom support groups,” “work colleagues,”  
515 “professional counsellor,” “in-laws.”
- 516 – *Self-Care*: indicated by participants recording that time to relax in  
517 a range of ways to be supportive. Examples include: “body work,”  
518 “read,” “music,” “sleep,” “time on own,” “nature,” “nutritious food,”  
519 “sing,” “bath.”
- 520 – *Problem-Focused Strategies*: indicated by participants recording  
521 they found structured activities to be supportive. Examples  
522 include: “to do lists,” “set routine,” “Apps to structure time,”  
523 “Google support groups available.”
- 524 – *Dissociation Strategies*: indicated by participants recording they  
525 found a range of activities that keep them distracted to be  
526 supportive. Examples include: “sugar,” “shop,” “cannabis.”  
527

528 Of note, none of the males included any verbatim comments that met  
529 the thematic coding for “spiritual practice,” “self-care,” or “dissociative  
530 strategies.”  
531

## 532 **Quantitative Data Analysis**

533  
534 The data were analyzed using IBM SPSS Statistics 24, and in all  
535 instances alpha levels of .001 and .05 were considered statistically  
536 significant. Chi-squared data analysis was used to ascertain if there was  
537 a significant difference in types of support accessed during a pregnancy  
538 (partner, friend, family, work colleagues, social connections, pet, nature,  
539 birthing team), depending on perception of their partner’s response to the  
540 pregnancy. All results were interpreted based on Pearson’s bivariate  
541 correlations. The size of the percentage differences across groups  
542 indicated the strength of the association between the independent and  
543 dependent variables.  
544

### 545 **Types of support accessed during pregnancy depending on** 546 **partner response.** 547

548 There were eight support types, analyzed as independent variables  
549 that respondents could identify as having accessed during pregnancy (see  
550 Table 2). Chi-square analysis revealed significant differences between  
551 respondents who did and those who did not identify accessing support  
552 from either a pet,  $\chi^2 (2) = 6.208, p < .05$ , or a birthing team (denoted by  
553 (OB/GYN), midwife, doula or a combination),  $\chi^2 (2) = 8.384, p < .05$ , based  
554 on perceived partner response to a pregnancy (dependent variable).

555 Specifically, 55.5% of those for whom their partner had a negative  
 556 response to a pregnancy, stated that they accessed a pet as a source of  
 557 support during pregnancy; compared to 38.9% whose partner response  
 558 was deemed to be positive, and 7.7% reported mixed responses. Caution  
 559 needs to be used when interpreting the negative response category due to  
 560 low power based on sample size, as there are only nine cases in total.  
 561 Interestingly, 92.3% of people who identified their partner's response was  
 562 mixed, did not access a pet as support.  
 563

Table 2

*Results of Chi-Square Tests with Descriptive Statistics for Type of Support Accessed during Pregnancy by Partner Response to the Pregnancy*

| Partner Response | Type of Support Accessed During Pregnancy |         |    |          |                     |          |    |          |          |         |    |          |                 |          |    |          |
|------------------|---|---------|----|----------|---------------------|----------|----|----------|----------|---------|----|----------|-----------------|----------|----|----------|
|                  | Partner                                   |         |    |          | At least one friend |          |    |          | Family   |         |    |          | Work colleagues |          |    |          |
|                  | Yes                                       | No      | df | $\chi^2$ | Yes                 | No       | df | $\chi^2$ | Yes      | No      | df | $\chi^2$ | Yes             | No       | df | $\chi^2$ |
| Positive         | 33(91.7)                                  | 3(8.3)  |    |          | 25(69.4)            | 11(30.6) |    |          | 29(80.6) | 7(17.4) |    |          | 9(25.0)         | 27(75.0) |    |          |
| Mixed            | 12(92.3)                                  | 1(7.7)  |    |          | 11(84.6)            | 2(15.4)  |    |          | 9(69.2)  | 4(30.8) |    |          | 3(23.1)         | 10(76.9) |    |          |
| Negative         | 6(66.7)                                   | 3(33.3) | 2  | 4.54     | 6(66.6)             | 3(33.3)  | 2  | 1.28     | 7(77.8)  | 2(22.2) | 2  | 0.71     | 3(33.3)         | 6(66.6)  | 2  | 0.33     |

564  
 565  
 566 With regards to a birthing team being accessed as support, 88.9% of  
 567 those who felt their partner had a negative response to pregnancy said yes  
 568 to utilizing a birth team as support. As eight out of the nine cases recorded  
 569 said "yes" to accessing a birth team as support, interpretation due to small  
 570 case size is not considered cautionary by the author. The occurrence of  
 571 those accessing a birth team (36.1%) versus those who did not (63.9%)  
 572 when partner response was positive is different, and this is not surprising.  
 573 When partner response to pregnancy was felt to be positive or mixed,  
 574 percentages of those who did access (36.1% and 38.5%), and did not access  
 575 a birth team as support, were equal (63.9% and 61.5%).

576 No significant differences were found for people accessing or not  
 577 accessing six of the eight support options based on partner response to  
 578 pregnancy (partner,  $\chi^2(2) = 4.453, p = .103$ , friend,  $\chi^2(2) = 1.277, p = .528$ ,  
 579 family,  $\chi^2(2) = .705, p = .703$ , work colleague,  $\chi^2(2) = .329, p = .849$ , social  
 580 connections,  $\chi^2(2) = 3.362, p = .186$ , and nature,  $\chi^2(2) = 1.922, p = .382$ ).

## 582 Discussion

583  
 584 The data were compared with current theory and literature, and each  
 585 of the six research questions with related hypotheses are discussed in  
 586 order.



587  
588 **Research Question One: What types of PPN interventions do**  
589 **parents attend?**  
590

591 The results show that 73.9% of the 23 parents attended classes that  
592 were “labor and birth related” (examples being “antenatal classes” and  
593 “Lamaze”). This is consistent with Hypothesis 1 where it was predicted  
594 that more parents would attend PPN interventions that focused on  
595 practical skills in preparation for labor and birth than programs that  
596 focused on parenting spanning conception through to post-birth. This  
597 emphasis of education programs focusing predominantly on labor, birth,  
598 and skills for how to care for baby post-birth is consistent with what is  
599 found in the literature (Pinquart & Teubert, 2010), and yet results of these  
600 type of programs do not correlate with strong improvements with  
601 parenting capability (Petch & Halford, 2008).

602 Hypothesis 2, which predicted more respondents who were mothers  
603 would attend PPN parenting interventions than respondents in the father  
604 role, was also supported, with only one of the 23 participants who reported  
605 attending a pregnancy class of some kind being male. This finding is  
606 consistent with previous research (Consonni et al., 2010; Glynn, Dunkel  
607 Schetter, Wadhwa, & Sandman, 2004; Hollins Martin & Robb, 2013).

608 One study that utilized semi-structured interviews with fathers,  
609 found that their lack of involvement centers around long work hours,  
610 inconvenience of having to travel to sessions (unless delivered close to  
611 home), as well as a preference for self-learning materials instead of classes  
612 (Simbar, Nahidi, Tehran, & Ramezankhani, 2010). Other reasons cited for  
613 lack of father involvement in prenatal sessions is a man not having a clear  
614 sense of their father role and they do not feel adequately supported by the  
615 community and health system (Kaye et al., 2014). It is important to be  
616 aware that whilst the results mirror the empirical trend, these findings  
617 need to be interpreted with caution as the findings have limited  
618 generalizability due to the lack of male respondents (despite the  
619 advertisements calling on all parents).

620  
621 **Research Question Two: What are the current strengths, gaps,**  
622 **and limitations in intervention programs offering support to**  
623 **parents?**  
624

625 Due to the exploratory nature of this research question, no hypothesis  
626 was formulated, as the raw, verbatim data were of interest. Respondents  
627 stated that when “labor and birth related” classes were attended, the  
628 areas where value was perceived included knowing about the “stages of  
629 labor,” “watching videos of birth,” and “how to breathe through labor.”  
630 However, limitations included perceptions that “information was too  
631 generic and high level,” “delivery was condescending,” “too much focus on

632 invasive procedures,” “too much emphasis in drug options,” “so much focus  
 633 on what could go wrong, it made me more anxious.” The one male who  
 634 attended prenatal classes reported that “knowledge on pain relief options  
 635 for my wife was helpful.” When giving feedback on “post-birth related”  
 636 sessions, responses only pertained to “breastfeeding” information being of  
 637 value. Hollins Martin and Robb (2013) advocate that programs that  
 638 provide pregnancy and birth related information that is practical and  
 639 sensible enables expecting women to navigate through any fears.  
 640 However, in the current study, verbatim comments indicated that content  
 641 may have invoked fear in some instances.

642 Gaps in knowledge presented in both “labor and birth related” and  
 643 “post-birth related” were shared, as opportunities for additions in future  
 644 PPN parenting programs. Examples include: “how to have a natural and  
 645 drug free birth at hospital,” “how to get what you need during labor and  
 646 birth at a hospital,” “attachment parenting,” “role of dad and how he can  
 647 bond as he can’t breastfeed,” “bonding and attachment skills,” “how to  
 648 stay connected as a couple,” “how to work as a team,” “how to  
 649 communicate needs when they differ,” “emotional changes,” “sleep and  
 650 soothing training,” “how to soothe baby.” The one male stated that he  
 651 “wanted skills on how to work as a team with his wife and strengthen  
 652 our relationship.”

653 There are a range of programs that include couple relationship  
 654 building skills as an important aspect during this transition time to  
 655 parenthood (Halford, et al., 2010; Nolan, 1997; Schultz, Cowan, &  
 656 Cowan, 2006), however results vary across gender with regards to any  
 657 improvements in aspects such as couple relationship quality,  
 658 satisfaction, and communication. There has been some discussion in the  
 659 literature that implementing programs during pregnancy and within the  
 660 first few months post-birth may not be an optimal time for enhancing a  
 661 couple’s relationship (Maldonado-Duran, Lartigue, & Feintuch, 2000;  
 662 Trillingsgaard, Baucom, Heyman, & Elklit, 2012).

663

664 **Research Question Three: Are their differences in stressors**  
 665 **experienced during pregnancy and beyond my mothers and**  
 666 **fathers?**

667

668 When considering stressors during pregnancy, Hypothesis 3 proposed that  
 669 mothers would identify more stressors relating to anxiety about the safety  
 670 and health of the baby, of being supported by their partner, and of giving  
 671 birth, whilst fathers would identify more stressors relating to practical life  
 672 aspects (e.g., financial stability), role identity, and transition. There were  
 673 no differences in findings between males and females across the four  
 674 themes that emerged. The themes were: (a) “fears” (e.g., “the baby will  
 675 have birth defects,” “I’ll be a bad parent”); (b) “emotions” (e.g., “self-doubt,”  
 676 “intense negative emotions”); (c) “physical aspects” (e.g., fatigue; women

677 did report “morning sickness” also); and (d) “lack of support” (e.g., “change  
678 in couple relationship,” “lack of intimacy”).

679 The results regarding mothers is in support of Hypothesis 3 and also  
680 consistent with other research, where women report that common  
681 stressors during pregnancy include: anxiety about the baby having an  
682 abnormality, lack of partner support, financial pressure, fear of giving  
683 birth, and fear of not bonding with their baby (Maldonado-Duran et al.,  
684 2000). The result pertaining to fathers is not in support of Hypothesis 3,  
685 which goes against findings in current literature, where it is common for  
686 fathers to feel a sense of pressure to explore opportunities to increase  
687 financial capability (Habib & Lancaster, 2006), and to experience stress  
688 about how to integrate their new identity as father (Heinowitz, 1995;  
689 Naziri & De Coster, 2006) is common. However, due to the small number  
690 of fathers who engaged in the study, it cannot be determined if the themes  
691 that emerged are representative of fathers in general.

692  
693 **Research Question Four: Are there differences in coping**  
694 **strategies used and support accessed through pregnancy and**  
695 **beyond by mothers and fathers?**  
696

697 The two constructs of coping strategies utilized and support accessed  
698 are discussed separately as different sets of themes emerged for each.  
699 Hypothesis 4 (that relates to coping strategies) stated that men would use  
700 more problem-focused coping strategies (i.e., planning), whilst women  
701 would use more emotion-focused coping strategies (those that aim to  
702 regulate emotional response such as “self-care,” “social connection,” and  
703 “spiritual practice” [Huizink et al., 2002b]) during stressful times  
704 throughout a pregnancy. This was partially supported in this study and is  
705 discussed below.

706 Coping strategies were explored through a series of questions that  
707 were collapsed across the title of “self-support,” and included the  
708 opportunity for responses to be captured that were both positive and  
709 negative in the context of managing stress, anxiousness, fear, and worry  
710 during pregnancy. Seven clear themes emerged, five of which were  
711 consistent between females and males. They were “movement” (e.g., “run,”  
712 “walk”), “seeking support” (e.g., partner,” “Facebook,” “pets”), “problem-  
713 focused strategies” (e.g., “action lists,” “plan way out,” “logic”),  
714 “dissociation strategies” (e.g., “overeat,” “alcohol,” “binge watch  
715 television”), and “emotional responses” (e.g., “cry,” “temper”).

716 The finding of no differences between genders for problem-focused  
717 strategies is not in support of Hypothesis 4, nor is it aligned with the  
718 literature which is discussed below. Females only recorded responses that  
719 aligned with the final two themes that emerged in the genre of emotion-  
720 focused coping strategies (Huizink et al., 2002b; Lazarus, 1999);  
721 “mindfulness” (e.g., “breathing exercises,” “journal”) and “relaxation” (e.g.,

722 “massage,” “garden,” “music”). This is in support of Hypothesis 4 that  
 723 predicted more women would utilize more emotional-response strategies  
 724 than men. Both emotion-focused strategies and problem-focused  
 725 strategies are commonly cited in the literature (Huizink et al., 2002b).  
 726 Whilst both types were consistently reported in this study across genders,  
 727 other researchers have found that problem-focused strategies are used in  
 728 general life contexts, and not reserved for the time of pregnancy (Carver,  
 729 Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984), and that more  
 730 men than women use them (Banyard & Graham-Bermann, 1993; Hobfoll,  
 731 Dunahoo, Ben-Porath, & Monnier, 1994). George et al. (2013) state that  
 732 “dissociation” and “emotional-response” strategies have been the “go to”  
 733 types for pregnant women during times of anxiety (e.g., distraction and  
 734 substance abuse), when compared to more adaptive options that reflect  
 735 this study’s themes of “problem-focused strategies,” “seeking support,”  
 736 and “mindfulness” (e.g., planning, support from others and acceptance).  
 737 These results highlighted the possible need of incorporating adaptive  
 738 coping skills as one aspect of content for mothers and fathers in future  
 739 PPN parenting programs.

740 The second part of research question four focused on types of support  
 741 commonly accessed by the respondents during the time of pregnancy and  
 742 in the first three months post-birth. This was of interest to determine  
 743 whether providing skills for resource building, along with access to  
 744 support networks would be a useful addition to a future PPN parenting  
 745 program. This was exploratory and the author wanted themes to naturally  
 746 emerge, so a hypothesis was not predetermined. Two sub-areas of focus  
 747 were evident for analysis. They were partner support and a wider support  
 748 network.

749 When partner as a support was considered across genders, the  
 750 emergent themes included “emotionally” (e.g., “ask one another what we  
 751 need”), “affection” (e.g., “foot rubs,” “sex”), “practical support” (e.g.,  
 752 “chores,” “provided financially”), “taking a genuine interest in the  
 753 pregnancy” (e.g., “watched birth videos,” “came to doctor’s appointments”),  
 754 and “not supportive” (e.g., “I was selfish, it was about me as I was  
 755 pregnant,” “we lived our own lives”).

756 The result regarding the theme of “not supportive” was interesting  
 757 with regards to the mothers’ perspective, and the author has not found  
 758 literature that has directly reported on the same finding. With 55.56%  
 759 ( $n=30$ ) of the mothers giving direct verbatim feedback that pertained to  
 760 pregnancy being a time that was “all about them,” it seems that little  
 761 awareness was given to considering that the father may require support  
 762 of some kind (e.g., “was all about what he could do for me”). It was stated  
 763 multiple times by the mothers’ that it did not occur to them to offer  
 764 support to their partner (e.g., “I was selfish; it was about me as I was  
 765 pregnant”). Research shows that PPN parenting interventions tend to  
 766 discuss ways how the father can support the mother exclusively (e.g.,

Hildingsson & Haggstrom, 1999; Mander, 2004; Plantin, Olukoya, & Ny, 2011), which may result in mothers not considering their partner's need of support. An opportunity exists for future PPN parenting interventions to consider the unique needs of both mothers and fathers equally, along with strategies on how identified needs can be met within the partner relationship.

In contrast, all of the fathers in the study gave clear examples of being supportive of their partner (e.g., "listening and taking action on her needs," "empathetic to her needs"). Nearly half (42.86%) of the fathers also identified that they felt left out during the time of pregnancy (e.g., "needed her to be more aware of my needs and wants/fears," "I was shut out," "it became all about her and the baby"). Women were able to identify also that their partner's felt left/out, with comments such as "he felt unwanted," "he didn't get any attention," "the expressed feeling last on the priority list." Fathers feeling left out is in alignment with past research findings (e.g., Hallgreen, Kihlgren, Forslin, & Norberg, 1999; Kaye et al., 2014).

When "wider support network" was examined, six themes emerged and are: "spiritual practice" (e.g., "mantras," "positive affirmations"), "movement" (e.g., "walk," "yoga"), "social connection" (e.g., "Facebook," "mom support groups"), "self-care" (e.g., "time on own," "bodywork"), "problem-focused strategies" (e.g., "set routine," "to-do lists"), "dissociation strategies" (e.g., "eat sugar," "shop"). When compared to existing literature, the inclusion of problem-focused (e.g., "logic," "planning") and emotion-focused (e.g., "spiritual practice," "self-care," "social connection") types of support strategies during pregnancy is consistent (Huizink, et al., 2002b; Lazarus, 1999). Of interest was that none of the fathers who responded identified with "spiritual practice," "dissociative strategies," or "self-care" as support options. Even with the small male sample size, it did raise the question as to why females only find these strategies to be of support. Current research has not investigated this specifically.

What the research does consistently show is that fathers typically feel under-supported during the time of pregnancy, and that a lack of support has negative implications on aspects such as self-confidence, role transition to fatherhood (Axness & Strauss, 2007; Habib & Lancaster, 2006), the quality of the couple relationship, the capacity for the man to support his partner emotionally (Heinowitz, 1995), and ability for the father to bond with the baby (Klaus & Kennell, 1982; World Health Organization (WHO), 2007).

### **Research Question Five: Are there differences in type of support accessed depending on partner response to the pregnancy?**

Chi-square analysis revealed that there are some differences in types of support accessed based on partners' response to the pregnancy. Of the

812 eight support types analyzed (see Table 2) there were significant  
 813 differences on two support types: pet ( $p<.05$ ) and birthing team (denoted  
 814 by OB/GYN, midwife, doula or a combination) ( $p<.05$ ), depending on  
 815 partner response, and this is consistent with Hypothesis 5.

816 Whilst over half of women who reported that their partner had a  
 817 negative response to a pregnancy identified that they accessed a pet as a  
 818 source of support, compared to 38.9% whose partner response was deemed  
 819 to be positive, caution is warranted based on small sample size ( $n=9$  across  
 820 all three categories for partner response). Whilst having an attachment to  
 821 a pet was found to be significantly correlated ( $p=.001$ ) with perceived  
 822 social support in a cohort of single mothers (Koontz, 2009); and engaging  
 823 in pet therapy as postnatal support being linked to lower levels of state  
 824 anxiety and depression ( $p<.0001$ ) (Lynch, et al., 2014), future research  
 825 could specifically examine the relationship between pet support and  
 826 negative partner response to a pregnancy.

827 Of particular interest was the finding that nearly 90% of those who  
 828 felt their partner had a negative response to pregnancy said “yes” to  
 829 utilizing a birth team as support, especially as 64% of women sharing they  
 830 did not when their partner’s response to pregnancy was positive. This  
 831 highlights the importance of learning more from mothers and birth  
 832 professionals about what is considered meaningful support during the  
 833 prenatal time.

834 A non-significant result when “family” as a category is considered ( $p$   
 835 = .703), is consistent with the literature (Buyukkayaci Duman & Kocak,  
 836 2013). However, those authors did find that women received social support  
 837 predominantly from partner and friends, which was not the case in this  
 838 study. Further, whilst no significant differences were found for  
 839 respondents across the other support options provided in the survey (see  
 840 Table 2), this may not be a cause for concern, as Brugha et al. (1998) found  
 841 that size of social support does not matter, rather it is more important to  
 842 be able to access support that can be relied upon when needed. In the case  
 843 of the current study, in the absence of a favorable partner response to  
 844 pregnancy, this included pets and birth team.

### 845 **Limitations of the Study Design and Questionnaire**

846  
 847  
 848 Firstly, by having a questionnaire available for online completion, the  
 849 depth of analysis was possibly inhibited. A greater richness to the data  
 850 may have been possible enabling a wider range of interpretation if  
 851 interviews or focus groups had been conducted. This has also been found  
 852 by others (Hollins Martin & Robb, 2013).

853 Second, the length of time in relationship with mother/father of the  
 854 child[ren] was asked as a demographic question. In reflection, this  
 855 question was incomplete. It is acknowledged that data analysis may have  
 856 been richer had the question been asked in the context of “at the time of

857 discovering the pregnancy.” This would have enabled a more targeted  
 858 exploration of the data pertaining to “partner response to the pregnancy,”  
 859 perception of “partner as a support,” “types of support accessed,” and  
 860 “stress during pregnancy,” to determine whether length of time in  
 861 relationship acts as a supportive factor during pregnancy. Additionally,  
 862 data based on this knowledge may assist in informing target market for  
 863 PPN parenting programs.

### 865 **Limitations of the quantitative analysis.**

866  
 867 Due to the low number of cases in some of the variables quantitatively  
 868 measured, the data set did not support multivariate analysis. As a  
 869 consequence, results could not be interpreted based on causation. If this  
 870 study was to be repeated, a larger sample size would be recruited. That  
 871 said, the data from this study was originally collected for thematic  
 872 analysis only, and when themes emerged that could legitimately be  
 873 converted for quantitative measurement (as they formed natural  
 874 categories, e.g., positive, mixed, and negative) it presented an opportunity  
 875 for exploration of the findings in the data.

876 Further, the minimal response by males to this study, whilst  
 877 congruent with what the literature finds (e.g., Consonni et al., 2010)  
 878 means that the thematic results may not be reflective of the general father  
 879 population. If this study was to be repeated, mothers and fathers would  
 880 be targeted separately in advertising campaigns for recruitment, instead  
 881 of advertising for “parents” to complete the study. The goal would be to  
 882 get an equal sample of mothers and fathers and then determine  
 883 proportions of who attend PPN parenting programs.

### 885 **Future Directions**

886  
 887 The study presented was the first of four in the author’s PhD program  
 888 of research designed to inform the development of future PPN parenting  
 889 programs for couples embarking on the journey into parenthood. Key  
 890 outcomes from this study (outlined below) assisted in the design of the  
 891 remaining three studies in the PhD program of research, as well as  
 892 informed some of the final recommendations proposed at the end of the  
 893 PhD program for the design, development and delivery of future PPN  
 894 parenting programs. Examples of key outcomes include:

- 895 – adaptive coping skills as one aspect of content for mothers and
- 896 fathers,
- 897 – education on natural and drug-free births and how to ask for it in
- 898 a hospital setting,
- 899 – how to be heard and respected to get your birth plan needs met in
- 900 a hospital setting,

- 901 – skills on how to soothe baby and sleep training,  
 902 – skills on attachment parenting,  
 903 – skills for how the father can bond with baby post-birth,  
 904 – skills for couple connection, communication, working together, the  
 905 need to learn more about factors that mitigate father involvement  
 906 in PPN parenting programs to date, and  
 907 – what support types are meaningful to fathers during the time of  
 908 pregnancy and post birth.  
 909  
 910  
 911

## 912 References

- 913  
 914 Axness, M., & Strauss, T. (2007). Inviting father's in: The tender beginnings of  
 915 attachment in men. *Wet Set Gazette*, 4, 13. Retrieved from  
 916 <http://www.fatherstobe.org/Inviting%20Fathers%20In%20Axness.pdf>  
 917 Banyard, V. L., & Graham-Bermann, S. A. (1993). A gender analysis of theories of  
 918 coping and stress. *Psychology of Women Quarterly*, 17(3), 303-318. doi:  
 919 10.1111/j.1471-6402.1993.tb00489.x  
 920 Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson, T. R. (2004).  
 921 Prevalence of depression during pregnancy: A systematic review. *Obstetrics &*  
 922 *Gynaecology*, 103(4), 698-709. doi: 10.1097/01.AOG.0000116689.75396.5f  
 923 Bernard, H. R. (2000). *Social research methods*. Thousand Oaks, CA: Sage.  
 924 Bradbury, T. N., & Karney, B. R. (2004). Understanding and altering the  
 925 longitudinal course of marriage. *Journal of Marriage and Family*, 66(4), 862-  
 926 879. doi: 10.1111/j.0022-2445.2004.00059.x  
 927 Braun, V., & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative*  
 928 *Research in Psychology*, 3(2), 77-101. doi: 10.1191/1478088706qp063oa  
 929 Brugha, T.S., Sharp, H.M., Cooper, S.A., Weisender, C., Britto, D., Shinkwin, R.,  
 930 ... Kirwan, P.H. (1998). The Leicester 500 Project: Social support and the  
 931 development of postnatal depressive symptoms, a prospective cohort survey.  
 932 *Psychological Medicine*, 28(1), 63-9. doi: 10.1017/S0033291797005655  
 933 Buyukkayaci Duman, N., & Kocak, C. (2013). The effect of social support on state  
 934 anxiety levels during pregnancy. *Social Behavior and Personality*, 41(7), 1153-  
 935 1164. doi: 10.2224/sbp.2013.41.7.1153  
 936 Cameron, R. P., Wells, J. D., & Hobfall, S. E. (1996). Stress, coping support and  
 937 coping in pregnancy: Taking gender and ethnicity into account. *Journal of*  
 938 *Health Psychology*, 1(2), 195-208. doi: 10.1177/135910539600100204  
 939 Cantwell, R., & Smith, S. (2006). Prediction and prevention of perinatal mental  
 940 illness. *Psychiatry*, 5(1), 15-21. doi: 10.1383/psyt.2006.5.1.15  
 941 Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping  
 942 strategies: A theoretically based approach. *Journal of Personality and Social*  
 943 *Psychology*, 56(2), 267-283. doi: 10.2307/351428  
 944 Cassel, J. C. (1976). The contribution of the social environment to host resistance.  
 945 *American Journal of Epidemiology*, 104(2), 107-123. doi: org/10.1093/  
 946 oxfordjournals.aje.a112281Cobb, S. (1976). Presidential address-1976: Social  
 947 support as a moderator of life stress. *Psychosomatic Medicine*, 38(5), 300-314.  
 948 Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/981490>



- 949 Collins, C. L., Dunkel-Schetter, C., Lobel, M., & Scrimshaw, S. C. (1993). Social  
950 support in pregnancy: Psychosocial correlates of birth outcomes and  
951 postpartum depression. *Journal of Personality and Social Psychology*, *65*(6),  
952 1243-1258. doi: 10.1037/0022-3514.65.6.1243
- 953 Consonni, E. B., Calderon, I. M. P., Consonni, M., De Conti, M., Prevedel, T. T. S.,  
954 & Rudge, M. V. C. (2010). A multidisciplinary program of preparation for  
955 childbirth and motherhood: Maternal anxiety and perinatal outcomes.  
956 *Reproductive Health*, *7*, 28-33. doi: 10.1186/1742-4755-7-28
- 957 Cowan, C. P., & Cowan, P. A. (2000). *When partners become parents*. New York,  
958 NY: Basic Books.
- 959 Creswell, J. (1998). *Qualitative inquiry and research design: Choosing among five*  
960 *traditions*. Thousand Oaks, CA: Sage.
- 961 Da Costa, D., Drista, M., Verreault, N., Balaa, C., Kudzman, J., & Khalife, S.  
962 (2010). Sleep problems and depressed mood negatively impact health-related  
963 quality of life during pregnancy. *Archives of Women's Mental Health*, *13*(3),  
964 249-257. doi: 10.1007/s00737-009-0104-3
- 965 Dunkel-Schetter, C., Sagrestano, L.M., Feldman, P., & Killingsworth, C. (1996).  
966 Social support and pregnancy. In G. R. Pierc, B. R. Sarason, & I. G. Sarason  
967 (Eds.), *Handbook of social support and the family* (pp. 375-412). New York,  
968 NY: Plenum Press.
- 969 Feinberg, M. E., Roettger, M. E., Jones, D. E., Paul, I. M., & Kan, M. L. (2015).  
970 Effects of a psychosocial couple-based prevention program on adverse birth  
971 outcomes. *Maternal and Child Health Journal*, *19*(1), 102-111. doi:  
972 10.1007/s10995-014-1500-5
- 973 Feldman, P. J., Dunkel-Schetter, C., Sandman, C. A., & Wadhwa, P. D. (2000).  
974 Maternal social support predicts birth weight and fetal growth in human  
975 pregnancy. *Psychosomatic Medicine*, *62*, 715-725. doi: 10.1097/00006842-  
976 200009000-00016
- 977 Fugard, A. J. B., & Potts, H. W. W. (2015). Supporting thinking on sample sizes  
978 for thematic analyses: A quantitative tool. *International Journal of Social*  
979 *Research Methodology*, *18*(6), 669-684. doi: 10.1080/13645579.2015.1005453
- 980 George, A., Luz, R. F., De Tychev, C., Thilly, N., & Spitz, E. (2013). Anxiety  
981 symptoms and coping strategies in the perinatal period. *BMC Pregnancy and*  
982 *Childbirth*, *13*, 233-239. doi: 10.1186/1471-2393-13-233
- 983 Giardinelli, L., Innocenti, A., Benni, L., Stefanini, M. C., Lino, G., Lunardi, C., ...  
984 Faravelli, C. (2012). Depression and anxiety in perinatal period: Prevalence  
985 and risk factors in an Italian sample. *Archives of Women's Mental Health*,  
986 *15*(1), 21-30. doi: 10.1007/s00737-011-0249-8
- 987 Glover, V., & Sutton, C. (2012). Support from the start: Effective programmes in  
988 pregnancy. *Journal of Children's Services*, *7*(1), 8-17. doi:  
989 10.1108/17466661211213634
- 990 Glynn, L. M., Dunkel Schetter, C., Wadhwa, P. D., & Sandman, C. A. (2004).  
991 Pregnancy affects appraisal of negative life events. *Journal of Psychosomatic*  
992 *Research*, *56*, 47-52. doi: 10.1016/s0022-3999(03)00133-8
- 993 Gottman, J.M., Driver, J., & Tabares, A. (2002). Building the sound marital house:  
994 An empirically-derived couple therapy. In: A. S. Gurman, N. S. & Jacobson  
995 (Eds.), *Clinical handbook of couple therapy* (3<sup>rd</sup> ed.)(pp. 569-593). New York,  
996 NY: Guilford Press.

- 997 Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An  
 998 experiment with data saturation and variability. *Field Methods, 18*(1), 59-82.  
 999 doi: 10.1177/1525822X05279903
- 1000 Habib, C., & Lancaster, S. (2006). The transition to fatherhood: Identity and bonding in  
 1001 early pregnancy. *Fathering, 4*(3), 235-253. doi:10.3149/fth.0403.235
- 1002 Halford, W. K., Petch, J., & Creedy, D. K. (2010). Promoting a positive transition  
 1003 to parenthood: A randomized clinical trial of couple relationship education.  
 1004 *Prevention Science, 11*, 89-100. doi: 10.1007/s11121-009-0152-y'
- 1005 Hallgreen, A., Kihlgren, M., Forslin, L., & Norberg, A. (1999). Swedish fathers'  
 1006 involvement in and experiences of childbirth preparation and childbirth.  
 1007 *Midwifery, 15*(1), 6-15. doi: 10.1016/S0266-6138(99)90032-3
- 1008 Harrison, P. A., & Sidebottom, A. C. (2008). Systematic prenatal screening for  
 1009 psychosocial risks. *Journal of Health Care for the Poor and Underserved, 19*,  
 1010 258-276. doi: 10.1353/hpv.2008.0003
- 1011 Heinowitz, J. (1995). *Pregnant fathers: Entering parenthood together*. San Diego,  
 1012 CA: Parents as Partners Press.
- 1013 Hildingsson, I., & Haggstrom, T. (1999). Midwives' lived experiences of being  
 1014 supportive to prospective mothers/parents during pregnancy. *Midwifery, 15*(2),  
 1015 82-91. doi:10.1016/S0266-6138(99)90003-7
- 1016 Hobfall, S. E., Dunahoo, C. L., Ben-Porath, Y., & Monnier, J. (1994). Gender and  
 1017 coping: The dual-axis model of coping. *American Journal of Community*  
 1018 *Psychology, 22*(1), 49-82. doi: 10.1007/BF02506817Hoffman, S., & Hatch, M.  
 1019 C. (1996). Stress, social support and pregnancy outcome: A reassessment  
 1020 based on recent reseach. *Paediatric and Perinatal Epidemiology, 10*(4), 380-  
 1021 405. doi: 10.1111/j.1365-3016.1996.tb00063.x
- 1022 Hollins Martin, C. J., & Robb, Y. (2013). Women's views about the importance of  
 1023 education in preparation for childbirth. *Nurse Education in Practice, 13*, 512-  
 1024 518. doi: 10.1016/j.nepr.2013.02.013
- 1025 Huizink, A. C., Robles de Medina, P. G., Mulder, E. J. H., Visser, G. H. A., &  
 1026 Buitelaar, J. K. (2002a). Psychological measures of prenatal stress as  
 1027 predictors of infant temperament. *Journal of the American Academy of*  
 1028 *Adolescent Psychiatry, 41*(9), 1078-1085. doi: 10.1097/00004583-200209000-00008
- 1029 Huizink, A. C., Robles de Medina, P. G., Mulder, E. J. H., Visser, G. H. A., &  
 1030 Buitelaar, J. K. (2002b). Coping in normal pregnancy. *Annals of Behavioral*  
 1031 *Medicine, 24*(2), 132-140. doi: 10.1207/S15324796ABM2402\_10Huizink, A. C.,  
 1032 Robles de Medina, P. G., Mulder, E. J. H., Visser, G. H. A., & Buitelaar, J. K.  
 1033 (2003). Stress during pregnancy is associated with developmental outcome in  
 1034 infancy. *Journal of Child Psychology and Psychiatry, 44*, 810-818. doi:  
 1035 [apa.org/journals/dev/21/6/1152.pdf](http://apa.org/journals/dev/21/6/1152.pdf)
- 1036 Hussaini, S. K., Holley, P., & Ritenour, D. (2011). Reducing low birth weight  
 1037 infancy: Assessing the effectiveness of the Health Start Program in Arizona.  
 1038 *Maternal and Child Health Journal, 15*(2), 225-233. doi: 10.1007/s10995-009-0556-0
- 1039 Kalil, K. M., Gruber, J. E., Conley, J., & Sytniac, M. (1993). Social and family  
 1040 pressures on anxiety and stress during pregnancy. *Journal of Prenatal and*  
 1041 *Perinatal Psychology and Health, 8*(2), 113-118. Retrieved from  
 1042 [https://birthpsychology.com/journals/volume-8-issue-2/social-and-family-](https://birthpsychology.com/journals/volume-8-issue-2/social-and-family-pressures-anxiety-and-stress-during-pregnancy)  
 1043 [pressures-anxiety-and-stress-during-pregnancy](https://birthpsychology.com/journals/volume-8-issue-2/social-and-family-pressures-anxiety-and-stress-during-pregnancy)
- 1044 Kaye, D. K., Othman, K., Nakimuli, A., Osinde, M. O., Mbainda, S. N., & Kakande,  
 1045 N. (2014). Male involvement during pregnancy and childbirth: Men's  
 1046 perceptions, practices and experiences during the care for women who

- developed childbirth complications in Mulago Hospital, Uganda. *BioMedCentral Pregnancy and Childbirth*, 14, 54-62. doi: 10.1186/1471-2393-14-54
- Klaus, M. H., & Kennell, J. H. (1982). *Parent-infant bonding* (2<sup>nd</sup> ed.). St. Louis, MI: Mosby Company.
- Koontz, J. L. (2009). *Stress, social support, health and human-animal bond in single mothers* (Unpublished doctoral thesis), Northcentral University, Arizona, USA.
- Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors for depressive symptoms during pregnancy: A systematic review. *American Journal of Obstetrics & Gynecology*, 202(1), 5-14. doi: 10.1016/j.ajog.2009.09.007
- Lazarus, R. S. (1999). *Stress and emotion: A new synthesis*. New York, NY: Springer.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Leigh, B., & Milgrom, J. (2008). Risk factors for antenatal depression, postnatal depression and parenting stress. *BioMed Central Psychiatry*, 8, 24-35. doi: 10.1186/1471-244X-8-24
- Liamputton, P., & Naksook, C. (2003). Perceptions and experiences of motherhood, health and the husbands role among Thai women in Australia. *Midwifery*, 19(1), 27-36. doi: 10.1054/midw.2002.0333
- Lu, L. (2006). The transition to parenthood: Stress, resources, and gender differences in a Chinese society. *Journal of Community Psychology*, 34(4), 471-488. doi: 10.1002/jcop.20110
- Maldonado-Duran, J. M., Lartigue, T., & Feintuch, M. (2000). Perinatal psychiatry: Infant mental health interventions during pregnancy. *Bulletin of the Menninger Clinic*, 64(3), 317-343. Retrieved from <https://search.proquest.com/openview/5ea45be443ac1e94b9b6cb4cf7a2d6a9/1?pq-origsite=gscholar&cbl=1818298>
- Mander, R. (2004). *Men and maternity*. New York, NY: Routledge.
- Mehl-Madrona, L. E. (2002). Psychosocial variables predict complicated birth. *Journal of Prenatal and Perinatal Psychology and Health*, 17(1), 3-28. Retrieved from <https://birthpsychology.com/journals/volume-17-issue-1/psychosocial-variables-predict-complicated-birth>
- Milgrom, J., Gemmill, A. W., Bilszta, J. L., Hayes, B., Barnett, B., Brooks, J., ... Buist, A. (2008). Antenatal risk factors for postnatal depression: A large prospective study. *Journal of Affective Disorders*, 108(1-2), 147-157. doi: 10.1016/j.jad.2007.10.014
- Morse, C. A., Buist, A., & Durkin, S. (2000). First-time parenthood: Influences on pre and postnatal adjustment in fathers and mothers. *Journal of Psychosomatic Obstetrics & Gynecology*, 21(2), 109-120. doi:10.3109/01674820009075616
- Mutale, T., Creed, F., Maresh, M., & Hunt, L. P. (1991). Life events and low birth weight: Analysis by infants preterm and small for gestational age. *British Journal of Obstetrics and Gynaecology*, 98(2), 166-172. doi: 10.1111/j.1471-0528.1991.tb13363.x
- Nazari, D., & De Coster, L. (2006). The experience of perinatal parenthood and the construction of paternal identity. *Journal of Prenatal and Perinatal Psychology and Health*, 20(3), 263-280. Retrieved from <https://birthpsychology.com/journals/volume-20-issue-3/experience-perinatal-parenthood-and-construction-paternal-identity>
- Nolan, M. L. (1997). Antenatal education: What next? *Journal of Advanced Nursing*, 25, 1198-1204. doi: 10.1046/j.1365-2648.1997.19970251198.x

- 1096 Nomaguchi, K. M., & Milkie, M. A. (2003). Costs and rewards of children: The  
 1097 effects of becoming a parent on adults' lives. *Journal of Marriage and Family*,  
 1098 65(2), 356-374. doi: 10.1111/j.1741-3737.2003.00356.x
- 1099 O'Donnell, K. J., Bugge Jensen, A., Freeman, L., Khalife, N., O'Connor, T. G., &  
 1100 Glover, V. (2012). Maternal prenatal anxiety and downregulation of  
 1101 placental 11β-HSD2. *Psychoneuroendocrinology*, 37(6), 818-826.  
 1102 doi:10.1016/j.psyneuen.2011.09.014
- 1103 Pawlby, S., Hay, D., Sharp, D., Waters, C. S., & Pariante, C. M. (2011). Antenatal  
 1104 depression and offspring psychopathology: The influence of childhood  
 1105 maltreatment. *The British Journal of Psychiatry: The Journal of Mental  
 1106 Science*, 199(2), 106-112. doi:10.1192/bjp.bp.110.087734
- 1107 Petch, J., & Halford, W. K. (2008). Psycho-education to enhance couples' transition  
 1108 to parenthood. *Clinical Psychology Review*, 28(7), 1125-1137. doi:  
 1109 10.1016/j.cpr.2008.03.005
- 1110 Pinquart, M., & Teubert, D. (2010). A meta-analytic study of couple interventions  
 1111 during the transition to parenthood. *Family Relations*, 59(3), 221-231.  
 1112 doi:10.1111/j.1741-3729.2010.00597.x
- 1113 Plantin, L., Olukoya, A. A., & Ny, P. (2011). Positive health outcomes of fathers'  
 1114 involvement in pregnancy and childbirth paternal support: A scope study  
 1115 literature review. *Fathering*, 9(1), 87-102. doi:10.3149/ft.0901.87
- 1116 Rodrigo, M. J., Almeida, A., & Reichle, B. (2016). Evidence-based parent education  
 1117 programs: A European perspective. In J. J. Ponzetti, Jr. (Ed.), *Evidence-based  
 1118 parenting education: A global perspective* (pp. 85-104). New York: NY, Routledge.
- 1119 Rosand, G. B., Slinning, K., Eberhard-Gran, M., Roysamb, E., & Tambs, K. (2011).  
 1120 Partner relationship satisfaction and maternal emotional distress in early  
 1121 pregnancy. *BMC Public Health*, 11, 161-173. doi: 10.1186/1471-2458-11-161
- 1122 Rubertsson, C., Waldenstrom, U., & Wickberg, B. (2003). Depressive mood in early  
 1123 pregnancy: Prevalence and women at risk in a national Swedish sample.  
 1124 *Journal of Reproductive and Infant Psychology*, 21(2), 113-123. doi:  
 1125 10.1080/0264683031000124073
- 1126 Sable, M. R., Stockbauer, J., Schramm, W. F., & Land, G. H. (1990).  
 1127 Differentiating the barriers to adequate prenatal care in Missouri, 1987- 88.  
 1128 *Public Health Reports*, 105(6), 549-555. Retrieved from  
 1129 <https://www.ncbi.nlm.nih.gov/pubmed/2124354>
- 1130 Salihu, H., August, E., Mbah, A., Alio, A., Berry, E., & Aliyu, M. (2014). Impact of  
 1131 a federal healthy start program on fetoinfant morbidity associated with  
 1132 absent fathers: A quasi-experimental study. *Maternal and Child Health  
 1133 Journal*, 18(9), 2054-2060. doi:10.1007/s10995-014-1451-x
- 1134 Salmela-Aro, K., Aunola, K., Saisto, T., Halmesmaki, E., & Nurmi, J. (2006).  
 1135 Couples share similar changes in depressive symptoms and marital  
 1136 satisfaction anticipating the birth of a child. *Journal of Social and Personal  
 1137 Relationships*, 23(5), 781-803. doi: 10.1177/0265407506068263
- 1138 Schultz, M. S., Cowan, C. P., & Cowan, P. A. (2006). Promoting healthy beginnings: A  
 1139 randomised controlled trial of a preventive intervention to preserve marital  
 1140 quality during the transition to parenthood. *Journal of Consulting and Clinical  
 1141 Psychology*, 74(1), 20-31. doi: 10.1037/0022-006X.74.1.20. 20
- 1142 Simbar, M., Nahidi, F., Tehran, F. R., & Ramezankhani, A. (2010). Fathers'  
 1143 educational needs for perinatal care in urban Iran: A qualitative approach.  
 1144 *Journal of Biosocial Science*, 42(5), 633-641. doi:  
 1145 10.1017/s00219320010000167

- 146 Sosa, R., Kennell, J., Klaus, M., Robertson, S., & Urrutia, J. (1980). The effect of a  
147 supportive companion on perinatal problems, length of labor, and mother-  
148 infant interaction. *The New England Journal of Medicine*, 303(11), 597-600.  
149 doi: 10.1056/NEJM198009113031101
- 150 Trillingsgaard, T., Baucom, K. J. W., Heyman, R. E., & Elklit, A. (2012).  
151 Relationship interventions during the transition to parenthood: Issues of  
152 timing and efficacy. *Family Relations*, 61(5), 770-783. doi: 10.1111/j.1741-  
153 3729.2012.00730.x
- 154 Wahn, E., & Nissen, E. (2008). Sociodemographic background, lifestyle and  
155 psychosocial conditions of Swedish teenage mothers and their perception of  
156 health and social support during pregnancy and childbirth. *Scandinavian*  
157 *Journal of Public Health*, 36(4), 415-423. doi:10.1177/1403494807085315
- 158 World Health Organization (WHO). (2007). *Fatherhood and health outcomes in*  
159 *Europe*. Copenhagen, Denmark: WHO.
- 160 Zambrana, R. E., Dunkel-Schetter, C., & Scrimshaw, S. (1991). Factors which  
161 influence use of prenatal care in low-income racial-ethnic women in Los  
162 Angeles County. *Journal of Community Health*, 16(5), 283-295. doi:  
163 10.1007/BF01320336  
164