“I thought I was going to jinx myself every time I told someone”: Exploring how women communicate in a pregnancy subsequent to loss.

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Abstract

Miscarriage is one of the most commonly occurring types of pregnancy loss; it is estimated that one out of every three women will experience a miscarriage and one out of 200 will experience a still birth. Loss of a pregnancy has been associated with an increased risk of experiencing elevated levels of anxiety, depression, and distress which can persist for prolonged periods of time and into a subsequent pregnancy. Furthermore, social support has been found to mitigate distress associated with pregnancy loss and increase women's ability to cope through the traumatic loss of pregnancy. However, little research has been done into how currently pregnant women with a history of pregnancy loss communicate about a subsequent pregnancy to others and if this plays a role in eliciting social support.

The aim of this study was to explore the differences between women with and without a history of pregnancy loss in terms of their distress and worry, and to begin to explore the experience of communicating a pregnancy and whether this related to their perception of social support.

The current study used an online survey to explore this topic in a convenience sample of 187 pregnant women, 42.7% of whom had experienced a prior pregnancy loss.

This study found that women with a history of pregnancy loss were more distressed and worried about the health of the foetus than their counterparts with no history of loss. There was no difference between the two groups in terms of when they first communicated about their pregnancy to someone outside of their relationship and both groups perceived themselves as being highly socially supported.

The findings add to the literature on women's mental health after loss and highlight implications for professionals. Consistent compassion, reassurance and validation may be

needed by others to help women reduce their distress and worry in pregnancies subsequent to loss.

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Chapter One

Introduction

Miscarriage is one of the most commonly occurring pregnancy complications, occurring in approximately 15-20% of all pregnancies (Blohm et al., 2008; Farren et al., 2016; McCarthy et al., 2015; Van den Akker, 2011) and has been shown to result in feelings of sadness, grief, and worry in many women (Chojenta et al., 2014; Neugebauer & Ritsher, 2005). Furthermore, previous research has shown that these feelings can persist for long periods of time and carry over into subsequent pregnancies (Blackmore et al., 2011; Kong et al., 2010). These factors are important as they raise the question about the impact of pregnancy loss on the mental health of the woman who experiences it, but also the impact it may have on her relationship with pregnancy and subsequent pregnancies moving forward.

Previous research on the impact of miscarriage has stressed the importance of social support as a mitigating factor for the woman's ability to cope with the emotions raised by the loss of her pregnancy (Bellhouse et al., 2018). However, it is unknown how the role of communication about the pregnancy works within the development of social support. Current literature on women's behaviour in subsequent pregnancies has found that some women feel pressured to keep their subsequent pregnancy private (Bellhouse et al., 2018; Farren et al.,2016; Hiefner, 2020; Littlemore & Turner, 2020). Bellhouse et al. (2018) discussed that this pressure may be felt from societal traditions of not disclosing pregnancy, difficulty discussing a previous loss, and previous dismissive or insensitive responses from others. These cumulative experiences then changed how the women in Bellhouse et al.'s (2018) study approached communicating in a subsequent pregnancy.

This current study aimed to investigate how women with a history of pregnancy loss communicate about their pregnancy, and whether this relates to how they perceive their level

of social support. Furthermore, this study aimed to add to the current literature on maternal mental health after loss.

Literature Review

Miscarriage and Pregnancy Loss

The term pregnancy loss is usually defined as combination of miscarriage (foetal death in early pregnancy before 24 weeks of gestation), termination of pregnancy for foetal anomaly (TOPFA), still birth (birth of a baby that has died after 24 weeks of gestation) and neonatal death (the death of a baby during its first 28 days of life; Hunter et al., 2017). Pregnancy loss literature generally does not include elective terminations as a type of spontaneous and/or uncontrollable loss. The current study remained consistent with the literature; further rationale for this decision is explained in the method section of this thesis.

The exact cut-off points for miscarriage and still birth vary depending on where a woman lives but are generally recognised as being between 20 to 28 weeks (Van den Akker, 2011). Miscarriage is the most common pregnancy complication and affects approximately one out of three women (Van den Akker, 2011). For comparison, the chances a pregnancy will end in stillbirth in the United Kingdom are approximately one out of every 200 known pregnancies (Littlemore & Turner, 2020) and in the United States it is estimated at one out of 200 for White women and one out of 87 for Black women (Spong, 2011). Pregnancy loss can be a very distressing and difficult life event and commonly is associated with experiences of depression, anxiety, and post-traumatic stress (Broen et al., 2005). Women and men who have lived through a pregnancy loss have an increased risk of developing psychological distress, specifically, clinically significant levels of depression and anxiety following the loss of the pregnancy (Cumming et. al., 2007; Hunter et al., 2017; Kong et al., 2010). This risk of psychological morbidity also appears to carry over into subsequent pregnancies following

loss, with mothers who have miscarried experiencing depression and anxiety more frequently after the birth of a subsequent child (Khodakarami et al., 2017).

Pregnancy Loss: Distress, Depression, and Grief

The loss of a pregnancy results in feelings of grief and sadness for many women (Neugebauer & Ritsher, 2005). Clinical levels of depression affect approximately 10-20% of all women following a loss (Mutiso et al., 2018). In some longitudinal studies the emotional burden of miscarriage has been shown to be significant and enduring for up to one-year post-loss (Kong et al., 2010), and up to three years after the birth of a subsequent child (Blackmore et al., 2011). Kong et al. (2010) found a reduction in depression over one year and Lok et al. (2010) found that directly after the miscarriage over a quarter of the women scored high enough on the Beck Depression Inventory to be rated as having a probable depressive disorder, though depression was not significantly elevated one year after the miscarriage. Contrary to these findings, in a recent meta-analysis, Hunter et al. (2017) found a consistent, though small, relationship between perinatal loss and increased depression scores for women in a subsequent pregnancy. These findings suggest that women who experience a pregnancy loss may be at increased risk of developing depression post-loss, and for some, experiences of depression may carry-over to impact subsequent pregnancies.

Whilst one out of three women are likely to experience a spontaneous miscarriage, it is estimated that approximately 42 million women worldwide choose to have a legal induced abortion each year (Curley & Johnston, 2013). Broen et al. (2005) compared 120 Norwegian women that had experienced a miscarriage to women that had an elective abortion across a five-year period. Women who miscarried had higher levels of intrusive thoughts and memories directly after the loss compared to the women who had an abortion, though this was not significant at any further time point. Furthermore, women who miscarried had significantly more feelings of grief across three time points (10 days, six-months and two-

years) than women who had an abortion. The authors stated that the women who miscarried perceived their sudden loss of pregnancy as a "traumatic and sad life event" (Broen et al., 2005, p. 8). Both groups in this study had elevated distress, but distress after miscarriage was higher; however, by the five-year follow up these women had improved more rapidly according to their Impact of Event Scale (IES) scores on avoidance, grief, loss, guilt, and anger, than their counterparts who had an induced abortion. This suggests that women who experience a miscarriage have significant emotional reactions that can last for a prolonged time but appear to improve by five years. Furthermore, this study highlights the difference in experience between miscarriage and abortion (Broen et al., 2005). Perhaps the sudden and unexpected nature of miscarriage results in the traumatic response leading to the study's findings of more intrusive thoughts and memories directly after the loss of pregnancy (Broen et al., 2005; Cumming et al., 2007; Farren et al., 2016).

Whilst this thesis focuses on women's feelings of distress, it is important to distinguish the terms *distress, depression, and bereavement*. This thesis refers to distress as a combination of depression and anxiety symptoms that suggests the women may be struggling to cope with unpleasant feelings (Khanlari et al., 2019), whereas depression is referred to as a clinical term which indicates the presence of diagnosable symptoms (Woody et al., 2017). Bereavement fits in as it is a common emotional reaction after loss and runs the risk of being pathologized into depression (Neugebauer & Ritsher 2005). For example, Neugebauer and Ritsher (2005) raised awareness to a debate in the literature criticising clinicians for pathologizing women's emotional bereavement reactions following the loss of pregnancy. They argue that much of the research in this area pertains to measuring depressive symptomology without factoring in normal human grief reactions. To address this concern, they conducted a study looking at the relationship between grief (described as a sense of yearning or pining for the lost child) and depressive symptoms over the course of six months

following an early pregnancy loss. Using the Centre of Epidemiological Studies – Depression Scale (CES-D) and the Perinatal Bereavement Scale (PBS), the authors found that in their sample of 304 women who had experienced a miscarriage, depression and grief commonly occurred together. However, a significant proportion of women were grief-stricken without depressive symptomology and some depressed women were not depressed as a result of grief, which highlights an important distinction between feelings of grief and symptoms of depression after loss. The article by Neugebauer & Ritsher (2005) highlights the need for consideration of the differences between depression and grief, and indicates the potential for pathologizing bereavement. This is an important consideration as pathologizing experiences is usually followed by suggesting a form of intervention, however, reviews of treatments for bereavement suggest there is mixed evidence of its efficacy at reducing grief (Currier et al., 2007; Gauthier & Gagliese, 2012). This highlights the importance of correctly distinguishing a women's experience after loss so that she can access the appropriate and most beneficial interventions.

A meta-analysis done by Adolfsson (2011) discusses the risk of pathologizing grief after pregnancy loss; they suggest that grief after perinatal loss was different from other types of loss in that the parents have no focus for their grief and generally their grief is interlinked with feelings of guilt. Adolfsson (2011) argues that when a measure of depression is used for a woman's reaction following a pregnancy loss, the reaction is considered a diagnosable illness. However, when a measure of grief is used the woman's reaction is generally considered normal under the circumstances. This meta-analysis highlights the importance of interpretation when it comes to understanding the complex emotional reaction in the circumstances of pregnancy loss. Furthermore, Adolfsson's (2011) study highlights the importance of correctly identifying where a woman's experience sits along the continuum between natural distress and clinical depression.

Pregnancy Loss and Anxiety

Increased levels of anxiety in pregnancy have been associated with an increased risk of preterm birth and/or low birth weight (Ding et al., 2014), as well as reducing blood flow to the uterus and increasing the foetal heart rate (Monk et al., 2003). Following this, pregnancy related anxiety may have adverse effects on pregnancy outcomes (McCarthy at al., 2015).

There is an abundance of literature regarding women's experiences with anxiety after a loss of pregnancy; some studies have found higher levels of anxiety than depression or grief after miscarriage (Cumming et al., 2007; Farren et al., 2016).

McCarthy et al. (2015) used data from a prospective cohort study of 5628 women to compare women with a history of miscarriage with women that had a history of abortion in terms of their anxiety, depression, stress and altered behaviours in a subsequent pregnancy. They found that both women with previous terminations and miscarriages had high levels of anxiety, stress, depression, and avoidance behaviours in a subsequent pregnancy, however women who miscarried had significantly higher anxiety levels than those that had terminations. McCarthy et al. (2015) suggest that one reason why women who have miscarried report significantly higher anxiety levels may be due to pregnancy now feeling unpredictable after experiencing a spontaneous loss. Furthermore, McCarthy et al.'s (2015) study highlights the implications of risk for anxiety in subsequent pregnancies. This implication is consistent with findings by Hunter et al. (2017) in their meta-analysis that found experiencing a perinatal loss was associated with a significant medium effect on trait anxiety levels.

Farren et al. (2016) conducted a study comparing women with early pregnancy loss to a control group with no loss over the course of three months after loss. The authors found that at one month, 32% of the pregnancy loss group had moderate-to-severe anxiety compared

with 10% in the control group. At the three-month time point, the loss group had reduced to 20% having moderate-to-severe anxiety levels, indicating a reduction in anxiety severity over time. This general trend of decreasing anxiety over time following a miscarriage seems to be consistent across studies (Bergner et al., 2008; Cumming et al., 2007; Fertl et al.2008). Another example of the reduction in anxiety over time can be seen in the prospective study conducted by Cumming et al. (2007) who measured anxiety and depression in 273 women and 133 men over 13 months following a miscarriage. They found that, in comparison to depression, anxiety had a greater effect on both genders. However, over the 13 months both genders showed an increasing level of adjustment and a reduction in the anxiety symptoms they had at the beginning of the study.

Pregnancy related fear has been associated with the fear of the unknown and uncertainty in pregnancy (Harpel, 2008). In one of the first studies to examine foetal health anxiety as its own construct, Harpel (2008) conducted a qualitative study of 30 pregnant women (six of whom had experienced a miscarriage) to explore the role that ultrasound has on foetal health anxiety. Harpel (2008) found that 93% of women in the sample reported fear about the health of the foetus, with 96.5% responding that ultrasound played a part in this anxiety. The women in this study reported feelings of heightened anxiety during the lead up to the ultrasound as it was a reminder that something could be wrong with the pregnancy, their anxiety was reinforced by unsupportive sonographer behaviour and an inability to see the monitor throughout the ultrasound process. These studies suggest that losing a pregnancy appears to be associated with an increased risk of experiencing pregnancy related anxiety and/or fear in a subsequent pregnancy (Bergner et al., 2008; Fertl et al., 2008).

Subsequent Pregnancies After Loss: What Do We Know?

Between 50% and 80% of women become pregnant again after experiencing a pregnancy loss (Nynas et al., 2015). McCarthy et al. (2015) suggest that a pregnancy loss

generally has adverse effects on the mental health of a woman who experiences one, and thus may increase the risk of adverse pregnancy outcomes in a subsequent pregnancy. Chojenta et al. (2014) found that the odds of a woman reporting excessive worry during a subsequent pregnancy were more than double for women who had experienced a pregnancy loss. Furthermore, having a history of loss was associated with higher rates of emotional issues during pregnancy, such as a higher chance of reporting sadness and low mood, than for women who had no history of loss. The authors suggest that their longitudinal cohort of women were more likely to experience subsyndromal symptoms of anxiety and depression (excessive worry and sadness/low mood) in a subsequent pregnancy rather than diagnosable illnesses. The authors came to this conclusion through their lack of evidence linking pregnancy loss to self-reported diagnoses of depression and anxiety, furthermore, they found no relationship between pregnancy loss and their measures of stress/distress, feelings of guilt, or lack of enjoyment/interest in things during a subsequent pregnancy. Chojenta et al. (2014) also reported that they found no relationship between a loss of pregnancy and experiencing emotional issues during the postnatal period of a subsequent pregnancy.

Some studies suggest that women with a history of miscarriage may experience more pregnancy specific anxiety in the first trimester than women who have no history of miscarriage (Bergner et al., 2008; Gong et al., 2013; Hunter et al., 2017). Chojenta et al. (2014) suggest that the increased likelihood of anxiety during the first trimester could be because of a significant relationship between loss and excessive worry due to an increase of pregnancy specific anxiety and rumination over the health of a subsequent pregnancy. The pattern that increased pregnancy specific anxiety is associated with loss would be consistent with McCarthy et al. (2015) who found that the anxiety symptoms after pregnancy loss can persevere past 15 weeks and up to 20 weeks gestation for some women. Another study has suggested that worry about the health of the development of the pregnancy may be a core

component of pregnancy related fear (Reiser & Wright, 2019). Reiser and Wright (2019) developed a psychometrically sound tool to measure the construct of foetal health anxiety (worry about the health of the developing foetus; described in the methods section) and suggest that foetal health anxiety may also contribute to raised anxiety levels in pregnancy.

A subsequent pregnancy after a loss has been associated with a significant fear around losing another child (Fertl et al., 2008). A longitudinal study of pregnant women in Germany by Fertl et al. (2008) found that fear of losing the pregnancy was elevated for all women in the study for the first few weeks of pregnancy; however, for women with a history of one or more miscarriages this fear remained elevated for the entire first trimester (Fertl et al., 2008). Separately, state anxiety for women with one prior loss was elevated until the gestation of the prior pregnancy loss had passed, and then reduced. However, for women with a history of multiple losses, state anxiety did not decline. Fertl et al. (2008) suggest that for women with one loss, passing their critical window safely in a subsequent pregnancy provided significant relief, whereas women with multiple losses may have more generalised anxiety and may find it difficult to find relief. Similar findings of increased anxiety within the first trimester of a subsequent pregnancy have also been demonstrated across other studies (Gong et al., 2013; Hunter et al., 2017). Findings of elevated anxiety within the first trimester could also help us to understand why Chojenta et al. (2014) found no association with emotional issues in the postnatal period; perhaps a subsequent pregnancy that ends successfully in the birth of a healthy child removes some of the anxiety and fear around the potential loss of another child, so that experiencing emotional issues is less likely in the second and third trimesters and the postnatal period (Chojenta et al., 2014; Shapiro et al., 2017).

Mitigating Factors

The Role of Social Support After Loss

Social networks are an important consideration when it comes to coping with difficult experiences. Social support can play an important role in buffering feelings of grief, loss, and distress following a miscarriage or pregnancy loss (Bellhouse et al., 2018; Hiefner, 2020). However, some studies discuss a lack of recognition and understanding of the impact pregnancy loss has on the bereaved woman and her partner, leaving them with less social support through their grief (Hiefner, 2020; Renner et al., 2000).

Bellhouse et al. (2018) conducted a qualitative study of 15 women that had experiences with miscarriage. They used thematic analysis to understand the common experiences of social support after a miscarriage. The women in the study reported both positive and negative experiences of social support; most commonly women credited their partners as playing a crucial role in their support networks, often noting how their partners put aside their own feelings of grief and loss to support them through the experience. Furthermore, communicating with other women who had experiences of loss appeared to create a helpful, supportive, and validating environment; many women felt that others did not understand their experience and struggled to empathise, leaving them feeling hurt, misunderstood and disappointed. Nearly all the women who participated in Bellhouse et al.'s (2018) study reported that people within their social support network made insensitive comments regarding the miscarriage, and pregnancy in general. These insensitive comments often related to being dismissive, trying to find a 'silver lining' of the miscarriage or in some cases blaming the woman for causing or contributing to the pregnancy loss. Insensitive and/or invalidating comments by both people in their support network and the medical professionals working with women who have experienced pregnancy loss is a consistent theme in the literature (Bellhouse et al., 2018; Hiefner, 2020; Littlemore & Turner, 2020; Meyer, 2016;

Rowlands & Lee, 2010). In an article describing her own experience after a pregnancy loss, Meyer (2016) describes how statements others would use with good intentions of support (e.g., “You can always have another”; “It just wasn’t your time”; “It’s probably better off this way”) are often dismissive and invalidating of the experience and grief that is associated with a pregnancy loss. Furthermore, many women in qualitative studies spoke to the vast silence around miscarriage with many people not knowing what to say or how to respond to women after their experience with loss, or avoiding it altogether, leaving them feeling that they do not receive the same level of support after a miscarriage as others who lose a living child, friend or relative (Bellhouse et al., 2018; Hiefner, 2020; Meyer, 2016).

A common theme in the study by Bellhouse et al. (2018) was that women found it difficult to discuss the miscarriage with people who were unaware that they were pregnant in the first place; they found more support from those in their network that were aware of the pregnancy before the miscarriage occurred. Women who had a history of multiple losses reported that they purposely told more people about their subsequent pregnancies so that they would feel more comfortable asking for support in case they had another miscarriage.

When and what can be discussed regarding pregnancy and pregnancy loss is deeply ingrained into cultural norms (Hiefner, 2020). Women with a history of loss also felt that the societal pressure to not disclose pregnancy until after the first trimester left them feeling alone and isolated in their grief as the people they would have gone to for support were unaware they were pregnant (Bellhouse et al., 2018). Societal rules around pregnancy loss were clearly defined and discussed in interviews with 20 couples that experienced pregnancy loss in Bute et al.’s (2019) study, these interviews resulted in three core rules: “Keep it behind closed doors,” “No guys should talk about it,” and “Don’t announce a pregnancy too soon.” Bute et al. (2019) suggest these rules help to keep the pervasive narrative of silence

and stigma regarding loss ongoing, and impact on the woman's ability to access social support (Hiefner, 2020; Littlemore & Turner, 2020; Renner et al., 2000).

Does Communication Play a Part?

A miscarriage represents a loss of an expected child and can pose a threat to a mother's and father's expectation to have a family. Furthermore, women in recent studies have spoken of how western societal norms encourage privacy and silence around pregnancy until the mother is past the first trimester (Bellhouse et al., 2018; Hiefner, 2020; Littlemore & Turner, 2020). Farren et al. (2016) argue that this pressure to remain private may reinforce women to not communicate about her pregnancy and perhaps result in less support from family, friends, and colleagues.

Current Study

Experiencing a pregnancy loss is often linked with feelings of depression, distress, and anxiety. Research suggests that social support plays a key role in helping women cope with the loss of a pregnancy. Qualitative research, as that described above by Bellhouse et al. (2018), suggests that women feel pressured/expected to keep a pregnancy private until after the first trimester, which is often the riskiest time to experience a miscarriage; furthermore, when women don't tell others about pregnancies subsequent to a miscarriage, they feel isolated in their worry. However, little is known about when and how women tell their social networks about their pregnancies, whether or not they have experienced a loss. Therefore, this study aims to explore women's experiences within a pregnancy subsequent to loss, in relation to their feelings of distress, foetal health anxiety, social support, and communication about their pregnancy with others.

Prior research has found that experiencing a loss of pregnancy can result in feelings of grief, loss, and sadness (Broen et al., 2005; Neugebauer & Ritsher, 2005), but raise the

concern of using depression diagnostic tools for what could also be considered a normal grief response to a traumatic life event. Therefore, in this study we have used the term ‘distress’ to encompass both experiences depression and anxiety into a single term that reflects a woman’s current level of worry, sorrow, and pain. Based on previous literature in this field, it is hypothesized that women that have experienced a prior loss will be more distressed than women who have not experienced a pregnancy loss.

H1. Pregnant women who have had pregnancy loss will have higher levels of distress than women who have not had a pregnancy loss.

Current literature also refers to worries about the health of the developing foetus. Research in the field of subsequent pregnancies refer to a separate type of pregnancy worry called foetal health anxiety. Studies such as that done by Bergner et al., (2008) suggest that women with a history of miscarriage experience more pregnancy specific anxiety in the first trimester than women who have no history of miscarriage. Based on findings like these it is also hypothesized that women that have experienced a prior pregnancy loss will have more anxiety about the health of her developing baby than women who have not experienced a pregnancy loss.

H2. Pregnant women who have had a pregnancy loss will have higher foetal health anxiety than women who have not had a pregnancy loss.

Whilst previous studies, like Bellhouse et al. (2018) and Rowlands and Lee (2010), touch on the concept of communicating about a pregnancy after loss, no other studies were found that explored the concept of communicating about the pregnancy to others. To measure this concept, this study sought to explore in a large sample the variation in when and to whom women shared the news of their pregnancy, and whether that relates to their levels of perceived social support. It is hypothesised that women who have experienced a pregnancy

loss would wait until later in the pregnancy to announce it to others. Prior research has credited the woman's partner as being a crucial support person in their lives (Bellhouse et al., 2018), and so this hypothesis refers to telling people other than the partner.

H3. Pregnant women who have experienced pregnancy loss will tell people other than their partner later than women who have not experienced a pregnancy loss.

Qualitative research such as that by Bellhouse et al. (2018) stress the importance of social support following the loss of a pregnancy. However, Bellhouse's interviews with women who had experienced loss highlighted a pattern that many women felt that the societal pressure to not disclose pregnancy until after the first trimester left them feeling alone and isolated in their grief as they had lost the pregnancy before they felt able to disclose to anyone that they were pregnant. Similar findings have been mirrored in multiple other studies (Bute et al., 2019; Hiefner, 2020; Littlemore & Turner, 2020; Renner et al., 2000). It is based on findings of this nature that it is hypothesized that women who have had a prior loss will wait longer to disclose their pregnancy and therefore perceive lower levels of social support in a subsequent pregnancy.

H4. Women who have had a pregnancy loss will perceive less social support than women who have not had a loss.

The current study aims to use the above hypotheses to explore the experience of miscarriage and pregnancy loss in a subsequent pregnancy. Furthermore, the study seeks to explore how these experiences may be related to how women communicate about their pregnancy with others and how that relates to their levels of perceived social support.

Chapter Two

Method

Design

This study was cross-sectional and correlational in design. A convenience sample was used, participants completed an online anonymous survey comprised of several self-report scales and pregnancy related questions.

Procedure

Ethical approval for this study was granted through the Human Research Ethics Committee of the University of Waikato HREC(Health)2019#77.

Recruitment focused on pregnant women of any gestation who were not in care for suspected or diagnosed foetal health concerns. Participants were recruited through social media outlets such as Facebook, Instagram, and Reddit. Research posters (Appendix B) were also sent out via email and digital newsletters, as well as spread via word of mouth.

The recruitment process allowed the participants to access the online platform Qualtrics in their own time and from any global location if they were connected to the Internet. Once a participant could access Qualtrics through the link provided, they were presented with an information page (Appendix A). Each participant provided their consent to participate by checking a box indicating they had read through the information page and were comfortable participating in the study. After the participant had given their consent, they were presented with a battery of questionnaires estimated to take approximately 20 minutes to complete depending on the length and detail of the participant's answers.

Two hundred and ninety-two responses were gathered between 25th November 2019 and 20th May 2020. The data were cleaned to remove entries that did not consent to

participate (10), that did not at least complete the measured variables (39) or responded that they were not currently pregnant (56). The final data set used in the data analysis was compiled from the remaining 187 valid responses.

Participants

The final data set was comprised of 187 valid cases. Demographic information gathered suggests participants were spread out across the globe with 59 (31.6%) responding from New Zealand, 11 (5.9%) responding from Australia and 117 (62.6%) responding as living somewhere else, such as the USA 86 (73.5%), Canada 19 (16.2%), the United Kingdom 10 (8.5%) and Germany 2 (1.7%). Ethnicity was recorded via multichoice options. Participants were first asked if they lived in New Zealand, Australia or 'Other,' and depending on their response, they were presented with either New Zealand or Australian census ethnicity options or asked to fill in the blank. The participants were asked to fill in the blank as responses were expected to differ across locations. Table 1 below outlines the ethnicity of participants for each of these locations.

The mean age was 28 years old (SD = 4.38) with a range of age from 17 to 41 years old. The mean weeks gestation was 20.3 weeks (SD = 10.09); forty-nine (26.8%) participants were in their first trimester, 78 (42.6%) were in their second trimester, and 56 (30.6%) were in their third. Sixty-one (32.6%) participants were pregnant for the first time and 124 (66.3%) had been pregnant more than once. Most participants were married or in a civil union (140; 74.9%), with 42 (22.5%) in a defacto relationship and 5 (2.7%) indicated they were single. Participants appeared to be well educated with 136 (72.7%) having completed an undergraduate tertiary qualification or more. Just over half of the participants were working outside of the home (107; 57.2%) in either full time (76; 71%) or part time (31; 29%) roles at the time of the survey.

Table 1

Ethnicity of Participants.

	N (187)	%
New Zealand Respondents (N = 59)		
NZ European	42	71.2
Māori	10	16.9
Asian	2	3.4
Other European	4	6.8
Other	1	1.7
Australian Respondents (N = 11)		
European / Australian	9	81.8
Pacific	1	9.1
Asian	1	9.1
'Living Elsewhere' Respondents (N = 117)		
Caucasian / White	102	87.2
Hispanic / Latino	5	4.3
Middle Eastern / Asian	5	4.3
African American	1	0.9
Ashkenazi Jewish	1	0.9
Mixed Race	3	2.6

Measures

Fetal Health Anxiety Inventory

The Fetal Health Anxiety Inventory (FHAI; Reiser & Wright, 2019; Appendix A) was used to measure the participant's anxiety regarding the health of her developing foetus. Each item on the 14-item scale consists of four statements regarding the health of the developing baby. For example, Item 1 consists of "I do not worry about my baby's health," "I occasionally worry about my baby's health," "I spend much of my time worrying about my baby's health" and, "I spend most of my time worrying about my baby's health." For each item, the participant chooses the statement they feel best reflects their feelings towards their current pregnancy. Statements are scored on a scale from 0 (i.e., "I do not worry about my

baby's health") to 3 (i.e., "I spend most of my time worrying about my baby's health"). The sum of the 14 scores produces a total score of foetal health anxiety (0-42); higher scores correspond to higher levels of foetal health anxiety. Reiser and Wright (2019) found the FHAI to have an internal consistency of α = .91 and an Omega of .91. The FHAI is a relatively new measure; the results from the current study add evidence to validate the FHAI scale. In the current study the FHAI had an internal consistency of α = .92.

Edinburgh Postnatal Depression Scale

The Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987; Appendix A) was used as a measure of participants' anxiety and depression, referred to in this study as distress. The term distress was used to capture an overall picture of grief, anxiety, and depression as an indicator of how the women were currently coping with their pregnancy.

The 10-item scale consists of ten questions relating to distress (e.g., "I have been anxious or worried for no good reason" and "I have felt sad or miserable"). For each of the ten items the participant rates how they have felt during the past week on a 4-point Likert scale ranging from 0-3; higher scores indicate more symptoms of distress. The sum of the participant's answers produce a total score of possible distress. For antenatal English-speaking women, an optimal cut-off score of 15 or more has been suggested for major depression and 13 or more to include minor depression (Murray & Cox, 1990; Rubertsson et al., 2011; Su et al., 2007). The EPDS is the most widely used brief measure of perinatal distress and has been used internationally across a wide variety of countries (Gibson et al., 2009). The EPDS has been well validated for measuring both anxiety and depression during pregnancy (Jomeen & Martin, 2005). The EPDS demonstrated a good level of internal consistency with a Cronbach's alpha of α = .88 in the current study.

Social Provisions Scale – Short Version

The Social Provisions Scale – Short Version was used as a multi-dimensional measure of social support (Cutrona & Russell, 1987; Appendix A). The 10-item scale measures five styles of social support: guidance ("There is a trustworthy person I could turn to for advice if I were having problems"), reassurance of worth ("I have relationships where my competence and skills are recognized"), social integration ("There are people who enjoy the same social activities that I do"), attachment ("I have close relationships that provide me with a sense of emotional security and wellbeing") and reliable alliance ("There are people I can depend on to help me if I really need it"). The 10 items are rated on a 4-point Likert scale from 1 = Strongly Disagree to 4 = Strongly Agree. The sum of all 10 responses generates the total score; the higher the score the more social support the participant perceives they have. The SPS demonstrated an internal consistency of $\alpha = .91$ in the current study.

Communication Questions

Participants were asked several questions relating to which specific people they had told about their pregnancy (e.g., "Does your partner currently know you're pregnant?") The participant was then offered the following responses: "Yes," "No," or "N/A – (e.g., I don't have a partner)." If the participant responded "Yes," they were prompted to enter the approximate gestation in weeks they were when they told their partner about the pregnancy before moving to the next set of questions. If the participant responded with "No," they were prompted to enter when they planned on telling their partner. If they responded "N/A," they were skipped ahead to the next set of questions. This process was repeated for when they had told their family, at least one friend and their co-workers. The participant was also asked to estimate how many people may know about the pregnancy with multichoice options ranging from 0 to 10+. The participant was then asked, "What are your thoughts and/or comments

about how people found out you were pregnant?" and offered the option to answer through free text. All communication of pregnancy (COP) questions can be found in Appendix A.

Pregnancy Loss Questions

Participants were asked a series of questions about prior pregnancies (Appendix A). If a participant indicated they had a history of pregnancy loss they were asked to respond with yes/no if they had experienced a miscarriage, pregnancy termination or still birth. Participants were asked to enter how many times they had experienced each type of loss, the longest gestation they have carried to, who they sought support from and approximately how long it had been since their last pregnancy loss.

In this thesis, pregnancy loss was defined as a spontaneous unintentional or uncontrollable loss of pregnancy; therefore, intentional pregnancy terminations were not included in the pregnancy loss group. This is not to minimise the emotional experiences women have following such terminations or the effect such terminations have on subsequent pregnancies, but instead as an attempt to remain consistent with the literature and clarify the focus of this research on the uncontrollable side of pregnancy loss.

Statistical and Post-Hoc Analyses

The data set was exported from Qualtrics into the IBM Statistical Package for the Social Sciences (Version 26) and cleaned to remove all invalid cases. The final data set was prepared for data analysis; this included calculating scores for the FHAI, EPDS, SPS, coding entries into groups (i.e., Uncontrollable Pregnancy Loss group; UPL, and No Uncontrollable Pregnancy Loss group; NUPL), and recoding variables into a consistent form (i.e., weeks or months). Descriptive analyses were completed for demographic variables, frequency analyses were completed to check for normality. To first explore the relationships among the four variables, distress (EPDS), foetal health anxiety (FHAI), social support (SPS) and

communication of pregnancy (COP), non-parametric Spearman's Rho correlations were completed separately for both UPL and NUPL groups. Once complete, *t*-tests were conducted to compare women with a history of pregnancy loss to women with no loss in terms of their level of distress (EPDS) and foetal health anxiety (FHAI). Due to the skewed results of social support (SPS) and communication of pregnancy (COP) a Mann-Whitney U test was run to compare women with UPL to women with NUPL in terms of their SPS and COP.

Finally, a post-hoc qualitative analysis of the women's written responses was conducted to further explore the participants' experience of how others found out about their pregnancy. Participant's responses to the question "What are your thoughts and/or comments about how people found out you were pregnant?" were exported into an excel spreadsheet. After reading through the responses, it appeared that there were two key aspects to the responses: control and happiness. Many women's responses seemed to reference a need to maintain control over who found out and when; furthermore, many women also spoke of feeling happy about how others found out about their pregnancy. The researcher and three external psychology graduate students rated the controllability and happiness of each entry on an ordinal scale. For each item the raters were asked to rate either a 1 ("it seems like they had full control" and "they seem positive"), 2 ("it seems like they have some control" and "they seem neutral"), 3 ("it seems like they had no control" and "they seem negative"), or can't rate ("I can't tell from this response how much control they had" and "I can't tell from this response how happy they are"). Agreement across each pair of raters was calculated using Cohen's Kappa, a measure of interrater reliability.

A thematic analysis was undertaken on the women's responses using Braun & Clarke's (2006) thematic analysis method. The responses were read through and coded, entries were then grouped with similar codes to develop an initial pattern. The apparent patterns were discussed with the research supervisor and refined into eight themes that

appeared to capture important experiences the women had when communicating about the pregnancy (COP).

Chapter Three

Results

Pregnancy and Loss

The participant's experiences of pregnancy and pregnancy loss were measured through a series of self-report questions. Of the 185 participants who responded to these questions, 61 (32.6%) women were pregnant for the first time and 124 (66.3%) had been pregnant before; of these 124 women, 77 (62.1%) had given birth before the current pregnancy and 47 (37.9%) had not. Six (3.3%) women indicated they were currently pregnant due to engaging with fertility treatment.

Of the 124 women that indicated they had been pregnant before and thus asked to respond to the pregnancy loss questions, 18 (14.6%) had experienced a pregnancy termination, 72 (59%) had previously miscarried and 11 (8.9%) had experienced a still birth. For the purpose of this thesis, pregnancy loss was defined to include miscarriage and still birth. Out of the 72 (59%) women who reported experiences of miscarriage, 45 (61.1%) of these women experienced a singular miscarriage, 16 (21.9%) had two miscarriages and 11 (15.2%) women had experienced three or more. Eleven women (8.9% of those with pregnancy loss) had experienced a still birth; none had experienced more than one. The final pregnancy loss group was comprised of 79 (42.7% of the whole sample) women who had experienced a miscarriage and/or a still birth. The comparison group was comprised of the 106 (57.3%) women who had no experience of uncontrollable pregnancy loss.

Participants were also asked questions relating to their mental health. Eighty-two (43.9%) participants had never received a diagnosis of anxiety or depression, 77 (41.2%) had previously been diagnosed with anxiety and 72 (38.5%) had been diagnosed with depression. Sixteen (8.6%) participants indicated that they had received alternate diagnoses such as post-

traumatic stress disorder, bipolar disorder, borderline personality disorder and attention deficit hyperactivity disorder.

Distributions of the Key Variables

Table 2 shows the descriptive statistics for each of the four variables: EPDS, FHAI, COP and SPS. The EPDS and FHAI were relatively normally distributed. However, the social support measure (SPS) was negatively skewed and had a substantial ceiling effect with 29.6% of scores being the two highest scores on the measure (39 and 40 respectively). The way COP was measured resulted in a positive skew with 66.9% of responses being fairly evenly distributed between two- and six-weeks' gestation.

Table 2

Whole group data for each variable.

	EPDS	FHAI	COP	SPS
Mean	9.66	13.55	6.35	34.83
Std. Deviation	5.16	7.18	2.81	4.80
Range	0 - 26	2 - 35	2 - 18	18 - 40
Skewness	0.55	0.64	1.43	-1.02
Kurtosis	0.18	-0.01	2.08	0.74

N = 178 – 187. EPDS = Edinburgh Postnatal Depression Scale, FHAI = Fetal Health Anxiety Inventory, COP = Communication of pregnancy, SPS = Social Provisions Scale.

Relationships Among Distress, Worry, Communication and Support

To first explore the relationships among EPDS, FHAI, SPS and COP, a Spearman's Rho (*r)* correlation was calculated separately for the uncontrollable pregnancy loss group (UPL) and the no uncontrollable pregnancy loss group (NUPL). Due to the non-normality of the two key variables (SPS and COP), a non-parametric Spearman's Rho (*r)* was used. The correlations can be seen in Table 3 for UPL and Table 4 for NUPL.

Moderate positive correlations were found between distress and foetal health anxiety for both UPL and NUPL. A moderate negative correlation was found between distress and social support for both UPL and NUPL.

Table 3

Correlation Matrix of Women with a History of Uncontrollable Pregnancy Loss (UPL)

		COP	FHAI	EPDS	SPS
COP	*r*	1.00			
	p	.			
FHAI	*r*	.189	1.00		
	p	.110	.		
EPDS	*r*	.126	.427**	1.00	
	p	.290	.000	.	
SPS	*r*	-.191	-.100	-.300**	1.00
	p	.105	.383	.007	.

**Note.* *r* = Spearman's rho correlation, *p* = Significance (two tailed), ** = correlation is significant at the 0.01 level. *N* = 103-105. COP = Communication of pregnancy, FHAI = Fetal Health Anxiety Inventory, EPDS = Edinburgh Postnatal Depression Scale, SPS = Social Provisions Scale.

Table 4

Correlation Matrix of Women with no History of Uncontrollable Pregnancy Loss (NUPL)

		COP	FHAI	EPDS	SPS
COP	*r*	1.00			
	p	.			
FHAI	*r*	-.022	1.00		
	p	.825	.		
EPDS	*r*	-.045	.406**	1.00	
	p	.650	.000	.	
SPS	*r*	.174	-.152	-.426**	1.00
	p	0.78	.122	.000	.

**Note.* *r* = Spearman's rho correlation, *p* = Significance (two tailed), ** = correlation is significant at the 0.01 level. *N* = 103-105. COP = Communication of pregnancy, FHAI = Fetal Health Anxiety Inventory, EPDS = Edinburgh Postnatal Depression Scale, SPS = Social Provisions Scale.

Relationships Between Women With and Without Loss

An independent samples *t*-test was conducted to test the hypotheses that women who had experienced an uncontrollable pregnancy loss (UPL) would be more distressed than the women who had no history of uncontrollable pregnancy loss (NUPL; H1) and that women with UPL will have higher levels of foetal health anxiety than those with NUPL (H2). Due to the non-normality of the SPS and COP variables, a Mann-Whitney U test was used to test the hypotheses that women with UPL would tell others later in their pregnancy than women with NUPL (H3) and women with UPL would perceive less social support than women with NUPL (H4). Tables 5 and 6 show the test results for each of the four hypotheses.

The women with a history of UPL reported significantly higher levels of distress on the EPDS than women who reported NUPL. At the time of the survey, 18 (16.8%) of the NUPL group and 35 (44.5%) of the UPL group scored at or above the clinical cut off score of 13 points on the EPDS.

The women with a history of UPL also reported higher levels of worry and anxiety about the health of their unborn baby (Fetal Health Anxiety; FHAI) than women who had not experienced a prior pregnancy loss.

There was no significant difference between groups in their perception of social support or when the women told someone outside of their relationship about the pregnancy.

Table 5

Mean Scores and t-values for both No Loss (NUPL) and Loss (UPL) Groups

		NUPL	UPL	*t*-value	*p*
EPDS (H1)	M	8.68	11.02	2.74	.007
	SD	4.93	5.25		
FHAI (H2)	M	10.92	17.08	6.07	.000
	SD	5.83	7.24		

**Note*. M = Mean, SD = Standard Deviation, NUPL = No uncontrollable pregnancy loss group, UPL = Uncontrollable pregnancy loss group, *p* = significance at the .05 level, EPDS = Edinburgh Postnatal Depression Scale, FHAI = Fetal Health Anxiety Scale.

Table 6

Mean Scores and Mann-Whitney U values for No Loss (NUPL) and Loss (UPL) Groups

		NUPL	UPL	U-value	z	*p*
COP (H3)	M	6.17	6.63	4165	1.11	.27
	SD	2.63	3.04			
SPS (H4)	M	35.78	34.34	3580	-1.60	.11
	SD	4.70	4.87			

**Note*. M = Mean, SD = Standard Deviation, NUPL = No uncontrollable pregnancy loss group, UPL = Uncontrollable pregnancy loss group, *p* = Asymptotic Sig. (2-sided test), z = standardized test statistic, COP = Communication of pregnancy, SPS = Social Provisions Scale.

Thoughts About Telling: A Post Hoc Exploration

To explore further the participants' experience of how others found out about their pregnancy, two post hoc methods of understanding participants' free text entries were conducted: a rating scale and a thematic analysis.

Control and Happiness Ratings

Participants' free text entries about their thoughts relating to how others found out about their pregnancy were examined to further explore the concept of communication of pregnancy (COP). After reading through the responses, it appeared that there were two key aspects to the responses: control and happiness. Many women's responses seemed to reference a need to maintain control over who found out and when, furthermore, many women also spoke of feeling happy about how others found out about their pregnancy. The researcher and three external psychology graduate students were asked to rate the controllability and happiness of each entry on an ordinal scale. No combination of ratings generated a significant Kappa score. Reliability could not be achieved on rating the two dimensions of controllability and happiness.

An Exploratory Thematic Analysis

To explore further the experience of communication, a thematic analysis was performed on the 142 free text entries. Overall, eight main themes were found. Table 5 shows the name of each theme and four examples; UPL entries have been italicised.

Excited/Happy. Many women referenced feeling happy and excited about how others found out they were pregnant, e.g., "*I announced it immediately because I was happy*" (UPL). Furthermore, many described those they had told as happy, excited, and supportive of them and their pregnancy, e.g., "They were all happy and excited that we are having another" (NUPL).

Control. The theme of control was one that seemed evident in many of the entries. Within this theme there appeared to be two sub-themes: in control and out of control about how others found out about their pregnancy.

In Control. The entries appeared to reference a need to have or take control about who and when people found out about their pregnancy. Often, women talked about needing to tell other people in person and when they felt ready or comfortable with other people knowing, e.g., "I was able to control who I told and when" (NUPL). There appeared to be a sub-element of trust that came alongside telling others, choosing people the women knew would be supportive and allow them to tell others at their own pace, e.g., "I purposefully decided who to tell and when and made sure to tell people we trusted" (NUPL).

Out of Control. Other entries referenced a frustration at not being able to maintain control over who found out about their pregnancy. The entries described varied circumstances where women had communicated about their pregnancy to someone and that person then told others without the woman's consent, e.g., "*I was upset when people didn't keep it a secret*" (UPL). For some women, this crossing of personal boundaries about communicating the pregnancy removes the woman's sense of control and results in her feeling upset and disrespected.

Having to Tell Work Early. Many of these responses indicate that the woman felt forced to tell their manager/boss early in the pregnancy because of a variety of reasons, the most common being telling managers and colleagues due to the high-risk nature of the work in order to maintain the safety of the pregnancy, e.g., "*I told my co-workers earlier than planned because my job is high-risk*" (UPL). Several of the entries mentioned that they wished they had not disclosed the pregnancy when they did but felt that they had no choice.

Mixed Feelings. There was a group of responses that indicated a mixed feeling about how others found out about their pregnancy. It appears that these mixed feelings related to both being happy they were pregnant but also feeling overwhelmed or anxious. Furthermore, some of the mixed responses appeared to be from unexpected responses from others towards how the woman was handling the pregnancy, e.g., "For the most part, I feel content about who I've shared my pregnancy to. However, there are a few people I do wish I didn't tell." (NUPL).

Fear of Something Going Wrong. These entries revolved around women being afraid to tell others or avoiding talking about her pregnancy out of fear that something may go wrong; a strong feeling of fear she will miscarry and have to "take it back" was evident, e.g., "*It worries me whenever I tell anybody I am pregnant that something may later go wrong in the pregnancy*" (UPL). All the comments in this theme came from women with uncontrollable pregnancy loss.

Telling Early for Support. This theme centred around women telling others she was pregnant very early in gestation in order to increase the social support around her, e.g., "I found telling people (even before the end of the first trimester) really helped me get over my initial anxieties and make me feel more comfortable in my changing state" (NUPL).

Keeping It Private. The entries discussed the desire to "put off" telling others about the pregnancy and keep the news to themselves. Many women spoke of similar experiences about wanting to keep the fact that they were pregnant very private, e.g., "*I have had a previous loss, so it was difficult to tell people who were not super close to me*" (UPL).

Nonchalant. The responses in this theme related to not worrying about other people knowing; how people found out about the pregnancy didn't seem to bother women who responded to this theme, e.g., They could see my bump showing so I just told them" (NUPL).

Table 7

Examples of each of the themes.

Theme	Example 1	Example 2	Example 3	Example 4	N = 142 n = % =
Excited/Happy	*I couldn't keep it to myself*	It is an ice breaker to talk to anyone about now. Lots of people start a conversation with me now.	*Everyone we shared the news with is extremely happy for us as this has been a long time coming.*	We've been telling people slowly and in person. I love how excited people get.	n = 26 UPL = 46% NUPL = 54%
In of control of how people found out	Want to tell people myself in person. Would be annoyed if people told others, not their news to share.	I purposefully decided who to tell and when and made sure to tell people we trusted.	I've only told 3 friends who will not tell anyone else till I'm ready	*I told them when I was ready. I had a previous loss, so it was difficult to tell people who were not super close to me.*	n = 15 UPL = 40% NUPL = 60%
Out of control of how people found out	Annoyed that people were told through word of mouth rather than by me and my partner	My general foreman found out from my husband's aunt; he lives next to her. He went on site and told everyone, I was VERY upset	*I was not quite happy when my mother announced to my siblings when i told her not to.*	A few people at work found out because someone else said something which made me annoyed	n = 5 UPL = 40% NUPL = 60%
Having to tell earlier than planned because of work	*I wish I didn't need to share it with my boss, but morning sickness and increased doctor's appointments made that impossible*	For my safety I disclosed my pregnancy earlier to co-workers than I would have otherwise	My job means I have to tell my co-workers for bubs safety	*I work in a hospital around some patients with high-risk conditions, so I had to disclose sooner than I wanted to*	n = 11 UPL = 64% NUPL = 36%

Theme	Example 1	Example 2	Example 3	Example 4	N = 142 n = % =
Mixed feelings about telling	I felt like I wanted to celebrate my pregnancy while it existed, knowing that there was a risk of it ending.	People who I love and trusted told me I still had time to abort my baby and made me feel like I was making a mistake keeping baby and others were happy and over the moon.	*I found there to be two different spectrums of responses - one was happiness and a thought that I can "move on" from my previous loss; the other was more cautious with a recognition that I have had a previous loss*	I feel really weird using the phrase "I am pregnant" it feels surreal.	n = 11 UPL = 45% NUPL = 55%
Fear of something going wrong	*I thought I was going to jinx myself every time I told someone*	*I mostly just feel like it's something I need to do, but I'm afraid I'll have to "take it back" and disappoint them*	*I feel like I kept pushing off the desire to tell people because I am still afraid something will go wrong after two miscarriages.*	*We waited a while and even when we did tell people we were beyond afraid something may still happen, but it was getting harder to hide.*	n = 5 UPL = 100% NUPL = 0%
Telling early for support	We wanted to tell immediate family for support say if anything went wrong	I told people sooner this time than I did for my first pregnancy.	We wanted our close friends and family to know so they could celebrate with us and also support through first trimester symptoms and if something went wrong	*I told my best friends, and they were extremely excited and happy for us. I need the support after a miscarriage last year*	n = 7 UPL = 43% NUPL = 57%

Theme	Example 1	Example 2	Example 3	Example 4	N = 142 n = % =
Wanting to keep it private	I almost wanted to keep it between my partner and myself	*I didn't announce it on social media, I didn't tell my family apart from my parents, I didn't want everyone knowing. I wanted things a lot more private*	*I have had 2 previous pregnancies end in loss, so I need to keep this news to myself*	Only told people over the phone or to their face. No social media for privacy	n = 5 UPL = 60% NUPL = 40%
Nonchalant	I was happy to share but I didn't make it a huge event to share.	I just told them when I saw them. Didn't make a big deal out of it.	Most close people were told personally. Online was announced in a nonchalant way. 28 weeks pregnant now, and I think most people know	*I was pretty casual about telling people I was pregnant because I had had a previous late miscarriage that most people knew about, so most people knew I was actively trying to get pregnant.*	n = 6 UPL = 17% NUPL = 83%

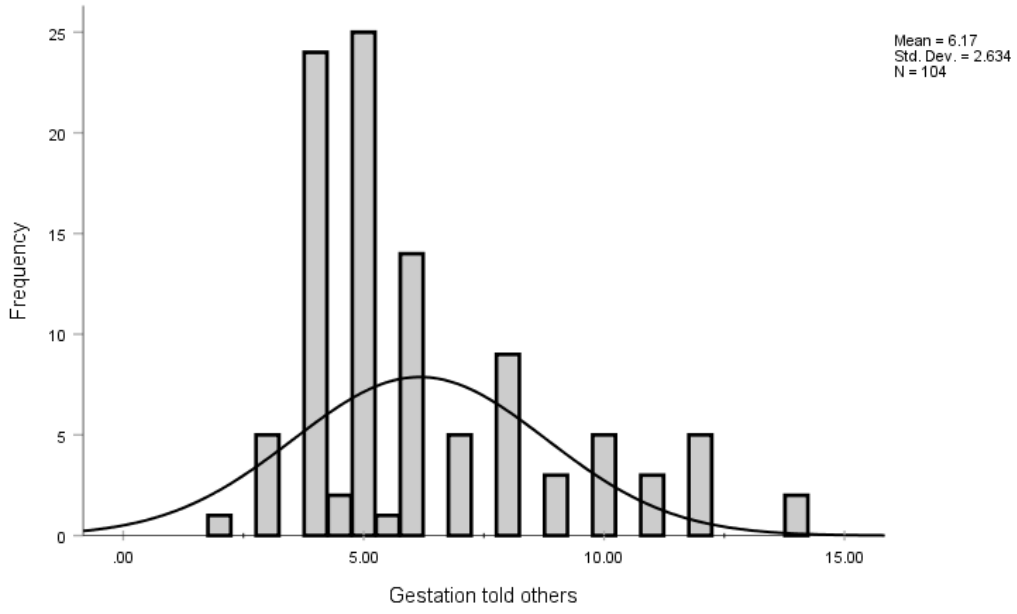
**Note.* NUPL = No uncontrollable pregnancy loss group, UPL = Uncontrollable pregnancy loss group. Italicised entries are from women with a history of UPL.

Communicating About Pregnancy

After looking at the themes and qualitative data it appeared from the women's entries that there were two groups of response styles: telling others early for support and waiting until later to tell others. To look more closely at the data to see if there could be a bimodal distribution of telling in the loss group, two distribution graphs were produced. However, no bi-modal distribution was seen; this supports the Mann-Whitney U test results that there was not a different pattern in when women with UPL told others about her pregnancy.

Figure 1

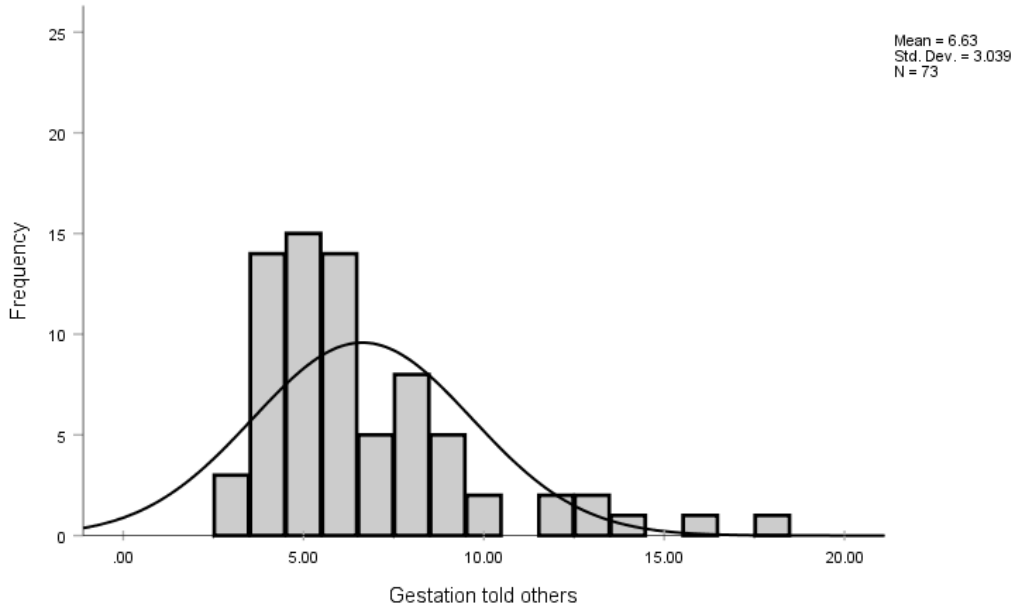
Distribution of When NUPL Told Others Including the Normal Distribution Curve



**Note.* Gestation is in weeks. NUPL = No uncontrollable pregnancy loss.

Figure 2

Distribution of When UPL Told Others Including the Normal Distribution Curve



**Note.* Gestation is in weeks. UPL = Uncontrollable pregnancy loss.

Chapter Four

Discussion

Summary of Overall Findings

The aim of the present study was to investigate how currently pregnant women with a history of uncontrollable pregnancy loss (UPL) felt and communicated about their pregnancy, and whether these experiences related to their perception of social support.

Women with a history of loss were more distressed and worried about the health of their unborn baby than women with no history of loss (NUPL). However, there was no difference between groups regarding when women first communicated their pregnancy to others, and both women with and without UPL perceived themselves as being highly socially supported with no significant difference between the two. Exploring the comments women made about their experience telling others about their pregnancy revealed that there were diverse personal, relational, and situational forces that play into whether and when to tell others.

Distress and Worry

Women with a history of UPL were more distressed and worried about the health of their baby than their counterparts with no history of loss. Additionally, distress and foetal health worry were interlinked; the more distress the women felt, the more likely they were to be worried about the pregnancy. These findings are consistent with studies that have found increased anxiety, stress, and depression for women who are pregnant following a UPL (McCarthy et al., 2015), and also with studies that suggest that women with UPL are at higher risk of experiencing pregnancy specific anxiety (Bergner et al., 2008) and fear of losing another child (Fertl et al., 2008).

Women who have experiences of UPL may feel that pregnancy is now unpredictable and uncontrollable (McCarthy et al., 2015); subsequent pregnancies are both a hope for the future and a constant reminder of the risk of losing another baby. These mixed emotions could be seen in the themes that emerged from the comments women made about their experiences of telling others about their pregnancy. Women with a history of UPL wrote of a sense of dread or fear that something would go wrong again, and that they would lose another baby:

> *"I feel like I kept pushing off the desire to tell people because I am still afraid something will go wrong."*
>
> *Example Three – Fear of something going wrong. (Pregnancy loss group).*

Furthermore, it appears that women with NUPL are also aware of the risk that coincides with pregnancy:

> *"I felt like I wanted to celebrate my pregnancy while it existed, knowing that there was a risk of it ending."*
>
> *Example One– Mixed feelings about telling. (Non-pregnancy loss group).*

It is possible that all women fear losing a pregnancy to some extent, which is understandable given the 15-20% frequency in which miscarriage occurs (Blohm et al., 2008; Farren et al., 2016; McCarthy et al., 2015; Van den Akker, 2011); however, it is likely that the fear is more intense for women with a history of UPL. Significant dates associated with the lost pregnancy or other traumatic memories of the miscarriage/still birth may act as reminders of what has been lost and reinforce the idea of pregnancy as uncontrollable and uncertain (deMontigny et al., 2017). Furthermore, studies have found that women with UPL experience more pregnancy-specific anxiety within the first trimester and up until the subsequent pregnancy has passed the gestation at which previous pregnancies have been lost

(Bergner et al., 2008; Fertl et al., 2008). General pregnancy procedures, such as ultrasounds, scans, and check-ups, may also remind women with a history of UPL of the risk that something may be wrong with the baby, thus increasing distress and worry about the development of the foetus (Harpel, 2008). Furthermore, women who experience UPL may consider a subsequent pregnancy to be especially precious and valuable (Gong et al., 2013), therefore, they may feel they need to be more acutely aware of the progress of the pregnancy in order to keep it safe. However, in doing so, it may also raise the level of anxiety and distress women with UPL experience.

The current study found that women with UPL are more distressed than their counterparts, which is consistent with other studies that have found women with a history of loss have elevated distress levels (Broen et al., 2005; Chojenta et al., 2014; Hunter et al., 2017; Kong et al., 2010). It has also been argued that women with UPL perceive their loss as traumatic (Broen et al, 2005). Therefore, a subsequent pregnancy may trigger these traumatic memories of loss and increase the level of unpleasant feelings women experience.

The findings of the present study raise implications for maternity care and mental health education for professionals working with women that have a history of UPL. The findings that women with UPL are more likely to be distressed and worried about the development of her pregnancy mean that midwives and general practitioners working with these women need to be aware and mindful of the emotional reactions these women may be experiencing (Harpel, 2008; Rowlands & Lee, 2010). Professionals need to create safe and supportive environments that the allow women to feel comfortable sharing their concerns and worries about the subsequent pregnancy (College of Midwives, n.d.; International Confederation of Midwives, 2014). Consistent compassion, reassurance and validation may be needed to help women with UPL to reduce their distress and worry (Palmer & Murphy-Oikonen, 2019). Furthermore, depression and anxiety screening in women with pregnancies

subsequent to loss may be useful to help identify women that might need extra levels of support.

Communication and Social Support

There was no difference as to when women with and without UPL communicated their pregnancy to others, with both groups telling on average around 6 weeks gestation. Furthermore, both UPL and NUPL groups perceived themselves as being highly socially supported, suggesting that many of the women in this study, both with and without histories of pregnancy loss, see themselves as being practically and emotionally supported by people around them.

Whilst women told others at approximately the same gestation regardless of loss, looking at the comments women made about their experiences telling others about their pregnancy, there do appear to be factors that impact on when women communicate to others. Personal factors, such as feelings of distress and worry about the health of the baby, relational factors, such as perceived trust and social support, and situational factors, such as having to tell their boss or workplace, seem to factor into the decision of when women communicate their pregnancy to others.

Personal factors, such as individual feelings of distress and worry about the pregnancy described above, may impact on when women decide to tell others. For example, some women may feel distressed and decide to keep the pregnancy private in case of another loss, whereas others may feel overwhelmed and distressed by their pregnancy and want to reach out to others for support. This may be consistent for the women in the present study as their comments on how other people found out about their pregnancy suggested two contrasting styles of communicating to others, those that wanted to tell others early in the pregnancy to develop support and those that wanted to wait:

"We wanted our close friends and family to know so they could celebrate with us and also support through first trimester symptoms and if something went wrong."

Example three – Telling early for support (non-pregnancy loss group).

"I have had 2 previous pregnancies end in loss, so I need to keep this news to myself."

Example two – Wanting to keep things private (pregnancy loss group).

These two styles of responses suggested that there may be a bi-modal distribution of when women told others. However, the results of the current study found no bi-modal distribution, indicating that both women with UPL and women with NUPL told others about the pregnancy at similar rates and generally within the first six weeks. The comments women made were qualitative and elicited from an open-ended question. It might be that the only women who commented on wanting to tell earlier or later were the ones who leaned towards telling earlier or later, whereas the rest of the women did not comment on this particular aspect. Perhaps internal factors such as post-natal depression or a sense of locus of control (fundamental beliefs about the level of control one has over the events in their lives; Rotter, 1966) may impact on a women's desire to keep things private, or to reach out for support. Furthermore, previous qualitative studies have identified that many women experience insensitive and invalidating comments from others after disclosing experiences of loss (Bellhouse et al., 2018; Hiefner, 2020; Littlemore & Turner, 2020; Meyer, 2016; Rowlands & Lee, 2010) which may also play a role in when women communicate.

Many women spoke of a concept of trust, either telling people they knew would keep it a secret and respect their personal boundaries of communication, suggesting that relational factors may also play a role in when women tell others about the pregnancy:

> *"I purposefully decided who to tell and when and made sure to tell people we trusted."*
>
> *Example Two – In control of how other people found out. (Non-pregnancy loss group).*

Furthermore, many women spoke of situations where other people had communicated the pregnancy to others without the woman's consent:

> *"Annoyed that people were told through word of mouth rather than by me and my partner."*
>
> *Example One - Out of control of how people found out. (Non-pregnancy loss group).*

These factors may play a role in when – and more specifically, who – women decide to tell. Previous research suggests that trust in others is an important factor for women during pregnancy, such as trust in experts on food consumption (House & Coveney, 2013), trust in health care providers (Peters et al., 2014) and trust in counsellors after loss (Ebersohn & Theron, 2014). It appears that trust was sometimes a factor for the women in deciding who to tell about their pregnancy; who they told may have been related to whether they could trust the person to respect their privacy. Based on the comments made by women in the current study, if the person they choose to tell spreads the news to other people when the woman was not ready, the woman may consider that a violation of her privacy and no longer trust that person; consequently, her social support network may grow smaller.

Findings from the current study indicate that trust may play a role in who a woman chooses to tell about their pregnancy; however, further research is required in this area to explore this notion, as it is unclear from the current set of data how much impact trust may have in a woman's decision to communicate her pregnancy. Further research might explore whether other people spreading the word of the women's pregnancy impacts on a woman's level of trust and their decision to communicate a subsequent pregnancy.

It also appears that situational factors may play a crucial role in determining when women communicate their pregnancy. Some women in the current study commented on how they had to tell their workplace sooner than they wanted to for a variety of reasons (i.e., to keep herself and the baby safe, sickness, increased time off etc.).

> *"I wish I didn't need to share it with my boss but morning sickness and increased doctor's appointments made that impossible."*
>
> *Example One - Having to tell earlier than planned because of work. (Pregnancy loss group).*

It is possible that increased distress and foetal health anxiety makes women with UPL more acutely aware of potential dangers that their workplace poses to the safety of the pregnancy and thus feel the need to disclose to their boss sooner than they would have liked. However, future research on this area is needed to explore this idea. One study suggested that women with UPL find it difficult to discuss their experiences with pregnancy loss with those that are unaware that they have a history of loss (Bellhouse et al., 2018). This may make an uncomfortable situation for women with UPL to give context to their workplace for the early disclosure of the current pregnancy, as they may have to first discuss that they have experiences with loss. Telling their employer would be made especially difficult if one did not have a particularly supportive relationship with their boss. Situations like these may be hard to measure quantitatively and it is only through looking more in depth to women's subjective experiences that we may understand these factors. The current study's qualitative data was limited, so future studies on communication might then use mixed methods to collect both quantitative and qualitative information to allow for a full in-depth discussion of women's experiences in communicating pregnancy.

Social support plays a crucial role in helping a woman to cope and understand her experience with pregnancy loss (Bellhouse et al., 2018; Hiefner, 2020; Rowlands & Lee,

2010). Furthermore, social support appears to be intricately woven into women's experiences with loss. Social support was negatively associated with distress in the current study, meaning the more social support a woman perceived herself as having, the less likely she was to be distressed. Therefore, increasing women's social support networks may help to buffer the unpleasant feelings that come along with experiencing a UPL. These findings are consistent with other research that has found social support (or a lack thereof) to be an important factor in how women cope after loss (Bellhouse et al., 2018; Gao et al., 2020; Hiefner; 2020; Rowlands & Lee, 2010). The finding that social support was associated with distress reinforces the need for professionals working with women after UPL to create safe and supportive spaces for these women to feel comfortable expressing concerns (College of Midwives, n.d.; International Confederation of Midwives, 2014).

It was hypothesised that communication would be associated with social support, as it would be expected that in order to receive social support the woman must first communicate that she was pregnant. However, the measures of communication and social support were not significantly correlated. It is possible that the way communication was measured (i.e., the gestation at which a woman was when she first told someone) may not fully capture the communication process and thus rendered it difficult to correlate with social support. Using participants' comments on their experiences of telling others, it does appear that social support plays a role in when women communicate, but perhaps the relationship is more complicated than expected. Future studies might then develop different ways of measuring communication to better look at its relationship with social support, which might include measuring when women told as well as getting a rating of how she felt about telling and whether she thought it increased or decreased her perception of social support. Moreover, the social support measure used in the current study may not be as sensitive to differences at the top of its range because of the ceiling effect, therefore, this may have mitigated associations

with the other variables. Future studies might use different measures of social support to further explore the relationship communication of pregnancy (COP) has with social support.

Strengths and Limitations

A strength of this study is that it is in a new area of research. The open-ended nature of the questions allowed for some exploration within an area about which very little is known; although there is some research on the impact of pregnancy loss, no published literature was found on the concept of COP. This study is unique in bringing together measures of distress, communication, and social support. Furthermore, the sizeable sample with relatively even split comparison groups help to give confidence in our results and their generalisability.

Another strength to the study is it provides further evidence of the validity of the Fetal Health Anxiety Inventory (FHAI; Reiser & Wright, 2019). The FHAI is a new measure of anxiety related to the health of the developing foetus; the findings from the present study contribute evidence that there are differences in women with pregnancy loss in relation to worries about the health of the baby. This supports the validity of the measure as it provides evidence to suggest that FHAI was associated with the expected related variables. Additionally, the current study shows the measure can be used with women who have a history of UPL.

The impact of the COVID-19 pandemic on the women's responses is a limitation to consider. The study collected responses between the 25th of November 2019 and the 20th of May 2020. According to the World Health Organisation's (WHO; n.d.) website timeline, COVID-19 was first recognised by WHO on the 31st of December 2019. The impact of COVID-19 during the time of this recruitment period may have biased the women's responses to reflect more distress and anxiety about the pregnancy, as well as possibly

preventing some women from engaging with the study. Women with a history of pregnancy loss may be more prone to anxiety in general (Hunter et al., 2017) and thus more likely to be strongly affected by events such as the pandemic. A recent study on Jewish and Arab pregnant women's responses to COVID-19 suggests pregnant women may be at higher risk of psychological distress during times of crisis (Chasson et al., 2020). Therefore, COVID-19 may have increased women with UPL's overall feelings of anxiety and distress as they might be more attuned to cues of threat and thus more affected by the pandemic. Future studies may need to clarify this by specifically researching pregnant women with histories of UPL in terms of their response styles to crisis.

This study used a convenience sample, recruited through social media from multiple countries around the English-speaking world. This may have affected results by pooling results from a sample of women who may not be representative of the overall population. Furthermore, a convenience sample may over-represent the population as the results in the present study reflect a sample of women who have experiences within mainly European cultural norms. The convenience sampling means that the research recruitment process may have targeted women who are pro-actively seeking support through social media platforms, which may have biased the responses to only include women who are more anxious or concerned and seeking information. This method is a limitation as it could be theorised that people who respond to online surveys are more likely to be open to sharing their experience with others, leaving out the voices of women who have different interpretations and experiences from women who are more likely to seek help and voice their concerns. Because of this, there are limitations on the generalisability of the findings.

Another limitation to this study was the framing of the questions on communication. There are no previous studies that have endeavoured to measure communication and so the present study developed exploratory questions to try to quantify and explore the process of

communication in pregnancy. It appeared that many women had communicated their pregnancy for a variety of reasons; perhaps future studies in this area could investigate discrepancies between what women were hoping for when communicating their pregnancy and what they had to do in reality.

Finally, another limitation of this study lies in its correlational design. It cannot be inferred from comparing experiences from two differing groups that there are any causal relationships between pregnancy loss, distress, and anxiety. Therefore, we cannot conclude from our results that any particular woman with a history of pregnancy loss will be more distressed and experience more foetal health anxiety than a woman without UPL.

Conclusions

This study found significant differences between women with and without histories of uncontrollable pregnancy loss (UPL) feel in a subsequent pregnancy. The present study suggests that women who have experienced UPL are more distressed and worried about the health of the developing baby in a subsequent pregnancy than their counterparts who have not experienced UPL. The study could not conclude that there were significant differences between women in when they first communicated about their pregnancy with others. Some of the qualitative findings suggest, however, that having UPL may impact on how women feel about this process of communication and the intricate and personal nature of disclosing pregnancy.

These findings reinforce how important it is for professionals working with women who have experienced UPL to be more mindful and aware of the impact that UPL may have on their client's level of distress and worry about the baby they are carrying. Professionals may need to take extra precautions to create safe and validating environments for women

with UPL and be aware that they may be more anxious and worried about the progress of the pregnancy.

The women in the current study considered themselves to be practically and emotionally supported to a high degree by those around them. They communicated about their pregnancy to others on average around six weeks gestation, regardless of whether they did or did not have experiences with UPL. However, limitations in the measurement of social support and communication restrict what can be clearly concluded, thus highlighting the need for more research in this area. This study is the first to link a women's perception of social support and the timing around communication within a subsequent pregnancy; it calls attention to the area for more research to be undertaken to better understand how women get and use social support after experiences of loss.

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Appendices

Appendix A: Full Survey

"What Do You Do When You're Expecting?"

Start of Block: Information and Consent

Q1 Please take a minute to read this information thoroughly before you begin:

"What Do You Do When You're Expecting?": An Exploration of Social Support and How Women Communicate Their Pregnancy to Others.

My name is Chelsea Tremain, and I'm a masters student in psychology at the University of Waikato, New Zealand.

I am interested in how you have (or plan to) communicate about your pregnancy with others, and also how you feel about social support in your life. I invite you to complete my survey "What Do You Do When You're Expecting?".

The survey will ask you about yourself, your current pregnancy and past pregnancies, who you've told about your pregnancy, your social support, and worries and feelings you might be having. There are questions about experiences with prior miscarriages, pregnancy terminations and/or still births. These are not invasive questions, however, if you do not wish to disclose this information or do not feel comfortable discussing these topics you may wish to decline your participation.

This survey will take you about 20 minutes to complete and is completely anonymous. When you complete the survey, you give me permission to use your responses for this research project, but you will not be identifiable in any reports. You can skip any question that you do not want to answer, and you can withdraw from the survey at any time by closing the survey window. Please note that after you complete the survey, and your responses have been submitted there is no way to retrieve them and remove them from the project, because they are anonymous.

At the end of the survey, there will be the option for you to receive a summary of the research findings if you wish to and to enter a prize draw for $60 of NZ MTA vouchers. This is done through a link to a separate survey, so your contact details won't be stored with your questionnaire responses.

The anonymous group-level data gathered from this research project will be used in my masters thesis. It may also be used in professional publications and presentations. The project

data will be retained by my supervisor Carrie Barber for at least five years following the examination of my thesis.

If you are currently in care for suspected or diagnosed foetal health concerns we please ask that you do not engage with this survey.

If you have any questions about the study please do not hesitate to contact me (Chelsea Tremain) at chelsea.tremain3@gmail.com or my supervisor (Carrie Barber) at carrie.barber@waikato.ac.nz.

This research project has been approved by the Human Research Ethics Committee of the School of Psychology HREC(Health)2019#77. *Any questions about the ethical conduct of this research may be sent to the Secretary of the Committee, email ethics@waikato.ac.nz, postal address, School of Psychology, Faculty of Arts and Social Sciences, Te Kura Kete Aronui, University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240*

I agree to participate in this research project and I understand that I may withdraw from this study by not finishing or submitting the survey.

If I have any concerns about the ethical conduct of this project, I may contact the secretary of the Human Research Ethics Committee via humanethics@waikato.ac (email) or University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240

- ○ Yes (1)
- ○ No (2)

Skip To: End of Survey If I agree to participate in this research project and I understand that I may withdraw from this st... = No

End of Block: Information and Consent

Start of Block: Demographics

Are you currently pregnant?

- ○ Yes (5)
- ○ No (6)

Skip To: End of Survey If Are you currently pregnant? = No

How old are you?

_____

Where do you live?

- ○ New Zealand (1)
- ○ Australia (2)
- ○ Other (Please specify) (3) _____

Display This Question:
If Where do you live? = New Zealand

How do you describe your ethnicity?

- ○ NZ European (1)
- ○ Maori (2)
- ○ Pacific Islander (3)
- ○ Asian (4)
- ○ Other European (5)
- ○ Other (please specify) (10) _____

Display This Question:
If Where do you live? = Australia

What ethnic group do you most associate with?

- ○ European/Australian (3)
- ○ Aboriginal/ Torres Strait Islanders (4)
- ○ Pacific (5)
- ○ Asian (6)
- ○ Other European (7)
- ○ Other (please specify) (8) _____

Display This Question:

If Where do you live? = Other (Please specify)

What ethnic group do you most associate with?

_____

What is your highest qualification?

- ○ Nil formal qualifications (1)
- ○ High school qualifications (2)
- ○ Some tertiary study (3)
- ○ Completed undergraduate tertiary qualification (4)
- ○ Competed graduate qualification (6)
- ○ Other (please specify) (7)

_____

What is your occupation?

_____

Are you currently working outside of the home?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Are you currently working outside of the home? = Yes

What's your current working status?

- ○ Full time work (1)
- ○ Part time work (2)

What is your current relationship status?

- ○ Single (1)
- ○ Partnered - Not living together (2)
- ○ De facto partner - Living together (3)
- ○ Married/ Civil union (4)
- ○ Divorced/Seperated (5)
- ○ Widowed (6)

How many weeks are you in your current pregnancy?

_____

End of Block: Demographics

Start of Block: Fetal Health Anxiety Inventory

Each question in this section consists of a group of four statements related to concerns about the health of your developing baby. Please read each group of statements carefully and then select the one that best describes your feelings regarding your **unborn baby** throughout your **current pregnancy**.

1.)

- ○ I do not worry about my baby's health (1)
- ○ I occasionally worry about my baby's health (2)
- ○ I spend much of my time worrying about my baby's health (3)
- ○ I spend most of my time worrying about my baby's health (4)

2.)

- If I notice pains/discomforts, I rarely worry about what this means for my baby (1)
- If I notice pains/discomforts, I sometimes worry about what this means for my baby (2)
- If I notice pains/discomforts, I often worry about what this means for my baby (3)
- If I notice pains/discomforts, I always worry about what this means for my baby (4)

3.)

- As a rule I am not concerned about how my own bodily sensations/changes are related to my baby's health (1)
- Sometimes I am concerned about how my own bodily sensations/changes are related to my baby's health (2)
- I am often concerned about how my own bodily sensations/changes are related to my baby's health (3)
- I am constantly concerned about how my own bodily sensations/changes are related to my baby's health (4)

4.)

- Resisting thoughts of my baby having a health problem is never a problem (1)
- Most of the time I can resist thoughts of my baby having a health problem (2)
- I try to resist thoughts of my baby having a health problem but am often unable to do so (3)
- Thoughts of my baby having a health problem are so strong that I no longer even try to resist them (4)

5.)

- As a rule I am not afraid that my baby has a serious health problem (1)
- I am sometimes afraid that my baby has a serious health problem (2)
- I am often afraid that my baby has a serious health problem (3)
- I am always afraid that my baby has a serious health problem (4)

6.)

- I do not have images (mental pictures) of my baby having a health problem (1)
- I occasionally have images of my baby having a health problem (2)
- I frequently have images of my baby having a health problem (3)
- I constantly have images of my baby having a health problem (4)

7.)

- I do not have any difficulty taking my mind off thoughts about my baby's health (1)
- I sometimes have difficulty taking my mind off thoughts about my baby's health (2)
- I often have difficulty taking my mind off thoughts about my baby's health (3)
- Nothing can take my mind off thoughts about my baby's health (4)

8.)

- I am lastingly relieved if my doctor tells me there is nothing wrong with my baby (1)
- I am initially relieved but the worries sometimes return later (2)
- I am initially relieved but the worries always return later (3)
- I am not relieved if my doctor tells me there is nothing wrong with my baby (4)

9.)

- If I hear about a health problem in developing babies I never think my baby has it (1)
- If I hear about a health problem in developing babies I sometimes think that my baby has it (2)
- If I hear about a health problem in developing babies I often think my baby has it (3)
- If I hear about a health problem in developing babies I always think that my baby has it (4)

10.)

- If I have a bodily sensation or change I rarely wonder what it means for my baby (1)
- If I have a bodily sensation or change I often wonder what it means for my baby (2)
- If I have a bodily sensation or change I always wonder what it means for my baby (3)
- If I have a bodily sensation or change I must know what it means for my baby (4)

11.)

- I usually feel at very low risk for my baby developing a serious health problem (1)
- I usually feel at fairly low risk for my baby developing a serious health problem (2)
- I usually feel at moderate risk for my baby developing a serious health problem (3)
- I usually feel at high risk for my baby developing a serious health problem (4)

12.)

- I never think that my baby has a serious health problem (1)
- I sometimes think that my baby has a serious health problem (2)
- I often think that my baby has a serious health problem (3)
- I usually think that my baby has a serious health problem (4)

13.)

- If I notice an unexplained bodily sensation that is (or could be) related to my baby's development I don't find it difficult to think about other things (1)
- If I notice an unexplained bodily sensation that is (or could be) related to my baby's development I sometimes find it difficult to think about other things (2)
- If I notice an unexplained bodily sensation that is (or could be) related to my baby's development I often find it difficult to think about other things (3)
- If I notice an unexplained bodily sensation that is (or could be) related to my baby's development I always find it difficult to think about other things (4)

14.)

- My family/friends would say I do not worry enough about my baby's health (1)
- My friends/family would say I have a normal attitude about my baby's health (2)
- My friends/family would say I worry too much about my baby's health (3)
- My friends/family would say I am extreme in my worries about my baby's health (4)

End of Block: Fetal Health Anxiety Inventory

Start of Block: Edinburgh Scale - Recoded

Now, some questions about how you have been feeling.

Please choose the answer that comes closest to how you have felt **in the past 7 days**, not just how you feel today.

X→

I have been able to laugh and see the funny side of things

- As much as I always could (0)
- Not quite so much now (1)
- Definitely not so much now (2)
- Not at all (3)

X→

I have looked forward with enjoyment to things

- As much as I ever did (0)
- Rather less than I used to (1)
- Definitely less than I used to (2)
- Hardly at all (3)

X→

I have blamed myself unnecessarily when things went wrong

- Yes, most of the time (3)
- Yes, some of the time (2)
- Not very often (1)
- No, never (0)

I have been anxious or worried for no good reason

- No, not at all (0)
- Hardly ever (1)
- Yes, sometimes (2)
- Yes, very often (3)

I have felt scared or panicky for no very good reason

- Yes, quite a lot (3)
- Yes, sometimes (2)
- No, not much (1)
- No, not at all (0)

Things have been getting on top of me

- Yes, mot of the time I haven't been able to cope at all (3)
- Yes, sometimes I haven't been coping as well as usual (2)
- No, most of the time I have coped quite well (1)
- No, I have been coping as well as ever (0)

I have been so unhappy that I have had difficulty sleeping

- Yes, most of the time (3)
- Yes, sometimes (2)
- Not very often (1)
- No, not at all (0)

I have felt sad or miserable

- Yes, most of the time (3)
- Yes, quite often (2)
- Not very often (1)
- No, not at all (0)

I have been so unhappy that I have been crying

- Yes, most of the time (3)
- Yes, quite often (2)
- Only occasionally (1)
- No, never (0)

The thought of harming myself has occurred to me

- Yes, quite often (3)
- Sometimes (2)
- Hardly ever (1)
- Never (0)

Display This Question:

If The thought of harming myself has occurred to me = Yes, quite often

Or The thought of harming myself has occurred to me = Sometimes

Or The thought of harming myself has occurred to me = Hardly ever

Thinking about harming yourself is not unusual--many people have those thoughts sometimes--but it is a sign you're struggling! Please talk with someone--your midwife, doctor, a good friend--about how you are feeling. You can call NZ Lifeline--0800 543 354--any time, day or night, and talk with someone who understands.

End of Block: Edinburgh Scale - Recoded

Start of Block: Social Provision Scale - Recoded

Now, some questions about the people in your life.

There are people I can depend on to help me if I really need it

- Strongly Disagree (1)
- Disagree (2)
- Agree (3)
- Strongly Agree (4)

I feel that I do not have close personal relationships with other people

- Strongly Disagree (4)
- Disagree (3)
- Agree (2)
- Strongly Agree (1)

There is no one I can turn to for guidance in times of stress

- ○ Strongly Disagree (4)
- ○ Disagree (3)
- ○ Agree (2)
- ○ Strongly Agree (1)

There are people who enjoy the same social activities that I do

- ○ Strongly Disagree (1)
- ○ Disagree (2)
- ○ Agree (3)
- ○ Strongly Agree (4)

X→

I do not think other people respect my skills and abilities

- ○ Strongly Disagree (4)
- ○ Disagree (3)
- ○ Agree (2)
- ○ Strongly Agree (1)

X→

If something went wrong, no one would come to my assistance

- ○ Strongly Disagree (4)
- ○ Disagree (3)
- ○ Agree (2)
- ○ Strongly Agree (1)

I have close relationships that provide me with a sense of emotional security and well being

- Strongly Disagree (1)
- Disagree (2)
- Agree (3)
- Strongly Agree (4)

I have relationships where my competence and skills are recognized

- Strongly Disagree (1)
- Disagree (2)
- Agree (3)
- Strongly Agree (4)

There is no one who share my interests and concerns

- Strongly Disagree (4)
- Disagree (3)
- Agree (2)
- Strongly Agree (1)

There is a trustworthy person I could turn to for advice if I were having problems

- Strongly Disagree (1)
- Disagree (2)
- Agree (3)
- Strongly Agree (4)

End of Block: Social Provision Scale - Recoded

Start of Block: The Reveal

Approximately, how many weeks were you when you first told someone you were pregnant?

_____

Does your partner currently know you're pregnant?

- Yes (1)
- No (2)
- N/A - I don't have a partner (3)

Display This Question:

If Does your partner currently know you're pregnant? = Yes

Approximately, how many weeks were you when you told your partner?

_____

Display This Question:

If Does your partner currently know you're pregnant? = No

When do you plan on telling your partner you're pregnant?

_____

Have you told your family you're pregnant?

- Yes (1)
- No (2)

Display This Question:

If Have you told your family you're pregnant? = Yes

Approximately, how many weeks were you when you told your family?

_____

Display This Question:
If Have you told your family you're pregnant? = No

When do you plan on telling your family?

_____

Have you told at least one friend?

- Yes (1)
- No (2)

Display This Question:
If Have you told at least one friend? = Yes

Approximately, how many weeks were you when you told your friend?

_____

Display This Question:
If Have you told at least one friend? = No

When do you plan on telling your friend(s)?

_____

Have you told your coworkers you're pregnant?

- Yes (1)
- No (2)
- N/A - I am self-employed (3)
- N/A - I am not working (4)

Display This Question:

If Have you told your coworkers you're pregnant? = Yes

Approximately, how many weeks were you when you told your coworkers you were pregnant?

_____

Display This Question:

If Have you told your coworkers you're pregnant? = No

When do you plan on telling your coworkers?

_____

Approximately, how many people currently know you're pregnant?

- ○ 0 (1)
- ○ 1-2 (2)
- ○ 3-4 (3)
- ○ 5-6 (4)
- ○ 7-8 (5)
- ○ 9-10 or more (6)

What are your thoughts and/or comments about how people found out you were pregnant?

_____

End of Block: The Reveal

Start of Block: Pregnancy loss

Have you ever been pregnant before?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Block If Have you ever been pregnant before? = No

How many times have you been pregnant before?

_____

Have you ever given birth?

- ○ Yes (1)
- ○ No (2)

Display This Question:
If Have you ever given birth? = Yes

How many times have you given birth?

_____

Have you ever lost a baby to still birth?

- ○ Yes (1)
- ○ No (2)

Display This Question:
If Have you ever lost a baby to still birth? = Yes

How many times?

_____

Have you ever had a pregnancy termination?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Have you ever had a pregnancy termination? = Yes

How many times have you had a pregnancy termination?

_____

Have you ever had a miscarriage?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Block If Have you ever had a miscarriage? = No

How many times have you experienced a miscarriage?

_____

What was the longest gestation you carried to?

_____

Did you seek any support after your miscarriage or pregnancy termination? (You may choose all that apply)

- [ ] I did not seek support (9)
- [ ] Partner or Spouse (1)
- [ ] Parents (2)
- [ ] Sibling (3)
- [ ] Friends (4)
- [ ] Midwife (5)
- [ ] Doctor (6)
- [ ] Counsellor/Therapist (8)
- [ ] Other (please specify) (7)

_____

Approximately, how long has it been since you last experienced a miscarriage?

_____

Experiencing a miscarriage, pregnancy termination or still birth can be really hard, and thinking about it again can stir up some of those feelings. We hope you'll talk with someone if you're struggling with some difficult feelings. There will be some resources at the end of this study, or ask your doctor or midwife for suggestions for support in your area.

End of Block: Pregnancy loss

Start of Block: Pregnancy Demographics

Have you had any medical complications with this current pregnancy?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Have you had any medical complications with this current pregnancy? = Yes

What complications have you experienced?

_____

Is this pregnancy a result of fertility treatment?

- ○ Yes (1)
- ○ No (2)

Have you ever received a diagnosis of anxiety or depression before? (Choose all that apply)

- ☐ Yes, Anxiety Diagnosis (1)
- ☐ Yes, Depression Diagnosis (2)
- ☐ Other mental health diagnosis (please describe) (3)

_____

- ☐ No (4)

End of Block: Pregnancy Demographics

Start of Block: Thank you

I have completed the survey and I am ready to submit my responses. I understand that after I submit my responses, they cannot be removed from the study, because I have provided no identifying information.

Please continue on to submit your responses, if you do not wish to submit your responses please exit the browser now.

Thank you for participating in my research; if any of the material has brought up any unwanted feelings please do not hesitate to ask for help.
There are helplines like Lifeline (0800 543 354 or TEXT 4357) who provide free counselling over the phone in New Zealand. If you are from Australia you can contact PANDA (Perinatal Anxiety & Depression Australia) on 1300 726 306, 9am-7:30pm AEST (Mon-Fri) who specialize in perinatal counselling. If you are located elsewhere in the world, there are free to

download apps on the App Store and Play Store or you can reach out over google and find the closest helpline to your area.
If you would like to enter the prize draw for $60 of NZ MTA vouchers or receive a summary of the findings from this research, please follow the link below to a separate page where you can enter your email address. This is so your responses on this survey will remain anonymous. The findings from this research will be published in approximately March 2021.
https://waikato.qualtrics.com/jfe/form/SV_0upzm53XZAxB32B

End of Block: Thank you

Appendix B: Research Poster