

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

Christine McKee, Peta Stapleton, Aileen Pidgeon

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

**Keywords:** pre- and perinatal psychology, pre- and perinatal parenting education, pre- and perinatal parenting programs, prenatal support, pregnancy, parenting

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**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 Programming. **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)

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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 continents, 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). This is 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

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

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

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

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

Research was conducted in Minneapolis, Minnesota, USA between 2005 and 2007. It explored prevalence and intercorrelations of psychosocial risks during the prenatal time. Of the 1,386 prenatal patients recruited from four community health centres, 75% reported having a lack of social support (Harrison & Sidebottom, 2008). This translated to circumstances where expecting mothers reported having no one to count on in times of need, and for those who did have a partner there was reported unhappiness with the communication and support within the relationship. Post-birth results indicate higher rates of depression in mothers, which has a negative impact on postpartum bonding and low birth weight babies (Harrison & Sidebottom, 2008). The results from this study may not be generalizable across populations as all respondents were from one city and were from a low income cohort. Further, the data was self-reported by respondents which may impact the validity of the findings. At the time of the study, Harrison and Sidebottom (2008) identified that their next step was set to validate critical domains to include structured diagnostic interviews to assess prenatal risk components that mitigate them; social support being 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 consistent with existing literature when women's mental health during pregnancy is considered (Morse, Buist, & Durkin, 2000). Causation could not be determined as there was no way of knowing directionality, whether relationship dissatisfaction causes emotional distress or vice versa (Rosand et al., 2011). As with the Milgrom et al. (2008) study, the use of a self-report measure whilst practical for such a large sample size, may have the downside of reduced validity of findings. Rosand et al., (2011) recommends that future PPN parenting programs extend beyond traditional content that focus on birth, to include topics on ways to strengthen the couple relationship. Kaye et al. (2014) concurs.

### Study Aims, Research Questions, and Hypotheses

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

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

- What types of PPN interventions do parents attend?
- What are the current strengths, gaps, and limitations in intervention programs offering support to parents?
- Are there differences in stressors experienced during pregnancy and beyond by mothers and fathers?
- Are there differences in coping strategies used and support accessed through pregnancy and beyond by mothers and fathers?
- What are the differences in type of support accessed depending on partner response to the pregnancy?

Five hypotheses relating to the research questions included that:

- More parents would attend PPN parenting programs that focus on practical skills in preparation for labor and birth than programs that focus on parenting spanning conception through to post-birth.
- More mothers would attend PPN parenting programs than fathers. Mothers would identify more stressors relating to anxiety about the safety and health of the baby, of being supported by 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 (years)	SD (years)	Range (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 and wanted (pl_wa)					
Yes	46	75.4			
No	15	24.6			
Pregnancy unplanned 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 program					
Yes	23	37.7			
No	38	62.3			
Currently pregnant	3	4.9			
Birthed 1+ children	58	95.1			
Partner response to 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:



- How current pregnancy programs do not address support needs during pregnancy.
- Things that create stress during pregnancy.
- Self-support (positive and negative strategies).
- Partner support.
- Wider support network.

Each was thematically analyzed separately and the outcomes are reported below.

### **How current pregnancy programs do not address support needs during pregnancy.**

Of the 61 subjects, 23 (37.7%) subjects reported attending a program where the focus was on pregnancy education; the remaining 38 (62.3%) did not. The thematic analysis is based on the verbatim feedback of the 23 subjects (only one of whom was male, 2.63%). Three themes emerged when asked about type of pregnancy program attended. They are:

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

Two themes became evident when asked about topics that were perceived as useful and not useful, including:

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

Respondents also provided clear feedback on what topics were not useful. Examples include: “information was too generic and high level,” “delivery was condescending,” “too much focus on invasive procedures,” “too much emphasis in drug options,” “so much focus on what could go wrong, it made me more anxious.”

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

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

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

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

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

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

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

The resultant themes, which were consistent between females and males, were:

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

post birth. Examples include: “body shape change,” “morning sickness,” “back pain,” “sleep deprivation,” “fatigue,” “foggy brain.”

- *Lack of support*: indicated by participants reporting they felt unsupported during pregnancy and post-birth. Examples include: “isolated,” “fighting in relationship,” “change in couple relationship,” “partner does not understand emotional changes,” “unsupportive family,” “lack of couple time/intimacy,” “bullying doctors and nurses through labor and birth.”

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

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

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

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

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

### **Partner support.**

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:

- *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?”

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

- *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

needs being met. Examples include: “cooking,” “shopping,” “chores,” “provided financially,” “took care of the other kids,” “let me sleep in/rest,” “tag team difficult times and situations.”

- *Taking a Genuine Interest in the Pregnancy*: indicated by participants recording their partner was inclusive and took an active interest. Examples include: “I gave him baby books,” “he honored and protected my birth plan,” “watched birth videos,” “pregnancy classes together,” “came to doctor’s appointments,” “labor support,” “sharing what the baby was doing at different stages.
- *Not Supportive*: indicated by participants recording they did not provide support for their partner or did not feel they were supported. Examples include: “I shut my partner out,” “was all about what he could do for me,” “I was selfish, it was about me as I was pregnant,” “I was financially and socially isolated during pregnancy,” “work is too busy,” “we grew apart,” “we lived our own lives,” “nothing deliberate; went about our lives,” “we fight a lot,” “we don’t have any connection,” “I have plenty of ideas but there is no engagement from my partner.”

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

### **Wider support network.**

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

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

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

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

## **Quantitative Data Analysis**

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

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

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

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

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

Table 2

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

Partner Response	Type of Support Accessed During Pregnancy															
	Social connections				Pet				Nature				Birthing Team			
	Yes	No	df	$\chi^2$	Yes	No	df	$\chi^2$	Yes	No	df	$\chi^2$	Yes	No	df	$\chi^2$
Positive	13(36.1)	23(63.9)			14(38.9)	22(61.1)			8(22.2)	28(77.8)			13(36.1)	23(63.9)		
Mixed	4(30.8)	9(69.2)			1(7.7)	12(92.3)			3(23.1)	10(76.9)			5(38.5)	8(61.5)		
Negative	6(66.7)	3(33.3)	2	3.36	5(55.6)	4(44.4)	2	6.21*	4(44.4)	5(55.6)	2	1.92	8(88.9)	1(11.1)	2	8.38*

*Note:* Number in parentheses indicates column percentages

\* $p < .05$

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

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

### **Discussion**

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

#### **Research Question One: What types of PPN interventions do parents attend?**

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

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

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



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

Due to the exploratory nature of this research question, no hypothesis was formulated, as the raw, verbatim data were of interest. Respondents stated that when “labor and birth related” classes were attended, the areas where value was perceived included knowing about the “stages of labor,” “watching videos of birth,” and “how to breathe through labor.” However, limitations included perceptions that “information was too generic and high level,” “delivery was condescending,” “too much focus on invasive procedures,” “too much emphasis in drug options,” “so much focus on what could go wrong, it made me more anxious.” The one male who attended prenatal classes reported that “knowledge on pain relief options for my wife was helpful.” When giving feedback on “post-birth related” sessions, responses only pertained to “breastfeeding” information being of value. Hollins Martin and Robb (2013) advocate that programs that provide pregnancy and birth related information that is practical and sensible enables expecting women to navigate through any fears. However, in the current study, verbatim comments indicated that content may have invoked fear in some instances.

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

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

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

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

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

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

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

Coping strategies were explored through a series of questions that were collapsed across the title of “self-support,” and included the opportunity for responses to be captured that were both positive and

negative in the context of managing stress, anxiousness, fear, and worry during pregnancy. Seven clear themes emerged, five of which were consistent between females and males. They were “movement” (e.g., “run,” “walk”), “seeking support” (e.g., partner,” “Facebook,” “pets”), “problem-focused strategies” (e.g., “action lists,” “plan way out,” “logic”), “dissociation strategies” (e.g., “overeat,” “alcohol,” “binge watch television”), and “emotional responses” (e.g., “cry,” “temper”).

The finding of no differences between genders for problem-focused strategies is not in support of Hypothesis 4, nor is it aligned with the literature which is discussed below. Females only recorded responses that aligned with the final two themes that emerged in the genre of emotion-focused coping strategies (Huizink et al., 2002b; Lazarus, 1999); “mindfulness” (e.g., “breathing exercises,” “journal”) and “relaxation” (e.g., “massage,” “garden,” “music”). This is in support of Hypothesis 4 that predicted more women would utilize more emotional-response strategies than men. Both emotion-focused strategies and problem-focused strategies are commonly cited in the literature (Huizink et al., 2002b). Whilst both types were consistently reported in this study across genders, other researchers have found that problem-focused strategies are used in general life contexts, and not reserved for the time of pregnancy (Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984), and that more men than women use them (Banyard & Graham-Bermann, 1993; Hobfoll, Dunahoo, Ben-Porath, & Monnier, 1994). George et al. (2013) state that “dissociation” and “emotional-response” strategies have been the “go to” types for pregnant women during times of anxiety (e.g., distraction and substance abuse), when compared to more adaptive options that reflect this study’s themes of “problem-focused strategies,” “seeking support,” and “mindfulness” (e.g., planning, support from others and acceptance). These results highlighted the possible need of incorporating adaptive coping skills as one aspect of content for mothers and fathers in future PPN parenting programs.

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

When partner as a support was considered across genders, the emergent themes included “emotionally” (e.g., “ask one another what we need”), “affection” (e.g., “foot rubs,” “sex”), “practical support” (e.g., “chores,” “provided financially”), “taking a genuine interest in the pregnancy” (e.g., “watched birth videos,” “came to doctor’s appointments”),

and “not supportive” (e.g., “I was selfish, it was about me as I was pregnant,” “we lived our own lives”).

The result regarding the theme of “not supportive” was interesting with regards to the mothers’ perspective, and the author has not found literature that has directly reported on the same finding. With 55.56% ( $n=30$ ) of the mothers giving direct verbatim feedback that pertained to pregnancy being a time that was “all about them,” it seems that little awareness was given to considering that the father may require support of some kind (e.g., “was all about what he could do for me”). It was stated multiple times by the mothers’ that it did not occur to them to offer support to their partner (e.g., “I was selfish; it was about me as I was pregnant”). Research shows that PPN parenting programs tend to 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 programs 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 eight support types analyzed (see Table 2) there were significant differences on two support types: pet ( $p < .05$ ) and birthing team (denoted by OB/GYN, midwife, doula or a combination) ( $p < .05$ ), depending on partner response, and this is consistent with Hypothesis 5.

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

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

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

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

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

Second, the length of time in relationship with mother/father of the child[ren] was asked as a demographic question. In reflection, this question was incomplete. It is acknowledged that data analysis may have been richer had the question been asked in the context of “at the time of discovering the pregnancy.” This would have enabled a more targeted exploration of the data pertaining to “partner response to the pregnancy,” perception of “partner as a support,” “types of support accessed,” and “stress during pregnancy,” to determine whether length of time in relationship acts as a supportive factor during pregnancy. Additionally, data based on this knowledge may assist in informing target market for PPN parenting programs.

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

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

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

### **Future Directions**

The study presented was the first of four in the author’s PhD program of research designed to inform the development of future PPN parenting programs for couples embarking on the journey into parenthood. Key

outcomes from this study (outlined below) assisted in the design of the remaining three studies in the PhD program of research, as well as informed some of the final recommendations proposed at the end of the PhD program for the design, development and delivery of future PPN parenting programs. Examples of key outcomes include:

- adaptive coping skills as one aspect of content for mothers and fathers,
- education on natural and drug-free births and how to ask for it in a hospital setting,
- how to be heard and respected to get your birth plan needs met in a hospital setting,
- skills on how to soothe baby and sleep training,
- skills on attachment parenting,
- skills for how the father can bond with baby post-birth,
- skills for couple connection, communication, working together, the need to learn more about factors that mitigate father involvement in PPN parenting programs to date, and
- what support types are meaningful to fathers during the time of pregnancy and post birth.

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