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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 21st 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 causes 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, resulting in future development of a range of PPN parenting programs, as well as measuring 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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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).

38 A plethora of research has explored adaptive and maladaptive ways of 39 coping with stress during a pregnancy (Feldman, Dunkel-Schetter, 40 Sandman, & Wadhwa, 2000; George, Luz, De Tychey, Thilly, & Spitz, 41 2013; Huizink, Robles de Medina, Mulder, Visser, & Buitelaar, 2003). 42 Prenatal stressors are specifically linked to negative outcomes for the 43 mother, father, and baby triad. Examples include maternal anxiety 44 (Huizink et al., 2003), maternal depression (Pawlby, Hay, Sharp, Waters, 45 & Pariante, 2011), negative relationship with father of the child (Halford, 46 Petch, & Creedy, 2010), reduction in fetal growth, low birth weight for 47 gestational age, and reduced development of the fetal brain (Feinberg, 48 Roettger, Jones, Paul, & Kan, 2015; Glover & Sutton, 2012) due to large 49 quantities of cortisol (known as the stress hormone) passing through the 50 placental barrier when a pregnant mother is pervasively stressed 51 (O'Donnell, et al., 2012). 52

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

63 When stressed during pregnancy, women report that accessing social 64 support when needed is important (Cameron, Wells, & Hobfall, 1996) and 65 it has long been linked to psychological wellbeing, perceived ability to 66 influence solutions to stressful situations, and increased self-worth (Cobb, 67 1976; Kalil, Gruber, Conley, & Syntaic, 1993). In pregnancy, social 68 support has been shown to be a critical factor in overall physical, mental, 69 and emotional wellbeing of the expecting mother (Dunkel-Schetter, 70 Sagrestano, Feldman, & Killingsworth, 1996). Feldman et al. (2000) 71 examined 247 pregnant women, and found that those with multiple types 72 of social support (including the father of the baby) had higher birth weight 73 babies. Wahn and Nissen (2008) further determined that women with 74 access to social support were at lower risk of depression during pregnancy 75 than women with no perceived social support.

Research also indicates that women who perceive being able to accessa 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).

90 Lack of Social Support as a Maladaptive Coping Strategy

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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.

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The Couple Relationship as Source of Social Support

129 The transition to parenthood for couples is commonly linked to a 130 decline in couple relationship satisfaction that shows up in a variety of 131 intimacy, increased conflict. wavs such asreduced reduced 132 communication, and decreased perception of supportiveness (Bradbury & 133 Karney, 2004; Halford et al., 2010; Nomaguchi & Milkie, 2003). Petch and 134 Halford (2008) further postulate that the quality of partner relationship 135 directly impacts the quality of care given to a baby post birth. 136

137 The Impacts of a Non-Supportive Couple Relationship During 138 Pregnancy 139

140Pregnant women who report having a non-supportive partner 141 relationship (denoted by not being close and having poor communication) 142 have been found to be at greater risk of birthing a low birth weight baby 143 (Mutale, Creed, Maresh, & Hunt, 1991). Birth weight has long been 144 correlated with levels of prenatal stress (Cassel, 1976; Collins, Dunkel-145 Schetter, Lobel, & Scrimshaw, 1993; Harrison & Sidebottom, 2008; 146 Hoffman & Hatch, 1996) and more recently is considered to be one of the 147 most important markers of health for a baby post-birth (Hussaini, Holley, 148 & Ritenour, 2011). In the absence of a solid supportive relationship with 149 the father of the pre-born, an expecting mother is vulnerable to the onset 150 of mood disorders both during the pregnancy and postpartum (Cantwell 151 & Smith, 2006; Giardinelli et al., 2012; Rubertsson, Waldenstrom, & 152 Wickberg, 2003). Mehl-Madrona (2002) found an association between lack 153 of partner support and increased obstetrical risks, with marital 154 satisfaction linked to uncomplicated birth outcomes. Liamputton and 155 Naksook (2003) report that women consider their partner's support to be 156 important during the transition to motherhood.

157 Milgrom et al. (2008), in an Australia wide study encompassing 40,333 158 participants who self-reported on postnatal depression via the Edinburgh 159 Postnatal Depression Scale (EPDS), found that low partner support 160 during the prenatal period was a key predictor for postnatal depression 161 (Milgrom et al., 2008; Leigh & Milgrom, 2008). The authors acknowledge 162 that whilst self-reporting may have reduced validity, due to the large scale 163 of the study conducting diagnostic interviewing was not practical. Rosand, 164 Slinning, Eberhard-Gran, Roysamb and Tambs (2011) mother-child 165 cohort study (n=51,558 mothers) measuring 37 risk factors on levels of 166 emotional distress, found that relationship dissatisfaction is the strongest 167 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.

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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.

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- What types of PPN interventions do parents attend?
- What are the current strengths, gaps, and limitations in intervention programs offering support to parents?
- 195 Are there differences in stressors experienced during pregnancy and beyond by mothers and fathers?
 197 - Are there differences in coping strategies used and support
 - 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:

- 204 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.
 207 More mothers would attend PPN parenting programs than
- 207-More mothers would attend PPN parenting programs than208fathers.Mothers would identify more stressors relating to anxiety209about the safety and health of the baby, of being supported by210their partner, and of giving birth, whilst fathers would identify

211more stressors relating to practical life aspects (e.g., financial 212stability) and role identity and transition.

213 Men would use more problem-focused coping strategies, whilst 214 women would use more emotion-focused coping strategies (those 215 that aim to regulate emotional response; Huizink, Robles de 216 Medina, Mulder, Visser, & Buitelaar, 2002b) during stressful 217 times throughout a pregnancy. For those mothers who perceive 218 their partner's response to their pregnancy to be negative, support 219 types outside of the partner relationship would be accessed more 220 so than for those whose partner had a positive response to the 221 pregnancy. 222

223 224 The aim of this study was to extend the limited empirical base of the stressors and psychosocial outcomes that occur during pregnancy, the 225 transition to parenthood, and the fourth trimester. Additionally, the 226 information was gathered to gain understanding of the respondent's 227 perceptions of what content future PPN parenting programs would need 228 229 to include to be deemed beneficial.

Method

232 Ethical approval was granted by Bond University Human Research 233 Ethics Committee (BUHREC)—Application ID 15474 and data were 234 collected between February and June 2016. 235

236 **Participants** 237

238 A total of 61 respondents voluntarily participated in this study. 239 Inclusion criteria to participate was that all participants needed to be 240 currently pregnant (or, if male, have a partner expecting), or already 241 have birthed one or more children; and English had to be their first 242 language or they needed to be fluent at reading and writing English. The 243 sample comprised of 54 females (88.5%) and 7 males (11.5%), aged 244 between 19 and 65, (M= 38.98, SD = 9.74). Demographic characteristics 245 of participants are reported in Table 1 (below).

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Table 1

Variable	n	%	M	SD	Range		
			(years)	(years)	(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		2					
and wanted (unpl wa)							
Yes	21	34.4					
No	40	65.6					
Pregnancy unwanted		0010					
Yes	1	16					
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	49					
Birthed 1+ children	58	95.1					
Partner response to		22.1					
pregnancy							
Positive	36	59.0					
Mixed	15	24.6					
Negative	9	14.8					

Demographic Characteristics of Study 1 and Study 2 Participants

Materials

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

254 **Procedure** 255

256 Respondents clicked on the link provided in the recruitment 257 258 advertisements which guided them to the online survey titled, "Bonding and attachment between mom, dad, and baby during pregnancy and 259 beyond" on Psychdata. Upon reading the explanatory statement 260 respondents were asked to indicate their understanding and consent by 261 checking "Y" before being granted access to the survey questions. Once 262 consent had been given, respondents completed the demographic and 263 open-ended questions that related to them. 264

Results

Qualitative Analysis

269 Braun and Clarke's (2006) manual thematic analysis was undertaken 270 to organize, analyze, and examine themes and trends from the 271 information obtained in the open-ended question surveys. The sample size 272 of 61 was deemed adequate to ensure patterns can emerge and reach 273 saturation point (Bernard, 2000; Creswell, 1998; Guest, Bunce, & 274 Johnson, 2006), yet not be too large for data management (Fugard & Potts, 275 276 2015). The data were analyzed to allow categories to emerge and Braun and Clarke's (2006) five-step thematic analysis approach was diligently 277 followed to ensure coding represented an accurate reflection of the 278 subject's intended meaning. Themes identified by the author were also 279 confirmed by a second person, who is a professional researcher. The five 280 steps followed for each open-ended question manual analyzed included: 281

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

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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.
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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."

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."

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336 - Post-Birth Related: indicated by participants recording topics
337 relating to post-birth. Examples include: "breastfeeding."
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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

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- post birth. Examples include: "body shape change," "morning 379 sickness," "back pain," "sleep deprivation," "fatigue," "foggy 380 381 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
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Self-support (positive and negative strategies).

doctors and nurses through labor and birth."

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

relationship," "partner does not understand emotional changes,"

"unsupportive family," "lack of couple time/intimacy," "bullying

- 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 exercises," "positive affirmations," "journal," "meditate," "talk to 399 younger self," "gratitude exercises," "Emotion Focused Therapy" 400 (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. Examples include: "partner," "friends/family," "Facebook," "pets," 408 "midwife, doula," "professional counselor," "helplines." 409
- 410 *Relaxation:* indicated by participants recording they were 411 choosing to engage in perceived calming activities. Examples include: "massage," "read," "music," "sleep," "garden," "nature," 412 413 "sing," "bath."
- 414 Problem-Focused Strategies: indicated by participants recording 415 they were choosing to adopt linear and rational processes. Examples include: "logic," "strategize and prioritize solution," 416 "plan way out," "internet research," "internalize," "action lists," 417 418 "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 "overeat," "sugar/carbs," "alcohol," "binge 421 include: watch 422 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."

427 Of note, males did not record any verbatim comments that met the 428 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:

- 436 Positive: indicated by participants recording that their partner
 437 was absolutely in favor of the pregnancy when hearing about it.
 438 Examples included: "joy," "thrilled," "elated."
- 439 Mixed: indicated by participants recording that their partner had a dichotomy of responses when hearing about the pregnancy.
 441 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."
- 444 Negative: indicated by participants recording that their partner
 445 was absolutely not in favor of the pregnancy when hearing about
 446 it. Examples include: "didn't want the baby and wanted me to have
 447 an abortion," "scared," "I don't want a baby, what do you want to
 448 do?"

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

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

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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 pregnancy," "work is too busy," "we grew apart," "we lived our own 482 lives." "nothing deliberate; went about our lives," "we fight a lot," 483 484 "we don't have any connection," "I have plenty of ideas but there 485 is no engagement from my partner."
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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.

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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."
- 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
- 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."

Quantitative Data Analysis

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.

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, χ^2 (2) = 6.208, p < .05, or a birthing team (denoted by (OB/GYN), midwife, doula or a combination), χ^2 (2) = 8.384, p < .05, based on perceived partner response to a pregnancy (dependent variable).

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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

Partner Response		Type of Support Accessed During Pregnancy														
		Partner			At least one friend				Family			Work colleagues				
	Yes	No	df	χ	Yes	No	df	χ²	Yes	No	df	χ²	Yes	No	df	χ²
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

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

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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 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, χ^2 (2) = 4.453, p = .103, friend, χ^2 (2) = 1.277, p = .528, family, $\chi^2(2) = .705$, p = .703, work colleague, $\chi^2(2) = .329$, p = .849, social 579 580 connections, $x^2(2) = 3.362$, p = .186, and nature, $x^2(2) = 1.922$, p = .382). 581

Discussion

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.

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

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 (Pinguart & 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?

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

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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 birth at a hospital," "attachment parenting," "role of dad and how he can 646 bond as he can't breastfeed," "bonding and attachment skills," "how to 647 648 stay connected as a couple," "how to work as a team," " how to 649 communicate needs when they differ," "emotional changes," "sleep and soothing training," "how to soothe baby." The one male stated that he 650 651 "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 Trillinsgaard, Baucom, Heyman, & Elklit, 2012).

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

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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 have birth defects," "I'll be a bad parent"); (b) "emotions" (e.g., "self-doubt," 675 676 "intense negative emotions"); (c) "physical aspects" (e.g., fatigue; women did report "morning sickness" also); and (d) "lack of support" (e.g., "changein 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

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

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"), "dissociation strategies" (e.g., "overeat," "alcohol," "binge watch 714 715 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 emotionfocused coping strategies (Huizink et al., 2002b; Lazarus, 1999); "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.

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").

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.

773 In contrast, all of the fathers in the study gave clear examples of being 774 supportive of their partner (e.g., "listening and taking action on her 775 needs," "empathetic to her needs"). Nearly half (42.86%) of the fathers also 776 identified that they felt left out during the time of pregnancy (e.g., "needed 777 her to be more aware of my needs and wants/fears," "I was shut out," "it 778 became all about her and the baby"). Women were able to identify also 779 that their partner's felt left/out, with comments such as "he felt 780 unwanted," "he didn't get any attention," "the expressed feeling last on the 781 priority list." Fathers feeling left out is in alignment with past research 782 findings (e.g., Hallgreen, Kihlgren, Forslin, & Norberg, 1999; Kaye et al., 783 2014).

784 When "wider support network" was examined, six themes emerged 785 and are: "spiritual practice" (e.g., "mantras," "positive affirmations"), "movement" (e.g., "walk," "yoga"), "social connection" (e.g., "Facebook," 786 "mom support groups"), "self-care" (e.g., "time on own," "bodywork"), 787 788 "problem-focused strategies" (e.g., "set routine," "to-do lists"), "dissociation 789 strategies" (e.g., "eat sugar," "shop"). When compared to existing 790 literature, the inclusion of problem-focused (e.g., "logic," "planning") and 791 emotion-focused (e.g., "spiritual practice," "self-care," "social connection") 792 types of support strategies during pregnancy is consistent (Huizink, et al., 793 2002b; Lazarus, 1999). Of interest was that none of the fathers who 794 responded identified with "spiritual practice," "dissociative strategies," or 795 "self-care" as support options. Even with the small male sample size, it 796 did raise the question as to why females only find these strategies to be of 797 support. Current research has not investigated this specifically.

798 What the research does consistently show is that fathers typically feel 799 under-supported during the time of pregnancy, and that a lack of support 800 has negative implications on aspects such as self-confidence, role 801 transition to fatherhood (Axness & Strauss, 2007; Habib & Lancaster, 802 2006), the quality of the couple relationship, the capacity for the man to 803 support his partner emotionally (Heinowitz, 1995), and ability for the 804 father to bond with the baby (Klaus & Kennell, 1982; World Health 805 Organization (WHO), 2007).

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

810 Chi-square analysis revealed that there are some differences in types 811 of support accessed based on partners' response to the pregnancy. Of the

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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.

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Limitations of the Study Sesign 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).

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

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.

865 Limitations of the quantitative analysis.

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. 884

Future Directions

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:

- 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,

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- skills on how to soothe baby and sleep training,
- skills on attachment parenting,
- 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
 - what support types are meaningful to fathers during the time of pregnancy and post birth.

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