Grief and Coping Post-Pregnancy Loss: A Comparison Between Men and Women

by

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Abstract

Miscarriage is the most common pregnancy complication. The psychological effects of pregnancy loss may be experienced differently according to gender based on society's concepts of maternal and paternal roles. The purpose of this cross-sectional, retrospective, correlational study was to determine if there are differences between men's and women's grief intensity and coping strategies post-pregnancy loss. Also, the potential influence of time since pregnancy loss, age, parenthood status, number of pregnancy losses, gestational age, and fetal ultrasound viewing status on the intensity of grief for men and women were explored. A convenience sample of 25 men and 41 women was recruited from health care facilities across the Canadian province of Newfoundland and Labrador. Data were analyzed using Mann-Whitney U tests, Pearson's product-moment correlation, point biserial correlation, Chi-Square, and Spearman's rank-ordered correlation as appropriate to answer the research questions. There was no significant difference between men and women's grief intensity. Statistically significant results were found between men and women's coping strategies. Men were more likely to use humor as a coping strategy ($p \leq .05$) and women were more likely to seek support from others ($p \leq .05$). Significant negative correlations were also found between men's and women's grief intensity and time since the most recent loss ($p \leq .05$). Furthermore, a significant correlation was found between men's grief intensity and fetal ultrasound viewing status ($p \leq .05$). Implications of the study results for nursing practice, education, and research are discussed.

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Table of Contents

List of Tables

List of Figures

List of Appendices

Chapter 1

Introduction

Pregnancy loss can be an emotionally traumatic event (Brier, 2008). Grief resulting from a pregnancy loss is unique in that the individual is mourning the loss of becoming a parent perhaps for the first time. Often there are also feelings of biological failure and loss of self, lack of memories about the baby to use in the mourning process, and minimization by others (Hutti, 2005; Robinson, 2011; Rowlands & Lee, 2010). Parents may find it difficult to grieve the loss of a fetus because the typical pattern of bereavement consists of grieving the memory of somebody or something (Davis, 1996). In the case of a perinatal loss, without these memories, men and women might believe their feelings are unjustified (Davis, 1996). As well, the loss of a child through a pregnancy loss does not have recognized social rituals to assist with the grieving process (McGreal, Evans, & Burrows, 1997; Rowlands & Lee, 2010). Since the baby has not yet been born, parents often feel confused as to the emotions they are experiencing (Jaffe & Diamond, 2011). Although the father was not physically attached to the fetus, he might have developed a strong emotional bond with the child. If these feelings are not acknowledged, parents may be at risk for developing chronic grief (McGreal et al., 1997; Serrano & Lima, 2006).

In this study, I investigated males' and females' levels of grief after a pregnancy loss and their coping strategies. In this chapter, I present the background and rationale for the study, the purpose of the study, and the definitions of key terms.

Background and Rationale

Miscarriage is the most common pregnancy complication (Abboud & Liamputtong, 2005). According to Statistics Canada (2008), 447,485 women became pregnant in 2005, with 8,494 ending in pregnancy loss. In Newfoundland and Labrador, 1.1 of every 1000 pregnancies in

2005 ended in a pregnancy loss (Statistics Canada, 2008). In the same year, 25, 894 stillbirths occurred in the United States, which is equivalent to one baby being stillborn for every 160 deliveries (MacDorman & Kirmeyer, 2009; Stanton, Lawn, Rahman, Wilczynska-Ketende, & Hill, 2006). As well, Stanton et al. (2006) estimated that 2.5 to 4.1 million stillbirths occur around the world each year.

The psychological effects of pregnancy loss may be experienced differently by men and women based on society's concepts of maternal and paternal roles (McCreight, 2004; McGreal et al., 1997; Serrano & Lima, 2006; Stinson, Lasker, Lohmann, & Toedter, 1992). In Western cultures, it is accepted for women to grieve openly. Men, however, are expected to suppress their emotions and to play a supportive role to their partner (Stinson et al., 1992). This could have long lasting effects, such as chronic grief, which can impact on an individual's health both physically and psychologically (Gross & John, 2003; Stinson et al., 1992). Also, our society is changing with increased technology and males becoming more involved in childcare (Bonnete & Broom, 2011). As a result, grief responses for men following a pregnancy loss may have changed. The research in this area needs to be updated. Knowledge regarding any differences between how males and females grieve is important to health care professionals because an individualized plan of care based on gender may be needed to assist them through the grieving process (Serrano & Lima, 2006; Stinson et al., 1992). It is also important to know about moderating variables in the relationship between pregnancy loss and grief intensity to develop interventions for the people who are more likely to have stronger grief responses.

With respect to pregnancy loss, little is known empirically about how experiences of grief and coping compare between males and females. There is, however, a large body of research on women's grief as it relates to pregnancy loss. The literature that is available concerning males suggests that they are at an increased risk of developing chronic grief, as compared to females

following a pregnancy loss (Stinson et al., 1992). Health care professionals need to be aware of any gender differences among those who experience a pregnancy loss to assist them through the grieving process.

All the quantitative studies found in the literature comparing males' and females' grief and coping patterns had a descriptive correlational design, which is appropriate given the nature of the studies. Common limitations of these studies included small sample sizes and high attrition rates. As well, it was often difficult to determine the generalizability of the results since the convenience samples used by the researchers were recruited through support groups and counseling sessions. Individuals seeking support and counseling due to a pregnancy loss might not be representative of the general population of men and women who experienced a pregnancy loss. In addition, there were no quantitative studies found in the literature review on this topic in Newfoundland and Labrador.

Purpose of the Study

The purpose of this study was to determine if men's grief intensity and coping strategies differ from those of women's post-pregnancy loss. Also, the following possible moderators on grief intensity were explored: age, number of pregnancy losses, parenthood status, time since pregnancy loss, fetal ultrasound viewing status, and gestational age.

Definition of Key Terms

There were many definitions of coping, grief, and pregnancy loss identified in the literature. For the purpose of this study, **pregnancy loss** (also referred to as perinatal loss) was defined as the nonvoluntary end of a pregnancy and consists of miscarriage or stillbirth. The difference between a miscarriage and a stillbirth also varied among sources in the literature, but for the purpose of this research study, a **miscarriage** was the loss of pregnancy occurring before 20 weeks gestation, also termed an early pregnancy loss (Association of Women's Health,

Obstetric and Neonatal Nurses [AWHONN], 2006). A **stillbirth** was a pregnancy loss occurring after 20 weeks gestation, also known as a late pregnancy loss (AWHONN, 2006).

For the purpose of this study, **grief** was defined as the physiological and psychological reactions associated with the loss of an emotionally important figure that could include: numbness and shock, denial and yearning, blame and resentment, depression, disorganization and despair, and resolution (Brier, 2008; Dubois, 2006). In keeping with the Coping Scale for Adults (CSA) (Frydenberg & Lewis, 2000), **coping** was defined as the cognitive, affective, and behavioral reactions an individual engages in to deal with a stressful life event. The purpose of coping is to restore stability or to remove turmoil so the individual can continue with life's daily activities and tasks.

Chapter Summary

This study compared males' and females' grief intensity and coping strategies post-pregnancy loss. Knowledge regarding males' and females' grief experiences is important to health care professionals because individualized plans of care might be needed to assist them through the grieving process. This chapter presented the background and rationale for the study, the purpose of the study, and the definitions of key terms. The next chapter will provide a review of the literature available on males' and females' coping strategies and grief post-pregnancy loss, the conceptual framework, research questions, and hypotheses that guided the study.

Chapter 2

Literature Review

There were few empirical studies available to compare men's grief and coping to that of women's post-pregnancy loss. The vast majority of related research examined the influence of grief on the couple's relationship, women's grief post-pregnancy loss, the influence of grief on pregnant females' mental health during a subsequent pregnancy, and grief behaviors and coping strategies to develop tools to adequately measure grief intensity (Beutal, Willner, Deckardt, von Rad, & Weiner, 1996; McGreal et al., 1997; Puddifoot & Johnson, 1999; Serrano & Lima, 2006; Stinson et al., 1992). To gain a better understanding of what is known on the topic of how or if men's grief and coping differ from that experienced by women post-pregnancy loss, a literature search was conducted in CINAHL, PsycINFO, and Medline using the search terms *pregnancy loss, miscarriage, stillbirth, perinatal loss, perinatal death, spontaneous abortion, pregnancy complications, grief, coping, males, females, men, women, gender, parents and bereavement.* After narrowing the search to the English language and to the years 1990 to 2013, 524 results were returned. It was necessary to include research conducted prior to the previous 5 years because only 23 studies were available from 2007 to 2013. Although culture plays an important role in grief reactions and coping strategies (Van & Meleis, 2003), studies from around the world were included in the literature review because there were very few relevant studies conducted on this topic. A summary of the studies on grief and coping specific to pregnancy loss that are discussed in the literature review is presented in Table A (Appendix A).

To provide a background on grief and coping as they relate to pregnancy loss and gender, I will first review the grieving process, coping strategies and theories in this area. I will then present the literature related to the following potential moderators on grief intensity post-pregnancy loss: gender, age, number of pregnancy losses, parenthood status, time since

pregnancy loss, fetal ultrasound viewing status, and gestational age. Finally, the conceptual framework that guided the study will be discussed, followed by the research questions identified and hypotheses formulated based on the literature review.

Grief

The grieving process is a normal reaction to loss. In the Western world, individuals usually grieve longer with the loss of a child than with the loss of a parent or spouse (Brier, 2008). The reactions of grief change over time, as the individual moves through the grieving process (Wright, 2007). The process of grieving has been previously explained by Kubler-Ross's (1969) five stages: denial, anger, bargaining, depression, and sadness. The Kubler-Ross model has been criticized over the years, given that it was based on individuals who were facing their own death (Konigsberg, 2011). As well, as more research became available, it was found that grief is not a series of stages an individual must experience from beginning to end, but a mixture of emotions that oscillate over time (Konigsberg, 2011). Grief typically involves experiencing shock, disbelief, and preoccupation with the lost person or object, and finally, resolution. However, there is wide individual variation between when and if each emotion is experienced (Beutal et al., 1996; Davis, 1996). The central characteristics of grief include feelings of sadness and loneliness (Beutal et al., 1996).

Grief is a universal emotion, but the expression of grief depends on culture and societal norms and often resembles characteristics of depression (Harvard Medical School, 2011d; Lok & Neugebauer, 2007; McCreight, 2004). Although grief is experienced differently by each individual, frequent bouts of crying, depressed mood, loss of appetite, and sleep disturbances are common. These are considered normal symptoms of grieving that should decrease over time (Harvard Medical School, 2011c). Although there is an absence of what constitutes normal grief reactions, most of the literature supports the notion that pathological grief differs from normal

grief by its duration and the ability of the individual to re-engage in normal day-to-day activities (Badenhorst & Hughes, 2007). According to the Harvard Medical School (2011b), when symptoms do not decrease over time and they begin to interfere with relationships, work or school, the individual may experience complicated or chronic grief. Although the literature varies, most sources agree that uncomplicated grief can last from 1 to 2 years (Harvard Medical School, 2011c; Jaffe & Diamond, 2011). Typically, the strong feelings associated with grief should begin to diminish in 6 to 12 months (Harvard Medical School, 2011c). O'Leary and Thorwick (2006) indicated that grief does not end, but the intensity changes over time. Badenhorst and Hughes (2007), however, stated that grief is considered prolonged if there is no improvement within 6 months. By this time, the individual should be able to carry out normal life responsibilities.

Prolonged grief is most likely to occur after a traumatic or unexpected death, such as that of a pregnancy loss. As well, more severe health consequences such as post-traumatic stress disorder can occur following a sudden, unexpected loss (Harvard Medical School, 2011b). An unexpected death can affect the grieving process because the individual must adjust quickly to the loss. This is consistent with attachment theory, which is discussed under the conceptual framework for this study, because an unexpected loss could destroy an individual's sense of safety and cause her/him to feel a lack of control over their lives (Stroebe & Schut, 2001). As well, the way the person copes can determine if the person will develop chronic grief (Everly & George, 2013; Jaffe & Diamond, 2011). The person who habitually avoids feelings of sadness that accompanies grief may never feel resolution and could therefore experience chronic grief (Davis, 1996; Jaffe & Diamond, 2011).

Coping

There is a large body of literature available on the topic of coping, but for the purpose of this research study, the literature review focused on coping in relation to a pregnancy loss. Coping strategies enable people to either accept or not accept a loss, the latter of which can have negative effects on health (Stroebe & Schut, 1999). According to Lazarus (2000), coping strategies are mechanisms for controlling psychological responses to difficult events. As discussed in the following section, some coping strategies have been found to be more effective than others and are appropriate at different times.

Coping Strategies

There are many coping strategies that individuals may use to cope with difficult events. Availing of social support is an important coping strategy (Swanson, 2000). The availability of social support may influence the coping strategies an individual utilizes after a pregnancy loss. Also, qualitative studies in the literature have shown that social support may lessen the intensity and duration of grief following a negative life event (Rowlands & Lee, 2010; Van, 2012). Studying 20 women post-pregnancy loss, Van (2012) found that those who spoke to others about the pregnancy loss coped more effectively than those who avoided talking about their experience. It should be noted that the participants of Van's (2012) study were recruited from a child birthing class and were in the last month of a subsequent pregnancy at the time of data collection, thus limiting the generalizability of the study. The findings cannot be applied to those who have not conceived since experiencing their pregnancy loss.

Similarly, a grounded theory study conducted in Australia, with nine women who experienced a pregnancy loss within 2 years of data collection, indicated that social support played an important role in coping (Rowlands & Lee, 2010). Talking about their experience, acknowledging the depth of their grief, and validating that a child has been lost were forms of

support. It was found that insensitive comments made by others were unhelpful while coping with a pregnancy loss. Comments such as, "it was for the best" and "you can always have another baby" minimized the grief that women were feeling (Rowlands & Lee, 2010). Studying men, Khan, Drudy, Sheehan, Harrison, and Geary (2013) found that none of the participants were satisfied with the level of support provided for men by the hospital staff at the time of the miscarriage, and felt that more support services should be available for men.

Social support from a partner may also influence grief post-pregnancy loss. In a retrospective analysis of data collected from 16 couples, Cacciatore, Defrain, Jones, and Jones (2008) reported that most couples in the study felt closer after experiencing a stillbirth. The greater the attachment to the baby, the culture, and the more actual and perceived social support available impacted how an individual responded to stillbirth. Likewise, Beutal et al. (1996) found that women in their study had stronger grief reactions and showed more depressive symptoms and irritability if their partners refused to discuss the miscarriage. The men felt burdened and concerned about the women's intense reaction and coped with it by working more or keeping themselves busy. These reactions led to an increase in marital conflict (Beutal et al., 1996). It is therefore important for each gender to be aware of how the other gender tends to cope and grieve with a pregnancy loss.

The findings of a qualitative content analysis by Swanson, Connor, Jolley, Pettinato, and Wang (2007) added to the findings of Cacciatore et al. (2008) and Beutal et al. (1996) by showing a possible connection between feelings of grief and support from a spouse. In Swanson et al.'s study, of the 85 women who experienced an early pregnancy loss, 60% felt more interpersonally distant from their spouses. It was postulated that the emotional distance from their spouse might have been a contributing factor in the women's healing process. Those who had supportive husbands were *Healing* and coping well as opposed to those who were

Overwhelmed and feeling blame, loss of control, and confusion about how life was supposed to be (Swanson et al., 2007). This study was a secondary analysis of data derived from a subsample of women who participated in a 1999 study by Swanson. The researchers were unable to go back and verify the participants' feelings (Swanson et al., 2007).

There is often a loss of social support with the loss of a pregnancy. Friends and family often do not understand the depth of the loss (Wing, Clance, Burge-Callaway, & Armistead, 2001). Since there are no associated rituals with the loss of a pregnancy, parents may find it difficult to mourn the loss. Their feelings of grief may feel unjustified, especially since they are mourning hopes and dreams for the future and not a memory (McCreight, 2008; McGreal et al., 1997; Mulvihill & Walsh, 2013). The feelings of unjustified grief may cause the individual to feel isolated and alone, and the person might utilize passive coping strategies in an effort to suppress their feelings (Swanson, 2000).

Following an early pregnancy loss, individuals may not have access to social support since many choose not to disclose the pregnancy to others until the end of the first trimester (Brier, 2008). As well, the feelings associated with a pregnancy loss are often difficult for others to understand. Until the 1980's, the death of an infant or the loss of a pregnancy was believed to be less meaningful than other types of death (Wing et al., 2001). McCreight (2008) found that recognition of the grief following a pregnancy loss could be an important factor in decreasing an individual's risk of experiencing chronic grief. The participants in the study expressed that discussing their experience in self-help groups was a helpful method of validating their grief (McCreight, 2008).

Culture and society's expectations may be another factor influencing coping strategies of men and women post-pregnancy loss. In Western society it has been found that men are more likely to keep to themselves and use distractions, such as work, to avoid thinking about what

happened (Beutal et al., 1996; Khan et al., 2013; Mulvihill & Walsh, 2013; O'Leary & Thorwick, 2006). These techniques are viewed as more masculine ways to cope with grief. In contrast, women tend to seek help from others who have had similar experiences and talk with family and friends (Stinson et al., 1992). The differences in coping strategies may indicate that men are denying their grief. Using the CSA, McGreal et al. (1997) found in a cross-sectional descriptive study with 35 females and 17 males that males internalized their grief more so than females and they were more likely to try ignoring the problem. In contrast, the women were more likely to seek social support from others (McGreal et al., 1997). Differing coping styles have been found to increase the risk of conflict between couples (Cacciatore et al., 2008). In a study by Cacciatore et al. (2008), females tended to want their partners to be more emotionally expressive, whereas males focused more on hope for the future. Males also tended to return to work sooner and to seek support from within their own family more often.

Active coping occurs when an individual confronts and deals with the stress directly (Swanson, 2000). This form of coping involves behaviors such as engaging in problem solving, changing the situation, and seeking support. On the contrary, passive coping involves behaviors such as wishful thinking, self-blame, and keeping busy to avoid the situation (Swanson, 2000). According to Lazarus (2000), denial may be a valuable strategy used early in grief to allow an individual to problem solve and complete necessary tasks associated with the event. This is especially beneficial when the event cannot be changed or altered. However, it can be harmful when it prevents adaptive action (Lazarus, 2000).

Theories Related to Coping

Several theories have been formulated to examine the process of coping. The section below describes some of the more commonly used theories in psychological research.

The Dual Process Model of Coping (DPM) with Bereavement (Stroebe & Schut, 1999) incorporates concepts from the grief work hypothesis (Stroebe, 1992), the cognitive stress theory (Folkman & Lazarus, 1980) and Horowitz's (1986) stress response syndrome. According to the DPM, two types of coping exist: loss-orientation and restoration-orientation. The model takes into account differences in male and female grieving. Males tend to be more restoration-oriented, whereas females tend to be more loss-oriented (Stroebe & Schut, 1999).

Loss-orientated coping in the DPM (Stroebe & Schut, 1999) refers to dealing with and processing the loss. Intrusion is often experienced, where the individual compulsively has thoughts and feelings of the deceased. Yearning, looking at photos, and crying are also experienced. The individual is therefore confronting the loss and experiencing emotional reactions. Loss-orientated coping is the most dominant coping style early in the bereavement period and focuses on working through grief and detaching from the deceased (Stroebe & Schut, 1999).

In the DPM (Stroebe & Schut, 1999), restoration-orientated coping refers to coping with the stressor. It is a problem-oriented coping style that concentrates on what needs to be dealt with and how. Tasks associated with restoration-orientation involve accepting the loss, experiencing the pain of grief, adjusting to an environment without the deceased, and moving on with life by, for example, developing new roles, identities, and relationships. To effectively deal with the stressor a level of avoidance is required (Stroebe & Schut, 1999).

In the DPM, Stroebe and Schut (1999) also proposed that the coping process of oscillation is required for adaptive coping. The grieving individual should move between confronting and avoiding the tasks of grieving. Experiencing oscillation is believed to be necessary for optimal adjustment, since either extreme could be harmful both physically and mentally. If either coping strategy is extreme, chronic or complicated grief could occur. It is important for an individual to

confront the pain of grieving to move forward, but it is also important to avoid the pain at times or "take time-off" from the pain of grief (Stroebe & Schut, 1999, p. 216).

Besides the DPM with Bereavement (Stroebe & Schut, 1999), there are many theories related to how an individual copes with grief. According to Stroebe and Schut's (1999) grief work hypothesis, the guiding principle of coping is to utilize active strategies to accept and come to terms with the loss. The goal is to work towards detaching oneself from the deceased. The grief work hypothesis, however, does not take into account that there are multiple stressors associated with grief and bereavement. The primary stressor is the death of the loved one. A secondary stressor may involve the new roles and responsibilities the family must adopt, such as managing finances, going grocery shopping, or raising the children (Stroebe & Schut, 1999). The stressors specific to pregnancy loss include the loss of hopes and dreams, the experience of raising a child, and one's sense of safety in the world (Wing et al., 2001).

The cognitive stress theory (Folkman & Lazarus, 1980) acknowledges that there are multiple stressors involved in grief related to bereavement. According to the cognitive stress theory, when the demands of a situation are viewed as taxing or exceeding resources, an individual experiences stress. Problem and emotion-focused coping are major components to managing stressful situations. Problem-focused coping is directed at managing and altering what is causing the stress and it is particularly appropriate for situations that can be changed, whereas emotion-focused coping is directed at managing the resulting emotions and involves the expression of grief. Emotion-focused coping is especially appropriate for situations that cannot be changed. The ideal plan in dealing with grief would be to incorporate both problem and emotion-focused coping strategies. Other components of the cognitive stress theory include confrontation and avoidance. These strategies are problematic in bereavement because an

individual may avoid the emotions of grief, but confront other stressors (Lazarus, 2000; Stroebe & Schut, 1999).

Horowitz's (1986) stress response syndrome involves experiencing reactions such as intrusion and avoidance after a traumatic experience, which could occur either simultaneously or in alternating cycles. Intrusion is when an individual experiences feelings and thoughts of the event on a recurring basis. This may include sleep and dream disturbances. Avoidance is when an individual avoids discussing or thinking about their experience, and it is related to the denial process (Stroebe & Schut, 1999).

The way an individual copes with one negative life event could differ from how they cope with another. Coping style varies with the personal significance attached to the event or what it means to the individual, which changes over time (Lazarus, 2000; McCreight, 2008). As time passes, new adaptations are necessary to confront the loss (Lazarus, 2000). Similarly, according to Swanson (2000), the way an individual appraises a situation determines the meaning of the event and how he or she will cope. Therefore, over time, transpiring events might change how the precipitating event is experienced. The instability of grief over time creates difficulties in measuring effective and ineffective coping strategies (Frydenberg & Lewis, 2000).

Since men and women express their emotions differently (Stroebe & Schut, 1999), men may be more likely than women to suppress the expression of their grief following a pregnancy loss. It has been suggested in previous research articles that individuals who suppress their emotions experience more negative health consequences, such as high blood pressure and less satisfaction with life, than those who do not (Gross & John, 2003; Yamasaki, Sasaki, Uchida, & Katsuma, 2011). According to Gross and John (2003), who conducted a study to examine individual differences in the use of common emotion regulating strategies, individuals who habitually suppress their emotions are better able to hide outward displays of emotion, but tend to

contemplate more on the negative feelings they experience than those who express their emotions. This may prolong the grieving process and, therefore, put them at risk for developing complicated grief (Gross & John, 2003).

Bem's Gender Schema Theory (1981) supports the hypothesis that society expects males to be emotionally stronger than women. This expectation might influence how males grieve and cope. Bem theorized that society allocates gender specific roles to the sexes based on masculinity and femininity, although they may differ by culture. This allocation of gender roles is called sex-typing. A schema is a cognitive framework developed from experiences and helps to organize and guide an individual's perception in the way they process, interpret, and remember information. As children learn society's gender schema, they learn which characteristics are identified with their own sex to help make sense of the world. For example, men are considered to be strong and women are deemed to be nurturing. The child then learns to evaluate her/his own adequacy in terms of how they fit the schema created by society, which guides their self-esteem. This becomes an internalized motivational factor for the individual to try and conform to their culture's concept of masculinity and femininity (Bem, 1981; Kosut, 2012).

Once we cognitively develop and establish a gender schema, we tend to process information on the basis of gender. Bem (1981) tested her theory in an experiment involving 5- and 6-year-old children. The children were shown pictures of males and females performing either gender consistent or gender inconsistent activities. They were asked to recall the pictures a week later. Bem found that the children distorted information by changing the gender of the individual in the picture to be stereotype consistent. For example, if the picture showed girls boxing, the children recalled it as boys boxing. Bem therefore contended that stereotyping might be slow to change in those with a strongly developed gender schema because stereotype inconsistent information may be filtered out of our memories (Hyde, DeLamater, & Byers, 2004).

Bem's (1981) Gender Schema Theory can be related to the phenomenon of pregnancy loss because society has stereotyped men to reject feminine grief reactions, such as crying and showing emotion. As men try to conform to these expectations, they feel the need to be strong to help their partner through the loss and, as a result, they usually repress their feelings and avoid discussions about how they feel.

Grief and Coping Specific to Pregnancy Loss

Grief and coping in relation to pregnancy loss is unique from grief and coping related to other traumatic events (Brier, 2008; Hutti, 2005). When a couple becomes pregnant they expect the birth of a healthy baby. Perhaps this comes from the assumption that if they do all the right things during pregnancy, a healthy baby is a guarantee (Jaffe & Diamond, 2011; Serrano & Lima, 2006). When a pregnancy ends unexpectedly, a deep sense of loss occurs that others often do not recognize. Attachment to the baby sometimes begins before conception when a couple is planning to become parents (Jaffe & Diamond, 2011). Individuals often fantasize about their future as parents to the child and have hopes and dreams for the child. With a pregnancy loss, hopes and dreams for the future and the chance to see the child grow up are also lost (Hutti, 2005; McGreal et al., 1997).

The experience of having a miscarriage in a hospital emergency department was recently raised in the local media in Newfoundland and Labrador (Sweet, 2013). Men and women expressed concern about the level of compassion and sympathy shown to women experiencing an early pregnancy loss. One woman stated that she had been left alone in a room to deal with the miscarriage and felt that regardless of the gestational age of the baby, many women who experience a pregnancy loss grieve. She felt that women often view the fetus as a baby from the moment the pregnancy test results are positive. This view was also expressed by Sweet (2013).

Attachment theory describes the elements of attachment between a parent and a child, where the purpose of attachment is to develop bonding between the two (Bowlby, 1969). The greater the level of attachment, the greater the intensity of grief will be experienced with a pregnancy loss (Robinson, Baker, & Nackerud, 1999). Recent advances in technology, such as ultrasound imaging, have influenced prenatal attachment by allowing parents to visually bond with their baby (Beutal et al., 1996; Bonnette & Broom, 2011). This theory can be applied to both men and women experiencing pregnancy loss. Bowlby (1969) theorized that attachment develops differently for each individual. Therefore, it is important to assess attachment on an individual basis. Attachment begins in the early prenatal period when the parents are preparing for the baby's arrival and envisioning how their lives will change with the presence of an infant. After birth, attachment is solidified when the parents can physically hold and see their baby. Attachment between a parent and a child can be influenced by other factors such as gestational age, social situation, acceptance of the pregnancy, implications of having a baby, and expectations (Robinson et al., 1999). Attachment theory was relevant to this research because it takes into account many of the potential moderating variables investigated.

Some individuals may blame themselves for the pregnancy loss, thinking they could have done something to prevent it. They may also feel a sense of failure and guilt that their body could not produce a healthy child, or feel angry with other women who have healthy children (Beutal et al., 1996; Hutti, 2005; McCreight, 2004; Mulvihill & Walsh, 2013). As well, numbness and shock usually occur in the weeks immediately following the pregnancy loss (Wright, 2007). Some individuals might seem unaffected by the death or loss because to them, it may seem unreal. Instead, to avoid the feeling of distress associated with grief, they often experience feelings of numbness. This defense mechanism may be beneficial in the early stages of grief to assist the individual in continuing with her/his daily activities (Lang & Carr, 2011;

Wright, 2007). Nevertheless, if grief is habitually avoided, it may affect an individual's health. Physical illness, over activity, anxiety, depression, disrupted relationships, compulsive or addictive behaviors, and self-destructive behaviors could occur (Harvard Medical School, 2011b; Lang & Carr, 2011; Wright, 2007).

After the numbness and shock have passed, an individual may experience denial (Wright, 2007). The person may believe that the ultrasound was inaccurate or that the doctor's prognosis was wrong. While experiencing the yearning phase of grief, the individual may feel preoccupied with thoughts of the pregnancy or what might have been (Harvard Medical School, 2011c). The female may feel the baby kick, even though fetal demise is evident. It is also common for parents to experience feelings of failure, anger, and guilt. The female may feel a sense of failure that she could not produce a healthy baby. The male may feel guilty that he should have taken her to the doctor sooner. It is also common to experience resentment and jealousy towards other pregnant women or mothers with infants (Beutal et al., 1996; McCreight, 2004; Robinson, 2011; Van, 2012).

In 2008, McCreight recruited 23 women from self-help groups in Northern Ireland to describe their experience of pregnancy loss. The time lapse since the pregnancy loss was 2 months to 34 years, with 18 women having experienced their loss within the 3 years prior to data collection. The participants reported feelings of guilt and self-blame. These feelings were intensified in the absence of a medical explanation for the loss in that the women felt their baby may have lived if they acted differently (McCreight, 2008). Although this study was conducted in Ireland, where the traditions and culture may differ in relation to mourning the loss of a stillborn baby, the results were similar to others in the literature.

Barr and Cacciatore (2008) conducted a study to understand the relationship between feelings of grief, envy, shame, and guilt following miscarriage, stillbirth, newborn and

infant/child death. The 441 women who participated were recruited from an advertisement on a website that offers information and support to bereaved parents. They could complete the Perinatal Grief Scale (PGS), the Dispositional Envy Scale (DES), the Personal Feelings Questionnaire (PFQ), and the Interpersonal Jealousy Scale (IJS) either online or print them off and mail the completed questionnaires to the researchers. The median time since loss was 8 months. The researchers reported that shame, envy and jealously had a moderate positive correlation with grief and guilt had a large positive correlation with grief (Barr & Cacciatore, 2008). The results of Barr and Cacciatore's study may not be generalizable to the population of those who experienced a pregnancy loss. Women were also included if they experienced a neonatal death or the death of a child. As well, the online method of data collection may have excluded those who were not computer literate. It should also be noted that the IJS measures romantic jealousy. Consequently, the appropriateness of this tool for the nature of this study is questionable.

When the reality of the pregnancy loss sets in, difficulty concentrating and feelings of sadness, apathy and hopelessness can arise (Everly & George, 2013; Lang & Carr, 2011; Wright, 2007). Finally, resolution could take several years to occur. Usually some sadness will always be experienced, but with time, the feelings associated with grief decrease and become manageable. This is also known as acceptance or resolution (Harvard Medical School, 2011c). It is important to note that grief does not follow a linear process. Many individuals describe grief in a fluctuating manner. Therefore, the individual may revisit any of their grief responses throughout the bereavement period (Harvard Medical School, 2011a; Wing et al., 2001).

Murphy and Merrell (2009) noted that grief is not a universal response to miscarriage. In their study with eight women who had an early miscarriage and 16 health professionals who cared for them, including nurses, doctors, and ultrasonographers, in a hospital gynecological unit

in the United Kingdom, not all participants agreed that miscarrying involved bereavement. Although some women reported intense feelings of sadness, they did not identify themselves as bereaved (Murphy & Merrell, 2009). The researchers contended that while some women felt grief similar to bereavement, others might have felt relief. They argued that attachment theory (Bowlby, 1969), which is discussed later in this chapter, and adult grief models cannot necessarily be applied to women who experience a miscarriage. They suggested that in attachment theory, Bowlby (1969) visualized a child being separated from their parent becoming distressed due to the child considering the parent to be a source of protection and security. In pregnancy loss, however, although the mother is attached and feels protective of the fetus, the fetus is not considered a source of protection and security. Therefore, Murphy and Merrell asserted that the experience of miscarriage is a significant life event that fits more with transition theory than bereavement. It should be noted that the sample in this study does not represent a diverse group of people since the participants were mainly White, well educated, and middle-income individuals.

Potential Moderators on Grief Intensity Post-Pregnancy Loss

A number of research studies have focused on variables that may influence grief intensity post-pregnancy loss. A discussion of the potential impact of gender, age, parenthood status, number of pregnancy losses, time since pregnancy loss, gestational age, and fetal ultrasound viewing status on level of grief intensity is presented next.

Gender

There is some conflicting evidence in the literature on whether or not males' grief experiences differ in terms of grief intensity from those of females (Beutel et al., 1996; McGreal et al., 1997; Puddifoot & Johnson, 1999). Nevertheless, most researchers working in this area found that women experienced more intense grief than men and males were more likely to keep

their feelings to themselves than females (Beutal et al., 1996; McGreal et al., 1997; O'Leary & Thorwick, 2006; Stinson et al., 1992).

Males and females may experience grief differently after a pregnancy loss partly due to societal and cultural norms. In American society, there are different expectations for men and women about what is an appropriate level of grief intensity (Stinson et al., 1992). Since she is physically carrying the baby it is assumed that a woman is more emotionally connected to the fetus than the man and, therefore, is prone to more intense grief (Stinson et al., 1992).

In a longitudinal, correlational study, Beutal et al. (1996) found that men seemed to grieve less than women post-pregnancy loss and were less likely to have formed an attachment to the unborn child, perhaps because they do not experience the physical signs of pregnancy. Similarly, Serrano and Lima (2006) found that women with a history of recurrent miscarriages scored significantly higher than their male counterparts on the overall PGS grief scores ($p < .001$) and on the three subscales of *Active Grief* ($p < .005$)*, Difficulty Coping* ($p < .04$)*, and Despair* ($p < .001$). Using the Impact of Events Scale, they also found that women scored higher on levels of *intrusion*, *avoidance*, and *overall stress* (Serrano & Lima, 2006). This could be partly due to the physical trauma a woman experiences with recurrent miscarriages, including pain, blood loss, and potential surgery.

Using a longitudinal design, Stinson et al. (1992) examined gender differences in bereavement following perinatal death using a convenience sample of 56 couples recruited from 16 private clinics in the Lehigh Valley, Pennsylvania area. Interviews were conducted in the participants' homes using the PGS and data were collected at 2 months, 1 year, and 2 years post-loss. Based on their results, Stinson et al. concluded that males might be at an increased risk of developing chronic grief than females. This could be due to the stereotypes society has placed on men to be strong and unemotional, as well as to play the role of support person to his partner

since women are considered to be more emotionally and physically attached to the fetus (Stinson et al., 1992).

The results of a cross-sectional, correlational study conducted by Puddifoot and Johnson (1999) in the United Kingdom are similar to those found by Stinson et al. (1992). In a sample of 323 male partners of women who miscarried, Puddifoot and Johnson examined men's grief levels post-miscarriage and compared them with female cohorts from another study. The authors suggested that men might be at an increased risk of developing chronic grief because they scored significantly higher than women on the PGS subscales of *Difficulty Coping* and *Despair*. The higher scores on these two subscales indicated that men may be experiencing delayed grief reactions perhaps due to less opportunities to express their feelings, since they play a large role in providing their partner with support during and after the pregnancy loss.

The results of Puddifoot and Johnson's (1999) study must be interpreted with some caution. Although the authors measured grief with an appropriate scale (i.e., the PGS), the study data were only collected from men. The researchers stated that the data were compared to female cohorts from a methodologically identical study. Comparing men's grief scores with female cohorts from another study may have limited the strength of Puddifoot and Johnson's study since they were unable to control for the moderator time since pregnancy loss (Brier, 2008). Puddifoot and Johnson stated that prospective studies are needed from early pregnancy to determine the effects of the couples' attitudes on factors of vulnerability that may contribute to how a pregnancy loss is experienced.

The findings of a phenomenological study conducted by O'Leary and Thorwick (2006) with 10 men pointed to society's expectations of men to repress their emotions. The participants in the study stated they were taught as children that males do not express their feelings. If they were upset by something, they were taught to deal with it later when they were alone. They also

reported difficulty in expressing their feelings. The participants believed that it is the nature of men to keep their emotions to themselves. Similar to a qualitative study by Bonnette and Broom (2011), the men wanted their grief to be acknowledged by others after a loss and they did not want to be viewed primarily in the role of the support person to their partner. Also, in two other qualitative studies (Lang et al., 2011; Samuelsson, Radestad, & Segesten, 2001) although males believed their partner's grief was more intense than their own, they still wanted to be recognized as grieving.

Although most of the research findings indicated that women are more expressive of their feelings than men, this does not necessarily mean that women feel more grief. It may be postulated that men interpret their feelings differently than women. Lang et al. (2011) observed that the more the wife showed her grief, the more the husband kept his feelings to himself in an effort to protect her. It is important to acknowledge that men grieve, but society's expectations might inhibit the grieving process. Men in a qualitative study by Abboud and Liamputtong (2005) felt their primary role during miscarriage was to support their partner since she was experiencing the loss physically. All six men in the study felt they had to repress their emotions so they would not upset their partner.

Age

Maternal age could be a potential factor in determining the meaning an individual associates with a pregnancy loss, which in turn could influence grief intensity. The more personal significance an individual associates with pregnancy, the greater the emotional attachment (Janssen, Cuisinier, de Graauw, & Hoogduin, 1997). As age increases, a woman's ability to become pregnant and have a healthy pregnancy and baby declines (Swanson, 2000). Although most of the literature found no significant differences between grief intensity and age (Franche, 2001; Keefe-Cooperman, 2005; Serrano & Lima, 2006), it is believed that maternal age

could indirectly influence grief intensity following a pregnancy loss (Brier, 2008, Janssen et al., 1997).

Franche (2001), Keefe – Cooperman (2005), and Serrano and Lima (2006) found that age did not influence grief intensity. In a cross-sectional study conducted in Ontario, Canada, Franche studied 60 pregnant women who had previous miscarriages and 50 of their partners to determine predictors of grief after a miscarriage or perinatal death. It is important to note that the men and women who participated in this study were different than those of other studies because the women were pregnant at the time of data collection. As well, Franche's study was the only study identified in the literature to report on age of men and grief intensity. As well, Keefe – Cooperman collected data on 23 women who experienced a miscarriage and 62 women who experienced a stillbirth. Although the results showed that age was not significantly related to grief scores, age of the mother was related to feelings of guilt. Older women tended to blame themselves more than younger women for the loss and felt they should have conceived earlier in life ($p = 0.025$).

In contrast, other studies found a positive relationship between grief intensity and maternal age. In a prospective, longitudinal study conducted in the Netherlands, Janssen et al. (1997) recruited pregnant women to identify variables associated with higher levels of grief after a miscarriage. Initially, 2,140 women within 12 weeks of gestation completed the PGS. Of the 2,140 women, 227 had a miscarriage. Those who miscarried were asked to complete four more questionnaires over an 18-month period. The results from the study demonstrated that older women scored higher than younger women on the total PGS score, as well as on the subscale of *Difficulty Coping*. The authors attributed these results to possible feelings of fear about having less time to conceive.

The different results found by Janssen et al. (1997) may be attributed to the design of the study. Other studies collected data from a sample of women who had already experienced a pregnancy loss. This was the only prospective study found in the literature. Since the women who participated initially were not aware of an impending pregnancy loss, it is possible that Janssen et al. had a more accurate measurement of grief in women after the pregnancy loss occurred. In a literature review exploring the relationship between pregnancy loss and grief, however, Brier (2008) found that although descriptions of grief varied amongst individuals, they characterized grief post-pregnancy loss similarly to grief after other types of significant losses.

Parenthood Status

Researchers have investigated whether having living children at the time of a pregnancy loss acts as a buffer to protect parents from pathological grief. Previous research has found that women who were childless at the time of their pregnancy loss experienced more intense grief than those with children (Janssen et al., 1997; Purandare et al., 2013). Similarly, Swanson et al. (2007) found that of the women in their study who experienced feelings related to *Healing* at 1 year post-pregnancy loss, 62% were either pregnant again or had given birth. Both Janssen et al. (1997) and Purandare et al. (2013) used the PGS to measure grief.

Although studies cited above suggested that parenthood status can influence grief intensity post-pregnancy loss, a study by Keefe-Cooperman (2005) found no association. This study was different from others in the literature because the primary objective was to determine if there were differences in levels of grief between women who experienced miscarriage and those who terminated a pregnancy for a fetal anomaly. As well, limitations of the study may have influenced the validity of the results. The cohort group of women who miscarried was not homogenous with the test group of women who terminated the pregnancy due to an anomaly.

Number of Pregnancy Losses

Recurrent pregnancy losses might contribute to an increased level of grief. This could be the case because the event might take on a greater significance for individuals who have experienced more than one pregnancy loss. Women in particular may feel a sense of failure that they cannot produce a healthy baby and men may feel guilty about not seeking medical treatment for his partner sooner (McCreight, 2004; Serrano & Lima, 2006; Stinson et al., 1992).

Using a cross-sectional design, Serrano and Lima (2006) found significantly higher levels of grief with recurrent miscarriage in both men and women, when compared to a longitudinal study by Potvin, Lasker, and Toedter (1989), who studied 138 women that experienced one pregnancy loss. In another study, of those women who were *Feeling Overwhelmed*, Swanson et al. (2007) found that at 1-week post-pregnancy loss, 59% had experienced a prior pregnancy loss, and at 1-year post-pregnancy loss, 56% had miscarried again. For the women in Purandare et al.'s (2013) study, grief intensity significantly increased with the number of miscarriages ($p = 0.02$), but only for women with a child.

On the contrary, there were several studies in the literature that found no significant relationship between level of grief intensity and number of pregnancy losses (Beil, 1992; Franche, 2001; Janssen et al., 1997). As an individual experiences more miscarriages, the more emotionally desensitized they may become. They may also learn to expect the pregnancy to end in loss, therefore mentally preparing them for the worst (Serrano & Lima, 2006). It should be noted that Janssen et al. (1997) included only women in their study. Since there is no consensus on how recurrent pregnancy losses affect grief intensity in both men and women, it is evident that more research needs to be conducted.

Time Since Pregnancy Loss

Time could be an important factor in the level of grief associated with a pregnancy loss. Although an individual will always grieve the loss of a loved one, feelings of grief should begin to improve within 6 months of the loss (Badenhorst & Hughes, 2007; Harvard Medical School, 2011c). Most of the literature indicated that grief scores decrease over time for women, while men's grief scores may remain unaffected by time.

Beutal et al. (1996) discovered that women's and men's grief scores decreased over time post-pregnancy loss. Similarly, an exploratory cross-sectional study by Bennett, Litz, Maguen, and Ehrenreich (2008) found as more time passed, symptoms of complicated grief decreased in women. Stinson et al. (1992) found similar results for women in their study, but no difference in men's grief scores and time since pregnancy loss. Beutal et al. used the Munich Grief Scale, which was derived from the PGS to measure grief in their study, and Bennett et al. used the Inventory of Complicated Grief and the PGS. Beutal et al. and Stinson et al. used a longitudinal design that allowed for control over confounding variables, which is a major strength of both studies.

Swanson et al. (2007) and Serrano and Lima (2006) discerned a different pattern of grief intensity for women over time. The women's responses to miscarriage were not significantly different at 6 weeks and 1-year post-pregnancy loss. However, there was a significant difference in women who were *Actively Grieving* or feeling *Overwhelmed* between 1 week and 6 weeks post-pregnancy loss. As a result of these findings, the researchers concluded that most of the distress caused by a miscarriage only lasts for the first 6 weeks (Swanson et al., 2007). This study was a secondary analysis of data derived from previous research conducted by Swanson in 1999. Serrano and Lima found no significant relationship with time since last miscarriage and grief intensity.

Gestational Age

It has been suggested that the reality of pregnancy may increase with longer gestation time because there is more of an opportunity to feel fetal movement, view ultrasound pictures, imagine what the baby will look like, and imagine life as parents (Brier, 2008). With a sample of men, Puddifoot and Johnson (1999) found that as gestational age increased, levels of grief for men on the overall PGS also increased when experiencing pregnancy loss. No significant differences found between gestational age and the subscales of *Active Grief*, *Difficulty Coping* and *Despair* (Puddifoot & Johnson, 1999). Franche (2001) found that active grief was significantly higher among men who experienced a pregnancy loss at a greater gestational age, as compared to those men who experienced an earlier pregnancy loss.

The literature has shown that women's scores on the overall PGS and the subscales *Active Grief, Difficulty Coping,* and *Despair* significantly increase with greater gestational age (Franche, 2001; Janssen et al., 1997). Similarly, in a study of 138 women and 56 of their partners, Goldbach, Dunn, Toedter, and Lasker (1991) found that as gestational age rose levels of grief also heightened. Parents with a late pregnancy loss reported more active grief and difficulty coping 2 years later than their early loss counterparts (Goldbach et al., 1991). On the other hand, there was no correlation between duration of gestation and grief intensity in Serrano and Lima's (2006) study with 30 couples.

Fetal Ultrasound Viewing Status

It has been suggested that individuals with a greater level of attachment to the fetus will have increased grief reactions to the loss (Bowlby, 1969). Fetal ultrasound viewing is believed to increase the attachment and bonding process of parents to their unborn child (Beutal et al., 1996; McCreight, 2004). Perhaps the visualization of the baby makes it more realistic (Beutal et al., 1996; Puddifoot & Johnson, 1999). As well, the visual picture of the fetus could make the

parents more likely to view the unborn child as a living being (McCreight, 2004). Visual representations are especially important to men in bonding with the baby because they cannot feel the pregnancy (Bonnette & Broom, 2011). A phenomenological study by Armstrong (2001) supported this finding and found that fathers who had seen ultrasound pictures perceived the baby as a reality as opposed to just a pregnancy. It should be noted that although Armstrong's study was qualitative, the sample size was very small.

All of the studies exploring this variable in the literature indicated that fetal ultrasound viewing status influenced levels of grief post-pregnancy loss. Puddifoot and Johnson (1999) and Johnson and Puddifoot (1998) found that men who viewed an ultrasound picture of their unborn child had significantly higher levels of grief post-pregnancy loss than those who did not. These researchers noted that men were often shocked at the clarity of the image and those men who visualized the baby as a real and living being created a parental bond with the fetus early in the pregnancy. Bonnette and Broom (2011) and McCreight (2004) concurred that men develop an attachment to the unborn child after seeing ultrasound pictures because they regard the fetus as a living person. McCreight indicated that viewing the male partner primarily as having a supportive role ignores his emotional needs.

While comparing men and women, Beutal et al. (1996) found that women felt more attached to the fetus than men after seeing an ultrasound picture. It is commonly believed that since the woman experiences the physical signs of pregnancy, she will develop more of an emotional attachment to the baby (Beutal et al., 1996). However, Condon (1985) studied men and women's emotional attachment to the baby and found that both were similar, but men were more likely to keep their thoughts and feelings to themselves.

Conceptual Framework

The conceptual framework that guided this study (see Figure 1) is formulated based on the literature review and incorporated attachment theory (Bowlby, 1969), the DPM (Stroebe & Schut, 1999), and Sandra Bem's Gender Schema Theory (Bem, 1981). According to this framework, when the baby is conceived, the parents gradually develop an attachment to the fetus (Attachment theory). This attachment grows as gestational age increases. When pregnancy is lost, either through a miscarriage or as a stillborn, the parents experience stress and grief that may be long lasting and could be detrimental to health if not adequately resolved. They cope with this grief by using either restoration-oriented strategies or loss-oriented strategies or both (Dual Process Model of Coping – DPM). Based on the findings of previous published studies, women and men may use different strategies that are considered appropriate according to cultural norms and societal expectations. Following pregnancy loss, moderating factors may influence coping strategies and grief intensity experienced by the individual. The arrows shown in the outer circle of Figure 1 depict that coping strategies can influence grief intensity post-pregnancy loss. The arrows inside the circle indicate how the moderators examined in this study may influence coping strategies and grief intensity.

As cited before, studies have been conducted elsewhere to explore the impact of pregnancy loss, no study comparing men and women however, has been found assessing this same issue in NL. This study therefore, is needed to identify the difference (if any) in grief intensity post pregnancy loss between NL men and women, as well as the effects of moderators identified above on this grief intensity.

Study Questions

Based on the background literature, this study proposes to address the following research questions:

1. Do Newfoundland and Labrador men and women's coping strategies differ from each other post-pregnancy loss?

2. Do Newfoundland and Labrador men and women's grief intensity differ from each other post-pregnancy loss?

3. Do socio-demographic and pregnancy-related variables (i.e., age, number of pregnancy losses, parenthood status, time since pregnancy loss, fetal ultrasound viewing status, and gestational age) affect women's grief intensity?

4. Do socio-demographic and pregnancy-related variables (i.e., age, number of pregnancy losses, parenthood status, time since pregnancy loss, fetal ultrasound viewing status, and gestational age) affect men's grief intensity?

Hypotheses

Based on the literature and conceptual framework, the following hypotheses will be tested in this study:

1. Men use more restoration-oriented coping strategies, while women use more loss-oriented coping strategies following a pregnancy loss.

2. Women report a greater level of grief intensity than men post-pregnancy loss.

3. For women, there is no significant relationship between (a) grief intensity and age, nor (b) grief intensity and number of pregnancy losses. Also, grief intensity is less for women who did not view an ultrasound picture of the fetus, had a child or children at the time of the pregnancy loss, experienced the pregnancy loss earlier in the pregnancy, and/or experienced the pregnancy loss a longer time ago.

4. For men, there is no significant relationship between (a) grief intensity and age, (b) grief intensity and time since pregnancy loss, nor (c) grief intensity and number of pregnancy losses they experienced with their partner. Also, grief intensity is less for men who did not view an ultrasound picture of the fetus, had a child or children at the time of the pregnancy loss, and whose partner experienced the loss earlier in the pregnancy.

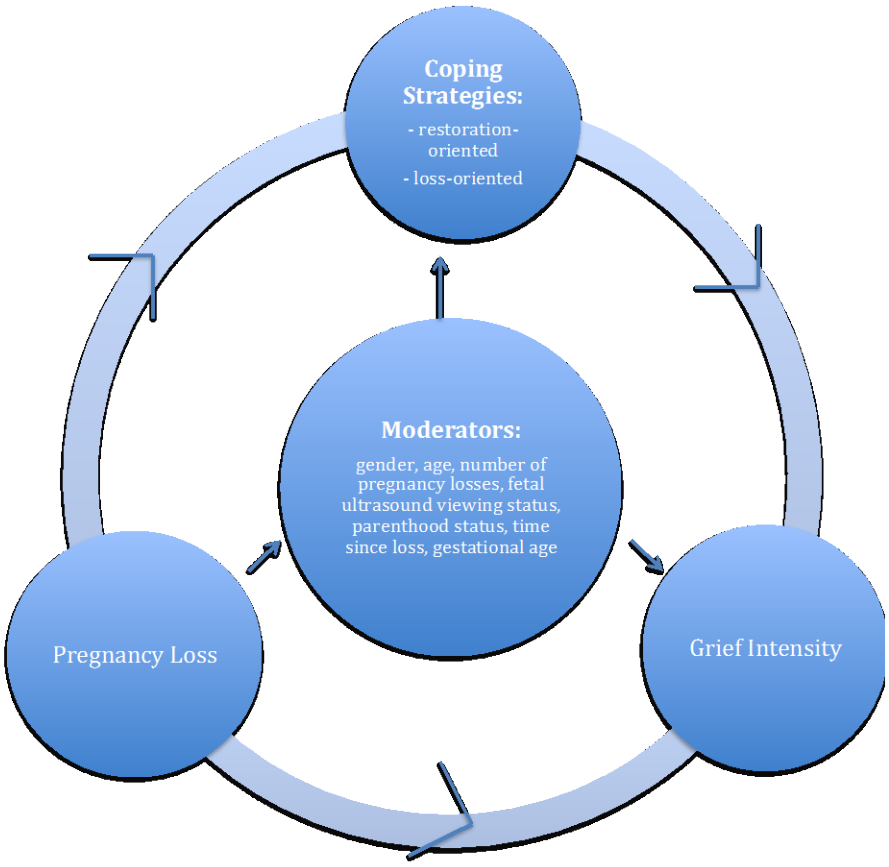

Figure 1. Conceptual framework explaining the role of potential moderators on grief intensity post-pregnancy loss.

Chapter Summary

There are many gaps evident in the literature in order to compare men's and women's grief and coping post-pregnancy loss. Consequently, more research in this area is needed. Furthermore, the involvement of men in childcare has increased in recent years (Marshall, 2008), so grief responses among men might have changed.

This chapter included an overview of the grieving process, coping strategies and coping theories related to pregnancy loss, the conceptual framework that guided the study, and the research questions and hypotheses. The potential moderators of gender, age, number of pregnancy losses, parenthood status, time since pregnancy loss, fetal ultrasound viewing status, and gestational age were also presented. The research methods for this study will be explained in the next chapter.

Chapter 3

Methods

This study used a cross-sectional, retrospective and correlational design. A cross-sectional correlational design was used due to a lack of time and financial resources. As well, this type of design is an appropriate method to identify associations between multiple variables. Although descriptive, retrospective designs have some limitations such as unreliable data due to poor memory recall, it was an appropriate method because the researcher was interested in linking a phenomenon that occurred in the past (i.e., a pregnancy loss) with the present outcome of how it currently affects grief intensity for both genders.

Although this non-experimental design does not yield strong research-based evidence (Polit & Beck, 2008), it was appropriate for the nature of this study because its purpose is not to establish a cause-and-effect relationship between variables. As well, it was impossible to manipulate the variables in the study. The results from this study, however, could be used to develop an experimental study in the future to test the effectiveness of interventions aimed specifically towards assisting parents of both genders in the grieving process post-pregnancy loss.

This chapter presents a description of the target population, sample, setting, instruments used to measure grief intensity (The Perinatal Grief Scale; PGS) and to explore coping strategies (The Coping Scale for Adults; CSA), the procedure for data collection and analysis. In addition, ethical considerations of this study are discussed.

Population and Sample

The target population for the study was men and women, 19 years of age or older, who experienced a loss of pregnancy at any length of gestation at any time throughout their lives. To be eligible for the study, the person must have been a resident of Newfoundland and Labrador who could read or speak the English language and was mentally competent.

A non-probability, convenience sample was used. The population was accessed from various doctors' and women's health psychologists' offices, Women's Health Clinics, and emergency departments across the province. Examples of specific sites included the Maternal Fetal Assessment Unit and the Women's Health Clinic at the Health Sciences Centre in St. John's, Western Memorial Regional Hospital in Corner Brook, Central Newfoundland Regional Health Centre in Grand Falls-Windsor, the Charles S. Curtis Memorial Hospital in St. Anthony, and the Labrador Health Centre in Happy Valley-Goose Bay. Including these specific health centres ensured that all areas of Newfoundland and Labrador were considered in the study.

It was determined that an ideal sample size was a minimum of 63 men and 63 women (Polit & Beck, 2008). The sample size was determined by considering a significance criterion of .05 for a two-tailed test, a power of .80 to allow for 20% risk of committing a type II error, and a moderate effect size of .50. According to Polit and Beck (2008), the effect size is usually moderate for nursing research studies. Studies conducted in this area have sample sizes that are less than the ideal of 63 couples. Serrano and Lima (2006) and McGreal et al. (1997) conducted cross-sectional, descriptive correlational studies with sample sizes of 30 couples and 52 adults (35 females and 17 males) respectively. Two longitudinal, descriptive correlational studies by Stinson et al. (1992) and Beutal et al. (1996) had sample sizes of 56 couples each.

Research Instruments

To address the research questions identified in this study, three questionnaires were used, including a socio-demographic questionnaire (Appendix B), the PGS (Appendix C), and the CSA (Appendix D).

Socio-Demographic Questionnaire

The first questionnaire consisted of questions on socio-demographic data, such as age, gender, number of children, and marital status. Also, there were questions relating to the

pregnancy loss. The full questionnaire is located in Appendix B. The purpose of collecting these data was to describe the sample and answer the research questions number 3 and 4.

The Perinatal Grief Scale (PGS; Short Version)

The PGS, as discussed in Potvin et al. (1989), was developed by Toedter and Lasker to assess the level of grieving associated with a pregnancy loss at any gestational period (Appendix C). This instrument can distinguish between individuals experiencing a normal grieving process and those who are at risk of developing chronic grief (Potvin et al., 1989). The scale consists of 33 items measured on a Likert scale, with responses ranging from "Strongly Disagree" (coded as 5) to "Strongly Agree" (coded as 1). The PGS is divided into three subscales: *Active Grief*, *Difficulty Coping*, and *Despair*. *Active Grief* measures a normal grief response, and includes items 1, 3, 5, 6, 7, 10, 12, 13, 14, 19, and 27. *Difficulty Coping* measures adaptive measures and coping, with higher scores indicating difficulty in dealing with individuals and situations. Items 2, 4, 8, 11, 21, 24, 25, 26, 28, 30, and 33 are used to assess *Difficulty* Coping. The *Despair* subscale includes items 9, 15, 16, 17, 18, 20, 22, 23, 29, 31, and 32, and can predict long-term emotional difficulties. Each subscale score is summed to be assessed individually and then all subscales are summed for the total PGS score, with lower scores indicating lower levels of grief. To obtain a score all items must be reversed except items 11 and 33. The range of potential scores for the total PGS is 33 to 165 and for each subscale it is 11 to 55 (Potvin et al., 1989). Reviewing scores and computing means and standard deviations across 21 studies, Toedter, Lasker, and Alhadeff (1988) determined that high scores for the individual subscales of *Active Grief, Difficulty Coping,* and *Despair* are 34, 30, and 27 respectively. For the total PGS, a score of 91 can reflect a high level of grief. Cronbach's alpha is reported as .95 for the total scale and greater than .85 for each subscale, indicating high reliability. Potvin et al. welcome the use of their scale by clinicians and other researchers free of charge.

The Coping Scale for Adults (CSA, Specific Short Form)

The CSA identifies the coping behaviors of individuals (Appendix D). It can provide information on whether or not the individual is at risk of developing poor outcomes, such as stress and anxiety, due to poor coping strategies. It consists of 20 items measured on a Likert scale with responses ranging from "Doesn't Apply or Don't Do It" (coded as 1) to "Used a Great Deal" (coded as 5). There is a *General Form* and a *Specific Form*. The *General Form* measures how an individual copes with concerns in general and The *Specific Form* measures coping behaviors and styles related to a specific concern. The questions are the same in both forms, but they are worded differently. This research utilized the *Specific Form* since the primary concern was how an individual coped with a pregnancy loss. The researcher specified at the top of the form that the questionnaire should be answered with respect to the pregnancy loss. The CSA is a valid and reliable measurement scale of coping strategies. Cronbach's alpha was reported as .69 to .92 for each subscale (Frydenberg & Lewis, 2000).

The CSA instrument is an assessment of 19 coping strategies. The coping strategies are derived from the conceptual framework that guided the development of the CSA. They consist of: 1) *Seek Social Support,* in which the individual has a desire to share the concern with others; 2) *Focus on Solving the Problem*, in which the individual reflects, plans, and tackles the problem; 3) *Work Hard*, in which the individual is committed and ambitious to keep up with work; 4) *Worry* about their future; 5) *Improve Relationships*, which is characterized by the individual improving relationships with others or engaging in an intimate relationship; 6) *Wishful Thinking*, where the individual hopes and anticipates for a positive outcome; 7) *Tension Reduction*, as an attempt to make oneself feel better by releasing tension (e.g., engaging in alcohol or drug use); 8) *Social Action*, which is characterized by letting others know of the concern and enlisting support by organizing an activity or writing a petition; 9) *Ignore the Problem*, which is characterized by a

conscious effort to forget the problem; 10) *Self-Blame;* 11) *Keep to Self*, such as feelings; 12) *Seek Spiritual Support;* 13) *Focus on the Positive*, which is characterized by the individual having a positive outlook on the current situation; 14) *Seek Professional Help;* 15) *Seek Relaxing Diversions*, such as general relaxation; 16) *Physical Recreation, where the individual involves themselves in playing sports and being fit;* 17) *Protect Self*, which consists of improving or maintaining one's self concept; and 18) *Humor*, where the individual tries to be funny as a diversion. The final strategy is called 19) *Not Cope*, which is characterized by psychosomatic illnesses (Frydenberg & Lewis, 2000).

The 19 coping strategies can be subsumed into four coping styles: *Dealing with the Problem, Non-Productive Coping, Optimism, and Sharing*. The following coping strategies come under the coping style of *Dealing with the Problem*: *Focus on Solving the Problem, Seek Relaxing Diversions, Physical Recreation, Humor, Work Hard, Protect Self,* and *Improve Relationships*. *Non-Productive Coping* strategies include: *Worry, Wishful Thinking, Not Cope, Ignore the Problem, Tension Reduction, Keep to Self,* and *Self-Blame*. The third coping style, *Optimism*, includes *Focus on the Positive, Seek Relaxing Diversions, Wishful Thinking* and *Seek Spiritual Support. Sharing*, which is the fourth coping style, includes *Seek Social Support, Seek Professional Help, Social Action*, and a negative contribution from *Keep to Self,* where the coded value is subtracted from the score. The scores are summed and are categorized as follows: not used at all (20 to 29), used very little (30 to 49), used sometimes (50 to 69), used frequently (70 to 89) and used a great deal (90 to 100; Frydenberg & Lewis, 2000).

Data Collection

After receiving ethical approval, data collection began in August 2011 and ended in March 2012. Potential participants who experienced a pregnancy loss were invited to participate by displaying posters in doctors' offices and throughout the Women's Health Clinics in the

province (Appendix E). Permission was received from the Program Director of Children's and Women's Health within Eastern Health to display the posters in the ultrasound department, the women's health clinic waiting rooms and examination rooms, and the obstetrical and gynecological inpatient units. Physicians and women's health psychologists were informed about the study and were asked to refer interested, potential participants to the researcher to learn more about the study. Information packets mailed to doctors and women's health psychologists contained a letter explaining the study (Appendices F and G), posters to display in their waiting and examination rooms (Appendix E), and copies of a letter to give to potential participants (Appendix H).

When contacted by a potential participant, the researcher explained and answered any questions about the study. While discussing the research study with a potential participant, they were given the option of either self-administering the questionnaires or completing the questionnaires via a telephone interview conducted by the researcher. All participants chose the option of the self-administered questionnaires. The researcher informed the individual that two sets of questionnaires would be included in the research packet in case the subject's partner would like to participate. Each mailed packet included a cover letter (Appendix I), two consent forms (Appendix J), two socio-demographic questionnaires (Appendix B), two short versions of the PGS (Appendix C), and two Specific Short Forms of the CSA (Appendix D). A follow-up reminder letter was mailed to the potential subjects approximately 2 weeks after the initial research packet was sent to remind them to submit their questionnaires if they decided to participate in the study (Appendix K). Pre-stamped, addressed envelopes were provided to each potential participant to return the signed consent forms and the self-administered questionnaires to the researcher.

Data Analysis

Initially, the socio-demographic variables were analyzed using descriptive statistics to describe the study sample. Frequency counts and percentages were used where appropriate. As the sample size of male respondents was small and the data violated the assumptions of normality and homogeneity of variance, research questions one and two were answered using the Mann-Whitney U test, the non-parametric equivalent of the independent samples t-test. For research question three, Pearson's Product-Moment Correlation was used to analyze the relationship between continuous variables, and point biserial correlation was used to analyze the relationship between dichotomous and continuous variables. In addition, Spearman's rho correlation coefficient was used to analyze time since pregnancy loss because there were outliers present in the data, and not all of the variables were normally distributed. Since the sample size of male respondents was small, the variables in research question four were analyzed using Spearman's rho correlation coefficient, as well as point biserial correlation. The last question of the CSA was not included in the analysis because it was open-ended and those who had completed it had already addressed the stated coping method in questions 1 to 18. All hypotheses were tested at the .05 alpha level. SPSS version 20 was used to analyze all the data.

Ethical Considerations

Permission for the proposed study was obtained from Memorial University of Newfoundland's Interdisciplinary Committee on Ethics in Human Research (ICEHR; Appendix L). A letter of consent (Appendix J) was included in the packets describing the study and informing subjects of their freedom to either participate or decline participation in the study. Implied consent was also obtained since the data collection tools were mailed, and self-administered. If a participant chose the option of a telephone survey, a signed consent form would have been returned to the researcher prior to collecting any data. However, none of the

participants chose a telephone survey. Contact information for the researcher was provided in the cover letter (Appendix I). It was anticipated that no harm would come to the subjects in this study. However, the inconvenience of taking the time to fill out the questionnaires and emotional upset may have been experienced. If participants became upset, they were provided contact information for a Women's Health Psychologist in their region. Participant confidentiality was maintained by locking all information collected from the subjects in a filing cabinet at the researcher's home office. As mandated by ICEHR, the data will be kept secure for a period of 5 years after completion of the research. Once the 5 year period is over, the data will be destroyed.

Chapter Summary

This chapter presented a description of the research methods used in this cross-sectional, retrospective correlational study conducted in Newfoundland and Labrador. The population and sample, setting, method of data collection, research instruments, data analysis, and ethical considerations were discussed. The research results will be presented in the next chapter.

Chapter 4

Results

This chapter is a presentation of the results from the data analysis conducted for this research study. First, the sample is described in relation to socio-demographic and pregnancy-related variables by gender. Second, levels of grief by gender, as measured by the PGS, and coping strategies and styles by gender, as measured by the CSA, are presented. Finally, the results of hypothesis testing on the influence of seven socio-demographic and pregnancy-related variables on males' and females' grief are examined.

Sample Description

A total of 109 potential participants (50 males, 59 females) contacted the researcher and expressed an interest in the study. Of the 109 eligible participants, 66 (25 males, 41 females) completed and returned the questionnaires (61%). The socio-demographic and pregnancy-related characteristics of the respondents are presented in Table M1 (Appendix M). It is important to note that not all participants were couples. The results indicated that male and female participants were similar in most demographic variables including age at the time of data collection (Mean [M for men] = 34 years old; SD = 8.75; range = 21 to 54; and M for women = 35 years old; SD = 8.76; range = 19 to 58, respectively), parenthood status ($X^2 = .00$, $p = 0.98$) and age at the time of pregnancy loss ($X^2 = 4.43$, $p = 0.22$), number of pregnancy losses ($X^2 = .58$, $p = 0.75$), and time elapsed since pregnancy loss for those who had experienced a single loss, or time elapsed since the most recent pregnancy loss for those who experienced more than one loss ($X^2 = 4.68$, $p = 0.59$). Male and female participants were also similar for mean gestational age at the time of the pregnancy loss ($X^2 = .47$, $p = 0.93$). Marital status was different between the men and the women who participated in this study. All of the males who participated in the survey identified themselves as married or in a common – law relationship,

whereas 88% of female respondents identified themselves as being married or living common-law with their partner and 12% reported being single.

Coping Strategies and Gender

To answer the first question of this study, do Newfoundland and Labrador men and women's coping strategies differ from each other post-pregnancy loss, men's and women's coping strategies post-pregnancy loss were examined with the Mann-Whitney U test, the nonparametric equivalent of the independent samples t-test. The data analysis, as shown in Table M2 (Appendix M), indicated statistically significant differences between gender and the coping strategies *Talk to Others and Give Each Other Support* (Z = - 3.012, p = .00), *Try to be Funny* (Z = 1.983, p = .05), and *Ask a Professional Person for Help* (Z = -2.164, p = .03). Females used the strategies of *Talk to Others and Give Each Other Support* (mean rank = 37.74, p = .00) and *Ask a Professional Person for Help* (mean rank = 36.16, p = .03) more frequently than males (mean rank = 23.77 and 26.40 respectively), whereas males tended to use humor as a coping strategy more frequently (mean rank = 38.29, p = .05) than females (mean rank = 29.02).

Coping styles, which are determined by combining specific coping strategies, were analyzed for differences between males and females (see Table 4.1). A Mann-Whitney U test showed statistically significant differences between males and females for the coping style *Sharing* (Z = -2.456, p = .01). As indicated in Table 4.1, there were no statistically significant differences between males and females for the coping styles *Dealing with the Problem, Non-productive Coping*, and *Optimism*.

Grief Intensity and Gender

The mean grief scores for men, as measured by the total PGS, was 63.56 (SD = 21.33; 95% Confidence Interval [CI], 39 – 113) with considerable variation as indicated by the large spread of scores. There was a decrease in mean scores from *Active Grief* (M = 26.36; SD = 7.27;

95% CI; 15 – 41) to *Despair* (M = 18.24; SD = 7.70; 95% CI; 11 – 38) indicating that higher levels of *Active Grief* were more prevalent in the sample than *Difficulty Coping* (M = 18.96; SD = 7.95; 95% CI, 11 – 42) or *Despair*.

Table 4.1

Coping Styles and Gender

Coping Style	n	Mean Rank	U	Z	p (Mann-Whitney U)
Dealing with the Problem					
Male	24	31.52	457	-0.163	.870
Female	39	32.29			
Non-productive Coping					
Male	24	28.48	384	-1.341	.180
Female	40	34.91			
Optimism					
Male	24	29.35	405	-1.056	.291
Female	40	34.39			
Sharing					
Male	24	25.21	305	-2.456	.014[+]
Female	40	36.88			

[+] $p \leq 0.01$

The mean grief score for women was slightly higher than those of men (M = 71.05; SD = 26.30; 95% CI, 33 – 125), but it was not statistically significant. Similar to men, there was a decrease in mean grief scores from *Active Grief* (M = 29.27; SD = 10.88; 95% CI, 11 – 49) to *Despair* (M = 20.46; SD = 7.97; 95% CI, 11 – 40). The mean grief scores of women on the *Difficulty Coping* subscale was 21.32 (SD = 9.00; 95% CI, 11 – 41).

The Mann-Whitney U test was used to test for differences in total PGS scores and PGS subscale scores between men and women. As indicated in Table 4.2, there were no statistically significant differences in grief intensity between men and women.

The Influence of Socio-Demographic and Pregnancy-Related Variables on Women's Grief Intensity

Research question three focused on the influence of socio-demographic and pregnancy- related variables on grief intensity for women. The variables examined include age at the time of most recent pregnancy loss, parenthood status, number of pregnancy losses, time since most recent loss, gestational age, and fetal ultrasound viewing status.

Table 4.2

Perinatal Grief Intensity and Gender

Variable	n	Mean Rank	U	Z	p (Mann-Whitney U)
Total PGS					
Male	25	30.46	437	-1.005	.315
Female	41	35.35			
Active Grief					
Male	25	30.22	431	1.085	.278
Female	41	35.50			
Difficulty Coping					
Male	25	30.82	446	-.889	.374
Female	41	35.13			
Despair					
Male	25	29.16	404	-1.440	.150
Female	41	35.15			

Age at Time of Most Recent Pregnancy Loss

To determine if there was a relationship between women's grief intensity and age at the time of the most recent pregnancy loss, a Pearson's Product-Moment Correlation was conducted. As indicated in Table 4.3, there was a small negative correlation found indicating that younger participants had higher grief scores, however it was not statistically significant ($r = -.19$, $p = .24$).

The hypothesis that there is no significant relationship between women's grief intensity and age at time of pregnancy loss was therefore supported.

Table 4.3

Relationship between Females' Grief Intensity and Socio-Demographic and Pregnancy-Related Variables

Variable	Statistical Test and Values	Total PGS	Active Grief	Difficulty Coping	Despair
Age	Pearson's Correlation	-.19	-.28	-.13	-.09
	p	.24	.08	.40	.56
Parenthood Status	Point Biserial Correlation	.18	.21	.15	.15
	p	.25	.18	.36	.36
Number of Pregnancy Losses	Pearson's Correlation	.26	.18	.30	.28
	p	.10	.25	.06	.08
Time Since Pregnancy Loss	Spearman's Correlation	-.41	-.41	-.35	-.45
	p	.00^{+}	.00^{+}	.03*	.00*
Gestational Age	Pearson's Correlation	.07	.03	.06	.13
	p	.67	.86	.72	.44
Fetal Ultrasound Viewing Status	Point Biserial Correlation	-.15	-.19	-.15	-.07
	p	.34	.24	.35	.65

* $p < 0.05$ $^{+}$ $p < 0.01$

Parenthood Status

A point biserial correlation coefficient was used to determine if there was a relationship between PGS scores of women who had living children at the time of the pregnancy loss and those who did not. As indicated in Table 4.3, a small positive correlation was found, indicating that grief scores were higher for those who did not have children at the time of the pregnancy loss,

however it was not statistically significant (r_{pb} = .18, p = .25). As a result, the hypothesis that grief intensity is less for women who had children at the time of the pregnancy loss was not supported.

Number of Pregnancy Losses

To determine if there was an association between females' level of grief and the number of pregnancy losses they experienced, a Pearson's correlation coefficient was conducted. As presented in table 4.3, a borderline significant result with a small positive correlation was found (r = .30, p = 0.06) for the *Difficulty Coping* subscale. The hypothesis that there is no significant relationship between women's grief intensity and number of pregnancy losses was supported.

Time Since Most Recent Pregnancy Loss

A Spearman's rho correlation coefficient was used to determine if there was a relationship between women's level of grief intensity and time since the most recent pregnancy loss. Spearman's rho was determined to be suitable in conducting the analysis because the variables were not normally distributed and there were outliers within the data. The results are presented in Table 4.3. The analysis of the data revealed a moderate negative correlation that was statistically significant for the Total PGS (r_s = -.41, p = .00) and all the subscales, indicating that as time since the pregnancy loss increased, women's grief scores decreased (r_s = -.41, p = .00; r_s = -.35, p = .03; r_s = -.45, p = .00). The hypothesis, therefore is supported.

Gestational Age

A Pearson's correlation coefficient was conducted to determine if there was a relationship between women's level of grief and gestational age. Greatest gestational age was used for the subjects who experienced more than one pregnancy loss. As shown in Table 4.3, analysis of the data found a small, but non-significant positive correlation between gestational age and females'

PGS scores (r = .07, p = .67). The hypothesis that grief intensity was less for women who experienced the pregnancy loss earlier in the pregnancy was therefore not supported.

Fetal Ultrasound Viewing Status

A Point Biserial Correlation was conducted to determine if there was a relationship between females' grief scores and fetal ultrasound viewing status. A small negative association was found, indicating that grief scores were higher for those who had viewed an ultrasound picture of the fetus, however it was not statistically significant (r_{pb} = -.15, p = .34) as indicated in Table 4.3. The hypothesis that grief intensity is less for women who did not view an ultrasound picture of the fetus was therefore not supported.

The Influence of Socio-Demographic and Pregnancy-Related Variables on Men's Grief Intensity

Research question four addressed the influence of socio-demographic and pregnancy-related variables on grief intensity of men. Similar to woman, the variables included: age at the time of most recent pregnancy loss, parenthood status, number of pregnancy losses, time since most recent loss, gestational age, and fetal ultrasound viewing status.

Age at Time of Most Recent Pregnancy Loss

To determine if there was a relationship between men's grief intensity and age at the time of pregnancy loss, a Spearman's rho correlation was conducted. As indicated in Table 4.4, there was a small positive correlation between age and the PGS total scores (r_s = .13, p = .55) and scores on the subscales *Difficulty Coping* (r_s = .18, p = .38) and *Despair* (r_s = .17, p = .43), however they were not statistically significant. Similar to females, the hypothesis that there is no relationship between men's grief intensity and age was supported.

Parenthood Status

A Point Biserial Correlation was conducted to determine if there was an association in PGS scores between men who had children at the time of the pregnancy loss and those who did not (Table 4.4). Similar to women, there was a small positive correlation indicating that grief scores were higher for those who did not have children at the time of the pregnancy loss, however it was not statistically significant (r_{pb} = .24, p = .26). The hypothesis that grief intensity is less for men who have a child or children at the time of the pregnancy loss was not supported.

Number of Pregnancy Losses

To determine if there was a relationship between males' level of grief and the number of pregnancy losses they experienced, a Spearman's rho correlation was conducted. A small positive correlation was found, however it was not statistically significant (r_s =.22, p = .28) . The results are presented in Table 4.4. Therefore, the results supported the hypothesis that there is no significant relationship between men's grief intensity and number of pregnancy losses they experienced with their partner.

Time Since Most Recent Pregnancy Loss

The hypothesis that there is no relationship between men's grief intensity and time since the most recent pregnancy loss was not supported. A Spearman's rho correlation found a moderate negative relationship that was borderline significant between time since pregnancy loss and Total PGS (r_s = -.39, p = .06) and a significant moderate negative relationship for *Active Grief* (r_s = -.40, p = .05) scores. Similar to women, as time since the pregnancy loss increased, grief scores on the Total PGS and the *Active Grief* subscale decreased. In contrast to women, however, a non-significant, small negative correlation was found between time since the pregnancy loss and *Difficulty Coping* scores (r_s = -.24, p = .26), and a non-significant, moderate

negative correlation was found between time since the pregnancy loss and *Despair* scores (r_s = -.36, p = .08). The results are presented in Table 4.4.

Table 4.4

Relationship between Males' Grief Intensity and Socio-Demographic and Pregnancy-Related Variables

Variable	Statistical Test and Values	Total PGS	Active Grief	Difficulty Coping	Despair
Age	Spearman's Correlation	.13	.03	.18	.17
	p	.55	.87	.38	.43
Parenthood Status	Point Biserial Correlation	.24	.18	.20	.27
	p	.26	.39	.32	.19
Number of Pregnancy Losses	Spearman's Correlation	.22	.14	.25	.15
	p	.28	.50	.23	.48
Time Since Pregnancy Loss	Spearman's Correlation	-.39	-.40	-.24	-.36
	p	.06	.05*	.26	.08
Gestational Age	Spearman's Correlation	-.11	-.18	-.10	-.13
	p	.60	.41	.65	.54
Fetal Ultrasound Viewing Status	Point Biserial Correlation	-.50	-.52	-.49	-.39
	p	.01+	.00+	.01+	.05*

* p ≤ 0.05 + p ≤ 0.01

Gestational Age

A Spearman's rho correlation was used to test if there was a relationship between gestational age and men's level of grief. Data analysis showed a small negative correlation that was not significant (r_s = -.11, p = .60). The hypothesis that grief intensity is less for men whose partner experienced the loss earlier in the pregnancy was, therefore, not supported.

Fetal Ultrasound Viewing Status

In contrast to females, the hypothesis that grief intensity was less for men who did not view an ultrasound picture of the fetus was supported. As shown in Table 4.4, a point biserial correlation found a statistically significant, moderate negative association between males' grief scores and ultrasound viewing status on the Total PGS (r_{pb} = -.50, p = .01) and three subscales of *Active Grief, Difficulty Coping,* and *Despair* (r_{pb} = -.52, p = 00; r_{pb} = -.49, p = .01; r_{pb} = -.39, p = .05, respectively), indicating that grief scores were significantly higher for those who had viewed an ultrasound picture of the baby.

Summary of Results

Results of the data analysis showed some statistically significant differences between males' and females' coping strategies. Females were more likely to employ the strategies *Talk to Others and Give Each Other Support* and *Ask a Professional Person for Help*, whereas males were more likely to use *Try to be Funny* as a coping strategy. Based on the types of coping strategies used by participants, coping style was also assessed. Not surprisingly, statistically significant differences occurred between males and females and the coping style *Sharing*, with females falling within this category more often than males.

Data analysis showed no statistically significant results between gender and grief intensity. Finally, socio-demographic and pregnancy-related variables were analyzed to determine if they influenced levels of grief for males and females. For women, moderate negative correlations

were found on all grief scales between time since the most recent pregnancy loss and grief intensity. Similarly for men, a moderate negative correlation was found between time since the most recent pregnancy loss and *Active Grief* scores. In contrast to women, statistical analysis found statistically significant moderate negative correlations between men's ultrasound viewing status and their scores on all the grief scales. A borderline significant result was found for men between time since the most recent pregnancy loss and *Total Grief.* A borderline significant result was also found for women between number of pregnancy losses and *Difficulty Coping.*

Chapter 5

Discussion

This study used a cross-sectional, retrospective correlational design to determine whether or not there were differences between men's and women's grief intensity and coping strategies used post-pregnancy loss. Knowledge about differences in how men and women grieve and cope after a pregnancy loss is important to health care professionals to assist them in developing an individualized plan of care specific to the needs of each gender. As well, knowing who is more likely to have stronger grief responses is important to target interventions to higher risk groups. In this chapter I discuss the study results as they relate to the research questions.

Coping Strategies and Gender

The first research question explored if differences exist between males' and females' coping strategies post-pregnancy loss. Based on the literature and the conceptual framework that guided the study, I hypothesized that men would use more restoration-oriented coping strategies, while women would use more loss-oriented coping strategies. Analysis of the data found statistically significant differences between gender and the coping strategies. Women used *Ask a Professional Person for Help and Talk to Others and Give Each Other Support,* while men preferred *Try to be Funny*. Taking into consideration the coping strategies of respondents, a profile of coping styles was analyzed. There was no significant differences between males and females in using the coping styles *Dealing with the Problem, Non-productive Coping,* and *Optimism*. Consistent with the literature (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004; Gross & John, 2003; Yamasaki et al., 2011), *Sharing* was significantly utilized more by women than men, indicating that women prefer to discuss their feelings and experiences about the loss with others. Supporting my hypothesis, females tended to be more loss-oriented than males, in that they used coping strategies that involved seeking support, and males used more restoration-

oriented coping strategies, such as humor. Humor may be used as an attempt to cope with the stressor through distraction from their feelings and the avoidance of grief. A possible explanation for the differences in males' and females' coping strategies is the expectation that society and culture has placed on them to be strong in order to support their partner (Abboud & Liamputtong, 2005; McCreight, 2004). The burden, however, of having to remain strong for their partner may put men at an increased risk of developing chronic grief since they feel the need to suppress their emotions in order to play a supportive role to their partner (O'Leary & Thorwick, 2006).

Previous studies have found that men have a greater tendency to suppress their feelings than women (Bonanno et al., 2004; Gross & John, 2003; Yamasaki et al., 2011). It has been shown that individuals who suppress their emotions are less likely to share both positive and negative feelings with others. This can have detrimental effects on their relationships with others and, thus, reduce the amount of social support available to them (Gross & John, 2003).

The findings in the current study are similar to those of McCreight (2008), Abboud and Liamputtong (2005), and Van (2012). McCreight and Van found that support groups offered women a chance to normalize the emotions they were experiencing and to view them as a part of the grieving process. As well, in their qualitative study, Abboud and Liamputtong found that men often tried to distract themselves from the grief they felt. One man found that using humor was a useful coping strategy to help him through a difficult time since he felt pressured from having to look after his partner and dealing with work and society's expectations to keep his feelings to himself. In a study by Beutal et al. (1996), men did not feel the need to discuss the miscarriage, whereas their partners did. Similarly, a qualitative study by O'Leary and Thorwick (2006) found that men experienced difficulty in expressing their emotions and did not understand how talking about their experiences and feelings in support groups was helpful.

Several studies indicated that following a pregnancy loss, men chose to work hard as a coping strategy (Armstrong, 2001; Beutal et al., 1996; McGreal et al., 1997; O'Leary & Thorwick, 2006), which has the same purpose as using humor: to distract themselves from the loss and to avoid the grief associated with it. The men used humor as a coping strategy more frequently in the current study than the women. McGreal et al. (1997) and Beutal et al. (1996) found that men chose to keep their feelings to themselves and to ignore the situation by distracting themselves with work. Beutal et al. (1996) also found that men reported crying less often than women and did not find it as upsetting to see another pregnant woman. McGreal et al. (1997) suggested that the results could indicate that men move through the grief process more quickly than women.

Grief Intensity and Gender

Research question two examined whether or not differences existed between gender and level of grief following a pregnancy loss. Based on the literature and the conceptual framework that guided the study, I hypothesized that women would experience a greater level of grief intensity than men post-pregnancy loss. The hypothesis was not supported in that the data analysis showed no statistically significant differences between males and females with levels of grief, as measured by the PGS. Perhaps grief intensity post-pregnancy loss is more similar between men and women as male roles have changed over the years, with men being more involved in childcare. More men are taking an active role in staying home with children while women are returning to work sooner. In addition, during pregnancy, men are encouraged to attend prenatal classes, to accompany his partner to doctor visits, and to assist during labor and delivery. Thus, men share more with their partner during the pregnancy journey, which facilitates early and deeper bonding with the fetus. According to Marshall (2008), the rate of Canadian men who shared in parental leave benefits with their partner increased from 3% in 2000,

to 20% in 2006. As well, of those who do not share in the parental leave benefits, it has been found that at least 55% of fathers take either paid or unpaid leave from their jobs at the time of their baby's birth (Marshall, 2008).

The Influence of Socio-Demographic and Pregnancy-Related Variables on Men's and Women's Grief Intensity

Research questions three and four examined the influence of socio-demographic and pregnancy-related variables on grief intensity for men and women. The variables tested were age, time since pregnancy loss, parenthood status, number of pregnancy losses, gestational age, and fetal ultrasound viewing status.

Age at Time of Most Recent Pregnancy Loss

Consistent with the hypotheses, the statistical analysis showed no significant relationship between men's and women's level of grief intensity and age. A couple of studies in the literature also found no significant difference between level of grief intensity and maternal age (Beil, 1992; Serrano & Lima, 2006). In terms of men's age at the time of pregnancy loss, the findings from Beutal et al. (1996) were similar to the current study in that no significant differences in men's age and level of grief intensity were found. It is evident that more research needs to be conducted on the impact of age on males' grief scores since most of the studies in the literature focused on maternal age only.

Contrary to the current study, however, Janssen et al. (1997) found a significant relationship between age and women's level of grief intensity post-pregnancy loss. Janssen et al. found that older women scored higher on the overall PGS scale and *Difficulty Coping* subscale than younger women. The contrasting results between the current study and Janssen et al. may be due to the different study design used by the authors. They used a prospective design as opposed to the current study, which used a retrospective design. Results may be more accurate

with a prospective design because the authors had a control group to compare to those who had experienced a pregnancy loss.

Along with other research conducted in this area, the results of this study run counter to those found in the general literature on grief and age. Specifically, other studies determined that younger individuals experience more intense grief than older individuals perhaps because generally speaking they have relatively little experience in coping with death (Stroebe & Schut, 2001). As pregnancy loss occurs only within the childbearing years, the general literature on grief and age might be less relevant.

Parenthood Status

Contrary to the hypotheses of the current study, the results indicated that there were no significant relationships found for either men or women between grief intensity and the existence of children at the time of the loss. Although the results are similar to those found by Beutal et al. (1996), they conflict with a study conducted by Janssen et al. (1997). The latter researchers evaluated 227 women using the PGS. In the absence of living children, women had higher levels of grief (Janssen et al., 1997). The conflicting results could be attributed to the short period of time that elapsed since the pregnancy loss in Janssen et al.'s study.

Number of Pregnancy Losses

Consistent with the hypotheses, the current study found no differences between number of pregnancy losses and level of grief for either men or women. A borderline significant, positive correlation was found, however, between number of pregnancy losses and women's level of grief on the *Difficulty Coping* subscale of the PGS, indicating that as number of pregnancy losses increased, difficulty coping among women may also increase. Results from the current study were similar to those of previous studies that found no significant relationship between level of grief intensity and multiple pregnancy losses for either men or women (Beil, 1992; Beutal et al.,

1996; Franche, 2001; Janssen et al., 1997). As an individual experiences more miscarriages, the more emotionally desensitized they may become (Serrano & Lima, 2006).

Time Since Pregnancy Loss

The results from the current study supported the hypothesis that grief intensity is less for women who experienced the pregnancy loss longer ago. Contrary to the hypothesis for men, a significant negative relationship was found between time since pregnancy loss and *Active Grief* scores. Comparable to the current study, previous studies in the literature showed that grief levels decrease over time after a pregnancy loss for women (Beutal et al., 1996; Goldbach et al., 1991; Janssen et al., 1997; Stinson et al., 1992) and men (Beutal et al., 1996). Feelings of grief may decrease over time because the grieving male/female learns to adjust to life post-pregnancy loss (American Cancer Society, 2013). Adjusting to the loss includes learning new coping skills that may be utilized at times that the mother/father feel their grief intensifying, such as anniversary dates or other milestones (Davis, 1996). Grief post-pregnancy loss may also decrease with the birth of a healthy baby (Janssen et al., 1997; Swanson, 2000). Although the new baby cannot replace the baby that was lost, he/she can act as a buffer to the grief. As well, confidence returns that the couple can have a healthy child and that they will be parents (Jaffe & Diamond, 2011).

Gestational Age

The hypotheses that grief intensity is less for men and women who experienced the pregnancy loss earlier in the pregnancy were not supported. Inconsistent with two previous studies (Franche, 2001; Goldbach et al., 1991), data analysis from the current study showed no significant relationship between men and women's level of grief intensity and gestational age at the time of pregnancy loss. The results from the current study are different from the conceptual framework that guided the research and other studies exploring the role of prenatal attachment (McCreight, 2004; Puddifoot & Johnson, 1999). Since it has been shown that prenatal attachment

can occur early on in the pregnancy after seeing an ultrasound picture of the fetus (McCreight, 2004; Puddifoot & Johnson, 1999), perhaps the men in the study already formed an attachment to the baby, and therefore, gestational age did not influence grief intensity. Women may have already bonded with the baby from the anticipation of being a mother. It should also be noted that the number of participants who experienced a stillbirth in the current study was very small and may not have meaningful analysis.

Fetal Ultrasound Viewing Status

The hypothesis that grief intensity was less for men who did not view an ultrasound picture of the fetus was supported. Consistent with the hypothesis, the current study found statistically significant differences in males' level of grief when they viewed an ultrasound picture of the fetus than those who did not. Similar to Puddifoot and Johnson (1999), it was found that males experienced higher levels of grief on the overall PGS and on the subscales *Active Grief* and *Difficulty Coping* when they viewed an ultrasound picture of the baby prior to the miscarriage or stillbirth. Results from the current study do not support Beutal et al.'s (1996) conclusion that males develop less of an attachment to the fetus than females after viewing an ultrasound. The results of the present study suggest that physically carrying the fetus is only one means of forming a bond with the baby. Viewing pictures of the baby by means of an ultrasound also appears to be an important method of forming an attachment. Differing from the current study, Puddifoot and Johnson found significant differences on the *Despair* subscale as well.

Researchers have offered explanations as to why grief levels are higher for those with a history of viewing an ultrasound picture. McCreight (2004) postulated that perhaps many men rely upon visualization to view the unborn child as a reality. By seeing a picture of the baby, the parents are able to create a bond with the fetus early on, increasing their level of attachment to the baby (Johnson & Puddifoot, 1998).

In contrast to the hypothesis, the current study found no statistically significant difference in grief intensity between females who viewed an ultrasound picture of the baby and those who did not. This finding may relate to the concept of pregnant embodiment. Since women have the unique physical experience of being pregnant, they may already feel attached to the baby (Draper, 2003). According to Draper (2003), men do not physically experience the pregnancy and, consequently, they are disembodied from it. Fetal ultrasound viewing technology gives men the opportunity to view the fetus as a real baby by seeing pictures of him/her and hearing the heartbeat.

Chapter Summary

In this study, I explored if there were differences in coping strategies and level of grief intensity between males and females post-pregnancy loss. The findings between level of grief intensity and gender and gestational age may differ from those of previous studies because in recent years, technology has evolved allowing men the opportunity to bond with their unborn baby (McCreight, 2004; Puddifoot & Johnson, 1999). Since women may bond through pregnant embodiment, men are now afforded the opportunity to view the baby as a reality (Draper, 2003). Also, men's involvement in childcare has increased significantly over the years (Marshall, 2008), which could help explain why there were no differences between men's and women's level of grief following a pregnancy loss. The next chapter will discuss the strengths and limitations of the current study, as well as implications for nursing practice, education, and research.

Chapter 6

Study Strengths, Limitations and Implications

The results from this study suggest that men and women do not differ in grief intensity post-pregnancy loss. Furthermore, the results provide some evidence that men and women use different coping strategies to deal with their grief. Fetal ultrasound viewing status and time since loss were the only variables explored in this study that significantly affected men's level of grief intensity, while time since loss affected women's level of grief intensity post-pregnancy loss. While the study utilized data collection instruments with good reliability and validity, study limitations should be considered. This chapter will discuss strengths and weaknesses of the study, as well as nursing implications for practice, education, and research.

Strengths of the Study

This study had several strengths. The purpose of the study was formulated to add knowledge to existing literature on males' and females' grief intensity and coping strategies post-pregnancy loss. The goal of the study was to assist in closing some of these gaps and to contribute to the body of knowledge in this area. The conceptual framework that guided the study was derived from multiple theories and frameworks, specifically the DPM (Stroebe & Schut, 1999), attachment theory (Bowlby, 1969), and Bem's gender schema theory (Bem, 1981). The use of multiple theories allowed the researcher to identify possible relationships between variables specific to individuals post-pregnancy loss.

In terms of the study sample, participants were included from the entire province of Newfoundland and Labrador. They were recruited through advertisements of the study in various settings (e.g., hospitals, doctors' offices etc.), as opposed to recruitment from support/counseling groups.

Limitations of the Study

In addition to the strengths, the study also had several limitations. The use of a small, non-probability convenience sample that was self-selected limits the generalizability of the results. As sample size declines, statistical power also declines, increasing the risk of type II error. As well, males only represented 38% of the study sample, also increasing the risk of a type II error. Therefore, statistically significant results may not have been observed. A small sample size and self-selection may limit the generalizability due to a lack of control over confounding variables that could differentiate responders from non-responders (Polit & Beck, 2008). All the men who participated in the study were married or in a common – law relationship, which may have been due to the availability of support from their partner and encouragement to participate. A larger sample size would have increased the validity of the results. As well, people who chose to participate may have been impacted differently by pregnancy loss than those who chose not to participate. For example, those who chose to complete the survey could have been experiencing lower levels of grief intensity than those who did not complete the survey. Participating in a study about pregnancy loss could have been too emotionally difficult for some to cope with.

The use of self-administered surveys sent through the mail to collect data could have also introduced extraneous variables. Individuals who responded might not be characteristic of the overall population, and there may have been variation in the interpretation of the questionnaire. In consideration of the current study, individuals with different personality traits could have overstated or understated their feelings. As well, someone other than the targeted participants may have completed the questionnaire and there is no opportunity to explain or answer questions with self-administered surveys. According to Polit and Beck (2008), questionnaires collected through the mail tend to yield low response rates. A response rate of at least 65% is considered

adequate in that the results of the study may be typical of the population (Polit & Beck, 2008). The response rate of the current study was 61%, slightly lower than the recommended amount.

Nursing Implications

The findings from this study are important to consider when caring for an individual who has experienced a pregnancy loss. Implications for nursing practice, education, and research will be discussed.

Nursing Implications for Practice and Education

The findings from this study have implications for nurses in all practice settings where individuals experiencing a pregnancy loss are cared for. The current study found that there were no significant differences between grief intensity and gender post-pregnancy loss. Differences appear to exist in how males and females cope with their grief. This knowledge is important for nurses because it may appear as if the male is not grieving, when in fact he could be trying to keep his feelings to himself in order to remain strong for his partner. Nurses caring for these couples should educate them on the possibility that emotional expressiveness of grief may differ between men and women and it does not indicate that one is experiencing more grief than the other. This situation could cause marital conflict because the female might think the male does not care about the lost baby or her feelings (Beutal et al., 1996; Lang et al., 2011; Swanson et al., 2007; Van, 2012). It is important for couples to be aware of the potential incongruence in the display of emotions so that they can understand and know what to expect as they move through the grieving process. If couples are unaware of this incongruence, they may assume that the other person is uncaring or overemotional. Being aware of these factors could help prevent negative consequences for the relationship (Lang et al., 2011; Van, 2012). Therefore, men should be encouraged to openly share their feelings and to show their emotions. As well, the rates of hospital admissions due to miscarriage have decreased since the late 1990's and women are not

being cared for on specialized units. The role of a clinical educator is important in less specialized areas such as emergency rooms to educate the health care professionals to have adequate skills and knowledge in caring for these families.

It is also important to identify other factors that make the couple more vulnerable to intense grief responses, such as perceiving the fetus to be a separate individual or the physical trauma of pregnancy loss (Abboud & Liamputtong, 2005; Armstrong, 2001; Beutel et al., 1996; McCreight, 2008; McGreal et al., 1997; Puddifoot & Johnson, 1999). Education to couples on these differences could promote sharing of feelings and understanding. Therefore, nurses working with couples experiencing pregnancy loss should be educated and knowledgeable on verbal and nonverbal differences in how males and females express their grief.

Both partners should be screened for risk factors predisposing them to abnormal grieving, such as a prior psychiatric illness and lack of social support (Hutti, 2005). Part of the screening process should include exploration into the meaning of the loss. Is self-blame evident or does the person feel it was bad luck? The meaning of the loss to each individual could impact grief responses (Barr & Cacciatore, 2008; Brier, 2008; Lang et al., 2011; McCreight, 2008). This knowledge could assist caregivers in the early identification of individuals at risk of developing chronic grief. Long lasting health consequences could be prevented if treatment is initiated early (Stroebe & Schut, 2001).

Determining the meaning of the pregnancy loss could also help individuals understand their emotions. This might increase their ability to speak to others about the loss and as a result, increase their social network (McCreight, 2008). In order to assess individuals for abnormal grieving, follow-up contact should be made by a public health nurse, or a community health nurse a few weeks after the loss. The health care professional making contact should be taught

how to recognize the symptoms of a normal versus an abnormal grief reaction and offer necessary referrals.

Prior to leaving the hospital, individuals should be provided with guidelines of what they can expect when experiencing grief post-pregnancy loss. They should be informed of the typical characteristics and duration of grief and the fact that grief after a pregnancy loss is similar to other types of losses (Brier, 2008). This knowledge provides validation to the individual or couple that the feelings they are experiencing are typical and it might encourage them to request help if needed (Beil, 1992). Health care providers should give men and women the contact information of support groups since it has been well documented in the literature that social support is important to effectively coping with pregnancy loss (McCreight, 2008; Van, 2012). As well, they should be encouraged to express their feelings. Pregnancy loss is often considered to be a genetic accident or a pregnancy that was not meant to be. These expressions minimize the emotions felt by the individual, which may lead to complicated grieving (Beil, 1992).

Nurses need to be sensitive when caring for individuals going through a miscarriage or stillbirth and recognize that an early pregnancy loss can be as distressing as a late loss and those individuals who experience a miscarriage lack concrete evidence, such as a body, and could feel alone in their grief (Beil, 1992; Lang et al., 2011). It may be beneficial to encourage the grieving individual to find ways to acknowledge the loss as real. Different methods include writing a letter to the baby, having a memorial service, and attending a self-help group. With either type of loss, individuals should be assisted in developing ways to memorialize the baby. This increases the reality of the loss and validates the feelings associated with it (Brier, 2008). By legitimizing the grief process associated with pregnancy loss, health professionals can comfort parents with the knowledge that what they are experiencing is normal and expected, and as a result, can

empower them to seek appropriate professional help if needed (Badenhorst & Hughes, 2007; Jaffe & Diamond, 2011).

A collection of mementoes and encouragement to hold the deceased baby could assist with the grieving process in the event of a late pregnancy loss. According to Samuelsson et al. (2001), staff should collect tokens of a stillborn baby, such as pictures, hand prints and foot prints, and store them for later retrieval by the parents, even if refused. During times of intense grief it is sometimes difficult to make a meaningful decision. Couples should also be encouraged to see and hold the stillborn child. Research has shown that most individuals who had refused to see or hold their stillborn child had regretted it and those who chose to do so, did not have any regrets (Robinson, 2011; Samuelsson et al., 2001). Since individuals could be fearful of how the baby will look and feel, nurses should provide support in what to expect when seeing and holding the child.

Nursing administrators are important in ensuring the resources are available to staff who are providing care to families experiencing a pregnancy loss. Examples may include having education days on pregnancy loss for nurses, making available continuing credit courses, and encouraging nurses to become active members of support groups in this area.

Curriculum for nursing education should include discussion about pregnancy loss and the emotional effects on both men and women. Differences in coping styles should be discussed, as well as the signs and symptoms of normal versus abnormal grieving. Nurses working with pregnant women should be provided with extensive training in caring for individuals experiencing pregnancy loss. They need to have considerable knowledge in bereavement and grief associated with pregnancy loss, as well as how to assist the individual or couple in coping with the experience.

Implications For Nursing Research

The present study provides results on men's and women's grief and coping strategies post-pregnancy loss, as well as potential moderators on grief intensity. Since a cross-sectional, retrospective correlational design was used, it could be used as a preliminary study for future nursing research using a prospective, longitudinal design to enhance the validity of the results. Researchers should consider comparing community cohorts to bereaved individuals post-pregnancy loss. The community sample could provide insight into the levels of grief in a population who had not experienced pregnancy loss, so that generalizations can be made regarding grief post-pregnancy loss. Cohort studies also provide more powerful analysis of cause and effect, as opposed to simple associations, which do not provide an explanation of the findings (Mann, 2003).

Many gaps remain in both the quantitative and qualitative literature. Examining gaps in the literature is important to assist health care professionals to meet the specific needs of men and women during bereavement post-pregnancy loss. Some of these needs might be unique to those experiencing the loss of an unborn child. In the future, research should include larger sample sizes. Using larger sample sizes will increase the generalizability of the results. The potential effect of moderators, such as parenthood status, number of pregnancy losses, time since pregnancy loss, age, gestational age, and fetal ultrasound viewing status should be further researched in both men and women. Future research should also include a more representative sample. All the men in this study were married and most of the participants in the study had experienced a miscarriage, which could affect the generalizability of the results.

Studies need to use a consistent definition of grief and a specific time interval as to when a pregnancy loss is considered a miscarriage or a stillbirth. All of the previous studies in the literature used multiple definitions, which creates difficulty in drawing conclusions regarding

grief and coping post-pregnancy loss. Future research should be conducted on developing a clear framework of grief following miscarriage. Research in this area would be valuable to health care providers in that they can develop better procedures and policies on caring for individuals' post-pregnancy loss.

On a final note, researchers should explore other variables, such as spirituality, the meaning of the death to the individual, prior mental health history and planned versus unplanned pregnancies. This knowledge could provide additional insights into potential variables affecting grief post-pregnancy loss. As well, this knowledge could be utilized to create best practice guidelines in hospital and clinic settings to assist caregivers in facilitating the recovery of those who experienced a pregnancy loss.

Conclusion

This study is one of few that compared grief and coping between men and women post-pregnancy loss. The results from this study indicated that coping strategies post-pregnancy loss differ between men and women. Women tended to seek support from others, whereas men tended to use humor as a coping strategy. It may be perceived that men grieve less than women because of their desire to use coping strategies that distract them from their grief. This study, however, found no significant difference between level of grief between men and women post-pregnancy loss. As well, variables significantly affecting level of grief intensity included time since loss for women and fetal ultrasound viewing status and time since loss for men. More research is needed in the area of grief and coping for men and women post-pregnancy loss since study results in this area of research remain largely inconsistent.

References

Abboud, L. N., & Liamputtong, P. (2005). When pregnancy fails: Coping strategies, support networks and experiences with health care of ethnic women and their partners. *Journal of Reproductive and Infant Psychology, 23,* 3-18. doi: 10.1080/02646830512331330974

American Cancer Society. (2013). *Coping with the loss of a loved one.* Retrieved from http://www.cancer.org/treatment/treatmentsandsideeffects/emotionalsideeffects/griefandloss/coping-with-the-loss-of-a-loved-one-intro-to-grief-mourning-bereavement

Armstrong, D. S. (2001). Exploring fathers' experiences of pregnancy after a prior perinatal loss. *The American Journal of Maternal/Child Nursing*, *26*(3), 147 – 153.

Association of Women's Health, Obstetric and Neonatal Nurses. (2006). *Perinatal loss: A continuum of loss*. Retrieved from http://www.awhonn.org

Badenhorst, W., & Hughes, P. (2007). Psychological aspects of perinatal loss. *Best Practice & Research of Clinical Obstetrics and Gynaecology, 21*, 249 – 259. doi: 10.1016/j.bpobgyn.2006.11.004

Barr, P., & Cacciatore, J. (2008). Problematic emotions and maternal grief. *OMEGA, 56*, 331 – 348. doi: 10.2190/OM.56.4.b

Beil, E. R. (1992). Miscarriage: The influence of selected variables on impact. *Women & Therapy, 12,* 161 – 173. doi: 10.1300/J015V12N01_13

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review*, *88*, 354 – 364. doi: 10.1037/0033-295X.88.4.354

Bennett, S. M., Litz, B. T., Maguen, S., & Ehrenreich, J. T. (2008). An exploratory study of the psychological impact and clinical care of perinatal loss. *Journal of Loss and Trauma, 13*, 485 – 510. doi: 10.1080/15325020802171268

Beutel, M., Willner, H., Deckardt, R., von Rad, M., & Weiner, H. (1996). Similarities and differences in couples' grief reactions following a miscarriage: Results from a longitudinal study. *Journal of Psychosomatic Research*, *40*, 245 – 253. doi: 10.1016/0022-3999(95)00520-X

Bonanno, G. A., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The importance of being flexible: The ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological Science, 15*, 482 – 487. doi:10.1111/j.0956-7976.2004.00705.x

Bonnette, S., & Broom, A. (2011). On grief, fathering and the male role in men's accounts of stillbirth. *Journal of Sociology, 48*, 248 – 265. doi: 10.1177/1440783311413485

Bowlby, J. (1969). *Attachment, separation and loss*. New York: Basic Books.

Brier, N. (2008). Grief following miscarriage: A comprehensive review of the literature. *Journal of Women's Health, 17,* 451 – 464. doi: 10.1089/jwh.2007.0505

Cacciatore, J., Defrain, J., Jones, K. L. C., & Jones, H. (2008). Stillbirth and the couple: A gender-based exploration. *Journal of Family Social Work, 11*, 351 – 372. doi: 10.1080/10522150802451667

Condon, J. T. (1985). The parental-foetal relationship: A comparison of male and female expectant parents. *Journal of Psychosomatic Obstetrics & Gynaecology, 4*, 271 – 284. doi: 10.3109/01674828509016729

Davis, D. L. (1996). *Empty cradle, broken heart: Surviving the death of your baby.* Golden, CO: Fulcrum Publishing.

Draper, J. (2003). Blurring, moving and broken boundaries: Men's encounters with the pregnant body. *Sociology of Health & Illness, 25,* 743 – 767.

Dubois, E. (2006). *I never held you: Miscarriage, grief, healing and recovery* [Amazon Kindle Digital Edition]. Retrieved from http://www.amazon.com/Never-Held-You-Miscarriage-Recovery/dp/1450517749

Everly, J., & George, S. (2013). A clinical guide to the treatment of the human stress response [electronic resource]. New York, NY: Springer. Retrieved from http://qe2a-proxy.mun.ca/login?url=http://dx.doi.org/10.1007/978-1-4614-5538-7Folkman, S., & Lazarus, R.S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*, 219 – 239.

Folkman, S., & Lazarus, R.S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*, 219 – 239. doi: 134.153.184.170

Franche, R.L. (2001). Psychologic and obstetric predictors of couples' grief during pregnancy after miscarriage or perinatal death. *Obstetrics & Gynecology, 97*, 597 – 602. doi: 10.1016/S0029-7844(00)01199-6

Frydenberg, E., & Lewis, R. (2000). *The coping scale for adults: Construct validity and what the instrument tells us*. Retrieved from http://www.eric.ed.gov/PDFS/ED443888.pdf

Goldbach, K. R., Dunn, D. S., Toedter, L. J., & Lasker, J. N. (1991). The effects of gestational age and gender on grief after pregnancy loss. *American Journal of Orthopsychiatry, 61*, 461-467. doi: 10.1037/h0079261

Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348 – 362. doi: 10.1037/0022-3514.85.2.348

Harvard Medical School. (2011a, December). Beyond the five stages of grief. *Harvard Mental Health Newsletter.* Retrieved from www.cinahl.com/cgi-bin/refsvc?jid=547&accno=2011363698

Harvard Medical School. (2011b, December). Coping with complicated grief. *Harvard Mental Health Newsletter.* Retrieved from www.cinahl.com/cgi-bin/refsvc?jid=547&accno=201136370

Harvard Medical School. (2011c, December). The normal process of grieving. *Harvard Mental Health Newsletter.* Retrieved from www.cinahl.com/cgi-bin/refsvc?jid=547&accno=2011363697

Harvard Medical School. (2011d, December). Understanding grief and loss. *Harvard Mental Health Newsletter.* Retrieved from www.cinahl.com/cgi- bin/refsvc?jid =2011363696=547&accno

Horowitz. M. (1986). *Stress response syndromes.* Northvale, New Jersey: Aronson.

Hughes, P., Turton, P., Hopper, E., & Evans, C. D. H. (2002). Assessment of guidelines for good practice in psychosocial care of mothers after stillbirth: A cohort study. *The Lancet, 360,* 114 – 118.

Hutti, M. H. (2005). Social and professional support needs of families after perinatal loss. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 34*, 630 – 638. doi: 10.1177/0884217505279998

Hyde, J. S., DeLamater, J. D., & Byers, E. S. (2004). Theoretical perspectives on sexuality. In *Understanding human sexuality* (pp. 36 – 48). Whitby, ON: Mcgraw-Hill Ryerson.

Jaffe, J., & Diamond, M.O. (2011). *Reproductive trauma: Psychology with infertility and pregnancy loss clients.* Washington, DC: American Psychological Association.

Janssen, H. J. E. M., Cuisinier, M. C. J, de Graauw, K. P. M. H., & Hoogduin, K. A. L. (1997). A prospective study of risk factors predicting grief intensity following pregnancy loss. *Archives of General Psychiatry, 54*, 56 – 61.

Johnson, M. P., & Puddifoot, J. E. (1998). Miscarriage: Is vividness of visual imagery a factor in the grief reaction of the partner? *British Journal of Health Psychology, 3*, 137 – 146. doi: 10.1111/j.2044-8287.1998.tb00562.x

Keefe – Cooperman, K. (2005). A comparison of grief as related to miscarriage and termination for fetal abnormality. *Omega: Journal of Death and Dying, 50*, 281 – 300.

Khan, R. A., Drudy, L., Sheehan, J., Harrison, R. F., & Geary, M. (2013). Early pregnancy loss: How do men feel? *Irish Medical Journal,* 97, 217-218.

Konigsberg, R. D. (2011). *The truth about grief.* Toronto: Simon & Schuster.

Kosut, M. (2012). Gender schema theory. In *Encyclopedia of Gender in Media* (pp. 149 – 150). doi: 10.4135/9781452218540

Kubler-Ross, E. (1969). *On death and dying.* Macmillan: New York.

Lang, A., & Carr, T. (2011). Bereavement in the face of perinatal loss: A hardiness perspective. In D. S. Becvar (Ed.), *Handbook of Family Resilience* (pp. 299-319). New York, NY: Springer.

Lang, A., Fleiszer, A. R., Duhamel, F., Sword, W., Gilbert, K. R., & Corsini – Munt, S. (2011). Perinatal loss and parental grief: The challenge of ambiguity and disenfranchised grief. *OMEGA, 63*, 183 – 196. doi: 10.2190/OM. 63.2.e

Lazarus, R. S. (2000). Evolution of a model of stress, coping and discrete emotions. In V. Hill-Rice (Ed.), *Handbook of stress, coping and health: Implications for nursing research, theory and practice* (pp. 195 – 222). Thousand Oaks, CA: Sage Publications.

Lok, I. H., & Neugebauer, R. (2007). Psychological morbidity following miscarriage. *Clinical Obstetrics & Gynaecology, 21*, 229 – 247. doi: 10.1016/j.bpobgyn.2006.11.007

MacDorman, M. F., & Kirmeyer, S. (2009). *Fetal and perinatal mortality, United States, 2005*. Retrieved from http://www.cdc.gov/nchs /data/nvsr/nvsr57/nvsr57_08.pdf

Mann, C. J. (2003). Observational research methods. Research design II: Cohort, cross sectional, and case-control studies. *Emergency Medicine Journal, 20*, 54 – 60. doi: 10.1136/emj.20.1.54.

Marshall, K. (2008, June). *Fathers' use of paid parental leave* (Statistics Canada Catalogue No. 75-001-x). Retrieved http://www.statcan.gc.ca/pub/75-001-x/2008106/article/10639-eng.htm

McCreight, B. S. (2004). A grief ignored: Narratives of pregnancy loss from a male perspective. *Sociology of Health & Illness*, *26*, 326 – 350. doi: 10.1111/j.1467-9566.2004.00393.x

McCreight, B. S. (2008). Perinatal loss: A qualitative study in Northern Ireland. *OMEGA, 57*, 1 – 19. doi: 10.2190/OM. 57.1.a

McGreal, D., Evans, B. J., & Burrows, G. D. (1997). Gender differences in coping following loss of a child through miscarriage or stillbirth: A pilot study. *Stress Medicine*, *13*, 159-165. doi: 0.1002/(SICI)1099-1700(199707)13:3<159::AID-SMI734>3.0.CO;2-5

Mulvihill, A., & Walsh, T. (2013). Pregnancy loss in rural Ireland: An experience of disenfranchised grief. *British Journal of Social Work, 43*, 1 – 17. doi: 10.1093/bjsw/bct078

Murphy, F., & Merrell, J. (2009). Negotiating the transition: Caring for women through the experience of early miscarriage. *Journal of Clinical Nursing, 18*, 1583 – 1591. doi: 10.1111/j.1365-2702.2008.02701.x

O'Leary, J., & Thorwick, C. (2006). Fathers' perspectives during pregnancy, postperinatal loss. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 35*, 78 – 86. doi: 10.1111/j.1552-6909.2006.00017. x

Polit, D. E., & Beck, T. B. (2008). *Nursing research: Generating and assessing evidence for nursing practice*. Philadelphia: Lippincott Williams & Wilkins.

Potvin, L., Lasker, J., & Toedter, L. J. (1989). Measuring grief: A short version of the Perinatal Grief Scale. *Journal of Psychopathology and Behavioral Assessment, 11*, 29-45. doi: 10.1007/BF00962697

Puddifoot, J. E., & Johnson, M. P. (1999). Active grief, despair and difficulty coping: Some measured characteristics of male response following their partners miscarriage. *Journal of Reproductive and Infant Psychology*, *17*, 89 – 93. doi: 10.1080/02646839908404587

Purandare, N., Ryan, G., Ciprike, V., Trevisan, J., Sheehan, J., & Geary, M. (2013). Grieving after early pregnancy loss – A common reality. *Irish Medical Journal, 105*, 326 – 328.

Robinson, G. E. (2011). Dilemmas related to pregnancy loss. *The Journal of Nervous and Mental Disease, 199*, 571 – 574. doi: 10.1097/NMD.0b013e318225f31e

Robinson, M., Baker, L., & Nackerud. L. (1999). The relationship of attachment theory and perinatal loss. *Death Studies*, *23,* 257-270. doi: 10.1080/074811899201073

Rowlands, I. J., & Lee, C. (2010). 'The silence was deafening': Social and health services support after miscarriage. *Journal of Reproductive and Infant Psychology, 28*, 274 – 286.

Samuelsson, M., Radestad, I., & Segesten, K. (2001). A waste of life: Fathers' experience of losing a child before birth. *Birth, 28*, 124 – 130.

Serrano, F., & Lima, M. L. (2006). Recurrent miscarriage: Psychological and relational consequences for couples. *Psychology and Psychotherapy: Theory, Research and Practice*, *79*, 585-594. doi: 10.1348/147608306X96992

Stanton, C., Lawn, J. E., Rahman, H., Wilczynska-Ketende, K., & Hill. K. (2006). Stillbirth rates: Delivering estimates in 190 countries. *The Lancet,* 367, 1487 – 1494. doi: 10.1016/S0140-6736(06)68586-3

Statistics Canada, Health Statistics Division. (2008). *Pregnancy outcomes 2005* (Catalogue No. 82-224-x). Ottawa, ON: Author.

Stinson, K. M., Lasker, J. N., Lohmann, J., & Toedter, L. J. (1992). Parents' grief following pregnancy loss: A comparison of mothers and fathers. *Family Relations*, *41*, 218 – 223. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1741-3729

Stroebe, M. (1992). Coping with bereavement: A review of the grief work hypothesis. *Omega: Journal of Death and Dying, 26*, 19 – 42.

Stroebe, M., & Schut, H. (1999). The dual process model of coping with bereavement: Rationale and description. *Death Studies, 23,*197-224. doi: 10.1080/074811899201046

Stroebe, M., & Schut, H. (2001). Risk factors in bereavement outcome: A methodological and empirical review. In M. S. Stroebe et al. (Eds.), *Handbook of bereavement research: Consequences, coping and care* (pp. 349 – 371). Washington, DC: American Psychological Association.

Swanson, K. M. (2000). Predicting depressive symptoms after miscarriage: A path analysis based on the Lazarus paradigm. *Journal of Women's Health & Gender Based Medicine, 9,* 191-206. doi: 10.1089/152460900318696

Swanson, K. M., Connor, S., Jolley, S. N., Pettinato, M., & Wang, T. J. (2007). Contexts and evolution of women's responses to miscarriage during the first year after loss. *Research in Nursing & Health, 30*, 2-16. doi: 10.1002/nur.20175

Sweet, B. (2013, December 3). Women implore Eastern Health to act on miscarriage complaints. *The Telegram.* Retrieved from http://www.thetelegram.com

Toedter, L. J., Lasker, J. N., & Alhadeff, M. A. (1988). The perinatal grief scale: Development and internal validation. *American Journal of Orthopsychiatry, 58*, 435-449. doi: 10.1111/j.1939-0025.1988.tb01604.x

Toedter, L. J., Lasker, J. N., & Janssen, H. J. (2001). International comparison of studies using the Perinatal Grief Scale: A decade of research on pregnancy loss. *Death Studies,* 25, 205 – 228.

Van, P. (2012). Conversations, coping, & connectedness: A qualitative study of women who have experienced involuntary pregnancy loss. *OMEGA, 65*, 71 – 85. doi: 10.2190/OM.65.1.e

Van, P., & Meleis, A. I. (2003). Coping with grief after involuntary pregnancy loss: Perspectives of African American women. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 32,* 28 – 39. doi: 10.1177/0884217502239798

Wing, D. G., Clance, P. R., Burge-Callaway, K., & Armistead, L. (2001). Understanding gender differences in bereavement following the death of an infant: Implications for treatment. *Psychotherapy, 38*, 60 – 73. doi: 10.1037/0033-3204.38.1.60

Wright, B. (2007). *Loss and grief [electronic resource]*. Keswick, England: M&K Update.

Wright, P. M. (2011). Barriers to a comprehensive understanding of pregnancy loss. *Journal of Loss and Trauma: International Perspective on Stress and Coping, 16*, 1 – 12. doi: 10.1081/15325024.2010.519298

Yamasaki, K., Sasaki, M., Uchida, K., & Katsuma, L. (2011). Effects of positive and negative affect and emotional suppression on short-term life satisfaction. *Psychology, Health & Medicine, 16*, 313 – 322. doi: 10.1080/13548506.2011.5545

Appendix A

Table of Pregnancy Loss Studies in the Literature

Table A. Pregnancy Loss Studies Discussed in the Literature Review

Author(s) (Study Location)	Study Method	Recruitment	N	Gestatio-nal Age in Weeks (M)	Time Since Loss (M)	Study Findings
Abboud & Liamputtong, 2005 (Melbourne, Australia)	Qual.	Snowball	6 couples	n.a.	< 1 year (n=3) ≥ 1 year (n=3)	Women in the phenomenological study used support from their partner as their main coping strategy. All men felt their role during the miscarriage was one of support.
Armstrong, 2001 (A South-Eastern State, USA)	Qual.	Invitation by Health Care Providers (HCP)	4 men	12 to 20	≤ 2 years	Themes identified in the phenomenological study concerned the intensity of the loss experience, dealing with grief, spirituality, supporting their spouse, influence of the previous loss, replacement of the loss, the importance of milestones, and change in world view. Men who saw an ultrasound picture of the baby expressed more intense grief than those who did not. Men chose to work hard as a coping strategy and none felt the need to discuss their feelings with others.
Barr & Cacciatore, 2008 (Global)	Quant.	Advertisement (support group web site)	441 women	n.a.	0 to 29 years Median = 8 months	Envy, jealousy, shame, and guilt were positively correlated with maternal grief following pregnancy loss and infant/child loss.
Beil, 1992 (Mid-Atlantic, USA)	Quant.	Newspaper Advertisement	85 women and 35 male partners	(10)	< 5 years (19 months)	Females experienced a greater level of distress than men after a pregnancy loss. As well, those with a greater gestational age experienced more distress post-pregnancy loss. No significant relationship was found between level of grief intensity and number of pregnancy losses.
Bennett et al., 2008	Quant.	Invitation by mail	91 women	(28)	< 5 years (35	As time increased post-pregnancy loss, complicated

(Boston, USA)					months)	grief decreased.
Beutal et al., 1996 (Munich, Germany)	Qual.	Invitation (hospital inpatients)	56 Couples (45 after attrition)	6 to 16 (10)	≤ 1 year	After viewing an ultrasound picture, women felt more attached to the baby than men, and men did not feel the need to discuss the miscarriage with others while women did. For men and women, grief levels did not increase with recurrent miscarriage and grief levels decreased over time.
Bonnette & Broom, 2011 (Australia)	Qual.	Advertisement snowball	12 males	n.a.	n.a.	The interpretive inquiry brought forth the problem of expressing grief in the context of 'the male role'. After viewing an ultrasound picture of the fetus men felt more attached to the baby.
Cacciatore et al., 2008 (Global)	Qual.	Advertisement (on-line support groups)	16 couples	n.a.	0 to "several years"	Constant comparison method of analysis was used. Differing coping styles between men and women were found to increase conflict within the marriage. Women wanted their partners to express their feelings more, whereas men focused on hope for the future.
Franche, 2001 (Ontario, Canada)	Quant.	Advertisement (Obstetrical /perinatal clinics)	60 pregnant women & 50 male partners	(18)	≤ 4 years	Active grief was significantly higher for men and women who experienced pregnancy loss at a later gestational age. There was no relationship found between grief intensity and number of pregnancy losses.
Goldbach et al., 1991 (PA, USA)	Quant.	Invitation by HCP	138 women & 56 male partners	(17)	< 2.5 years	Women reported significantly higher levels of grief 6 -8 weeks post-pregnancy loss than men. As well, parents who expressed pregnancy loss later in the pregnancy experienced significantly more grief than those who experienced earlier losses.
Janssen et al., 1997 (Netherlands)	Quant.	Advertisement (magazine)	2,140 pregnant women (227 with a pregnancy loss)	n.a.	≤ 1.5 years	In the prospective study, women reported significantly higher levels of grief intensity with greater gestational age, higher maternal age, and the absence of living children at the time of

						pregnancy loss. There was no significant relationship between level of grief intensity and number of pregnancy losses.
Johnson & Puddifoot, 1998 (England)	Quant.	Invitation by HCP	158 men	6 to 24 (16)	5.5 to 11 weeks	Men with vivid imagery of the fetus were more likely to have seen an ultrasound and they reported significantly higher levels of grief than those who did not.
Keefe-Cooperman, 2005 (New York, USA)	Quant.	Support group advertisement and invitation by HCP	85 women	11 to 24	< 2 years	Grief lessened with the more time that passed since the most recent pregnancy loss. As well, grief intensity was higher with greater gestational age at the time of the loss. Although there was no relationship found between maternal age and grief, feelings of guilt were higher with greater maternal age.
Khan et al., 2013 (Ireland)	Qual.	Convenience sample (10 consecutive couples attending miscarriage clinic)	9 couples	< 20	6 to 8 weeks	The most often used coping strategies by men involved keeping to themselves and keeping busy. The men felt marginalized and believed that more support services for male partners should be provided.
Lang et al., 2011 (Montreal, Canada)	Qual.	Recruited from 7 university hospitals	13 couples	(17)	≤ 13 months	A content analysis showed that disenfranchised grief occurred within couples because women needed to talk about their grief for longer periods of time than men did. It was observed that men kept their feelings to themselves the more women expressed their grief. It was found that health care professionals sometimes minimized the grief of an early pregnancy loss and often focused on the needs of the mother, causing the father to feel ignored.
McCreight, 2004 (Northern Ireland)	Qual.	Observation of support group	14 men, 32 midwives and nurses	7 to 41	3 months to 20 years	The main themes emerging from the qualitative study included: 1) self-blame, 2) loss of identity, and 3) feeling the need to be strong to play the role of support person for their partner.

McCreight, 2008 (Northern Ireland)	Qual.	Observation of support group	23 women	n.a.	2 months to 34 years	Themes such as 1) grief, 2) denial, 3) self-blame, and 4) anger were common in the qualitative study. The findings indicated that women wanted their grief accepted and recognized after a pregnancy loss. They resisted the medicalization of pregnancy loss.
McGreal et al., 1997 (Melbourne, Australia)	Quant.	Advertisement (support groups)	35 women, 17 men	n.a.	38% < 1 year 33% 1-5 years 29% > 5 years	Differences in coping strategies were found between men and women, and in women's coping strategies depending on whether they experienced a miscarriage or stillbirth.
Mulvihill & Walsh, 2013 (Ireland)	Qual.	Purposive sample	8 women	≤ 28	10 to 14 months	The main themes identified in the qualitative study were: 1) the importance of communication, 2) the hospitals physical environment, and 3) the presence of disenfranchised grief.
Murphy & Merrell, 2009 (United Kingdom)	Qual.	Purposive sample	8 women, 16 HCP	6 to 14	Recently to several years prior	Three phases emerged from the thematic analysis: first signs and confirmation, losing the baby, and the aftermath. The care the participants received in the hospital during the pregnancy loss was found to be highly influential in how the women coped with the miscarriage.
O'Leary & Thorwick, 2006 (Minnesota, USA)	Qual.	Advertisement, invitation	10 men	23 to 34	≤ 1 year	There were four themes in the phenomenological study: recognition, preoccupation, stoicism, and support. The participants expressed the need to be recognized as grieving after their partner experienced a pregnancy loss, and felt unable to share their feelings because of society's expectations of men to be strong.
Potvin et al., 1989 (PA, USA)	Quant.	Invitation by Physician	138 women	n.a.	Data collected at 6 to 8 weeks, 1 year, and 2 years post loss.	The purpose of the study was to report on the development of a bereavement measurement tool post-pregnancy loss. Findings indicated that the PGS is a valid, reliable tool to measure grief, and may be used for research or

						clinical purposes. Also, findings indicated that there was no relationship between number of pregnancy losses and grief.
Puddifoot & Johnson, 1999 (United Kingdom)	Quant.	Comparison of cohort studies	323 men	0–17+	8 weeks	There were no differences found between men and women's grief post-pregnancy loss on the total PGS. However, men scored higher on the *Difficulty Coping* and *Despair* subscales than women. Increased gestational age and viewing an ultrasound picture of the baby were found to increase men's level of grief on the total PGS.
Purandare et al., 2013 (Ireland)	Quant.	Invitation from miscarriage clinic	75 women	≤ 16	6 weeks	It was found that women who did not have any living children tended to grieve more after experiencing an ectopic pregnancy, and for women with children, grief intensity significantly increased with the number of miscarriages.
Rowlands & Lee, 2010 (Australia)	Qual.	Advertisement (newsletter for university staff)	9 women	7 to 14	≤ 2 years	A grounded theory analysis of the data found that engagement, acknowledgement and social support were helpful in minimizing women's distress post-pregnancy loss.
Samuelsson, 2001 (Sweden)	Qual.	Invitation by mail	11 men	32 to 42	5 to 27 months	In the phenomenological study, men wanted to be acknowledged and recognized as grieving fathers after their partner experienced a pregnancy loss. Support from health professionals and having tokens of remembrance of the child assisted with the grieving process.
Serrano & Lima, 2006 (Portugal)	Quant.	Convenience (administered survey at a miscarriage clinic)	30 couples with a history of recurrent miscarriages	≤ 24	> 3 months	Results from the study indicated that women experienced significantly higher levels of grief than men post-pregnancy loss. As well, maternal age was not correlated with grief intensity, whereas number of pregnancy losses was. Women were found to be *Actively Grieving* or feeling *Overwhelmed* between 1 and 6 weeks post-pregnancy loss.

Stinson et al., 1992 (PA, USA)	Quant.	Invitation	56 couples	n.a.	Data collected at 2 months, 1 year, and 2 years post loss.	Although the findings of the study indicated that women experienced significantly higher levels of grief than men post-pregnancy loss, it was found that men tended to internalize their feelings rather than express them. Women's grief scores were found to decrease over time post-pregnancy loss, whereas men's did not
Swanson et al, 2007 (Washington, USA)	Mixed Methods	Advertisement (obstetrical clinic)	85 women	≤ 20	Data collected at 1 week and 1 year post loss.	In the mixed methods study, grief was higher for women who had not conceived or given birth by 1 year after experiencing a pregnancy loss, miscarried again, or were feeling emotionally or sexually distant from their partner.
Van, 2012 (California, USA)	Qual.	Advertisement (child birth classes)	20 women during the last month of a subsequent pregnancy	n.a.	11 months to 9 years (29 months)	The findings of the grounded theory study suggested that women who discussed the pregnancy loss with others coped more effectively than those who avoided talking about it.

Qual. = qualitative study Quant. = quantitative study

Appendix B

Socio-Demographic Questionnaire

Please answer each question to the best of your ability. Either fill in or circle the answer that best describes you.

1. What is your gender?

    a. Male
    b. Female

2. What is your current marital status?

    a. Single
    b. Married/Common-Law
    c. Widowed
    d. Divorced/Separated

3. How many children do you have? _____

4. Did you already have children before your pregnancy loss? _____

5. How many pregnancy losses have you experienced? _____

6. How many pregnancy losses has your partner experienced? _____

7. How many weeks pregnant were you/your partner for each loss? _____

8. How old were you at the time of each loss? _____

9. How long has it been since your/your partner's most recent pregnancy loss?

    _____ Months or _____ Years

10. Did you see an ultrasound picture of your baby prior to the loss?
    a. Yes
    b. No

Appendix C

Short Form Perinatal Grief Scale

PRESENT THOUGHTS AND FEELINGS ABOUT YOUR LOSS

Each item is a statement of thoughts and feelings that some people have after a loss such as yours. There are no right or wrong responses to the statements. For each item, tick the box which best indicates the extent to which you agree or disagree with it at the present time.

		Strongly Agree	**Agree**	**Neither Agree or Disagree**	**Disagree**	**Strongly Disagree**
1	I feel depressed					
2	I find it hard to get along with people					
3	I feel empty inside					
4	I can't keep up with my normal activities					
5	I feel a need to talk about the baby					
6	I am grieving for the baby					
7	I am frightened					
8	I have considered suicide since the loss					
9	I take medicine for my nerves					
10	I very much miss the baby					
11	I feel I have adjusted well to the loss					
12	It is painful to recall memories of the loss					
13	I get upset when I think about the baby					
14	I cry when I think about him/her					
15	I feel guilty when I think about the baby					
16	I feel physically ill when I think about the baby					
17	I feel unprotected in a dangerous world since he/she died					
18	I try to laugh, but nothing seems funny anymore					
19	Time passes so slowly since the baby died					
20	The best part of me died with the baby					

		Strongly Agree	**Agree**	**Neither Agree or Disagree**	**Disagree**	**Strongly Disagree**
21	I have let people down since the baby died					
22	I feel worthless since he/she died					
23	I blame myself for the baby's death					
24	I get cross at my friends/relatives more than I should					
25	Sometimes I feel like I need a professional counselor to help me get my life back together again					
26	I feel as though I'm just existing and not really living since he/she died					
27	I feel so lonely since he/she died					
28	I feel somewhat apart and remote, even among friends					
29	It is safer not to love					
30	I find it difficult to make decisions since the baby died					
31	I worry about what my future will be like					
32	Being a bereaved parent means being a "Second-Class Citizen"					
33	It feels great to be alive					

Adapted from: Potvin, L., Lasker, J., & Toedter, L. (1988). Measuring grief: A short version of the perinatal grief scale. *Journal of Psychopathology and Behavioral Assessment*, *11*, 29-45.

Appendix D

Specific Short Form of the Coping Scale for Adults

SPECIFIC SHORT FORM

Coping Scale for Adults

	Office use only
1. ID Number:	☐☐☐
2. Male: ☐ Female: ☐	Sex ☐
3. Age:	Age ☐☐
4. Are you at work, engaged in studies or doing something else? Please indicate:	☐
5. If at work, what is your occupation?	☐☐
6. If engaged in studies , where do you attend?	☐☐
7. What course?	
8. Languages spoken in your home:	Languages
[From most spoken to least] (1)	☐☐
(2)	☐☐
(3)	☐☐

People have a number of concerns or worries, such as work, studies, family, friends, the world and the like. Which is the main concern for you in terms of your life? Please describe your main concern, very briefly, in the space below.

My main concern is .....

.....

Below is a list of ways in which people cope with a wide variety of concerns or problems. Please indicate the things you do to deal with your concerns or worries by circling the appropriate number. Work down the page and circle 1, 2, 3, 4 or 5 as you come to each statement. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which best describes how you feel.

For example if you **sometimes** cope with your concern by 'Talk to others to see what they would do if they had the problem' you would circle 3 as shown below:

	Doesn't apply or don't do it	**Used very little**	**Used some-times**	**Used often**	**Used a great deal**
1. Talk to others to see what they would do if they had the problem	1	2	(3)	4	5

Please note that within this scale is one item, designed primarily for clinical purposes, that indicates difficulty with coping. If you don't wish to complete this item you may omit it. The relevant item (highlighted with an asterisk) is item 5.

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CONFIDENTIAL

		Doesn't apply or don't do it	Used very little	Used some-times	Used often	Used a great deal
1.	Play sport	1	2	3	4	5
2.	Talk to others and give each other support	1	2	3	4	5
3.	Put effort into my work	1	2	3	4	5
4.	Pray for help and guidance so that everything will be all right	1	2	3	4	5
*5.	I get sick; for example, headache, stomach ache	1	2	3	4	5
6.	Work on my self image	1	2	3	4	5
7.	Look on the bright side of things and think of all that is good	1	2	3	4	5
8.	Develop a plan of action	1	2	3	4	5
9.	Try to be funny	1	2	3	4	5
10.	Find a way to let off steam; for example, cry, scream, drink, take drugs	1	2	3	4	5
11.	Improve my relationship with others	1	2	3	4	5
12.	Go to meetings which look at the problem	1	2	3	4	5
13.	Daydream about how things will turn out well	1	2	3	4	5
14.	Blame myself	1	2	3	4	5
15.	Don't let others know how I am feeling	1	2	3	4	5
16.	Consciously 'block out' the problem	1	2	3	4	5
17.	Ask a professional person for help	1	2	3	4	5
18.	Worry about what will happen to me	1	2	3	4	5
19.	Make time for leisure activities	1	2	3	4	5
20.	List any *other* things you do to cope with your concern/s					

_____

_____

_____

Appendix E

Recruitment Poster

Have you experienced a pregnancy loss?

Would you like to take part in a research study?

I am looking for people who:

- Have experienced either a miscarriage or stillbirth
- Are 19 years of age or older

The study involves 1 telephone survey or 3 mailed questionnaires, which will take about 15 minutes to complete.

For more information please contact:

Crystal Northcott, BN, RN

Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com	Crystal Northcott 689-1724 crystalanthony33@hotmail.com

Appendix F

Letter to Physician

Crystal Northcott
Memorial University of Newfoundland, School of Nursing
300 Prince Philip Drive
St. John's, NL
A1B 3V6

Dear Dr. [Physician's surname],

I am completing the Master of Nursing program at Memorial University of Newfoundland. As a requirement of the program, I am conducting a study titled: ***Pregnancy Loss: The Emotional Experiences of Men versus Women***. I would like to request your assistance in recruiting subjects for this research. As many individuals follow up with their physician after a pregnancy loss, I believe that your assistance is important in recruiting a sample for the study.

If you choose to assist me, all that would be required of you would be to display study posters in your waiting room and examination rooms. As well, if you have a patient who experienced, or had a partner experience a pregnancy loss at any point in their lives, please provide the patient with a copy of the attached letter. The individual must be 19 years and older, be able to read or speak the English language, and be mentally competent.

This research may provide more information on how males and females cope with pregnancy loss and whether or not they differ. This knowledge may be beneficial to the health care team in order to assist these individuals in coping with their grief.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 864-2861.

If you have any questions or concerns, please contact me at (709) 689-1724 or crystalanthony33@hotmail.com. Thank-you for your time.

Sincerely,

Crystal Northcott, BN, RN

Appendix G

Letter to Psychologist

Crystal Northcott
Memorial University of Newfoundland, School of Nursing
300 Prince Philip Drive
St. John's, NL
A1B 3V6

Dear Dr. [Psychologist's surname],

I am completing the Master of Nursing program at Memorial University of Newfoundland. As a requirement of the program, I am conducting a study titled: ***Pregnancy Loss: The Emotional Experiences of Men versus Women***. I would like to request your assistance in recruiting subjects for this research. As some individuals choose to receive treatment from a psychologist after a pregnancy loss, I believe that your assistance is important in recruiting a sample for the study.

If you choose to assist me, all that would be required of you would be to display study posters in your waiting room. As well, if you have a patient who experienced, or had a partner experience a pregnancy loss at any point in their lives, please provide the patient with a copy of the attached letter. The individual must be 19 years and older, be able to read or speak the English language, and be mentally competent.

This research may provide more information on how males and females cope with pregnancy loss and whether or not they differ. This knowledge may be beneficial to the health care team in order to assist these individuals in coping with their grief.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 864-2861.

If you have any questions or concerns, please contact me at (709) 689-1724 or crystalanthony33@hotmail.com. Thank-you for your time.

Sincerely,

Crystal Northcott BN, RN

Appendix H

Recruitment Letter to Participants

Crystal Northcott
Memorial University of Newfoundland, School of Nursing
300 Prince Philip Drive
St. John's, NL
A1B 3V6

To Whom It May Concern:

My name is Crystal Northcott and I am completing the Master of Nursing program at Memorial University of Newfoundland. As a requirement of the program, I am conducting research on pregnancy loss and the emotional experiences of men and women. If you are receiving this letter, I would like to pass on my sincere condolences to you for your loss.

For the purpose of this study, a pregnancy loss is defined as either a miscarriage or stillbirth. If you or your partner has experienced a pregnancy loss, are 19 years or older, and reside in Newfoundland and Labrador, then you may be eligible to participate in this study. If you choose to participate in this study, there are three questionnaires to complete, which will take about 15 minutes of your time. The results of this study may help health care professionals work better with people who have experienced a pregnancy loss.

Some people may find it upsetting to participate in this study. If you become upset, you have the right to withdraw from the study. You may also choose to reschedule the session in the case of a telephone survey, or finish completing the questionnaire at a later date. Support services are available to those who experience extreme upset.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 864-2861.

If you would like to participate in this study or if you have questions pertaining to the research, please contact me at (709) 689-1724 or crystalanthony33@hotmail.com.

Sincerely,

Crystal Northcott, BN, RN

Appendix I

Cover Letter

Crystal Northcott
14 Corte Real Place
Mt. Pearl, NL
A1N 0C4

To whom it may concern:

My name is Crystal Northcott and I am completing the Master of Nursing program at Memorial University of Newfoundland. As a requirement of the program, I am conducting research on pregnancy loss and the emotional experiences of men and women, and how they differ. This research is important in that the results may assist health care providers to better individualize a plan of care for both men and women post-pregnancy loss to help them cope with their grief.

Thank-you for agreeing to participate in this study. Please find enclosed a letter of consent explaining the research and your rights as a participant, and three questionnaires: a demographic questionnaire, the Perinatal Grief Scale, and The Adult Coping Scale. It will take approximately 15 minutes to complete all three questionnaires.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 864-2861.

If you have any questions, please do not hesitate to contact me at (709) 689-1724 or crystalanthony33@hotmail.com.

Sincerely,

Crystal Northcott, BN, RN

Appendix J

Letter of Consent

TITLE: Pregnancy Loss: The Emotional Experience of Men versus Women

INVESTIGATOR: Crystal Northcott, BN, RN
(709) 689-1724

SPONSOR: Eastern Health grant (The Health Care Foundation)

You have been invited to take part in a research study. It is up to you to decide whether to be in the study or not. Before you decide, you need to understand what the study is for, what risks you might take and what benefits you might receive. This consent form explains the study.

The researcher will:

- discuss the study with you
- answer your questions
- keep confidential any information which could identify you personally
- be available during the study to deal with problems and answer questions

If you decide not to take part or to leave the study this will not affect your usual health care.

1. Introduction/Background:

Miscarriage is the most common pregnancy complication. The emotional effects of pregnancy loss may be experienced differently for men and women. Knowledge regarding any differences between how males and females grieve is important to health care professionals in order to assist people through the grieving process.

2. Purpose of study:

The purpose of the study is to examine if males and females experience grief and coping differently after a pregnancy loss.

3. Description of the study procedures and tests:

This study consists of three questionnaires that will take approximately 15 minutes to complete. Please return the questionnaires in the enclosed pre-stamped, self-addressed envelope by [date]. You may also choose to complete the questionnaires with the researcher by telephone. If you choose the telephone survey, please complete and sign the consent form attached and return it to the researcher in the enclosed pre-stamped, self-addressed envelope.

If you choose to withdraw from the study at any point during the study, or choose not to answer all questions on the questionnaires, the questions answered will be retained and used by the researcher. If you choose however, that you prefer not to have your answers included in the research, the researcher will destroy them.

4. Possible risks and discomforts:

Some people may find it upsetting to participate in this study. If you become upset, you have the right to withdraw from the study. You may also choose to reschedule the session in the case of a telephone survey, or finish completing the questionnaire at a later date.

If you experience upset from participating in this study, please contact the services listed below for support:

Central Region: Dr. Des Coombs, 489-8193 (After hours call 292-2500 and ask for the mental health addictions manager on call).

Eastern Region: Dr. Kristen Newman, 777-3450

Labrador-Grenfell Region: Dr. Lydia Van-niekerk, 454-3333 (ext: 397)

Western Region: Dr. Donna Maclennan, 637-5000 (ext: 5289)

On weekends and after 4:00 pm on weekdays, if you need immediate support, please go to your local hospital emergency department.

6. Benefits:

It is not known whether this study will benefit you.

7. Liability statement:

Filling out the questionnaires gives us your consent to be in this study. It tells us that you understand the information about the research study. When you participate, you do not give up your legal rights. Researchers or agencies involved in this research study still have their legal and professional responsibilities.

8. What about my privacy and confidentiality?

Protecting your privacy is an important part of this study. Every effort to protect your privacy will be made. Your responses to the questionnaires will be anonymous, and therefore, you will not be able to be identified. In the case of a telephone survey, the signed consent form will not be attached to your responses.

Your name and contact information will be kept secure by the research team in Newfoundland and Labrador. It will not be shared with others without your permission. Your name will not appear in any report or article published as a result of this study.

Information collected for this study will be kept for five years.

Information collected and used by the research team will be stored in a locked cabinet at the Centre for Nursing Studies. Crystal Northcott is the person responsible for keeping it secure.

Information collected from this study will be used to complete the requirements for the degree, Master of Nursing. The results from this study will be made available to health centers and doctor's clinics in Newfoundland and Labrador, and may be published in nursing journals. As well, the results may be presented at research conferences.

9. Questions:

If you have any questions about taking part in this study, you can meet with the investigator who is in charge of the study at this institution. That person is: Crystal Northcott, BN, RN, 689-1724. You may also speak with thesis supervisors Dr. Cindy Murray, 777-6529, or Dr. Lan Gien, 777-6276.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 864-2861.

Signature Page

Study title: Pregnancy Loss – The Emotional Experiences of Men versus Women.

Name of principal investigator: Crystal Northcott, BN, RN
(709) 689-1724

To be filled out and signed by the participant:

	Please check as appropriate:	
I have read the consent and information sheet.	Yes { }	No { }
I have had the opportunity to ask questions/to discuss this study.	Yes { }	No { }
I have received satisfactory answers to all of my questions.	Yes { }	No { }
I have received enough information about the study.	Yes { }	No { }
I have spoken to Crystal Northcott and she has answered my questions	Yes { }	No { }
I understand that I am free to withdraw from the study • at any time • without having to give a reason • without affecting my future health care	Yes { }	No { }
I understand that it is my choice to be in the study and that I may not benefit.	Yes { }	No { }

I agree to take part in this study.

Yes { } No { }

_____ _____
Signature of participant Date

_____ _____
Phone Number Best time of day to call

<u>To be signed by the investigator or person obtaining consent</u>

I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

_____ _____
Signature of investigator/person obtaining consent Date

Telephone number: _____

Appendix K

Follow-Up Reminder Letter

[Date]

Crystal Northcott
Memorial University of Newfoundland, School of Nursing
300 Prince Philip Drive
St. John's, NL
A1B 3V6

Dear Sir/Madam

Two weeks ago a research packet containing questionnaires was mailed to you seeking your input about your experience with a pregnancy loss. The purpose of this study is to examine if the emotional experiences of men differ from those of women following a pregnancy loss. Your input is important as it can help health care professionals provide the best possible care to families after such a loss.

If you have already completed and returned the questionnaires, please accept my sincere thank-you for participating in this study. If not and you are interested in participating, it is important that your experiences are included in the study as well. If by some chance you did not receive a packet or it has been misplaced, please call (709) 689-1724, or e-mail: crystalanthony33@hotmail.com, and another one can be sent to you. Thank-you for your time and assistance.

Sincerely,

Crystal Northcott, BN, RN

Appendix L

Documentation of Ethical Approval

MEMORIAL UNIVERSITY

Interdisciplinary Committee on Ethics in Human Research (ICEHR)

Office of Research - IIC2010C
St. John's, NL Canada A1C 5S7
Tel: 709 864-2561 Fax: 709 864-4612
www.mun.ca/research

ICEHR Number:	**2010/11-173-NU**
Approval Period:	**August 3, 2011 – August 31, 2012**
Sponsor:	**Health Care Foundation**
Responsible Faculty:	**Dr. Lan Gien** School of Nursing
Title of Project:	***Pregnancy loss: the emotional experience of men vs. women***

August 4, 2011

Mrs. Crystal Northcott
School of Nursing
Memorial University of Newfoundland

Dear ~~Mrs. Northcott~~: Crystal,

Thank you for your email correspondence of August 2, 2011 addressing the issues raised by the Interdisciplinary Committee on Ethics in Human Research (ICEHR) concerning the above-named research project.

The ICEHR has re-examined the proposal with the justifications and revisions submitted and is appreciative of the thoroughness and clarity with which you have responded to the concerns raised by the Committee. In accordance with the *Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans (TCPS2)*, the project has been granted *full ethics clearance* for one year from the date of this letter.

If you intend to make changes during the course of the project which may give rise to ethical concerns, please forward a description of these changes to Mrs. Brenda Lye at blye@mun.ca for the Committee's consideration.

The TCPS requires that you submit an annual status report on your project to the ICEHR, should the research carry on beyond August 2012. Also to comply with the TCPS2, please notify us upon completion on your project.

We wish you success with your research.

Crystal, An excellent, clear response to our questions! We wish you a successful research!! L.F.

Yours sincerely,

Lawrence F. Felt, Ph.D.
Chair, Interdisciplinary Committee on
Ethics in Human Research

LF/bl

copy: Supervisor – Dr. Lan Gien, School of Nursing

Appendix M

Tables on the Socio-Demographic and Pregnancy-Related Characteristics and Coping Strategies of the Respondents

Table M1

Socio-demographic and Pregnancy-Related Characteristics of Respondents

Characteristics	Males		Females		Chi-Square Test	
	N	%	N	%	X^2	p
Marital Status						
Married/Common Law	25	100	36	88		
Single	0	0	5	12		
Number of Children						
0	8	32	11	27		
1 to 2	16	64	27	66	1.52	.82
3 or more	1	4	3	7		
Children Before Loss						
Yes	8	32	13	32	.00	.98
No	17	68	28	68		
Number of Pregnancy Losses						
1	18	72	28	68	.58	.75
2 or more	7	28	13	32		
Age at Time of Most Recent Loss						
19 – 25	4	16	4	10		
26 – 35	11	44	19	46	4.43	.22
36 – 45	7	28	12	29		
46 - 58	3	12	6	15		
Time Since Most Recent Loss						
6 months and less	5	20	5	12		
7 – 12 months	6	24	6	15		
13 – 23 months	5	20	10	24		
2 – 4 years	6	24	8	20	4.68	.59
5 – 10 years	2	8	4	10		
11 – 15 years	1	4	5	12		
16 years and greater	0	0	3	7		

Characteristics	Males		Females		Chi-Square Test	
Ultrasound Viewing Status						
Yes	14	56	18	44	.91	.34
No	11	44	23	56		
Gestational Age at Time of Loss						
6 weeks and less	2	8	4	10		
7 – 12 weeks	15	60	22	54		
13 – 19 weeks	5	20	11	27	.47	.93
20 weeks and later	2	8	3	7		
Missing	1	4	1	2		

Note. Percentages may not total 100 due to rounding.

Table M2

Gender Differences in Coping Strategies

	Males		Females				
Coping Strategies	n	Mean Rank	n	Mean Rank	U	Z	p
Play Sport							
Don't do it	8		16				
Used very little	5		6				
Used sometimes	8	32.67	11	32.40	484.0	.058	.954
Used often	3		4				
Used a great deal	0		3				
Talk to others and give each other support							
Don't do it	1		1				
Used very little	9		7				
Used sometimes	11	23.77	11	37.74	270.5	-3.012	.003^{+}
Used often	2		9				
Used a great deal	1		12				
Put effort into my work							
Don't do it	1		4				
Used very little	6		2				
Used sometimes	3	30.83	10	32.72	440.0	-.413	.679
Used often	10		15				
Used a great deal	4		8				
Pray for help and guidance so that everything will be all right							
Don't do it	8		8				
Used very little	5		9				
Used sometimes	7	28.73	10	34.76	389.5	-1.289	.197
Used often	2		10				
Used a great deal	2		3				
I get sick; for example headache, stomach ache							
Don't do it	14		17				
Used very little	6		8				
Used sometimes	4	29.28	11	35.32	407.0	-1.345	.179
Used often	0		4				
Used a great deal	1		0				

	Males		Females				
Coping Strategies	n	Mean Rank	n	Mean Rank	U	Z	p
Work on my self image							
Don't do it	8		6				
Used very little	8		8				
Used sometimes	4	27.27	21	35.64	354.5	-1.822	.068
Used often	3		5				
Used a great deal	1		0				
Look on the bright side of things and think of all that is good							
Don't do it	0		1				
Used very little	1		3				
Used sometimes	9	35.60	18	30.64	554.5	1.104	.270
Used often	16		13				
Used a great deal	4		5				
Develop a plan of action							
Don't do it	3		5				
Used very little	4		4				
Used sometimes	10	29.15	11	34.51	399.5	-1.154	.249
Used often	4		14				
Used a great deal	3		6				
Try to be funny							
Don't do it	1		10				
Used very little	6		9				
Used sometimes	6	38.29	8	29.02	619.0	1.983	.047*
Used often	7		12				
Used a great deal	4		1				
Find a way to let off steam; for example cry, scream, drink, take drugs							
Don't do it	3		12				
Used very little	10		7				
Used sometimes	8	32.27	11	32.64	474.5	-.079	.937
Used often	2		7				
Used a great deal	1		3				

	Males		Females				
Coping Strategies	n	Mean Rank	n	Mean Rank	U	Z	p
Improve my relationship with others							
Don't do it	3		11				
Used very little	7		6				
Used sometimes	11	33.10	15	32.14	494.5	.211	.833
Used often	2		7				
Used a great deal	1		1				
Go to meetings which look at the problem							
Don't do it	18		29				
Used very little	5		7				
Used sometimes	1	31.69	2	32.99	460.5	-.350	.726
Used often	0		2				
Used a great deal	0		0				
Daydream about how things will turn out							
Don't do it	5		8				
Used very little	8		10				
Used sometimes	9	29.19	11	34.49	400.5	-1.139	.254
Used often	2		7				
Used a great deal	0		4				
Blame myself							
Don't do it	8		11				
Used very little	9		12				
Used sometimes	2	30.48	10	33.71	431.5	-.697	.486
Used often	4		4				
Used a great deal	1		3				
Don't let others know how I am feeling							
Don't do it	4		5				
Used very little	5		12				
Used sometimes	10	30.52	8	33.69	432.5	-.676	.499
Used often	3		7				
Used a great deal	2		8				

Coping Strategies	Males n	Males Mean Rank	Females n	Females Mean Rank	U	Z	p
Consciously 'block out' the problem							
Don't do it	6		7				
Used very little	3		13				
Used sometimes	5	33.44	11	31.94	502.5	.322	.747
Used often	9		7				
Used a great deal	1		2				
Ask a professional person for help							
Don't do it	14		15				
Used very little	7		10				
Used sometimes	3	26.40	9	36.16	333.5	-2.164	.030*
Used often	0		4				
Used a great deal	0		2				
Worry about what will happen to me							
Don't do it	7		9				
Used very little	8		8				
Used sometimes	6	27.65	11	35.41	363.5	-1.660	.097
Used often	3		6				
Used a great deal	0		6				
Make time for leisure activities							
Don't do it	1		2				
Used very little	3		9				
Used sometimes	10	34.48	15	31.31	527.5	.693	.488
Used often	9		11				
Used a great deal	1		3				

*p < 0.05
+p < 0.01