

The effects of announcing dreams: An investigation of pregnant women's perceived communication with their unborn

Kimberly Rachelle Mascaro

Arizona State University, Social and Behavioral Sciences Division, USA

Summary. Announcing dreams are one type of extraordinary dream reported by pregnant women that is not well understood. The focus of this study was to examine how announcing dreams affect pregnant women. Twenty-two pregnant volunteers completed an online questionnaire about their announcing dream experience. Within this sample, announcing dreams took place most often in the first trimester of pregnancy, were reported to be significant by 73% of participants, and were shared with others by 85% of the participants. Thematic analysis revealed 12 themes: emotions, confidence and affirmation, bonding and connection, birth, hospitals and health-care professionals, husband/partner, dream settings, breastfeeding, catastrophe, lucidity, decision-making regarding the pregnancy, and prediction of sex. Lucidity was reported by 10 participants, yet only two of these reports showed the hallmarks of lucidity. Five dream reports included predictions of the child's sex.

Keywords: Announcing dreams, pregnancy dreams

1. Introduction

Pregnancy encompasses simultaneous changes in physiology, psychology, body image, and social status (Leifer, 1980; Raphael-Leff, 1990); indeed, it is a unique period of womanhood. Sleep patterns become altered (Lara-Carrasco, Simard, Saint-Onge, Lamoureux-Tremblay, & Nielsen, 2014; Schwiger, 1972) and dreams typically diverge from the usual pattern (Coo, Milgrom, & Trinder, 2014), becoming extremely vivid and extraordinary (Evans & Aronson, 2005; Kitzinger, 1978; Knaan-Kostman, 2006; Krippner, Bogzaran, & Carvalho, 2002; Maybruck, 1989). The nature of dreams that specifically occur during pregnancy has gained public and professional attention over the past three decades (Evans & Aronson, 2005; Krippner, Bogzaran, & de Carvalho, 2002; Maybruck, 1989); however, significant dreams experienced by pregnant women have not been scientifically explored and warrant greater investigation. A specific type of pregnancy dream, the announcing dream, has been of particular interest among some authors and researchers (Hallett, 2002, 1995; Hinze, 1997; Krippner et al., 2002) because these dreams may enhance the subjective experience of pregnancy and impact the lives of those who have them. Announcing dreams occur during pregnancy when the child in utero is perceived by the pregnant mother (and sometimes father) while she (or he) is asleep (Hallett, 1995; Hallett, 2002; Krippner et al., 2002; Sered & Abramovitch,

1992; Tucker, 2005; Verny, 2002). This dream perception may be visual, sensory, or auditory, leaving the parent to believe that genuine communication with the unborn child has taken place.

This study aimed to understand the impact of such dream experiences for women who were pregnant at the time of the study.

The central research question for this study was, "How do announcing dreams affect pregnant women?" A qualitative methodology was chosen because the investigated phenomenon is not well understood, and because it is firmly situated within the meaning-making structure of the pregnant women who have such dreams. Thematic analysis was utilized to reveal the emergent themes within the data and to gain a primary understanding of announcing dream common themes and impact.

2. Methods

2.1. Participants

Thirty-two pregnant women completed informed consent, the screening and demographic questionnaire, and reported experiencing a dream during the current pregnancy involving the child they were currently carrying. In addition, the women were over the age of 21, and were currently free of psychiatric drugs, making them eligible to participate in this study.

Of the 32 eligible pregnant participants, 24 went on to complete the online study survey, during which two of the 24 revealed that the dream occurred either before pregnancy or in regard to another pregnancy, thus disqualifying them from this study. Twenty-two pregnant women's dream reports were used in this study. These 22 participants ranged in age from 22 to 38 years old, with a mean of 29.36 years. The majority of the participants were born in the United States and were Caucasian.

Corresponding address:

Kimberly Rachelle Mascaro, Ph.D., 479 Merritt Ave. #8,
Oakland, CA 94610.

Email: kmascarophd@gmail.com

Submitted for publication: May 2015

Accepted for publication: December 2015

Table 1. Participants (n = 22) pregnancy history.

History	n	%
First Pregnancy	7	32%
Pregnant once before	6	27%
Bore one or more living children	3	14%
Had miscarriage or termination	3	14%
Pregnant twice before	6	27%
Bore one or more living children	6	27%
Had one or more miscarriages or terminations	5	23%
Pregnant three or more times	3	14%
Bore one or more living children	3	14%
Had one or more miscarriages or terminations	3	14%

2.2. Recruitment and Procedure

This study focused on cases that could illuminate the experiences of women who were: (1) pregnant and, (2) dreaming of their child in utero. English-fluent participants were recruited online from all over the world with the use of Facebook, and listserves targeted at mothers and pregnant women, such as momsmiami.com, bostonmamas.com, and dcurbanmom.com. Midwives and doulas were also contacted via email and asked to solicit the study.

Before any of this study's questions could be administered, participants must have first checked informed consent and be screened. After these were submitted, the next screen opened the research survey containing open-ended questions. The purpose of this study, as stated, was to understand dreams some pregnant women have about the unborn child they are carrying and how they have responded to those dreams. Participants were asked to answer open-ended questions (For example, "How did your child look in the dream?") by describing their experience in this current pregnancy in as much detail as possible. Participants were encouraged to write as long and as much as they wished. The study survey opened with the following: "Please describe the events of your dream of your unborn child, starting with what happened first and telling everything you can remember seeing, hearing, and experiencing during that dream about your unborn child." A series of specific questions followed.

Data were coded and analyzed utilizing thematic analysis, which "involves reading through a dream series several times to see if certain settings, objects, or events appear several times" (Domhoff, 2003, p. 56). The analysis identified categories and coded the common themes that emerged from the data (Fischer, 2006). Data were coded by meaning unit (Willig, 2001), and interpreted using category identification (Boyatzis, 1998; Hall & Nordby, 1972). Codes, as they emerged, were operationally defined to clarify rigor.

3. Results

Pregnancy history is summarized in Table 1. Of the 22 participants, pregnancies ranged from 1-9 month's gestation, with a mean gestation of 6.27 months. The median is 7 (Table 2). The narratives solicited by the online survey ques-

tionnaire were divided into two sections: dream and participant descriptions, and the experiential impact of the dream.

3.1. Dream and Participant Descriptions

The mother's dream perception of the child-to-be included children in utero or prior to being born, newborns or infants, toddlers or very young children, and one school-aged child. Eleven participants (50%) reported male dream children, 7 (32%) reported female dream children with 2 (9%) unsure of the sex of the child, 1 (5%) reported a sequence of dreams featuring an alternating male and female child, and 1 (5%) did not answer the question. Three participants (14%), reported a dream involving twins, and in each of these, the twins were the same sex. Four participants (18%) reported that the pregnancy was unwanted.

Some participants recalled more than one dream, and some reported they had dreams featuring the child throughout the pregnancy. Four participants (18%) reported the dream to occur during their first month of gestation, four (18%) during the second month, six (27%) in the third month, four (18%) in the fourth month, four (18%) in the fifth month, five (23%) in the sixth month, one (5%) in the seventh month, two (9%) in the eighth month, and two (9%)

Table 2. Participants (n = 22): Months of gestation at time of participation.

History	n	%
One month	1	5 %
Two months	1	5 %
Three months	2	9 %
Four months	1	5 %
Five months	2	9 %
Six months	2	9 %
Seven months	5	23 %
Eight months	4	18 %
Nine months	4	18 %

in the ninth month. Among the participants, announcing dreams took place most often in the first trimester, and least often in the third trimester, but only 5 participants were in the second and 13 in the third trimesters of their pregnancy at the time of the study.

3.2. Experiential Impact

Participants were asked whether they believed the dream to be significant. Sixteen participants (73%) said the dream was a significant experience, and 6 (27%) said that the dream was not significant. Most (85%) participants had shared the dream with someone they knew. Sixteen (73%) shared the dream with their husband, partner, or boyfriend; five (23%) shared the dream with family members, other than their spouse or partner; nine (41%) shared the dream with a friend, or other trusted person, such as a therapist or colleague; and three (14%) did not report the dream to anyone. Two participants (10%) did not answer.

There were 12 themes that emerged from participant's responses to having the dream: emotions; confidence and affirmation; bonding and connection; birth; hospitals and health-care professionals; husband/partner; settings; breastfeeding; catastrophe; lucidity; decision-making regarding the pregnancy; and prediction of the child's sex.

3.2.1 Emotions

The dreams, or reactions from the dream experience, contained memorable emotion for the dreamer. Fifteen dreamers (68%) had positive emotions in the dream or as a result of having the dream. These emotions were happiness, serenity, and hope, or a combination of these positive emotions. Four women (18%) reported dreams that contained solely negative emotions, experiencing distress in the dream and upon awakening. Negative emotion was identified by the presence of anger, fear, worry, perceived danger, lack of security, embarrassment, disappointment, or distress. Five dreamers (23%) experienced both positive and negative emotions within the dream, or as a result of having the dream. For example, one pregnant woman reported that she and her husband were "upset" with the actions of the nurses in her dream, such as naming her babies, and taking one baby away without her permission. Upon reflection, she reported that she felt "excited by the babies, upset by the nurses and slightly anxious that I seemed to be fonder of baby B than baby A."

3.2.2 Confidence and Affirmation

Related to the emotion theme, five dreamers' (23%) experiences resulted in identifiable increased confidence and affirmation identified by expressing conviction in the belief that they would make good mothers, or that things would work out positively. For example, one pregnant dreamer wrote, "I woke up feeling reassured that everything would be ok." This theme, in particular, emerged from the dreams of four women with unplanned pregnancies. The dreams helped alleviate uncertainty about becoming a mother. For example, one participant believed the dream confirmed, "I'm going to be an awesome mom." Another said that the dream "helped me to know it was all going to be ok." While her pregnancy was unplanned, another participant feared losing the pregnancy to miscarriage as she had in the past. She explained, "It definitely reassured me during my first

trimester, and throughout my pregnancy as I have been assured that this child is meant to be a part of my life and isn't going anywhere."

The five dreamers who reported confidence and affirmation had never previously birthed a full-term living child: they were either pregnant for the first time or had had one or more miscarriages or terminations.

3.2.3 Bonding and Connection

Five dreamers (23%) had an identifiable connection between themselves and the babies they are currently carrying. Bonding and Connection was identified by the dreamer's use of the word "connect" when describing the experience of having the dream. The dream was particularly significant for a participant who was lucid. She reported feeling "happy," and "connected to baby" during the dream: "I felt the bond between me and my unborn baby significantly strengthen."

The five dreamers who reported bonding and connection had never previously birthed a full-term living child.

3.2.4 Birth

Laboring or the birth of the dream child was present in 8 dreams (36%). For example, one participant was in a hospital laboring for eight hours in her dream only to end up leaving the hospital and birthing "the baby at home instead." Of these six dreams, not one explicitly described a negative birth experience. Two dreamers, however, described an abnormal or unusual delivery.

3.2.5 Hospitals and Health-care Professionals

Five dreamers (23%) reported that a hospital or health-care professional was present in the dream. One participant's dream took place in a hospital with two nurses actively involved in the delivery and postnatal care. A midwife was present in another participant's dream. She wrote, "I was seeing my midwife to determine the sex of the baby. Instead of doing an ultrasound, she reached inside me, pulled the baby out, confirmed that it was a boy, he smiled, and she put him back inside."

3.2.6 Husband/Partner

The dreamer's husband or partner was at least partially present in five dreams (23%). For example, one dreamer explained, "My boyfriend was holding her [dream baby] and we were outside in nature....I also remember us being in a pool." Another wrote, "I told my partner we needed to buy a sling for me to carry her in...We worried we wouldn't have money to buy the sling in the dream."

3.2.7 Dream Settings

Residential dwellings (not hospitals) and natural settings appeared in 10 dreams. Five dreamers' (23%) mentioned a house, apartment, or home in the dream. Two participants had dreams with more than one location, the nonresidential setting being a hospital.

Five dreamers' (23%) reported that they were outside in the dream. For example, one participant's dream took place in a desert. Another participant's dream was at a park with a swing set. One dreamer reported, simply, that "we were outside in nature and it was a sunny day." One participant's

dream was unique among this subset because she was also traveling by car in her dream.

3.2.8 Breastfeeding

Breastfeeding took place in four dreams (18%), all of them from women who had never delivered a full-term, living child. One dreamer wrote, "I was holding and nursing him, and combing out his really long hair." Another reported, "I was holding the baby and trying to breast feed by pouring milk out of my breast like a drink."

3.2.9 Catastrophe

A catastrophe, including disaster or injury, was present in three (14%) dreams. For example, one participant's dream contained images of tanks and bombs. She added, "There was broken glass everywhere, and it was really loud." In another participant's dream, the baby "rolled off the counter onto the floor and started crying." When she picked him up, "he had purple lumps and bumps all over his head."

3.2.10 Lucidity

Dreamers were asked, Were you aware that you were dreaming during this dream? Ten dreamers (45%) said that they were lucid by answering "yes," in addition to one (5%) who responded, "not at first," and another one (5%) with "I think so." Seven (32%) replied no. Three (14%) were unsure, could not remember, or did not know. While 10 dreamers reported they were lucid, only 2 narratives (9%) showed hallmarks of lucid dreaming, including awareness that one is dreaming, control over dream activities and content, and making decisions regarding dream outcome (LaBerge & Rheingold, 1990; Neider, Pace-Schott, Forselius, Pittman & Morgan, 2011). One participant's report was the strongest indicator for lucidity. She wrote,

I found myself floating in my bedroom near the ceiling, facing up. I realized I was out-of-body, and immediately began purposely thinking of my baby; I wanted to see if I could interact with it while out-of-body. I wasn't sure how to go about doing this, so I focused on my belly and called to it 'baby, baby, baby.' I felt myself drift in and out of my physical body and tried to stay relaxed and calm so as to prolong the experience. Then I felt the baby move inside my belly; I distinctly felt it kick and twist the lower half of its body. I instinctively felt that it was reacting to me trying to interact with it. Then I woke up...

This report shows that the dreamer was aware she was dreaming, formulated intentions, and imposed her will in the dream – a hallmark of purposeful lucid dreaming.

Another participant's experience also showed some hallmarks of lucidity (possible pre-lucidity): "...in the dream I thought to myself how this felt just as real as a dream I had a few weeks prior..." Similar to the first participant, this participant was self-aware during the dream.

3.2.11 Decision-making Regarding the Pregnancy

Three dreamers (14%) experienced dreams that had a direct influence on decisions regarding the pregnancy. Two had unplanned pregnancies, which they were considering terminating, but they changed their minds as a result of their dreams. In reference to termination, One stated that

the dream "helped me decide what to do...I'm keeping the baby." The other wrote,

I might have considered an abortion at the time of the pregnancy because I had no job, money, or partner. The dream made the person inside me seem very real and concrete, not allowing me to consider such an option...I might have also considered adoption more seriously than I did at the time, but because of the dream I already felt that I could raise him because I had already experienced within the dream what it was to choose a school, to bundle him in warmth and to comfort him.

A third participant's dream influenced her thoughts about upcoming prenatal care decisions, specifically whether to have a second trimester blood test for Down's Syndrome and other defects. She wrote,

I feel like I am much more bonded to the baby, like I have a real connection with it now that I didn't before, like I have met the little person inside me. My decisions are very much likely to be influenced by this experience. Today my OBGYN scheduled me for my 2nd trimester blood test for Down's Syndrome and other defects, due in a couple weeks time. However should the tests come back positive I don't think that I could bring myself to terminate the pregnancy now that I feel this bonded feeling with my baby. I almost don't want to have the test because I am not interested in knowing the result, and may not go ahead with it now.

All three of these women had a history of miscarriages or terminated pregnancies and were older, ranging in between 32 and 37 years.

3.2.12 Prediction of the Child's Sex

Five dreamers (23%) had dreams that foretold the sex of the child they were carrying, which was unknown at the time of the dream but subsequently confirmed. One participant's dream left her feeling hopeful that she was going to have a girl, and a few weeks later she reported, "I found out I am having a girl." At 10 weeks pregnant, another participant's dream indicated that the twins she carried were boys, and at 20 weeks this was confirmed. A few weeks after another participant's dream of playing with a male child, she had a sonogram that revealed she was carrying a boy.

3.3. Summary

The majority of participants had dreams containing emotions, specifically positive emotions. All six birth dreams that reflected a typical delivery were positive and the two that contained an unusual delivery were viewed as positive by one dreamer and negative by the other dreamer. A husband or partner was reported by women between the ages of 28 and 34 years. Almost half the sample had dreams that involved a residence or natural setting. While only four dreams included breastfeeding, none of those women had ever birthed a full-term living child. Although nearly half of the participants claimed to dream lucidly, few dreams showed pre-lucidity or the hallmarks of lucid dreaming.

Those who had unplanned pregnancies (18% of the sample) all had increased confidence and affirmation as a result of the dream. The dreams resulted in positive emotions for this group. Two of these four women made decisions not to terminate the pregnancy after the dream. The other two re-

ported bonding and connection with the child they are carrying. Of those who had never had the experience of giving birth to a living child (55%), 9 (75%) said the dream was a significant experience.

4. Discussion

Announcing dreams occur during pregnancy when the child in utero is perceived by the pregnant mother (and sometimes father) while she (or he) is asleep. This retrospective qualitative study sought to investigate the announcing dream experience, its significance to the dreamer, and the resulting impact announcing dreams have on pregnant women. This research was based on some assumptions by the researcher that were unfounded, according to the data from this small sample, e.g.: 1) that announcing dreams are welcomed and are a positive experience for the mother; 2) that announcing dreams facilitate mother-to-child bonding; and 3) that dreams direct the dreamer toward issues that should be attended to in the waking state. The findings only minimally supported these assumptions. The data provided some support for the first assumption, in that 73% reported the announcing dream experience to be significant and 68% reported positive emotions in the dream. With regard to the second assumption, the data suggested that few announcing dreams, 23% in this case, facilitate bonding. There is minimal support for the third assumption. The data contained affirmative elements about motherhood, as well as pregnancy decisions. According to the data, the announcing dream experience is quite varied and the emergent themes show both frequent and unique threads.

4.1. Analysis of the Method

Retrospective dream accounts in this study were written by participants online, which created a number of difficulties. The possibility of forgotten, or non-included, dream elements or confabulation existed, and, given the widely varying length of time between when the dream occurred and when it was reported (months for some, one day for others), parity of dream recall across participants was further compromised. Moreover, some respondents reported a single dream while others reported on several occurring over an extended period. Furthermore, although the researcher believed qualified participants would be easy to locate using an online format, this proved not to be the case. Participant recruitment extended over 10 months, which was longer than expected.

The difficulty of finding qualified participants could be explained in several ways. First, those with histories of psychiatric hospitalization and a psychological diagnosis were disqualified. Ten volunteers fell into this category and were prevented from accessing the remainder of the study's questionnaire. Participants were considered if they had been prescribed a psychotropic medication at some time in their lives, and of the 22 qualified, three had been prescribed drugs for a mental or emotional condition in the past but were not taking them at the time of the study. Second, pregnancies that had not been confirmed by positive home pregnancy test or medical personal were disqualified, but not automatically because the study allowed all responders in this category to move forward. In the end, of those who completed the study, only one participant was disqualified because she did not have her pregnancy confirmed by home test or medical personnel. Third, qualified participants

had to have been pregnant at the time of participation and could only report on a dream from the current pregnancy. Collected dream reports that were disqualified included pregnant women who reported a dream from a previous pregnancy, or reported a dream prior to conception. One who completed the study was disqualified because she reported on a dream from an earlier pregnancy.

The study questionnaire was lengthy, made up of several open-ended questions, and was also entirely online, thus excluding those without access to the internet or with the free time to participate. Requiring women to fill out a lengthy questionnaire and write a response produced thinner, less detailed records than might have been obtained an interview format. Furthermore, those who responded were likely to be well motivated and believed 1) dreams to be an important source of information; 2) dreams to be worthy of investigation and necessary to share; 3) genuine communication to in fact take place during the dream and that an unborn child can communicate with the mother; and 4) the experience they had to be significant. These factors reflected a bias in the sample because those with opposing views were not likely to participate. Pregnant women who did not believe dreams to be a source of information, to have value, or be worth sharing were not given the opportunity to respond. In addition, the majority of this sample – 68% of participants – reported experiencing positive emotions. This high percentage reflects a potential bias because the way the study was solicited was less likely to attract women with solely negative emotions.

The sample did not include a greater number of primiparae than mothers with children, even though previous research suggested a higher likelihood to report dreams among primiparae (Sered & Abramovitch, 1992). This researcher found announcing dreams to be more prevalent among women in their late twenties and in earlier stages of pregnancy, particularly the first trimester. Several participants recalled the dreams months later, which may be related to their claim of significance because an insignificant dream is not likely to be remembered. Furthermore, because expectant mothers have been found to recall their dreams more easily and in more detail than before the pregnancy (Maybruck, 1986; Smith-Cerra, 2007), the perception of significance is plausible not only because of the novel perception of the child-to-be, but also because of the increased recollection, vividness, and clarity.

4.2. Discussion of the Results

The elements present in announcing dreams are fairly common in ordinary dreams, including a variety of positive and negative emotional states, residential dwellings, natural settings, and acquaintances, friends, and family members. Elements that commonly surface in pregnant women's dreams (Maybruck, 1989) were also found in the data, such as birthing, hospitals and health-care professionals, spouse, partner, or baby's father, breastfeeding, catastrophe, and predictions of the child's sex. Unique to the announcing dream is the presence of the unborn. While the presence of the unborn is viewed as a common theme in pregnancy dreams (Maybruck, 1989), this study suggests that the presence of the unborn is linked to confidence and affirmation (especially in unplanned pregnancies), bonding and connection, and decision-making regarding pregnancy termination.

For three participants, the dream was the catalyst for making an important decision about the pregnancy. A re-

ported dream said to influence an important decision is supported in the dream literature (Bowater, 2012; Carey, 2010; Edgar, 2006). A pregnant woman's perception of her baby in a dream, as this study investigated, may be one manifestation by which pregnancy decisions are influenced. This bridges the impact of decision-making dreams with pregnancy dreams. While literature exists showing a relationship between dreams and political decisions (Bowater, 2012), and dreams and amputee body scheme conflicts (Alessandria, Vetrugno, Cortelli, & Montagna, 2011), nothing has been found to show the relationship between dreams and decisions or conflicts while pregnant. The pregnant participants in this study were contemplating a decision in the waking state about whether to continue the pregnancy or terminate it, and the dream state was an extension of their processing. Pregnant women in this study used the content from the dream to inform waking life contemplations and an upcoming decision. The actions taken by some participants were informed by the dream's content. For example, one participant said the dream "helped me decide what to do...I'm keeping the baby." Krippner et al. (2002) referred to pregnancy dreams among those "considering abortion" and stated, "Dreams may contain metaphors for feeling trapped, being overburdened, or looking frantically for a solution to a problem" (p. 63). The dreams in this study differ, in that those contemplating termination had dreams that resulted in increased confidence or affirmation to continue the pregnancy. Because the study questionnaire did not specifically ask participants if the pregnancy was planned or unplanned, or if termination was ever considered, data only included that information when the participants volunteered it. As noted, the wording of the recruitment materials and other methodological issues may have selected for women with a positive bias toward pregnancy, even an unplanned pregnancy. Since the numbers in both studies are relatively small, more research is warranted to understand the significance of dreams and decisions regarding the continuation of pregnancy.

According to the complementary - or compensatory - theory, dreams re-establish balance within the psyche and restore psychological equilibrium (Jung, 1964, 1974). Pregnant women's dreams may represent unresolved psychological issues, including conflicts about the pregnancy or becoming a mother (Kitzinger, 1978; Krippner et al., 2002; Winget & Kapp, 1972) as noted. The theme confidence and affirmation arose out of the dreams from participants with unplanned pregnancies, appearing to compensate for the dreamer's uncertainty, fear and lack of confidence to support an unplanned pregnancy; thus the dreams restore a more harmonious state. An additional theme, bonding and connection, emerged from the dreams of five participants, two of whom had unplanned pregnancies, and none of whom had children. This theme was not present among participants with experience of mothering. Whether or not the pregnancy is intentional, most gravid women experience psychological stress (Rafael-Leff, 1990). Conflicts about becoming a mother may resolve from just one announcing dream, as they appeared to have done for some of this study's participants. Feeling connected, confident, and affirmed affects maternal hormones influencing fetal development (Christiansen, 2000; Rossi, 2002; Schlotz & Phillips, 2009; Verny, 2002). This study's findings support Jung's (1964, 1974) complementary theory and align with Leva-Giroux's (2002) findings in that dreams are in fact one

avenue by which pregnant women connect with their unborn child.

Two of the four dreams with solely negative emotions had a central image of being in a hospital. Kitzinger's (1978) case studies of Jamaican and English pregnant women connected anxiety dreams with hospitals. These dreams may be a reflection of a variety of factors, including personally held beliefs about hospital care and procedures. The dreams also may highlight unconscious feelings about the pregnancy.

The continuity hypothesis (Adler, 1936; Hall & Nordby, 1972) posits that dreams reflect a person's life in the waking state and illuminate what one should attend to in the waking state. Breastfeeding was present in the dreams of the pregnant participants who had not previously delivered a child. As a woman prepares to become a mother, her dreams may reflect waking concerns about what is expected of her, providing necessary nourishment for the child-to-be, or may simply reflect the internal processing of a new behavior soon to be performed.

This study's results show some support for distinguishing between ordinary and extraordinary dreams, as extraordinary dream qualities, such as lucidity, precognition (sex of the child), and vividness emerged from the data, although minimally. Lucidity, for example, was a common claim in response to a direct question about it. Of the ten participants who said they were lucid, only two reports actually demonstrated the hallmarks of lucidity, such as dream awareness, control, and outcome (LaBerge & Rheinholt, 1990). It is possible that the remaining eight participants reported lucidity simply because the announcing dream was unusual, vivid, or extraordinary, as is the case for many dreams during pregnancy (Evans & Aronson, 2005; Knaan-Kostman, 2006; Krippner et al., 2002; Maybruck, 1989).

Precognition was more common. Five participants claimed to know the sex of the child they were carrying before medical confirmation or birth, and according to their records, all were correct. The accuracy of these predictions cannot be confirmed and it is possible that a bias to recall, or favor, confirming over disconfirming information existed (Hergovich, Schott, & Burger, 2010).

While an announcing dream may not take place for all pregnant women, the experience, when it does occur, does have an impact for some women as demonstrated in the literature and this study. The effect of announcing dreams cannot be fully explained, yet consistent with the collected anecdotes, overall, this study found that announcing dreams are meaningful for some women.

As a possible protective factor, announcing dreams may act as an adaptive mechanism, such as coping. Dreams by which a pregnant woman awakens to feel bonded to her fetus, as this study found, may serve as a protective evolutionary factor encouraging birth and promoting the health benefits associated with pre- and perinatal psychology. When a pregnant woman perceives a relationship with her unborn, she is more likely to contemplate prenatal health care choices, as one dreamer did, and make a greater emotional investment, as another dreamer did. These early relationships are likely to support attachment after the birth, although additional research is warranted, especially in view of Krippner et al's findings which contained "metaphors for feeling trapped, being overburdened, or looking frantically for a solution to a problem" (2002, p. 63).

4.3. Limitations and Delimitations

Delimitations of this study included screening women who experienced an announcing dream but have already birthed their baby, because this study's focus was on pregnant women's experiences. A consequence of this delimitation was that some meaningful announcing dreams were excluded. Another delimitation was narrowing the announcing dream phenomenon to exclude those who have had an announcing dream just before conception, so that this phenomenon may be understood within the context of pregnancy. Consequently, meaningful pre-conception announcing dreams were not collected and analyzed in this study. A related delimitation was excluding those pregnant women who have experienced an announcing dream with a prior pregnancy, but did not have had one during their current pregnancy.

Limiting participation to an online venue may have excluded socioeconomically disadvantaged women who may be fluent in spoken, but not written, English, and may not have had online access or access to a computer, may not have been computer-literate, or may not even have had the time to participate in a study. The results therefore may have been skewed toward more advantaged women: however, by conducting research online, a study can collect data from several countries in an efficient and inexpensive manner. Another limitation was the artificial cut-off by limiting participant age to over 21 in order to secure legal informed consent. This excluded the experiences of younger women and those that may have come from cultures where it is common to become pregnant before the age of 21. A final limitation of this study involved the difficulty of translating dream material into a waking state and treating something as subjective as dreams as "real" data. No conclusions can be drawn about the validity of the dream experience as representing a "real" or "true" communication from the unborn child.

4.4. Implications for Future Research

This study was open to women at any time during their pregnancy, so participants could report a dream that took place up to nine months after its occurrence. Due to the difficulty of translating dream material into a waking state as well as decrease in the accuracy of memory over time, the recollected dreams reported months later may be different than those reported immediately following the dream. Therefore, by narrowing participant parameters, the dream reports may be more accurate.

My initial fascination with the announcing dream phenomenon and my belief that the experience is a meaningful one influenced 1) the design of the solicitation flyer, which included a painting of a pregnant woman, 2) the location of some solicitation placements, many of which were posted on Listservs for expectant mothers, and in maternity clothing, and baby clothing stores, 3) the survey questions, which were open-ended implying a motivation and desire to share a great amount of information, while ignoring the risk involved with revealing so much personal information, and 4) the length of the questionnaire, which assumed that the participant experience would be personally fulfilling and generate the enthusiasm to complete it. These issues could be better controlled in the future by creating a neutral solicitation and distributing in locations women frequent in general, including Planned Parenthood clinics or other places

women ambivalent about having children may congregate. In addition, by limiting the amount of open-ended questions and the general questionnaire length, the number of completed questionnaires may have increased.

This study's findings 1) appear to be in support of both the compensatory theory and the continuity hypothesis, while providing further evidence for the growing body of "big", meaningful, or extraordinary, dream literature; 2) provide information highlighting a unique experience in the lives of women during the transitional period of pregnancy; and 3) build upon psychology's understanding of body/mind relationships between pregnant women and their unborn.

References

- Alessandria, M., Vetrugno, R., Cortelli, P., & Montagna, P. (2011). Normal body scheme and absent phantom limb experience in amputees while dreaming. *Consciousness and Cognition*, 20, 1831-1834.
- Adler, A. (1936). On the interpretation of dreams. *International Journal of Individual Psychology*, 2, 3-16.
- Bowater, M. (2012). Dreams and politics: How dreams may influence political decisions. *Psychotherapy and Politics International*, 10(1), 45-54.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and core development*. Thousand Oaks, CA: Sage.
- Carey, M. A. (2010). *Women's meaningful dreams: The treasure within the feminine psyche*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3408066).
- Coo, S., Milgrom, J., & Trinder, J. (2014). Pregnancy and postnatal dreams reflect changes inherent to the transition to motherhood. *Dreaming*, 24(2), 125-137.
- Domhoff, G. W. (2003). *The scientific study of dreams: Neural networks, cognitive development, and content analysis*. Washington, DC: American Psychological Association.
- Edgar, I. R. (2006). The 'true dream' in contemporary Islamic/Jihadist dreamwork: a case study of the dreams of Taliban leader Mullah Omar. *Contemporary South Asia*, 15(3), 263-272.
- Evans, J. E., & Aronson, R. (2005). *The whole pregnancy handbook: An obstetrician's guide to integrating conventional and alternative medicine before, during, and after pregnancy*. New York, NY: Gotham Books.
- Fischer, C. T. (2006). *Qualitative research methods for psychologists: Introduction through empirical studies*. Oxford, England: Elsevier.
- Hall, C. S., & Nordby, V. J. (1972). *The individual and his dreams*. New York, NY: Signet.
- Harkness, S. (1987). The cultural mediation of postpartum depression. *Medical Anthropology Quarterly*, 1(2), 194-209.
- Hergovich, A., Schott, R., & Burger, C. (2010). Biased evaluation of abstracts depending on topic and conclusion: Further evidence of a confirmation bias within scientific psychology. *Current Psychology*, 29, 188-209. doi: 10.1007/s12144-010-9087-5
- Irwin, L. (1994). *The dream seekers: Native American visionary traditions of the great plains*. Norman, OK: University of Oklahoma Press.
- Jung, C. G. (1964). *Man and his symbols*. New York, NY: Laurel.
- Kitzinger, S. (1978). *Women as mothers*. New York, NY: Random House.
- Knaan-Kostman, I. (2006). *Maturation, referential activity, and aggression during first pregnancy: An empirical study of pregnant women's dreams and reveries* (Doctoral dis-

- sertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3200293).
- Krippner, S., Bogzaran, F., & de Carvalho, A. P. (2002). *Extraordinary dreams and how to work with them*. Albany, NY: State University of New York Press.
- LaBerge, S., & Rheingold, H. (1990). *Exploring the world of lucid dreaming*. New York, NY: Ballantine Books.
- Lara-Carrasco, J., Simard, V., Saint-Onge, K., Lamoureux-Tremblay, V., & Nielsen, T. (2014). Disturbed dreaming during the third trimester of pregnancy. *Sleep Medicine*, 15(6), 694-700.
- Leifer, M. (1980). Pregnancy. In C. R. Stimpson & E.S. Person (Eds.), *Women: Sex and sexuality* (pp. 212-223). Chicago, IL: University of Chicago Press.
- Leva-Giroux, R. A. (2002). *Prenatal maternal attachment: The lived experience* (Doctoral Dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3062593).
- Maybruck, P. (1986). *An exploratory study of the dreams of pregnant women* (Doctoral Dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 8605318).
- Maybruck, P. (1989). *Pregnancy and dreams: How to have a peaceful pregnancy by understanding your dreams, fantasies, daydreams and nightmares*. Los Angeles, CA: Jeremy P. Tarcher.
- Rafael-Leff, J. (1990). Psychotherapy and pregnancy. *Journal of Reproductive and Infant Psychology*, 8, 119-135.
- Rossi, E. L. (2002). *The psychobiology of gene expression: Neuroscience and neurogenesis in hypnosis and the healing arts*. New York, NY: Norton.
- Schlottz, W., & Phillips, D. I. W. (2009). Fetal origins of mental health: Evidence and mechanisms. *Brain, Behavior, and Immunity*, 23, 905-916.
- Schwiger, M. S. (1972). Sleep disturbance in pregnancy: A subjective survey. *American Journal of Obstetrics and Gynecology*, 114, 879-882.
- Seligson, F. J. (1989). *Oriental birth dreams*. Elizabeth, NJ: Hollym.Sered, S., & Abramovitch, H. (1992). Pregnant dreaming: Search for a typology of a proposed dream genre. *Social Science and Medicine*, 34(12), 1405-1411.
- Siegel, A. (2002). *Dream wisdom: Uncovering life's answers in your dreams*. Berkeley, CA: Celestial Arts.
- Smith-Cerra, K. E. (2007). *The dreams of primagravidae women: Preparation for motherhood* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3306494).
- Verny, T. R. (2002). *Tomorrow's baby: The art and science of parenting from conception through infancy*. New York, NY: Simon & Schuster.
- Willig, C. (2001). *Introducing qualitative research in psychology: Adventures in theory and method*. Buckingham, England: Open University Press.
- Winget, C., & Kapp, F. T. (1972). The relationship of the manifest content of dreams to duration of childbirth in primiparae. *Psychosomatic Medicine*, 34(4), 313-320.