UNDERSTANDING THE ROLE OF SOCIAL SUPPORT WITHIN A NATURALISTIC MENTORSHIP INTERVENTION

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Bachelor of Arts, University of Alberta, 2016

A thesis submitted
in partial fulfilment of the requirements for the degree of

MASTER OF EDUCATION

in

COUNSELLING PSYCHOLOGY

Faculty of Education
University of Lethbridge
LETHBRIDGE, ALBERTA, CANADA

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Date of Defense: June 23, 2022

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DEDICATION

This work is firstly dedicated to the new mothers in my life, of whom, inspiration and lived experience flows: Laura Harvey, Camille Riordan-Smith, Ashley Quashigah-Campbell, and Mareike Friedrich-Crichton.

To my partner, Brett Wells, for his unwavering support during the highs and lows. I will always be grateful for your love and humour.

And to my own mother, who has inspired many in her pursuit of knowledge and care for humanity which she has so enthusiastically passed along to me.

ABSTRACT

Social support is a psychosocial factor that has been found to buffer the effects of postnatal depressive symptoms. Welcome to Parenthood (W2P) is an informal naturalistic mentorship intervention aimed at reducing postnatal depression. The goal of the current study is to utilize intervention data to uncover the subcategories and patterns of social support used by mentors, identify the impact of received social support on postnatal depressive symptoms among first time mothers, and whether mother's experiences of adverse childhood experiences (ACE) impact social support in this Canadian sample. The results indicate that received social support may not significantly involved in the reduction of postnatal depressive symptoms, and social participation may be even less effective among women with high ACE scores. Exemplars of social support within the mentorship relationship are presented and the application of clinical considerations for future mentorship interventions for this population are discussed.

PREFACE

The Human Participant Research Committee of the University of Lethbridge granted ethics approval for this research. The certificate approval number for the project is protocol #2021-028. The results of this study have not yet been published.

ACKNOWLEDGEMENTS

I would like to first thank my thesis supervisor, Dr. Elaine Greidanus, thank you for asking the right questions. My thesis committee members, Drs. Richelle Marynowski, Noella Piquette, I thank you for your expertise and belief in my ability to complete this project.

To Dr. Karen Benzies for developing and implementing the W2P intervention that supported over 400 new mothers.

To my “Thesis Buddies”: Katie Ingram, Toni Labadie, and Rebecca Molyneaux for your friendship, feedback, and ‘we’re in this together’ attitude.

And to Alex Bilodeau-Bouchard for lending me his technical writing expertise and thoughtful feedback when I needed it the most.

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ACES	Adverse Childhood Experiences
RTT	Relational Regulation Theory
W2P	Welcome to Parenthood

CHAPTER 1: INTRODUCTION

Social support can have positive impacts on women's mental health through life transitions, from pregnancy to parenthood. Fostering positive relationships between caregivers and children can be an effective method of improving wellbeing and promoting healthy infant development in areas such as emotional regulation and stress management (Cooke et al., 2019; Shonkoff et al., 2012). The relationships between caregivers and children impacts infant development and must be considered alongside early environmental and biological factors. Of particular concern is the incidence of maternal depression as it can interfere with infant's brain development and impact both maternal functioning and child outcomes (Hartman et al., 2019; Liu et al., 2017; Rotheram-Fuller et al., 2018). The impact of postpartum depression is noted cross-culturally (Evagorou et al., 2016) and clinically diagnosed postpartum depression is estimated to occur in 15%–17% of women worldwide (Gavin et al., 2005; Shorey et al., 2018). On average, 23% of Canadian mothers reported symptoms consistent with postnatal depression or anxiety between 5 and 13 months after giving birth. Symptoms among mothers from the province of Alberta are similar to the national average at 22% (Statistics Canada, 2019). Risk factors for postnatal maternal depression include life stressors (Reid & Taylor, 2015), lack of social support (Wajid et al., 2019), and history of adversity (Choi et al., 2019). Major depressive disorder is characterized by changes in affect (e.g., sad, hopeless), cognition, and functioning (American Psychiatric Association [APA], 2013). Symptoms can include diminished interest in activities, significant weight loss or gain, insomnia or hypersomnia, psychomotor agitation, feelings of worthlessness, poor concentration and cognitive function, and recurrent suicidal ideation (APA, 2013). When depressive symptoms are identified treatment often includes social support in the form of psychosocial and psychological interventions such as home visits (Dennis

& Hodnett, 2007; Morrell et al., 2009), online or in person social support groups (Heller et al., 2020; O'Neil et al., 2019), general interpersonal psychotherapy (O'Hara et al., 2000), and cognitive-behavioural therapy (Cooper et al., 2003). Social support has been shown to alleviate symptoms of postpartum depression and can be administered at low cost (Webster et al., 2011; Vaeiz et al., 2019; Xie et al., 2009). Symptoms of depression have been found to decrease by 55.63% in correlation with an increase of social support (O'Neil et al., 2019). Whereas lower social support produced a 77% increased risk of postnatal depressive symptoms (Gan et al., 2019). Often, mentoring relationships are used for the provision of social support in psychosocial interventions.

Mentorship can take many forms often related to academic, career, and psychosocial development among youth. It is often ambiguously defined; however, the definition typically revolves around a knowledgeable mentor providing support to a mentee in accordance with mentoring goals (West, 2016). Mentoring relationships can be formal and informal based on relationship initiation and structure (Ragins & Cotton, 1999). Characteristics of the mentoring relationships largely involve constructive interactions with support and guidance (DuBois et al., 2011; Rhodes, 2005). In relation to postnatal depressive symptoms, mentorship can be considered form of social support that may buffer against depressive symptoms in mothers and promote positive child outcomes (Stein et al., 2014; Zheng et al., 2018). Welcome to Parenthood (W2P) is an informal mentorship intervention structure designed to support new mothers through their transition into parenthood. This program was implemented across Alberta, Canada, from October 2015 – August 2017. As part of the study evaluating the effectiveness W2P, women who received the intervention showed a reduction in postnatal depressive symptoms, and their children displayed an above-average infant global development compared to the control sample

(Benzies et al., 2021). Further research on the role of social support involved in the mother-mentor relationship is necessary for the development and refinement of mentorship interventions and implementation of these program as standard practice. The purpose of the current study is to explore the role of social support in the reduction of postnatal depressive symptoms within the context of the W2P mentorship intervention. With the hopes of further understanding the role of mentorship for first time adult mothers, inform intervention best practices, and support the success of new mothers.

CHAPTER 2: LITERATURE REVIEW

The following chapter includes a detailed literature review introducing theoretical positioning, terminology, etiology, risk factors, and current treatments for postnatal depressive symptoms. Related factors such as early childhood adversity and history of mental health are also explored in relation to the development of postnatal depressive symptoms as they may impact the effectiveness of the intervention approach. Elements of social support are explored due to involvement in the development of postnatal depressive symptoms and subsequent psychosocial treatment. Lastly, mentorship is evaluated as an intervention for postnatal depressive symptoms as it can be utilized as delivery method for social support.

2.1 PSYCHOSOCIAL THEORY

Psychosocial theory originated with the seminal work of Erik Erikson's (1959; 1982) stages of psychosocial development. Erikson theorized that biological, psychological, historical, and social factors impact development and how individuals cope with life challenges (Darling-Fisher, 2018). The psychosocial theoretical perspective situates an individual's psychological development in the context of their social environment. Florence Hollis (1964) furthered

psychosocial theory by translating it into the field of social work. Hollis highlighted the importance of including the patient's context in the assessment and treatment completed by clinicians. In relation to postpartum depression, environmental factors such as life stressors and interpersonal difficulties are linked with the disorder as they are a part of the mother's immediate context (Yim et al., 2015). Thus, treatment methods targeted at an individual's social environment can improve wellbeing.

Coupled with environmental factors, Beck (1993) observed the psychological impact of postpartum depression through evaluation of lived experience. The pregnancy and birth of a child is considered a major life transition and is associated with role changes that are found to be coupled with depression (Moustafa et al., 2020). In Beck's (1993) theory of postpartum depression, she identifies inner psychological difficulties connected to a loss of control accompanied with the transition into parenthood. Describing this process in four stages, Beck begins with the first stage *encountering terror* involving the fear of being overwhelmed with responsibilities of childcare and the irreversible lack of normalcy associated with life as a parent (Beck, 1995). *Dying of self* is the second stage involving the absence of previous interests and identity, isolating oneself, and reoccurring self-harming thoughts and behaviors. This stage refers to the consequences of depression related to irrational thinking about the self and capability of being a mother (Beck, 1995). *Struggling to survive* is the third phase which involves strategies implemented for coping such as seeking support, battling the health care system and providers, and praying for relief. This stage is characterized by the process of creating hope by connecting with support or professional assistance (Beck, 2002). The final stage is *regaining control* and involves the mother mourning the loss of connection with the infant during the first few months, slowly shifting self-concept, and beginning to recognize and meet their own needs (Beck, 2002).

In alignment with psychosocial theory, Beck organizes the lived experiences of women struggling with depression during the postpartum period using psychological impact along with salient contextual information.

Sichel and Driscoll's (1999) developed an earthquake model that integrates biological (e.g., brain development and biochemistry) with psychosocial factors to explain women's vulnerability to postpartum depression. The analogy describes cumulative stress or adverse experiences across the lifetime as *loading* and weakening of the *fault line* eventually give way to pressure and resulting in an *earthquake*. In other words, women who experience greater psychological distress across their life are at greater risk of developing depression. The birth of a child is a significant life transition and both biological and psychosocial risk factors are thought to contribute to the development of depression symptoms postnatally. Factors such as maternal mental health, history of depression, childhood adversity, and social support contribute to predict the risk of an earthquake among women with biological and psychosocial susceptibility (Robertson et al., 2004; Zhang et al., 2019). Utilizing a psychosocial theoretical perspective allows for the evaluation of environmental and psychological factors associated with the development of depressive symptoms. This in order to explore the role of social support involved in the mother-mentor relationship, and mentorship as a viable treatment for postnatal depressive symptoms integrated within health care practices.

2.2 TERMINOLOGY

The following section introduces terminology and current diagnostic considerations for depressive symptoms that occur postnatally. As the aim of the study is to examine social support within the mother-mentor relationship involved in the reduction of depressive symptoms

postnatally, it is necessary to present the associated terminology subsequently mentioned throughout the literature review. The diagnosis of depressive disorders differs based on the identified etiology and onset of symptoms (APA, 2013). *Postpartum depression* refers to the onset of depressive symptoms after delivery, with impacts on the woman, infant, and family (Stewart & Vigod, 2016). P*ostnatal depressive symptoms* is an inclusive term that refers to women who experience depressive symptoms postnatally and may or may not have a formal diagnosis. Use of this term is helpful due to inconstancies across diagnostic systems such as the DSM – 5 and International Classification of Diseases 10th revision (Smith-Nielsen et al., 2018). *Peripartum period* refers to symptoms that occur over the course of pregnancy and following delivery (APA, 2013). *Antenatal depression* refers to depressive symptoms that occur prenatally, or during pregnancy. The DSM – 5 categorizes postpartum depression as a depressive disorder with the onset of symptoms occurring during pregnancy and up to 4 week following delivery and the diagnosis is referred to as *major depressive disorder with peripartum onset* (APA, 2013). *Peripartum onset* is the diagnostic specifier that can be applied to an existing or recent diagnosis of major depressive disorder if the onset of mood symptoms occurs during pregnancy or within four weeks following delivery (APA, 2013). Further understanding of the involvement of social support within the context of mentorship is necessary in the evaluation of mentorship as a viable community-based method of support for women postnatally. Although diagnostic criteria are not central to the application of community-based intervention programs, they are still important to ground treatment and understand the impact and range of symptoms.

As outlined in the DSM – 5, depressive disorders include symptoms of sadness and irritability and somatic and cognitive changes that impact functioning (American Psychiatric Association [APA], 2013). To be diagnosed, a patient must exhibit at least five out of nine

identified symptoms for a period of two weeks or longer. The nine symptoms include depressed mood, diminished interest in pleasure, significant changes to weight, insomnia or hypersomnia, psychomotor agitation, fatigue, feelings of worthlessness or excessive guilt, diminished ability to think or concentrate, indecisiveness, and recurrent thoughts of death and suicide ideation. To be diagnosed, at least one of five symptoms must be depressed mood or loss of interest or pleasure (APA, 2013). Symptoms must cause significant distress and impact the functioning of the individual and cannot be attributed to the effects of pre-existing medical conditions (APA, 2013). Although the DSM – 5 provides guidance for clinicians to diagnose depression that occurs during pregnancy and following birth, identification and treatment of major depressive disorder with peripartum onset is largely under diagnosed and undertreated (Kroll-Desrosiers et al., 2020; Fergerson et al., 2002). Women with depressive symptoms related to childbearing outside of this period would not meet the criteria for diagnosis; however, they still may experience symptoms of depression related to childbearing regardless of the timing of symptoms (Wisner et al., 2010).

The presentation of symptoms exist in a continuum ranging from "baby blues" (Rezaie-Keikhaie et al., 2020) to major depression (Cardona, 2016). In many cases symptoms associated with depression are viewed as a "side effect" of pregnancy (Mauri et al., 2016). Major risk factors for depression include family and personal history of mental health difficulty, however subclinical symptoms are associated with significant psychosocial difficulty (Ferrari et al., 2020). The manifestation symptoms can include the inability to control life, ambivalent feelings towards children, difficulties with interpersonal relationships, and feelings of helplessness and hopelessness regarding a future role as a mother, and expressed financial concerns (Holopainen & Hakulinen, 2020). Women often experience cultural and social pressures associated with being a "good mother" and attempt to hide any difficulty out of shame and thus symptoms may be

withheld and overlooked by health care professionals. (Beck, 2002; Caldwell et al., 2020; Hadfield et al., 2019) Community-based supports, such as mentorship could be a viable option for women during the postnatal period due to the presence of psychosocial challenges during this period. Additional understanding of the application of social support through mentorship to support psychosocial challenges associated with maternal depressive symptoms is necessary.

2.3 POSTPARTUM DEPRESSION

There are a number of terms associated with the onset of depression connected to pregnancy. Symptoms of depression may vary, or manifest at subclinical levels with women often experiencing difficulty with role transition. The result of experiencing depressive symptoms postnatally can significantly impact functioning of the mother and can be missed during visits with health care professionals or fall below the radar. Thus, universally accepted social support interventions, such as naturalistic mentorship may fill gap in support. The following section explores causes and risk factors associated with postnatal depressive symptoms. In particular, history of depression, history of maternal abuse, childhood adversity are examined due to the significant link to postnatal depressive symptoms. Evaluation of the impact, treatment, and prevention options are subsequently explored to provide a background on the manifestation of postnatal depression and keys to treatment.

2.3.1 CAUSES

Depressive symptoms that occur across the peripartum period are complex. Postnatal depressive symptoms involve genetic, biological, and psychosocial factors, but the exact etiology is unclear (Corwin et al., 2010; O'Hara, 2009). Epigenetics provides a framework to understand how heritable phenotypes change based on environmental experiences (Wolffe & Matzke, 1999).

Mitchell et al. (2010) found that women with a reactive serotonin transporter gene and low socioeconomic status were at greater risk of postpartum depression. However, this relationship was altered with positive environmental experiences, signaling the impact of environmental factors.

Epigenetic interactions between genotype, estrogen, and childhood adversity are found to be predictive of postpartum depression (Elwood et al., 2019). In epigenetics, DNA methylation is a process involved in the change of genetic expression through the addition of methyl groups (Guintivano et al., 2018). Hormones related to pregnancy and birth such as estrogen were found to mediate DNA methylation resulting in epigenetic changes (Guinticano et al., 2014). Neuroactive molecules are also connected to the etiology of postnatal depressive symptoms (Payne & Maguire, 2019). For example, oxytocin concentration at mid-pregnancy significantly predicted postpartum depression symptoms assessed at two weeks postpartum, in addition to mother-infant bonding behaviours (Skrundz et al., 2011). Although biomarkers are not currently used as a method for screening for postpartum depression (Guinticano et al., 2018), this research offer another potential pathway towards increasing the current understanding of genetics, epigenetic, and postpartum depression.

2.3.2 RISK FACTORS

Depressive symptoms during the postnatal period are associated with psychological and social risk factors (Norhayati et al., 2015). Mental health issues can impact the quality of infant care and amplify distress (Cox et al., 1993; Davey et al., 2006). The nature of risk factors also extent beyond this period to include maternal history of mental illness and childhood adversity (Angerud et al., 2018; Silverman et al., 2017). In a meta-analysis, O'Hara and Swain (1996) found that maternal histories of mental illness, life stressors, and lack of social support are

contributing factors associated with postpartum depression. Subsequent reviews found similar results suggesting that experiences of depression or anxiety during pregnancy, stressful life events, previous history of depression, and low levels of social support are strong predictors of postpartum depression (Robertson et al., 2004).

2.3.2.1 HISTORY OF MATERNAL DEPRESSION

In a community-based sample, history of psychiatric illness, along with psychological distress, and experiences of social isolation during pregnancy, are related to postpartum depression among women (Nielsen et al., 2000). History of depression is considered one of the strongest predictors of postpartum depression (Field, 2011). According to Silverman et al. (2016), women are 20 times more likely to experience postpartum depression if they have a history of depression. In a cross-sectional study, prenatal depression, history of depression, along with low levels of partner support were predictive of depressive symptoms postnatally (Milgrom et al., 2008). To assess for depressive symptoms, screening at every appointment along with maternal history of depression as higher rates of history of depression associated with higher depression scores (Long et al., 2020). These studies point to the importance of screening for mental health history and mental health difficulties that emerge during pregnancy to identify those at risk for postpartum depression.

2.3.2.2 HISTORY OF MATERNAL ABUSE

Experiences of maternal violence that include sexual, emotional, physical, domestic, and childhood violence were found to increase the risk of developing postpartum depression (Zhang et al., 2020). Women with high rates of abuse and trauma were found to have greater instances of postpartum depression compared to those with no reported history (Guintivano et al., 2018).

Research suggests that experiences of abuse across the lifespan are associated with depressive symptoms; however, women with histories of childhood abuse were found to have higher repots of depressive symptoms (Alvarez-Segura et al., 2014). Childhood experiences of negative relationships with parents and between parents, including sexual abuse, corporal punishment, and physical family violence, were associated with depression during the postpartum period (Kettunen & Hintikka, 2017). It is likely that women with childhood trauma may experience greater emotional difficulty during pregnancy, delivery, and the transition to parenthood (Watson, 2016). Adversity during childhood in combination with risk factors such as intimate partner violence, stress, and antenatal depression are found to result in postpartum depression symptoms, possibly with greater severity than without experiences of childhood adversity (Dennis & Ross, 2006; Mersky & Janczewski, 2018).

2.3.2.3 ADVERSE CHILDHOOD EXPERIENCES

Depression is more common among women with a history of adverse experiences (Hutchens et al., 2017). Adverse childhood experiences (ACE) is a term that defines experiences before 18 years of age of emotional, physical, and sexual abuse; physical and emotional neglect; and household dysfunction, such as witnessing domestic violence or parental discord and living with a family member who is a substance abuser, suffers from mental illness or has a criminal record (Felitti et al., 1998). Researchers found a dose-response relationship between exposure to ACE and major health (e.g., obesity) and mental health (e.g., depressed mood) issues later in life (Felitti et al., 1998). In a longitudinal study, high ACE scores were associated with maternal depressive symptoms late in pregnancy and postnatally with a dose-response relationship (Angerud et al., 2018). Among at-risk mothers, experiences of childhood household dysfunction

and childhood maltreatment predicted maternal depressive symptoms, which had minimal reduction across the perinatal period (McDonnell & Valentino, 2016).

As women with a history of childhood adversity are at greater risk of postnatal depression, researchers are now considering childhood adversity as a mediator between maternal depressive symptoms and child outcomes (Choi et al., 2019; Letourneau et al., 2018). This implies that maternal childhood adversity is an important factor to consider when addressing maternal mental health. This population is especially important as women with high ACE scores are more likely to experience lower levels of social support shortly before birth (Racine et al., 2018).

2.3.2.4 NEGATIVE OUTCOMES OF POSTNATAL DEPRESSIVE SYMPTOMS

Early environmental and biological influences affect the health and functioning of children. Relationships between children and caregivers promote strong bonds and healthy development (NSCDC, 2004). Early interactions can promote the development of children's executive functioning, emotional regulation, and stress coping (Bernier et al., 2010; Cooke et al., 2019; Shonkoff et al., 2012). Focusing on the early postpartum period is essential and more efficient due to high level of neurological plasticity during infancy and hierarchical nature of neurological development (Kundsen et al., 2006). Additionally, the birth of a child is a period of significant transition for women and families due to the introduction of new responsibilities, sleep deprivation, and the potential for increased isolation for infant care (Aber et al., 2013; Nystrom & Ohrling, 2004; Okun, 2016; Paris & Dubus, 2004). Maternal adversity, abuse, and mental health issues may inflict added difficulty for women postnatally, impacting the health of the women and infant.

Parental sensitivity refers to the provision of timely, appropriate, and consistent response to infant signals (Lamb & Easterbrooks, 1981). It can also be referred to as a 'serve and return' interaction between a caring adult and a child (Center on the Developing Child [CDC], 2009). For example, a child will reach out for connection by a facial expression or babble resulting in an adult responding with facial expression, gesture, or speech, which in turn develops the infant's communication skills (CDC, 2009). However, maternal depression can impede the 'serve and return' relationship, resulting in an unanswered connection which may impact the developing brain of the infant (CDC, 2009). Maternal depressive symptoms are associated with lower quality maternal bonding (Edhborg et al., 2011; Moehler et al., 2006; Taylor et al., 2005). This kind of parental responsiveness is linked with child development, as infancy is a critical developmental period which relies on infant engagement with caregivers (Shonkoff & Richmond, 2009). Postnatal depression may disrupt infant engagement due to inconsistent and less sensitive care during infant interactions and impact developmental outcomes (Beck, 1999; Murray & Cooper 1997; Murray et al., 2003; Stein et al., 2014). In addition, women with a history of abuse, postpartum depression, and post-traumatic stress disorder may experience greater difficulty developing a mother-infant bond (Muzik et al., 2013; Slomian et al., 2019).

Maternal depression may result in greater instances of cognitive (Grace et al., 2003; Liu et al., 2017; Murray et al., 1996), emotional, and behavioural difficulties among children (Glover & Barlow 2014; Letourneau et al., 2017; Muzik & Borovska 2010). In a meta-analysis, infants of mothers with high depressive symptoms scored lower on measures of infant cognitive development at 6 – 8 weeks of age (Liu et al., 2017). Mothers with patterns of depressed moods experienced higher rates of food insecurity and intimate partner violence while their children demonstrated internalizing and externalizing behaviour problems at 36 months (Rotheram-Fuller

et al., 2018). Women with higher stress levels showed greater maternal symptoms of depression, anxiety, and internalizing problems for children at age 5 (Hartman et al., 2019). Depressive symptoms at 6 months were predictive of future depressive symptoms and predictive of child psychological functioning through internalizing and externalizing behaviors at age 10 (Verkuijl et al., 2014). Persistent and severe postnatal depression is associated with child behavioural difficulties at 3.5 years, lower mathematic scores at age 16, and greater prevalence of depression at 18 (Netsi et al., 2018).

Based on the literature, it is evident that maternal adversity is associated maternal depressive symptoms and impacts child development, as children are at greater risk of developmental difficulties when maternal depressive symptoms go untreated. This suggests that maternal mental health may be a mechanism through which early childhood adversity is intergenerationally transmitted (Letourneau et al., 2017). In addition, postnatal depressive symptoms were found to mediate the relationship between maternal childhood maltreatment and mother-infant bonding, including child outcomes such as emotional development, self-regulation, and physical growth (Choi et al. 2017). Maternal mental health is an important element of prenatal and postnatal care for the mother's own mental health and the outcomes of their children. Overall, maternal mental health is an important element of prenatal and postnatal care for mother's own wellbeing and the outcomes of their children.

2.3.2.5 TREATMENT

Treatment for postnatal depressive symptoms is often similar to the treatment for major depressive disorder and commonly involves the use of pharmaceuticals, such as antidepressants (Molyneaux et al., 2018). Antidepressants are used to treat symptoms of depression; however,

current evidence on the effectiveness of antidepressants for the treatment of postpartum depression is mixed. Some evidence suggests that antidepressants are an effective treatment method (Misri et al., 2016; Nonacs et al., 2005), while other evidence finds antidepressants less effective than psychological treatments, such as cognitive-behavioural therapy (Milgrom et al., 2015). In addition, some literature finds that antidepressants have possible side effects and damaging impacts on fetal development (Brown et al., 2016; Liu et al., 2017; Simoncelli et al., 2010), potentially producing neonatal complications and neurodevelopmental difficulties (Alwan et al., 2016). The current evidence on the effectiveness of antidepressants for postpartum depression treatment is considered poor due to small number of randomized control trials and poor statistical power (Frieder et al., 2019; Molyneaux et al., 2018).

As an alternative to pharmaceutical treatments, psychosocial and psychological treatments can be used for postpartum depression (Dennis & Hodnett, 2007). Psychosocial treatments typically include supportive interactions, such as peer support, whereas psychological treatments commonly include cognitive-behavioural therapy, interpersonal psychotherapy, and psychodynamic therapy (Cooper et al., 2003; Dennis & Hodnett, 2007). Psychosocial treatments for postnatal depressive symptoms are usually delivered by a peer or nurse. For example, Dennis (2003) evaluated a mother-mother peer support relationship and found that this telephone-based intervention demonstrated a significant reduction in depressive symptoms compared to the control group. In a metanalysis, peer support interventions are found to prevent and reduce the harm associated with maternal depressive symptoms (Huang et al., 2020). A twelve-week telephone-based psychotherapy intervention delivered by nurses to address treatment barriers among urban and rural women found a decrease in depressive symptoms for these women (Dennis et al., 2020). As for psychological treatment, women with a depression diagnosis during

the postnatal period who underwent interpersonal psychotherapy had reduced depression symptoms and improved social adjustment (O'Hara et al., 2000). The authors also found that therapy sessions with mothers primarily focused on interpersonal issues, role transition, and grief in this sample (O'Hara et al., 2000). In another study, cognitive-behavioural therapy (CBT) and individual counselling treatments similarly reduced symptoms of depression among women with a diagnosis of postpartum depression compared to the control group receiving regular care (Milgrom et al., 2005). In a meta-analysis, Stamou et al. (2018) found CBT to be an effect treatment method delivered by a wide range of providers from experts in CBT, general practitioners, nurses, and peers. Barriers to implementing interpersonal therapy may involve a perceived lack of flexibility of the intervention to meet the needs of a women during postpartum and the time commitment involved (Bina et al., 2018). It appears that psychosocial and psychological treatment are effective forms of treatment for postnatal maternal depressive symptoms; however, there is limited evidence suggesting that a single psychosocial or psychological approach has greater benefit over another approach (Dennis & Hodnett, 2007). However, the provision of social support appears to be central to much of the benefit.

2.3.2.6 PREVENTION

In contrast to managing or reacting to depressive symptoms once they have already emerged and worsened, some interventions are in place as preventative measures (CDC, 2009). For example, *selective* interventions are aimed at subgroups of women who are at greater risk of developing symptoms (Gordon, 1983). As previously discussed, stressful life events, history of depression, and low levels of social support are considered salient risk factors and increase the likelihood of developing postpartum depression (Robertson et al., 2004). A history of adversity

can be used to identify participants for selective interventions. For example, interventions could target low socioeconomic as specific subgroup (Holzman et al., 2006). Cognitive-behavioural intervention home visitation program was found to be an effective selective intervention for low-income women to prevent postnatal depressive symptoms (Tandon et al., 2011). Additionally, a group intervention derived from interpersonal therapy that focused on social support, role transitions, and life stressors for low-income women with at least one risk factor (e.g., poor social support) for postnatal depression helped to prevent depressive symptoms within three months following birth (Zlotnick et al., 2001). Selective interventions are an option for women experiencing symptoms of depression postnatally, however particular consideration is necessary for screening to ensure the targeted population is identified for the implementation of the intervention (Austin, 2004). Formal diagnostic procedures for postpartum depression may miss cases which can impact the delivery of treatment (Dodge, 2020). To mitigate this risk, interventions for postpartum depression can also be applied to all women utilizing a *universal* prevention model.

Universal prevention involves the avoidance of illness for a wider population, rather than focusing on those at immediate risk (Gordon, 1983). In a home visiting study aimed at postnatal women health visitors were trained to screen for depressive symptoms and intervene with cognitive-behavioural or person-centered therapies once per week over eight weeks (Morrell et al., 2009). The results showed a reduction in postnatal depressive symptoms with no difference in effectiveness between psychological approaches and significant mean difference between the control and intervention group. Only 12% of women in the intervention group had scores greater or equal to 12 (fairly high possibility of depression) on the Edinburgh Postnatal Depression Scale after completing the intervention (Cox et al., 1987; Morrell et al., 2009). In a similar

intervention, Brugha et al. (2011) found that women were universally less likely to experience depression six months after birth with the support of a health visitor who received training in identifying depressive symptoms, developing therapeutic relations, and providing cognitive-behavioural or person-centered therapies. The authors reason that the effect of the intervention was due to the impact of the therapeutic relationship and social support training that health visitors received (Brugha et al., 2011). Overall, there is a need to improve and integrate interventions within standard medical care to support women postnatally, especially in regard to social support methodology (Dennis & Dowswell, 2013). Additionally, universal intervention programs may work in a preventative capacity to support presenting symptoms and needs of mothers, impacts of postnatal depressive symptoms, and reduce the need for additional intensive and costly treatments.

2.4 SOCIAL SUPPORT

Social support is a valuable resource that involves accessible interpersonal relationships during a time of stress or adjustment (House, 1981; McCubbin et al., 1980). Stress *buffering* suggests that social support moderates stress and promotes health and well-being, in effect 'buffering' the effects of stress (Cohen & Syme, 1985; Cohen & Wills, 1985). Similarly, the *stress and coping* theory suggest that a) life events are stressful only if they are perceived as such, b) risk for poor mental health increases depending on coping ability, c) social support can buffer stress, d) social support includes received support and perceived support; and e) social support is effective when it meets the need of the recipient (Lazarus, 1966). *Received social* support are behaviors that include what mentors 'do' and 'say,' whereas, *perceived support* comes from the perception of the individual receiving support as to whether or not they 'feel'

supported (see Haber et al., 2007 for review). Relational regulation theory (RTT) suggests that the effectiveness of social support is due to social interactions that regulate thoughts, affect, and behaviors of recipients, rather than behavioural practices of social support (Lakey & Orehek, 2011). The authors of RTT indicate that 'ordinary social interaction' is the method by which regulation occurs. In addition, they explain that the effectiveness of relational regulation is dependent on whether or not the recipient and provider get along and is due to the 'personal taste' of the recipient. RTT theorizes that social support interventions will be more effective by forecasting matches between mentors and mentees based on the recipient's rating of supportiveness and changes their own affect (Lakey & Orehek, 2011; Veebstra et al., 2011). Thus, the match between the provider and receiver may be a contributing factor as to why social support is effective at improving health outcomes.

Overall, social support may influence health outcomes by improved ability cope with the demands of the stressor and/or affect regulation through social relationships. In relation to the postnatal period, a meta-analysis found that social support improved infant care, maternal adaptation, and self-esteem among women (Ni et al., 2009). Mothers with postnatal depressive symptoms often report lower levels of social support (Wang et al., 2005; Meltzer-Brody et al., 2013), and mothers with high levels of social support showed lower levels of postnatal depressive symptoms (Coburn et al., 2016). In addition, higher levels of social support postpartum is found to improve maternal self-efficacy, which is related to positive parenting outcomes (Zheng et al., 2018).

2.4.1 BEHAVIOURAL PRACTICES OF SOCIAL SUPPORT

In his seminal work, House (1981) explored the behavioural manifestations of social support which can be divided into: (a) *emotional support* that requires expressions of empathy,

trust, and listening; (b) *instrumental (tangible) support* that involves financial resources, time or direct help; (c) *informational support* that involves the giving of advice, information, and suggestions; and (d) *appraisal support* which involves feedback, affirmation, and social comparison. Barrera and Ainley (1983), added that behavioural practices of social support can also include *social participation*, which involves engagement in activities connected to community and leisure activities (Clément et al., 2018; Barrera & Ainley,1983; Sherbourne & Stewart, 1991). Understanding the behavioural manifestations of social support can provide further evidence as to how effective various types of social support are at reducing postnatal depressive symptoms. For example, doing chores or having a supportive person to talk with are examples of tangible and emotional support and can be considered important aspects for women's wellbeing postpartum (Negron et al., 2013). Tangible and emotional support are also found to buffer against depressive symptoms during pregnancy and postpartum (Alloway & Bebbington, 2009; Li et al., 2017). Informational support regarding postpartum depression provided to women after delivery at six weeks postnatally was found to significantly reduce depressive symptoms at three months compared to the control group (Heh & Fu, 2002). The authors found that providing informational resources impacted the development of depression symptoms by helping women understand their emotional functioning which also prompted more assistance from women's families. Mothers reported that their main source of informational support (87.1%) was provided by family members, with fewer women accessing formal supports form nurse phone calls/home visits and doctor offices (Wright, 2017). Informational support was cited as a source of empowerment among women who accessed online social support, of which access predicted a reduction of depressive symptoms (Robinson, 2016). In an online postpartum depression discussion group study, Evans et al. (2012) found that peers were more likely to

provide: a) emotional support (41.6%) that included giving hope, providing a safe space to open up, and affectionate and empathic responses, b) compared to informational support (37.5%) consisting of reassurance and validation, peer experts, and medication treatment advice; and c) instrumental support (20.9%) that focused on daily activities that involved infant and self-care. The type of social support practices utilized may vary depending on the relationship and circumstance of the women and intervention.

2.4.2 PROVIDERS OF SOCIAL SUPPORT

Social support is considered a common factor associated with the effectiveness through health care professionals, however it can be also provided through personal relationships (Brugha, 1995; Corrigan et al., 2015). According to mothers, social support consists of help, socialization, and encouragement from family and friends (Barkin et al., 2014). For first time mothers, informal social support from parents and friends was found to be associated with maternal self-efficacy, with the most frequent social support provided by the women's mother (Leahy-Warren et al., 2011). Among adolescent mothers, perceptions of social support from peers predicted lower stress and stable parenting (Huang et al., 2019). Mothers identified a need for emotional support as important during the early postnatal period and found material support (e.g., instrumental support) important later (Razurel et al., 2013). Overall, poor understanding of social support may lead to a lack of intervention implementation among health care professionals involved in pregnancy and postpartum care (Leah-Warren et al., 2018). Misperceptions regarding social support at the level of health care professionals is likely to trickle down to the natural supports of the mother and impact the perceived importance of providing social support from the mother's social network. Greater care is needed to better advocate for the importance of social

support for new mothers and the introduction of structural systems to accomplish this within the medical system.

2.4.3 BARRIERS TO SOCIAL SUPPORT

Despite difficulties with depression, in an evaluation of barriers for women with postnatal depressive symptoms, one out of five women did not disclose depressive symptoms to their health care provider (Prevatt & Desmarais, 2018). For some women, asking for help can be perceived as a reflection of incompetence and may prevent women from engaging with a supportive social circle (Negron et al., 2013). However, social support was associated with greater disclosure of depressive symptoms which may impact access to additional support (Prevatt & Desmarais, 2018). The postnatal change in lifestyle and transition to parenthood can impact the degree to which women are socially connected. In a qualitative study, women identified the availability and cost of trusted childcare, demands of infant care, changing priorities (e.g., difficult to maintain friendships), isolation, and availability of family as barriers to social support (Barkin et al., 2014).

In addressing individual, family, and organization barriers to social support, Alfayumi-Zeadna (2019) identified limitations at each level that impact women's access to treatment. On the individual level, negative attitudes, lack of knowledge of postnatal depressive symptoms, and lack of social support from the family were identified as substantial barriers. On the organizational level, a lack of screening, culturally appropriate services, stigmatisation of mental health, and a lack of infrastructure to support women were noted. Indicating that knowledge of the impacts of postnatal depression as well as and available services and infrastructure were found to be missing from the system of health care. Social support is considered a protective factor against depressive symptoms, which can help to improve wellbeing and enhance outcomes

for women and families. However, many women experience significant barriers that can interfere with treatment and may be receiving lower levels of social support.

2.5 MENTORSHIP

Mentors can provide support, guidance, and motivation (Rhodes, 2005). The relationship between a mentor and a mentee requires supportive and constructive interactions that target the needs of the mentee (DuBois et al., 2011). A mentor can be defined as "someone you can go to for support and guidance or if you need to make important decisions, or who inspires you to do your best" (Zimmerman et al., 2002 p. 226). Social support can be used to inform mentorship practices (Barrera & Bonds, 2005), promote resilience (Armstrong, 2010), cope with physical and emotional distress (Pheko et al., 2019), and offer longer term integrated supports (Toombs et al., 2020). The process of mentorship can allow for community connection, as mentorship is a form of social support (Brown et al., 2009). Mentorship can be tailored to the individuals experience and specific needs of the mentee or situation (McInroy, 2018). Much of the mentorship literature is developed and applied for adolescents and career development. Adopting the use of mentorship to support new mothers with mental health concerns is also a viable intervention option that should be explored.

2.5.1 TYPES OF MENTORING INTERVENTIONS

In their seminal work, Ragins and Cotton (1999), refer to mentoring relationships as *formal mentorship* and *informal mentorship (naturalistic)* based on relationship initiation and structure. They describe formal mentorship as typically shorter and more structured with participants matched prior to meeting by an agency or third party. Informal mentoring relationships exist outside of formal mentoring programs within the mentee's existing social

network and are often tied to context or activities (e.g., family member or coach). Informal mentorship is tied to social capital and primarily exists among individuals with advantages, such as family resources and economic wealth (Gowdy et al., 2020). Outcomes of informal mentoring relationships are related to improvements in education and work performance, a reduction of problem behaviour, and enhanced psychological well-being (DuBois et al., 2005; Hurd et al., 2018; Hurd et al., 2016). In addition, quality of life has been found to increase among women caregivers with social, emotional, and information support provided informally by friends and family members (Alburgami, 2021). The outcomes of mentoring relationships include higher levels of social competency (Rawana et al., 2015), a reduction in the likelihood of drug use, and better coping (Rothman et al., 2020). Mentors are found to have greater job satisfaction and career success (Ghosh & Reio, 2013).

2.5.2 IMPACTS OF MENTORSHIP

Mentorship can result in a wide range of improvements in behavioural, social, emotional, and academic domains (DuBois et al., 2011; Eby et al., 2008; Mukabutera et al., 2013). Research suggest that mentorship can promote the development of new skills (Barrett et al., 2019; Rhodes et al., 2006) and learning opportunities (Linden et al., 2011). According to Rhodes et al., (2002; 2005) mentoring enhances cognition, social-emotional skills, personal connection, and identity development through instruction, conversation, and role modeling. Overall, mentoring programs have a small positive effect (Cohen d = 1.8), with emotional closeness, frequency of contact, and longevity of relationship as necessary requirements for positive impacts (DuBois et al., 2002; Dennis, 2009). In a more recent meta-analysis, the effect size was small to medium (g = 0.30) for academic, social-emotional development, physical health, and psychosocial improvements (van Dam et al., 2020).

2.5.3 MENTORSHIP AND SOCIAL SUPPORT

Postnatal depressive symptoms can leave women feeling isolated with a lack of support (Small et al., 1997). Social support during pregnancy can lower instances of psychological distress and improve resourcefulness (Herbell & Zauszniewski, 2019). After receiving emotional, instrumental, and appraisal support from peer mentors, women reported a sense of acceptance, trust, and relationship satisfaction (Dennis, 2009). A study that targeted African America adolescent mothers found that informal mentors from their social circle (e.g., boyfriends' relatives, grandmothers, brothers) resulted in a decrease in depression compared to adolescent mothers with no mentors (Rhodes et al., 1992). In a similar study, Latina adolescent mothers with informal mentors reported lower rates of depression, improved perceptions of their available social network, emotional support, positive feedback, and guidance (Rhodes et al., 1994). Peer support intervention that involved informational support for three sessions increased mother's self-confidence and infant weight gain among women with low birth weight infants (Kurniawati et al., 2019). A text-based mentoring intervention provided emotional support to new mothers during the postnatal period (Martin et al., 2018). Mentorship can be utilized for outreach and continuity of care, as a home visiting mentorship intervention found that trained mentors are successful at applying skills to support mothers with obesity prevention, breast feeding, and depressive symptoms over time (Rotheram-Fuller et al., 2017). Women with peer mentors who participated in an infant health outreach intervention, had fewer depressive symptoms, less parenting stress, more social and emotional assistance, along with better feeding and sleep practices (Lutenbacher et al., 2018).

Mentorship can provide a structure for individuals from a mother's social network and emotional, instrumental, and informational exchanges are the functional elements of social

support implemented by mentors (Leahy-Warren, 2018). Mentorship offers an opportunity to provide social support to new mothers who may be at risk of developing postnatal depressive symptoms. It appears that social support through mentorship is a viable option to reduce the effects of maternal depressive symptoms. Interventions aimed at supporting women's mental health through life transitions, such as pregnancy to early parenthood, can have great impacts on maternal wellbeing and childhood development expanding across the lifespan (Letourneau et al., 2017). Treatment and prevention of postnatal depressive symptoms and associated outcomes currently involve psychological and pharmacological methods that aim to reduce symptoms (Sockol, et al., 2011). Structured social relationships such as mentorship through community organization can support mothers and families who are experiencing difficulty (Byrne et al., 2016). Thus, utilizing informal mentorship as a structural way to provide social support is a viable way to provide low cost community-based support for new mothers and reduce the impact of postnatal depressive symptoms.

2.6 SUMMARY

Depression during the postpartum period is a complex mental illness that can have lasting impacts on women and infant development. Risk factors include maternal childhood adversity, history of depression, and lack of social support. Universal psychosocial intervention programs can be integrated into healthcare systems to help mitigate the impacts on mother's mental health. The structure of mentorship allows for social support to be functionally provided as a method of reducing postnatal depressive symptoms. The investigation of social support within mentorship interventions can provide information for how it is utilized by mentors and further understand the relationship between social support and maternal depressive symptoms within this context.

2.7 RESEARCH QUESTION

The primary objective of the study is to explore the role of social support for first time mothers participating in a mentorship intervention. Although the W2P mentorship intervention resulted in a significant reduction of postnatal depressive symptoms (Benzies et al., 2021), it is unclear whether social support was involved in the effect. Thus, the purpose of this study is to:

1) Identify the relationship between social support (received support) and maternal depressive symptoms at 6 months following a mentorship intervention.
    a. Identify the subcategories of social support utilized in the mentoring relationships.
    b. Explore the relationship between subcategories of social support and maternal depressive symptoms at 6 months.
    c. Evaluate the impact of social support among mothers with adverse childhood experiences.

CHAPTER 3: METHODS

Postnatal depressive symptoms can be targeted using universal interventions which can be implemented within health care settings to mitigate postnatal depressive symptoms and child development (Liu et al., 2017; Shonkoff & Richmond, 2009). The W2P utilized mentorship for the provision of social support as a method to accomplish this. Thus, it is the aim of the study to evaluate whether social support provided by the mentors was involved in the reduction of postnatal depressive symptoms following the intervention.

3.1 WELCOME TO PARENTHOOD INTERVENTION

W2P is a universal intervention mentorship intervention designed for first time expecting women to reduce the impact of postnatal depressive symptoms. The study was completed in Alberta, Canada and should be considered within this Westernized context. Mentors met mothers from 32 weeks' gestation up until the infant was 6 months old with a total of 20 contacts, once per week. In person contacts were encouraged, however electronic contacts, such as emails and phone calls were accepted to accommodate schedules and vacations. Mentors were required to record their thoughts in mentor journals to track what they did with the mother and baby.

The aims of W2P were to promote early parent-child relationships by providing a neuroscience based-parenting education and informal social support through mentorship (Benzies et al., 2021). The developers utilized mentorship to provide a formal method of utilizing naturalized social support (Benzies et al., 2021). The W2P resulted in a significant decrease in maternal depressive symptoms at 6 months following the intervention (Benzies et al., 2021), however it is unclear whether social support was directly involved in the outcome. The implementation of W2P began with a two hour training for mothers and mentors on the following topics: 1) Basic infant care information in accordance to Alberta Health Service information books "Pregnacy & Birth" and "The Early Years" (Alberta Health Services, 2018a; 2018b), 2) early brain and child development using "The Core Brain Story" (Alberta Family Wellness Initiative, 2013) and; 3) mentor skill development. A brief overview of the topics covered in W2P parent and mentor training are provided in Appendix A. Mothers were also provided with a "baby box" bassinet and baby kit that included items such as a thermometer and baby blanket as a study engagement tool.

3.2 PARTICIPANTS

Secondary analysis of the W2P study data is utilized for the current study. Participants of the W2P study were recruited from community health/medical clinics, prenatal classes, and through social media. The women participating were required to be over the age of 18 and be between 30 and 34 weeks gestatiobn. In addition, mentors were required to be over the age of 18 and were either identified by the mother as an existing member of her social network or matched with the mother as a volunteer. Both mothers and mentors were required to attend the W2P training and participate in mentorship until the infant was six months old.

3.3 MEASURES

3.3.1 DEMOGRAPHIC FORM

The following variables were collected for each participant prior to the intervention: age, sex, education, income, current living arrangements, marital status, and ethnicity. In addition, mothers were asked about their parenting plans and both mothers and mentors were asked about their involvement in previous parenting interventions.

3.3.2 EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

The EPDS measures perinatal depression, from pregnancy to postpartum (Choi et al., 2012; Cox et al., 1987; Rubertsson et al., 2011; Wisner et al., 2002) and is commonly used as a screener in community health settings (Cox et al., 1996; Cox et al., 1987). The postnatal depression scale was developed as somatic symptoms typically associated with depression are also correlated with the physical changes for women following childbirth (McBride et al., 2014). EPDS is a self-reported measure that includes 10 items. Scores range from 0 to 30, with higher scores indicating more depressive symptoms. Scores of 10 or higher should be further assessed

to confirm clinical presentation, however EPDS is not suitable for clinical assessment (Wisner et al., 2002). Cut off scores of 12 or 13 are also used if the reduction of false positives is priority (Cox et al., 2014). The EPDS evaluates symptoms over the past 7 days with multiple choice options following a 4-point Likert scale format (e.g., *Yes, all the time*; *Yes, most of the time*; *No, not very often*; *No, not at all*) with slight variation between items. Confirmatory factor analysis data best fit a three-factor model, including related constructs of anxiety, depression, and anhedonia (i.e., inability to feel pleasure; Long et al., 2020). EPDS is shown to have high internal consistency ($\alpha = 0.87$) and positive predictive value for women who met criteria for depression (73%) and women who did not meet the criteria for depression (83%) (Cox et al., 1987). The EPDS is sensitive to change as the reduction and maintenance of depressive score paralleled findings of clinical interviews (Cox et al., 1987). EPDS scores are highly correlated ($r = 0.83$, $p = < 0.0001$) with the Hospital Anxiety and Depression Scale (HAD-S) among pregnant women (Rubertsson et al., 2011), in addition with correlations with Beck Depression Inventory (BDI; $r = 0.68$; $p = < 0.05$) and Hamilton Depression Rating Scale (HDRS; $r = 0.67$; $p < 0.05$) during the early postnatal period (Teisserdre & Chabrol, 2004), indicating good convergent validity.

3.3.3 THE ADVERSE CHILDHOOD EXPERIENCES (ACE) QUESTIONNAIRE

This questionnaire measures abuse, neglect, and household dysfunction in the family of origin during the first 18 years of life (Felitti et al., 1998). The original ACE study identified a graded association of ACE scores and psychosocial outcomes finding that more ACEs are linked with increased risk of negative outcomes (Felitti et al., 1998). The ACE questionnaire is a 10-item questionnaire with a Yes/No question format (e.g., “Did a parent or other adult in the household often or very often swear at you, insult you, put you down or humiliate you? Or Act in

a way that made you afraid that you might be physically hurt?"). Higher scores indicate greater exposure to childhood adversity growing up, during the first 18 years of life.

Ford et al. (2014) examined the psychometric evidence of the ACE questionnaire. An exploratory factor analysis yielded a three-factor model including household dysfunction, physical/emotional abuse, and sexual abuse with moderate interactor correlations. Confirmatory factor analysis suggested an adequate fit of data with moderate to high correlations connecting the three domains. Although the result of the analysis is three factors, the overall ACE score is still used due to the magnitude of correlation between the factors. Internal consistency for the total ACE score is considered strong ranging from $\alpha = .78$ to $\alpha = .88$ (Ford et al., 2014; Murphy et al., 2014). Significant correlations suggested convergent validity ($p < .001$; Dobson et al., 2021) with the Child Trauma Questionnaire (Bernstein, 1998) and the Child Abuse and Trauma Scale (Sanders & Becker-Lausen, 1995). The ACE questionnaire was rated as good to excellent on test-retest is (Dube et al., 2003).

3.3.4 MENTOR JOURNAL

Mentors were required to record their interaction with the mother and baby after each contact. The following writing prompts were provided: 1) What did we do today with mom and baby? 2) how is mom feeling today? 3) did mom need anything today?; and 4) since the last time we met baby learned to? Journals were used as a source of qualitative data from the mentor for information on the content and frequency of activities.

3.4 PROCEDURE

The current study was approved by the Human Subject Research Committee at the University of Lethbridge. The W2P study was conducted from October 2015 and August 2017

during which time data was collected at three time points across the duration of the intervention. The 1st time point was at ~32 weeks' gestation, the 2nd time point postnatally at 3 months, and the 3rd timepoint postnatally at 6 months, coinciding with the conclusion of the intervention. Mentor journals were recorded in throughout the duration of the intervention from ~32 weeks to 6 months postnatal.

At the first time of testing, consent was obtained from all participants for their data to be used in future research. For the present study, collected data was securely transferred to the researcher for secondary analysis in April 2020. Included in the transfer was scanned copies of mentor journals and a data file including demographic information and survey measures listed in the material section. Mentor journals were deidentified and reviewed in preparation for analysis.

CHAPTER 4: ANALYSIS

4.1 ANALYTIC PLAN

The following section outlines the plan for analysis to answer the thesis question, whether the relationship between social support (received support) was involved in the reduction of maternal depressive symptoms at 6 months following a mentorship intervention. Data cleaning, review of directive content analysis, trustworthiness criteria, tests of normality, bivariate correlations are reviewed prior to the presentation of the results.

4.1.1 DATA CLEANING

The total sample (n = 577) was not included in analysis. Participants (n = 414) were excluded from the study as mentor journal data was unavailable for these participants. Although the impact of this exclusion significantly impacted analytic power, it was necessary as mentor journals provided vital social support data. Participants (pairs of mothers and mentors) with

significant missing questionnaire and demographic responses (n = 2) were removed from the sample. One mother participant (n = 1) with twins had two mentor journals (one for each baby) which were combined as they shared a mentor. A mother participant (n = 1) had a replacement mentor as the other mentor withdrew from the study, only the replacement mentor data was included. After these exclusions, the total number of pairs of mothers and mentors included in the study is N = 163.

4.1.2 DIRECTIVE CONTENT ANALYSIS

Coding of mentor journals was completed to identify the types of social support provided to mothers by mentors. Social support categories were developed based on already established definitions in the literature and synthesized for the purposes of coding. This process is referred to as deductive (or directive) content analysis and is used to summarize descriptive data (Elo & Kyngas, 2008). *Directive content analysis* uses theory of prior research to establish categories in which data is coded (Hsieh & Shannon, 2009). The categorization of qualitative data allows vast amounts of text to be funneled through descriptive categories to summarize and create meaning of the qualitative content (Dey, 2003). This process if often used in the health research to analyze vast amounts of text. For example, directive content analysis was used to interpret an online postpartum depression forum to establish what kind of social support was provided (Evans et al., 2012). In a similar manor, the current study aims to examine mentor journals to uncover the subcategories of social support provided. Mentor journals measure received support as they reflect the appraisal of the social support provided from the perspective of the mentor. The descriptive categories allow for a summative representation of social support and allows the researcher to comment on the types of social support provided by the mentor. This method of

analysis was chosen by the researcher to uncover the frequency of social support behaviour provided by the mentors and the relationship between the subcategories of social support and maternal postnatal depressive symptoms. The use of other qualitative methods, such as thematic analysis would not allow for this type of analysis.

4.1.3 TRUSTWORTHINESS CRITERIA

The benefit of directive content analysis is that it allows vast quantity of data to be summarized. The same is also considered a challenge, as misunderstanding of the content and subsequently failing to code categories can result in misrepresentation of the data (Hsieh & Shannon, 2009). The method of directive content analysis processes qualitative data into quantifiable categories and is considered a qualitative research technique. Therefore, Lincoln and Guba's (1985) trustworthiness criteria will be applied to promote reliability of coding. These criteria include, a) c*redibility*, referring to the fit between the data and the representation of the data by the researcher, b) *transferability*, that requires the researcher to provide full descriptions of the data in order for others to judge transferability to other contexts, c) *dependability*, which refers to the consistency and repeatability of findings; and d) c*onfirmability*, referring to the extent findings are based on neutrality of the researcher and reflect the voice of the respondents.

In addition to the criteria, Lincoln and Guba (1985) offer supporting techniques to implement during analysis. To establish credibility, techniques include, a) *prolonged engagement*, referring to the amount of time spent exposed to the phenomenon of interest while practicing openness to the influences that act upon the phenomenon, b) *persistent observation,* which refers to the identification of elements that are important to the phenomenon and focusing on them; and c) *peer debriefing*, that involves exploring and discussing the thought processes of

the researcher with a colleague that can help provide awareness, uncover bias, and assumptions. Techniques for transferability include *thick descriptions*, which refer to detailed accounts of the phenomenon and the evaluation to assess external validity. Dependability is accomplished through *external audit*s which involves an external review of the process of research and the evaluation of interpretations and conclusions established from the data by the researcher. To establish the criteria of confirmability an a) *audit trail* is applied and involves the description of research steps taken involving records of raw data, synthesis products (i.e., definitions and integration of concepts), and process notes; and b) *reflexivity* which involves attending to knowledge construction and cultivating awareness of the impact of the researcher's perspective. A reflexive journal is a technique for the researcher to record decisions related to methodology to recognize and account for preconceptions have influenced the research process.

4.1.4 APPLICATION OF TRUSTWORTHINESS CRITERIA

The next section will describe the research process guided by the trustworthiness criteria and techniques used to establish reliability. Before coding, the entire texts were read for the researcher to get a sense of the journals holistically. This process assists with establishing creditability criteria or fit between the data and representation of data by the researcher. The technique of prolonged engagement was used to gain knowledge and orient the researcher with the phenomenon of social support to appropriately represent the data with coding categories. Next, categories of social support are defined based on the representation of raw data with the researcher also informed by existing social support theory.

To accomplish this, social support literature and definitions were reviewed. The seminal work of House (1981) was used to inform definitions of the subcategories of emotional support,

informational support, tangible support, and appraisal support. Barrera and Ainley's (1983) definition of the subcategory of social participation was also included due to good fit of data. The Social Support Behavioural Code (SSBC) designed to record the frequency of support during interactions between intimate partners also assisted to further develop definitions of emotional support, information support, and appraisal support (Cutrona & Suhr, 1992; Suhr, 1990). Through persistent observation, subcategories of social support were assessed to ensure good fit with the data. Lastly, peer debriefing was utilized during the social support category creation. This helped account for biases held by the researcher that may interfere with the representation of the data at this stage.

To adhere to the criteria of transferability, thick descriptions were reported with definitions (Table 1.). This provides the definitions that guided the coding. A code book that contains concrete definitions and examples from the data was used to promote consistency (Creswell et al., 2014). Coding rules were developed and applied during the coding process and are outlined below in the following section.

Table 1

Subcategories of Social support

Support Type	Definition	Example
Emotional Support	The provision of empathy and caring with focus on the affective domain (Cutrona & Suhr, 1992; House, 1981; Langford et al., 1997).	"She has been feeling increasingly anxious about the impending labour and motherhood and has also been having some issues with her husband - we discussed and I tried to normalize her anxieties."

Informational Support	Giving advice or information on how to appraise the problem, solve the problem, or cope with the problem (Cutrona & Suhr, 1992; House, 1981; Krouse, 1986).	“I helped mom with some questions about solid foods. I know I struggled a lot when it was time to start with my son.”
Tangible Support	The provision of tangible resources (e.g., direct help - chores, money, material items) to help solve the problem (Cutrona & Suhr, 1992; House, 1981; Langford et al., 1997).	"I held the baby while mom showered."
Social Participation	Engagement in leisure activities connected to community interaction (e.g., cultural, religious ceremony) (Clément et al., 2018; Barrera & Ainley,1983; Sherbourne & Stewart, 1991).	“Today, we got together a group of moms for a visit and playdate.”
Appraisal Support	Communication that reflects the evaluation or appraisal of someone’s worth, competence or ability to solve the problem (Cutrona & Suhr, 1992; House, 1981; Khan & Antonucci, 1980).	“Mom strikes me as very self-aware...she knows where the challenges are, but also seems very capable and prepared to handle them.”

To account for the dependability criteria, the external audit technique was utilized by reviewing the codes and coding process. This helps to ensure that codes are consistently applied across the data and interpretation of the definitions. At the beginning of the coding process, coded segments of the first 10 journals were reviewed to evaluate the consistency and content of

codes. Through this process, changes were made to the researcher's coding inclusion criteria. For example, it was vital that specific examples of social support from the mentor journals was coded, rather than the researcher's inference that social support was provided. It was important for the researcher to differentiate between written segments that matched the concretize definitions of social support and those that could match with additional interpretation or bias from the researcher. After this, the research would flag segments of journals to return to and discuss with external auditor. This provided a systematic way to process ambiguous journal segments were unclear to the researcher.

Confirmability was achieved by creating an audit trail by saving a document with the step-by-step process of definition creation, examples of social support, the development of coding rules, as well as the saved versions of the raw data which allows the research to return to segments of the coded journals. A reflexivity journal was kept by the researcher to catch bias and though processes related to coding.

4.1.5 CODING RULES

To establish consistency coding rules were established. Although the researcher differentiated between subcategories of social support based on the literature it is still important to consider the overlap that may exist between subcategories of social support. For example, "shopping" can be considered both social participation and tangible support, as the mentor and mother are engaging in a community activity and the mentor is providing practical support to the mother during the outing. In a different segment, "shopping" can also be coded as just tangible support, if the journals segment did not included elements of community (E.g., "I picked up lunch for mom"). Mentors who provided more than one act of tangible support (E.g., "I cooked

dinner and baby sat"), were counted as two. However, if the mentor offers tangible support, but did not follow through it was coded as emotional support.

For emotional support, if a mentor writes "mom seems" or otherwise assumes how mom is feeling, rather providing social support it was not counted as emotional support (E.g., "I think mom is feeling angry at her partner for not telling her about his mother coming"). In addition, social support included both the mentor performing social support by doing or communicating (E.g., "I reminded her that she is growing a human being and that her feelings are all total normal") and the mentor documenting how the mother is feeling and does not differentiate between the mother volunteering this information and the mentor asking, as both are included as emotional support when the topic is surrounding the affective domain. Appraisal support is more closely related to the mentor's evaluation of the mother and their ability to solve a problem (E.g., "I also told her that I have confidence that she can handle either setting" and "mom has this parenting thing down." Affirmations from appraisal support may still overlap with mentors communicating social support, however the core aspect of appraisal support is the mentor's perceptions of how the mother is doing, rather than focusing on the emotion of the mother. Lastly, informational support was the most straight forward to code as it involves providing advice and sharing knowledge, or not.

4.1.6 CODING ERROR ACCOUNTED FOR

Coding was reviewed by the researcher after a three-month waiting period to reduced knowledge contamination of previous codes. Review of coding was completed as an additional method to monitor consistency of coding over time. Upon review of mentor journals 7.36% (*n* =

12) of codes were changed, 4.29% (n = 7) codes were added, and no codes were removed to better fit the codes mentor journal segments based on category definitions.

4.1.7 TESTS OF NORMALITY

The Shapiro-Wilk test (Shapiro & Wilk, 1965) was used to assess normality of the data in IBM SPSS Statistics 27. This process is necessary to determine the method of analyses chosen can handle the qualities of the data. The Shapiro-Wilk test uses a null hypothesis stating that the sample data is normally distributed. Q-Q plots are used in combination with Shapiro-Wilk tests to assess normality (Ghasemi & Zahediasl, 2012). Q-Q plots order values of observed data on the y-axis. While the x-axis shows the expected or theoretical quantile points if data is normally distributed (M = 0, SD = 1). Non-normal data will deviate from the expected quantile points and reject the null hypothesis. Thus, the Shapiro-Wilk test compares the slope of the observed data to the expected quantile points to assess normality of univariate continuous data. Problems may occur with this test if the data set sample size is less than three (Royston, 1992). In these cases, it is difficult to fail to reject null hypothesis of the Shapiro-Wilk test. A p value less than 0.05 suggests that the distribution is significantly different than normal.

4.1.8 BIVARIATE CORRELATIONS

Spearman Rho correlation was used to assess the relationship between social support and mental health measures. Spearman Rho correlation coefficient uses rank ordering assess the monotonic relationship between ordinal and interval variables (Spearman, 1961). This correlation method is appropriate for nonparametric data as it does not assume normality in the data (Puth et al., 2015). A Spearman correlation of +1 or -1 represents a perfect relationship in the positive or negative direction. Standard statistical significance of p = 0.05 will be used in the

current study. Subcategories of social support will be correlated with each other to understand the patterns of social support provided by the mentors. In addition, social support provided across the duration of the W2P intervention will be correlated with EPDS at 6 months, and again with control over the severity of maternal ACE scores.

4.2 RESULTS

4.2.1 DESCRIPTIVE STATISTICS OF THE SAMPLE

Demographic information from this study is reported for mothers in Table 2. and mentors in Table 3. Demographic information was collected prior to the intervention at ~32 weeks' gestation. Maternal age ranged from 19 – 39 years (*M* = 29.62). For most mothers, this was their first parenting program. Many of the mothers described long term relationships as married (*n* = 118) or common-law (*n* = 32). Much of the sample reported education higher than high school (*n* = 142), of which, more than half had college or university degrees (*n* = 106). Further, 73.2% of mother's reported household income as more than $80, 000 per year. Mentors were female and age ranged from 23 – 77 years (*M* = 43.12). The large majority of mentors reported relationship status as married (*n* = 128). More than half of the sample of mentors reported college or university degree (*n* = 88). For mentors, 67.4% reported household income as more than $80, 000 per year. Demographic tables below present the full demographic information for mothers and mentors who participated in the intervention.

Table 2

Mother Demographic Information (N = 163)

Variables	Statistic
Age in years *M* (range)	29.62 (19 – 39)

Mother first parenting program *n* (%)	
No	17 (10.4%)
Yes	146 (89.6%)
Mother plans to parent alone *n* (%)	
No	160 (98.2%)
Yes	3 (1.8%)
Marital Status *n* (%)	
Never married, single	4 (2.5%)
Married	118 (72.4%)
Common-law	32 (19.6%)
Separated	1 (0.6%)
Mother emotional health rating *n* (%)	
Excellent	48 (29.4%)
Very good	77 (47.2%)
Good	27 (16.6%)
Fair	10 (6.1%)
Poor	1 (0.6%)
Mother physical health rating *n* (%)	
Excellent	22 (13.5%)
Very good	65 (39.9%)
Good	68 (41.7%)
Fair	6 (3.7%)
Poor	2 (1.2%)
Mother Education *n* (%)	
Less than high school	5 (3.1%)
High school diploma	16 (9.8%)
Certificate or diploma after high school	36 (22.1%)
College or university degree	106 (65.0%)
Mother Employment Status *n* (%)	
Employed full-time (30 or more hours/week)	82 (50.3%)
Employed part-time (less than 30 hours/week)	20 (12.3%)
Unemployed (but looking for work)	4 (2.5%)
Not in the labour force (not looking for work)	5 (3.1%)
Student employed part time or full time	6 (3.7%)

Student not employed	3 (1.8%)
Homemaker	5 (3.1%)
Maternity leave	28 (17.2%)
On disability	6 (3.7%)
Other (Medical leave or self-employed)	4 (2.5%)
Mother Household Income *n* (%)	
Less than $20, 000	4 (2.7%)
$20, 000 to $39,999	13 (8.7%)
$40, 000 to $59, 999	10 (6.7%)
$60, 000 to $79, 999	13 (8.7%)
More than $80, 000	109 (73.2%)
Don't Know	8 (4.9%)
Decline to Answer	6 (3.7%)
Ethnic Heritage *n* (%)	
Indigenous	8 (4.9%)
South Asian	2 (1.2%)
Chinese	6 (3.7%)
Back	3 (1.8%)
Filipino	2 (1.2%)
Latin American	1 (0.6%)
Southeast Asian	1 (0.6%)
Korean	3 (1.8%)
Caucasian	127 (77.9%)
Other	10 (6.1%)

Note. Demographic information collected prenatally. Mother (N = 163) and mentor (N = 162) due to twins.

Table 3

Mentor Demographic Information (N = 163)

Variables	Statistic
Age in years *M* (range)	43.12 (23 – 77)
Gender *n* female	162 (100%)
Mentor first parenting program *n* (%)	
No	11 (6.8%)
Yes	151 (93.2%)
Marital Status *n* (%)	
Never married, single	4 (2.5%)
Married	128 (79.0%
Common-law	10 (6.2%)
Live in partner	2 (1.2%)
Divorced	5 (3.1%)
Separated	7 (4.3%)
Widowed	6 (3.7%)
Mentor emotional health rating *n* (%)	
Excellent	55 (34.0%)
Very good	79 (48.8%)
Good	26 (16.0%)
Fair	2 (1.2%)
Mentor physical health rating *n* (%)	
Excellent	32 (19.8%)
Very good	66 (40.7%)
Good	49 (30.2%)
Fair	15 (9.3%)
Mentor Education *n* (%)	
Less than high school	5 (3.1%)
High school diploma	21 (13.0%)
Certificate or diploma after high school	48 (29.6%)
College or university degree	88 (54.3%)
Mother Employment Status *n* (%)	
Employed full-time (30 or more hours/week)	52 (32.3%)
Employed part-time (less than 30 hours/week)	34 (21.1%)

Unemployed (but looking for work)	2 (1.2%)
Not in the labour force (not looking for work)	1 (0.6%)
Student employed part time or full time	2 (1.2%)
Retired	16 (9.9%)
Homemaker	20 (12.4%)
Maternity leave	19 (11.8%)
On disability	3 (1.9%)
Other	12 (7.5%)
Mother Household Income *n* (%)	
Less than $20, 000	4 (2.8%)
$20, 000 to $39,999	16 (11.3%)
$40, 000 to $59, 999	13 (9.2%)
$60, 000 to $79, 999	13 (9.2%)
More than $80, 000	95 (67.4%)
Don't Know	8 (4.9%)
Decline to Answer	12 (7.4%)
Ethnic Heritage *n* (%)	
Indigenous	9 (5.6%)
South Asian	1 (0.6%)
Chinese	3 (1.9%)
Back	3 (1.9%)
Filipino	1 (0.6%)
Latin American	1 (0.6%)
Southeast Asian	1 (0.6%)
Korean	1 (0.6%)
Caucasian	138 (85.7%)
Other	3 (1.9%)

Note. Demographic information collected prenatally. Mother *(N* = 163) and mentor *(N* = 162) due to twins.

4.2.2 PREVALENCE RATES OF DEPRESSION AND ACE SCORES

The following section describes the prevalence rate of depression and ACE scores for mothers prior to participation in the mentorship intervention. Cut-off scores greater than 10 were considered for 'possible depression' according to the recommendations of the developers (Cox et al., 1987; Wisner et al., 2002). In the sample, 81% of mothers scored below the cut-off (≤ 9). For the at-risk category, 13.5% of mothers scored within this range (10 – 12). Scores of 13 or above

indicated greater risk for depression with 3.7% of mothers in this category. Overall, most mothers scored below the level of concern for risk of depression with mean of 5.98 (*SD* = 4.05 [0 – 20]). When asked to report on adverse childhood experience prior to 18 years of age, 47.9% of mothers reported experiencing no adversity, 32.5% reported experiencing one to two instances of adversity, and 19.6% reported three or more instances of adversity. Maternal ACE score has a mean of .72 (*SD* = .774 [0 – 7]).

4.2.3 DESCRIPTIVE STATISTICS OF SOCIAL SUPPORT AND MENTOR TYPE

Coded from the mentor journals, 99.4% of mentors provided social support at least once during the 6-month intervention. Of the sample of mentors 48% reported the mother as part of their family (e.g., daughter in-law, cousin, sister). Next, 34% of the mentors found that 'friend' fit with the type of relationship they had, and the remainder of mother's were assigned volunteers (17%) as mentors for the study. The median of the total sum of social support provided by mentor is 16, ranging widely from 0 – 95 (*M* = 19.99, *SD* = 16.48). This indicates that 66.87% of mentors provided social support on average 20 times across 6 months. For individual subcategories, on average mentors provided social participation (*M* = 6.49 [0 – 47], *SD* = 7.24) and tangible support (*M* = 5.63 [0 – 36]; *SD* = 6.66) more often that other subcategories of social support. They provided appraisal support the least (*M* = 1.80 [0 – 13], *SD* = 2.30). Emotional (*M* = 2.96[0–27]; *SD* = 3.72) and informational (*M* = 3.11[0 – 26]; *SD* = 4. 79) support was provided at similar frequency.

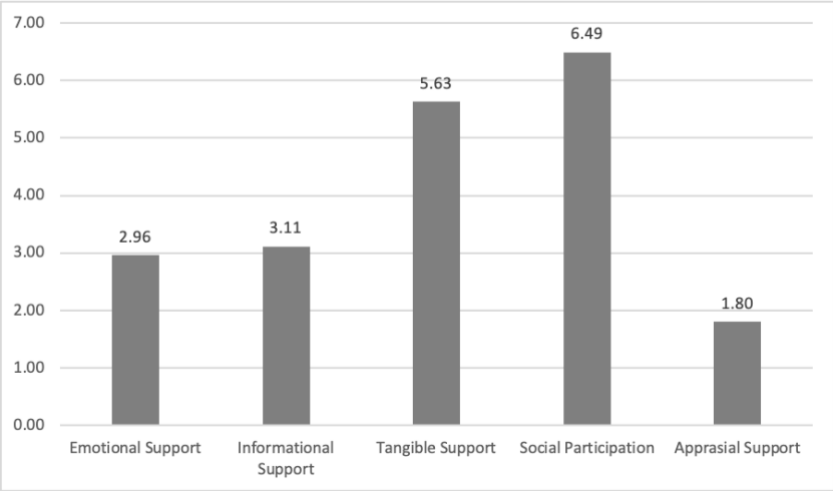

Figure 1: *Mean Subcategories of Social Support Provided*

4.2.4 TESTS OF NORMALITY

The Shaprio-Wilk test of normality indicated a significant departure from normality for variables included in this study (Royston, 1992). Total social support, which is the sum of all social support subcategories, as well as all the subcategories of social support were found to be non-normally distributed (p = <.001). In addition, mother's depression and ACE scores were found to be non-normal, $W(163) = .931$, p = <.001, and $W(142) = .925$, p = <.001. Thus, Spearman Rho correlations were used to investigate the relationship between the variables.

4.2.5 BIVARIATE CORRELATIONS

Bivariate correlation using Spearman Rho was used to measure the strength of association between social support and maternal depressive symptoms at 6 months. Subcategories were collected from the mentor journals via directive content analysis. The total sum and individual subcategories of social support showed a significant correlation (p = <.001). However, not all subcategories were correlated with each other. The correlated subcategories

include emotional support and information support (r_s (161) = .273, p = <.001). In addition, appraisal support (r_s(161) = .251, p = .001), and tangible support (r_s(161) = .553, p = <.001) are both correlated with social participation, and with each other (r_s (161) = .156, p = .047).

Contrary to expectation, maternal EPDS at 6 months was not significantly correlated with the subcategories of social support (p > .05). Among mothers with no reported ACEs and 1 - 2 reported ACEs, no significant correlations were noted (p >.05). Among mothers with reported 3+ ACEs, postnatal depressive symptoms at 6 months were significantly correlated with social participation (r_s (26) = .423, p = .025). Indicating that among mothers with high ACE scores, social participation was associated with greater depressive symptoms at 6-months.

Table 4

Total Sample EPDS and Social Support Correlation Matrix

		EPDS at 6 Months	ES	IS	TS	SP	AS
EPDS at 6 Months	R_s	1	-0.027	-0.084	-0.016	0.119	-0.05
	P-value	.	0.743	0.312	0.851	0.151	0.548
	N	148	148	148	148	148	148
ES	R_s	-0.027	1	.273**	-0.011	-0.056	0.003
	P-value	0.743	.	<.001	0.893	0.476	0.965
	N	148	163	163	163	163	163
IS	R_s	-0.084	.273**	1	-0.009	-0.024	0.059
	P-value	0.312	<.001	.	0.906	0.758	0.458
	N	148	163	163	163	163	163
TS	R_s	-0.016	-0.011	-0.009	1	.553**	.156*
	P-value	0.851	0.893	0.906	.	<.001	0.047
	N	148	163	163	163	163	163
SP	R_s	0.119	-0.056	-0.024	.553**	1	.251**
	P-value	0.151	0.476	0.758	<.001	.	0.001
	N	148	163	163	163	163	163
AS	R_s	-0.05	0.003	0.059	.156*	.251**	1
	P-value	0.548	0.965	0.458	0.047	0.001	.
	N	148	163	163	163	163	163

Note. **Correlation (Rs) is significant at the .001 level (two tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 5

EPDS and Social Support Among Women with High ACE (3+) Scores Correlation Matrix

		EPDS at 6 Months	ES	IS	TS	SP	AS
EPDS at 6 Months	R_S	1	-0.285	-0.362	-0.067	.423*	0.018
	P-value	.	0.142	0.058	0.736	0.025	0.926
	N	28	28	28	28	28	28
ES	R_S	-0.285	1	0.248	0.216	-0.244	-0.043
	P-value	0.142	.	0.171	0.234	0.178	0.816
	N	28	32	32	32	32	32
IS	R_S	-0.362	0.248	1	-0.075	-0.174	-0.002
	P-value	0.058	0.171	.	0.681	0.34	0.993
	N	28	32	32	32	32	32
TS	R_S	-0.067	0.216	-0.075	1	0.245	0.297
	P-value	0.736	0.234	0.681	.	0.176	0.099
	N	28	32	32	32	32	32
SP	R_S	.423*	-0.244	-0.174	0.245	1	.419*
	P-value	0.025	0.178	0.34	0.176	.	0.017
	N	28	32	32	32	32	32
AS	R_S	0.018	-0.043	-0.002	0.297	.419*	1
	P-value	0.926	0.816	0.993	0.099	0.017	.
	N	28	32	32	32	32	32

Note. **Correlation (Rs) is significant at the .001 level (two tailed).

* Correlation is significant at the 0.05 level (2-tailed).

CHAPTER 5: DISCUSSION

The purpose of the study was to evaluate the relationship between social support and maternal depressive symptoms at 6 months following the W2P mentorship intervention. W2P showed a significant reduction of postnatal depressive symptoms using formalized naturalistic mentorship. However, it was unclear which elements of the intervention were effective in improving maternal depressive symptoms. The literature suggests that social support is an integral psychosocial element of treating and preventing postnatal depressive symptoms and the primary moderating factor in mentorship (Coburn et al., 2016; Lakey & Cronin, 2008; Rhodes et al., 2006; Stein et al., 2014; Zheng et al., 2018). To further understand this aspect of mentorship for new mothers, subcategories of social support were collected from mentor journals as reported by the mentors during the intervention. Mentor journals offer insight into the received support

practices of mentors during the intervention. Next, the relationship between social support and maternal depressive symptoms at 6 months were evaluated to understand which subcategories of social support, if any, were vital in supporting first time mothers. Lastly, to further understand how social support may impact new mothers with childhood adversity, ACE scores were controlled for as these experiences can be especially salient during life altering transitions such as becoming a mother (Alvarez-Segura et al., 2014). The results from the study will be discussed below including demographic considerations, the relationship between social support and maternal depressive symptoms, mentors preferred categories of social support, patterns of received social support provided by the mentor, examples of received social support, and clinical implications.

5.1 DEMOGRAPHIC CONSIDERATIONS

All mothers and mentors who participated in the study identified their gender as female. The lack of gender diversity may be due to the mother's preference of mentor; however, social and cultural norms may have also impacted the selection of mentor (Downe et al., 2018). Based on the demographic survey data, many mothers and mentors reported good physical and emotional health, had access to financial resources, were married or common-law, educated, and identified as Caucasian which underrepresents the population within a Western Canadian context (Azar, 2010). At ~32 weeks' gestation the majority of mothers were not at risk for postnatal depressive symptoms with only few scoring within the at-risk category. Many mothers reported experiencing none or less than two ACEs which indicates suitability for a less intensive community-based intervention. Taken together, demographic information indicates that the sample can be considered low-risk which is suitable for a community level of intervention, such

as W2P, for screening and preventative approaches to health care during the vulnerable postpartum period.

5.2 SOCIAL SUPPORT AND MATERNAL DEPRESSIVE SYMPTOMS

The goal of the current study was to identify whether social support categories could be identified as mitigating variables impacting the improvement of depressive symptoms. The result of the study determined no relationship between social support and maternal depressive symptoms, despite the effectiveness of the overall intervention (Benzies et al., 2021). Indicating that social support as measured in the current study was not significantly involved in the improvement of depressive symptoms. However, among women with high ACE scores (3+), social participation was linked with postnatal depressive scores at 6 months with greater social participation associated with greater levels of postnatal depressive symptoms. Although the current study cannot comment on the cause-and-effect impact of social participation on reducing depressive symptoms due to correlational methodology. This result indicates that frequency of social participation from the perspective of the mentor, providing received support, less involved in reducing depressive symptoms, however, is associated with an increase of symptoms among women with high ACE scores. This may be due to the social participation provided by the mentor not sufficiently meeting the needs of the mother. Although this finding is counter to the body of literature that suggests that engagement with community is connected to lower reported instances of depressive symptoms and greater wellbeing (Coburn et al., 2016; Dennis et al., 2020; Brugha et al., 2011; Huang et al., 2020; Zheng et al., 2018), especially for women with high ACE scores (Racine et al., 2018; Von Cheong et al., 2017), the measurement of social

support and the existence of spurious variables related to improvements in postnatal depressive symptoms post intervention should also be considered.

A large body of literature suggests that social support is important for positive outcomes. The finding of the current study should not deter researchers from pursuing mentorship as a form of social support, highlight the intricacies and importance of measurement. Results and interpretation allow for comment on improvements in methodology for natural mentorship and the measurement of social support within these relationships. One explanation of this result is the notable difference between received and perceived social support. Mentor journals in the current study capture received social support which is defined as supportive behaviors provided by the mentor (Haber et al., 2007), as perceived support of the mothers with unavailable for analysis. Received social support is found to better identify specific support behaviors provided, however, is less effective at predicting health outcomes (Cohen et al., 2005; Sarason et al, 1990). The increase in postnatal depressive symptoms among women with high ACE scores may be accounted for by the stress and coping theory (Haber et al., 2007), suggesting that the type of support provided by the mentor may not have fit with the needs of the mother. When evaluating health outcomes and mentorship, perceived support should be reliably measured to capture the perception of those intended to benefit from it. Additional attention should be paid to how mentors can help mothers identify and target their needs when supporting them. This will allow for more effective mentorship strategies and improve outcomes for mothers.

Alternatively, RTT suggests that the effectiveness of mentoring relationships is primarily due to affect regulation created by social interactions (Lakey & Orehek, 2011). Similar to the development of a therapeutic relationship, the fit between mother and mentor and the process of how relationships can ‘regulate’ an individual is identified as a crucial factor in explaining the

effectiveness of social support (Ardito & Rabellino, 2011). Indicating that vital aspects of social support may also include the quality of relationships that are cultivated. Thus, identifying the needs of the mother and evaluating of the fit between the mother and mentor may enhance the quality of social support provided through mentorship. Although the results indicate that the measured subcategories of social support did not impact the reduction of postnatal depressive symptoms, the study does allow a deeper understanding of behavioural practices of social support provided by mentors for new mothers within social and institutional systems and the ability to identify improvements in research and intervention design.

5.3 PREFERRED SUBCATEGORIES OF SOCIAL SUPPORT

As previously mentioned, there may be some overlap between subcategories of social support which occur in the current studies definitions as well as found in other studies with similar parameters. With this consideration, the results of the current study indicated that mentors preferred social participation (88.3%) the most, with tangible support (84.7%) as a close second. Informational (73%) and emotional support (76.1%) were moderately preferred, and appraisal (61.3%) was the least preferred. Rhodes (1992), who conducted a study using natural mentors for African America adolescent mothers found that tangible support was also provided the most at 87%, however, social participation was provided the least at 44.8% (Rhodes, 1992). With Latina adolescent mothers, positive feedback (appraisal support) (94.7%) was the preferred subcategory (Rhodes, 1994). Evaluation of an online discussion group found that information support (37.5%) was provided the most, followed by emotional support (37%) and tangible support (20.9%) (Evans et al., 2012). In another study, information support (57.5%) was also provided the most with emotional support (22.1%), social participation (13.7%), and appraisal

support (4.3%) at lesser amounts (Stana & Miller, 2019). Overall, differences in frequency of social support appear across studies and mentors appear to engage in all subcategories of social support, but to a differing extent depending on the sample (Barrera & Bonds, 2005). This indicates that perhaps it is not the type of social support that is provided influencing positive outcomes, but the mentor meeting the individual needs of the mother.

5.4 SOCIAL SUPPORT

To further illustrate behavioural practices of social support utilized by the mentors during the W2P intervention quotes from mentor journals are presented. It is helpful to keep in mind that the W2P intervention is a naturalistic approach to mentorship and does not follow a particular curriculum apart from the two-hour training on basic child development, parenting skills, postnatal depression, and mentoring skills. Thus, interactions and the type of social support provided is based on the natural relationship that formed between the mother and the mentor. The following section explores each subcategory of social support supplemented with direct quotes from the mentor journals for an in-depth examination of the social support concepts and how they are applied by mentors in practice.

5.4.1 EMOTIONAL SUPPORT

Emotional support involves a focus on the affective domain, with a demonstration of empathy and care. Mentors supported mothers emotionally on the topics such as, labour, feelings of being overwhelmed, as well as their success. One mentor wrote, “She has been feeling increasingly anxious about the impending labour and motherhood and has also been having some issues with her husband. We discussed and I tried to normalize her anxieties." Another mentor wrote, “I just tried to remind her that it is normal to be overwhelmed when you have a new baby

and limited supports." As the majority of mentors had children themselves, they often disclosed their own experience, "I shared that I also struggled… and mom said that it was very helpful to hear…she called it a 'relief.' As one mentor described, "We commiserated about newborn cluster feeding." An example of mentors normalizing the difficulties of being a new mother. Lastly, a mentor wrote that a mother reported, "she feels like she has 'turned a corner' and now she's really enjoying the baby," illustrating an example of shared positive emotions.

5.4.2 INFORMATIONAL SUPPORT

The advice and information provided by mentors typically involved expectations for labour, feeding, interpersonal difficulties, and encouragement on self-care. Many mother-mentor pairs discussed preparedness and expectations of the labour process. One mentor wrote, "We talked about what to expect in labour, what to bring and what goes on at the hospital." Many discussed interpersonal challenges of mothers, such as "boundaries" with co-parents and other family members. For example, a mentor wrote, "boundaries are important and showing that you mean/believe what you say from the start will help to manage expectations on both sides" when addressing the support from the mother's partner. Another mentor wrote, "I tried to encourage her to give [dad] more of a role with baby so she can get some time by herself." Feeding the baby was another topic of informational support that mentors wrote on, "Mom expressed difficulty with breastfeeding and that she was going to keep trying…I explained that breastfeeding can be very difficult for some people and that all she can do it her best, there is nothing wrong with bottle feeding." Another mentor wrote about food "I helped [mom] with some questions about solid foods. I know I struggled a lot when it was time to start with my son." Mentors would often refer to their own experiences and values when providing advice. A

few mentors addressed ‘unsolicited advice’ during the mentorship, “I give advice when asked, but respect her decision in the end and let her know that I do,” suggesting that the mentorship role is a delicate balance between relaying your own personal experience and knowledge, respecting the mother’s autonomy.

5.4.3 TANGIBLE SUPPORT

Tangible support involves direct help, chores, and the donation of material items. Mentors wrote about baby-sitting, help with meal preparation, giving hand-me-downs, and assistance with shopping. Many mentors wrote about baby-sitting to allow the mother time for self-care and sleeping during the early postpartum. For example, one mentor wrote, “I held the baby while mom had a shower.” Another mentor wrote, “I went over to cuddle [the baby], while they got a few hours of sleep.” The provision of material items (e.g., lending strollers, baby clothes, and toys) and food were common, “we offered to come over Sunday with super, so they don’t have to cook… we know how exhausting it is in the beginning.” Overall, tangible support provided by mentor’s mainly focused on helping mother meet their basic needs.

5.4.4 APPRAISAL SUPPORT

Appraisal support includes mentors providing positive evaluation of the mother’s ability to handle or solve problems that arise. One mentor wrote, “We talked about how to manage baby when you are away from home…. once again, it was important for me to instill the confidence I have in mom and dad’s full capacity and capability.” Many mentors affirmed the capabilities of parents, “[mom] is very confident as a new mom but needs words of encouragement; on her decisions making; that she is really doing quite well.” Many mentors wrote about their feelings of pride and belief in the abilities of the new mothers, for example, “I am impressed with mom’s

adventurous spirit and calmness with baby" and "[mom] and [dad] are a great team – both are settling in as new parents." Encouragement on parenting, capabilities, and decisions were among the topics that fell under the subcategory of appraisal support.

5.4.5 SOCIAL PARTICIPATION

Mentors wrote about sharing group meals, going for community walks, social events, religious ceremonies, and other activities such as going to the library or exercise class. One mentor wrote "Today mom and I took the kids to a Halloween party at [the community centre] for one of the baby network classes." Another mentor wrote, "Today I met mom and some friends for Shakespeare in the park which is an annual event that mom would never miss." Social participation often involved the baby, alternatively it involved reprieve from caregiving, "Mom and I got to go for a kid free coffee! It was nice to be able to focus on some adult time." Indicating that mentorship can provide a method of social integration with the mentor as supportive agent for new mothers.

5.5 RELATIONSHIPS BETWEEN SOCIAL SUPPORT SUBCATEGORIES

In the current study, social participation and tangible support are defined as practical methods of support that involve logistical planning (e.g., scheduling time), preparing resources (e.g., food, activities), and participation in activities. Based on the definitions, social participation and tangible support may require less emotional load sharing, or psychological resources from the mentor (Beckes & Coan, 2011). Focusing more on a social integration (Weis, 1973) and supporting the mother with meet basic needs involving eating and sleeping. When mentors provided social participation, they were more likely to provide tangible support as well as appraisal support. This could suggest that social participation offers the opportunity to provide

appraisal and tangible support to mothers. For example, mentors that reported affirming the mother's abilities and providing tangible resources may have provided these forms of social support during engagement in social participation.

Emotional support typically involves greater demands on emotional resources. Mentors provided emotional support by questioning and listening to the mothers (e.g., "How are you feeling?" and "Mom confided in me." In addition, mentors demonstrated emotional support by verbally responding to the mother (e.g., "I encouraged," and "I validated"). In the study, emotional and information support often occurred together reflecting the script of, a) active listening, b) providing emotional support; and c) providing informational support which parallel basic counselling skills (Hough, 2006). Understanding the patterns of social support provided by mentors gives insight into the mother-mentor relationship and highlights their strengths. In particular, it highlights how mentors respond to the task of supporting new mothers.

5.6 CLINICAL CONSIDERATIONS

Supporting new mothers is a worthwhile endeavour in which social circle and volunteer sourced mentorship can be agents of social support. The following section explores areas of consideration for future iterations of naturalistic mentorship-based programs for new mothers. This study offers additional information on the ways in which mentors provide social support. This is important for future iterations and improvements of psychosocial interventions as it allows for evaluation of practices and opportunities to improve the quality of intervention. The following section concludes with clinical considerations for mentorship-based community interventions resulting from the current study.

5.6.1 ROLE OF THE MENTOR

The role of the mentor exists on a continuum between health care professional and peer (Haggard et al., 2010). The current study encouraged women to identify individuals from their own social circle. Mentors are non-experts; however, they do help with the task of supporting the new mother through her personal parenthood journey. As non-health care professionals, they are not bound with the same ethical standards or training which allow them the same level of practice health care professionals (Moberg & Velasquez, 2004). This is especially important for new mothers with postpartum complications (Bailey et al., 2019). Thus, mentor programs should clearly identify the goals of mentorship, provide appropriate training, and support, and define the boundaries of the mentoring role (DuBois et al., 2002). In addition, evaluation of whether the mother and the mentor are a good fit is vital as it may impact the quality of the relationship and the effectiveness of the outcome (Deng et al., 2022; Lakey & Orehek, 2011).

5.6.2 BRACKETING VALUES

Informational support can be an important aspect of providing support as it allows for advice on how to cope with a challenging situation (Cutrona & Suhr, 1992; House, 1981; Krouse, 1986). However, unsolicited advice can have negative impacts on the relationship and even exacerbate depression (Amy et al., 2006; Rafaeli & Gleason, 2009; Smith & Goodnow 1999). When accessing support, women can have negative experiences including feelings of being judged for certain parenting decisions which can lead them to withhold seeking help (Loudon et al., 2016; Regan & Brown, 2019). Social support for new mothers can help to mitigate the social pressures within trusting relationships (Hamill and Sinclair, 2010; Loudon et al., 2016). However, it is not realistic to expect mothers and mentors will not make mistakes and important that they have the skills to facilitate relationship repair. Thus, training on how to avoid

imposing individual values, beliefs, and assumptions on others and how to repair relationship when difficulties arise can help to build trusting mentor relationships (Corey et al., 2014; Etherington, 2016; Kalbfleisch, 2002; Lee & Prior, 2013).

5.6.3 NEEDS OF THE MOTHER

According to the stress and coping theory, a mismatch in support behaviour and need of the recipient may result in an ineffective social support (Lakey & Cohen, 2000). As the type of social support provided should to reflect the individual needs of the mother, the focus of social support for mentors should first involve a collaborative exploration of the needs of the mother. Supporting the mother with identifying their own needs may be a primary task of the mentor (De Sousa et al., 2020). Next, the evaluation of how the mentor can work with the mother to support meeting those needs. This helps to establish the mentor's role and tailored guidelines for the mentor on how to support the mother.

5.7 LIMITATIONS AND FUTURE DIRECTIONS

A limitation of the current study is the use of mentor journals to capture social support. As this is a secondary analysis of the W2P, the researcher was unable to include a social support measure to evaluate perceived support. Mentor journals offered a naturalistic method of assessing the type of social support provided by the mentor, however the lack of measurement from the perspective of the mothers was a limiting factor and should be included in the future. In addition, the use of correlational methods of analysis in the study cannot be interpreted as causal and do not account for confounding variables. As well, caution should be noted when analyzing multiple variables using a correlational method which may impact results.

The demographics of those who participated were primary white women with access to middle class resources such as education and financial support. Thus, the application of these result to other populations is not advisable due to the impact of socioeconomic positioning and Western Canadian cultural norms. Future iterations of mentorship interventions for new parents should focus on minority groups, and including those who identify as non-binary, trans, or otherwise identify as LGBTQ2+. In terms of parenting and childrearing, these populations are under studied and underserved. Additional cultural considerations regarding social support should also be evaluated to understand these differences and impacts on minority communities. For future research, additional measures should be included to evaluate the elements of the mother-mentor relationships that are effective in reducing postnatal depression and otherwise improve maternal wellbeing during this period.

5.8 CONCLUSION

It is widely known that postnatal depressive symptoms can have devastating impacts of women and their children. Social support is cited as an effective method to enhance health outcomes. There is a growing number of promising community intervention programs that are designed to provide social support through the provision of peer support and mentorship, such as the W2P intervention (Benzies et al., 2021). The current study adds to the body of literature by exploring the naturalistic practices of received support provided by mentors. This study was completed to uncover whether subcategories of social support were underlying the reduction of postnatal depressive symptoms in W2P and clarify how mentors provided social support in the community within a naturalistic mentorship intervention program. Additionally, the inclusion of ACE scores were utilized to further examine the extent to which maternal experience of

childhood adversity impacted the effectiveness or type of social support provided. The results highlight that social participation was preferred by the mentors in the W2P intervention. However, this form of social support may have not met the individual needs of the mothers, especially those with high ACE scores as it was not related to postnatal depressive symptoms at 6 months. The current study was unable to identify received social support as the primary factor involved in the reduction of postnatal depressive symptoms in the W2P intervention. Lastly, training on boundaries, bracketing values, relationship repair, and addressing the needs of the mother should be considered and included in future iterations of community-based mentorship interventions and measured to assess impact on intervention outcome. Refinement of psychosocial intervention is necessary to be included in existing health care structures to better support new mothers.

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APPENDIX A: W2P PARENT AND MENTOR TRAINING SESSION

1. Training materials were developed based on neuroscience-based resources titled “How Brains Are Built: Introducing the Brain Story” which can be found at the following link: https://www.albertafamilywellness.org/resources/video/how-brains-are-built-core-story-of-brain-development
2. W2P training session presented information based on Alberta Health Services developed parent resources to support new parents with information on pregnancy, birth, and the early years which can be found at the following link: https://www.healthyparentshealthychildren.ca/resources/printables
3. Mentorship roles, suggestions for connecting, potential challenges, and relational communication were also reviewed in W2P training.

APPENDIX B: CONSENT FORM

UNIVERSITY OF CALGARY

Parent Consent Form – Demonstration Project

TITLE: Welcome to Parenthood - Provincial

SPONSORS: Alberta Human Services

INVESTIGATORS:

Karen Benzies PhD, RN
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This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

Every parent needs a little help when they have a new baby. Many parents have told us that they can't find the resources and supports that they need to help them.

WHAT IS THE PURPOSE OF THIS STUDY?

In this study, we want to know what new parents need to support them and what these supports could look like.

WHAT WOULD I HAVE TO DO?

If you agree to participate, you and your baby will be in the study until your baby is about 6 months old. When your baby is 2 and 6 months old we will mail you a questionnaire about your experiences as a new parent. The questionnaire will take about 15 minutes to complete.

WHAT ARE THE RISKS?

There are no known risks involved in participating in this study.

WILL I BENEFIT IF I TAKE PART?

If you agree to participate in this study, there may or may not be a direct benefit to you. The information we get from this study may help other parents with a new baby. If you wish, we will send you a report of the study results.

DO I HAVE TO PARTICIPATE?

Your participation in the study is completely voluntary and you may withdraw from the study at any time without jeopardizing the health care of you or your baby. You have the right to refuse to answer any question. You are free at any time to withdraw from the study by telling the researcher that you wish to withdraw. The researcher may withdraw you from the study if there is incomplete information. If new information becomes available that might affect your willingness to participate, you will be informed as soon as possible.

WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not have any costs or payments associated with being in this study. You will receive a gift card as a thank you for the time you take to participate.

WILL MY RECORDS BE KEPT PRIVATE?

Once you are in the study, you will be assigned a research ID to protect your identity. Your real name will never be used in connection with the discussion and will not appear or be used when the results of this discussion are presented or published.

Anything you tell us will be kept confidential unless the law requires us to report it. For example, we are required to report if a person tells us that they intend to harm themselves or someone else; or if we learn that a child is currently in danger or being harmed in any way.

All study materials will be stored in a locked cabinet, in Dr. Karen Benzies' locked research office. Electronic materials will be stored on a University of Calgary server that is only accessible by a timed-out, password protected computer.

Only members of the research team will have access to study information. All study materials will be confidentially destroyed 5 years after the study is completed.

If the information collected during this discussion is used in other research, it will undergo another review by the University of Calgary Conjoint Health Research Ethics Board.

IF I SUFFER A RESEARCH-RELATED INJURY, WILL I BE COMPENSATED?

In the event that you suffer injury as a result of participating in this study, no compensation will be provided to you by Alberta Human Services, the University of Calgary or the researchers. You still have all your legal rights. Nothing said in this consent form alters your right to seek damages.

SIGNATURES

Your signature on this form indicates that you have understood to your satisfaction the information regarding your participation in this study and agree to participate as a participant. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without negative consequences to you. If you have further questions concerning matters related to this research, please contact:

Dr. Karen Benzies RN PhD
Faculty of Nursing
University of Calgary
(403) 220-2294
benzies@ucalgary.ca

If you have any questions concerning your rights as a possible participant in this research, please contact the Chair, Conjoint Health Research Ethics Board, University of Calgary at 403-220-7990.

Participant's Name	Signature and Date
Investigator/Delegate's Name	Signature and Date
Witness' Name	Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study.
A signed copy of this consent form has been given to you to keep for your records and reference.

APPENDIX C: DEMOGRAPHIC FORM

Welcome to Parenthood – Alberta, INTAKE FORM

Name of Parent Link Centre:

FOR OFFICE USE:
ETO Case #: _____

Please fill in the following information according to your role in the study:

Mother ☐ or Mentor☐ (Check the one that applies)

First Name:	**Last Name:**	
Mailing address:	Email:	
Date of Birth (DD/MM/YY):	Phone Number Primary: Secondary:	

Additional Contact:

First Name:	Last Name:	
Phone Number Primary: Secondary:	Email:	

☐ **I am the MOTHER in Study and my Mentor is…** ☐ **I am the MENTOR in Study and the Mother is…**

First Name:	Last Name:	
Mailing address:	Email:	
Phone Number Primary: Secondary:		

[MENTOR ONLY question:]

The reason(s) I chose to be a mentor: _____

_____

Questions for mentor and mother continue on the next few pages

ABOUT YOU

Tell us a bit about yourself so we know who took part in this study.

What is your highest level of education?

- ☐ Less than high school
- ☐ High school diploma
- ☐ Certificate or diploma after high school
- ☐ College or University degree

In total, how many years of schooling do you have? (This includes the total of grade school, high school, vocational, technical, and university): _____schooling in years

How long have you lived in your current residence? ___ Years

Do you (spouse/partner/parents) own or rent your residence?

- ☐ Own
- ☐ Rent
- ☐ Don't know
- ☐ Decline to answer

Is your housing subsidized?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

What is the TOTAL income of ALL members of this HOUSEHOLD for the past year, BEFORE taxes and deductions?

- ☐ Less than $20,000
- ☐ $20,000 to $39,999
- ☐ $40,000 to $59,999
- ☐ $60,000 to $79,999
- ☐ More than $80,000
- ☐ Don't know
- ☐ Decline to answer

What is your current employment status?

- ☐ Employed full time (30 or more hours/week)
- ☐ Employed part time (less than 30 hours/week)
- ☐ Unemployed (but LOOKING for work)
- ☐ Not in the labor force (NOT LOOKING for work)
- ☐ Student employed part-time or full-time
- ☐ Student not employed
- ☐ Retired
- ☐ Homemaker
- ☐ Maternity leave
- ☐ On disability
- ☐ Other (please specify _____)
- ☐ Don't know
- ☐ Decline to answer

Would you say that you and your family are BETTER OFF, just about the SAME, or WORSE OFF financially than you were a year ago?

- ☐ Much better off
- ☐ Better off
- ☐ Same
- ☐ Worse off
- ☐ Much Worse off

Now looking ahead, do you think that a YEAR FROM NOW, you and your family will be BETTER OFF, just about the SAME, or WORSE OFF financially than now?

- ☐ Much better off
- ☐ Better off
- ☐ Same
- ☐ Worse off
- ☐ Much Worse off

The stars on the following line represent different degrees of happiness in your relationship. The middle point, "happy" represents the degree of happiness of most relationships. Circle the star above the phrase which best describes the degree of happiness, all things considered, of your relationship.

*	*	*	*	*	*	*
Extremely Unhappy	Fairly Unhappy	A Little Happy	Happy	Very Happy	Extremely Happy	Perfect

☐ Not Applicable

ABOUT YOUR FAMILY

What is your marital status?

- ☐ Never married, single
- ☐ Married
- ☐ Common-Law
- ☐ Live in partner
- ☐ Divorced
- ☐ Separated
- ☐ Widowed
- ☐ Don't know
- ☐ Decline to answer

Including yourself, how many ADULTS older than 18 years live in your household (related to you or not)? _____

How many CHILDREN under the age of 18 years live in your household (related to you or not)? _____

What is your relationship with the child in your care? (choose from the list below)	Date of Birth (dd/mm/yy)	Male or Female
Example: step child	*09/10/2008*	*male*

Were you born in Canada?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

If you were not born in Canada, where were you born?

_____

How long have you lived in Canada?

- ☐ Less than 1 year
- ☐ 1- 5 years
- ☐ 6-10 years
- ☐ More than 10 years

How long have you lived in Alberta?

- ☐ Less than 1 year
- ☐ 1- 5 years
- ☐ 6-10 years
- ☐ More than 10 years

People living in Canada come from many different backgrounds. **(PLEASE SELECT ONLY ONE)**

Are you:

- ☐ White (Caucasian)
- ☐ Aboriginal (e.g., First Nations, Inuit, or Metis)
- ☐ South Asian (e.g., East Indian, Pakistani, Sri Lankan)
- ☐ Chinese
- ☐ Black
- ☐ Filipino
- ☐ Latin American
- ☐ Arab
- ☐ Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian)
- ☐ West Asian (e.g., Iranian, Afghan)
- ☐ Korean
- ☐ Japanese
- ☐ Other (please specify) _____
- ☐ Don't know
- ☐ Decline to answer

What language do you speak most often at home?

- ☐ English
- ☐ French
- ☐ Other (please specify) _____
- ☐ Don't know
- ☐ Decline to answer

As a child, did you ever had a file open with child welfare services?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

YOUR HEALTH AND WELL-BEING

Is this the first mentorship program you have been part of?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

If no, what other programs have you taken?

_____

In general, how would you rate your emotional health today?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

In general, how would you rate your physical health today?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

How much do you agree with the following statements…

I have family and friends who help me feel safe, secure, and happy?

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly disagree

I usually expect things to go my way.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly disagree

While you were growing up, before your 18th birthday…

On a scale of 1 – 10, where 1 is not at all stressful, and 10 is very stressful, how stressful would you rate your childhood? (Circle one)

1	2	3	4	5	6	7	8	9	10

This final section is for MOTHER'S ONLY:

What is your expected due date? _____

Do you plan to parent alone?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

Is this your first parenting program?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

If no, what other programs have you taken?

_____

Why did you sign up for this program?

I wanted more information about pregnancy

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

I wanted to meet other expecting parents

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

I wanted information in order to be a better parent to my baby

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer

I was told I had to take a parenting class

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Decline to answer
- ☐ Other (please specify)_____
  _____

Please give this intake form back to the Parent Link Staff person. Thank you for your time.

APPENDIX D: EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

Edinburgh Postnatal Depression Scale[1] (EPDS)

Name:_____ Address: _____

Your Date of Birth: _____ Today's date: _____

Baby's Date of Birth:_____ Phone: _____

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:
Yes, all the time
Yes, most of the time This would mean: "I have felt happy most of the time" during the past week.
No, not very often Please complete the other questions in the same way.
No, not at all

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   As much as I always could
   Not quite so much now
   Definitely not so much now
   Not at all

2. I have looked forward with enjoyment to things
   As much as I ever did
   Rather less than I used to
   Definitely less than I used to
   Hardly at all

*3. I have blamed myself unnecessarily when things went wrong
   Yes, most of the time
   Yes, some of the time
   Not very often
   No, never

4. I have been anxious or worried for no good reason
   No, not at all
   Hardly ever
   Yes, sometimes
   Yes, very often

*5 I have felt scared or panicky for no very good reason
   Yes, quite a lot
   Yes, sometimes
   No, not much
   No, not at all

*6. Things have been getting on top of me
   Yes, most of the time I haven't been able to cope at all
   Yes, sometimes I haven't been coping as well as usual
   No, most of the time I have coped quite well
   No, I have been coping as well as ever

*7 I have been so unhappy that I have had difficulty sleeping
   Yes, most of the time
   Yes, sometimes
   Not very often
   No, not at all

*8 I have felt sad or miserable
   Yes, most of the time
   Yes, quite often
   Not very often
   No, not at all

*9 I have been so unhappy that I have been crying
   Yes, most of the time
   Yes, quite often
   Only occasionally
   No, never

*10 The thought of harming myself has occurred to me
   Yes, quite often
   Sometimes
   Hardly ever
   Never

Administered/Reviewed by_____Date _____

[1]Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786 .

[2]Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

APPENDIX E: ADVERSE CHILDHOOD EXPERIENCES (ACE)

Finding your ACE Score

While you were growing up, during your first 18 years of life:

PART A

1. Did a parent or other adult in the household **often or very often…**
   Swear at you, insult you, put you down, or humiliate you?
   or
   Act in a way that made you afraid that you might be physically hurt?
   Yes No — If yes enter 1 _____
2. Did a parent or other adult in the household **often or very often…**
   Push, grab, slap, or throw something at you?
   or
   Ever hit you so hard that you had marks or were injured?
   Yes No — If yes enter 1 _____
3. Did an adult or person at least 5 years older than you **ever…**
   Touch or fondle you or have you touch their body in a sexual way?
   or
   Attempt or actually have oral, anal, or vaginal intercourse with you?
   Yes No — If yes enter 1 _____
4. Did you **often or very often** feel that…
   No one in your family love you or thought you were important or special?
   or
   Your family didn't look out for each other, feel close to each other, or support each other?
   Yes No — If yes enter 1 _____
5. Did you **often or very often** feel that…
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   or
   Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
   Yes No — If yes enter 1 _____

Now add up your "Yes" answers from Part A — **TOTAL PART A SCORE** | |

PART B

6. Were your parents ever separated or divorced?
   Yes No — If yes enter 1 _____
7. Was your mother or stepmother:
   Often or very often pushed, grabbed, slapped, or had something thrown at her?
   or
   Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
   or
   Ever repeatedly hit at least a few minutes or threatened with a gun or knife?
   Yes No — If yes enter 1 _____
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
   Yes No — If yes enter 1 _____
9. Was a household member depressed or mentally ill, or did a household member attempt suicide?
   Yes No — If yes enter 1 _____
10. Did a household member go to prison?
    Yes No — If yes enter 1 _____

Now add up your "Yes" answers from Part B — **TOTAL PART B SCORE** |

Ethics ID: REB14-0557
Version number: Version 1
Study Title: Welcome to Parenthood – Alberta
Local PI: Dr. Karen Benzies
Date: September 10, 2015