An Exploration of Self-Determination Theory in a Maternal Mental Health Context

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Abstract

This study aimed to explore how self-determination theory could be applied to postpartum women in the first 12 months post-birth. Semi-structured interviews with 11 women across New Zealand were conducted with the goal of gaining an understanding of how the three elements of self- determination theory, autonomy, competence, and relatedness, impacted their mental health postpartum. Participants were recruited from motherhood-related Facebook pages. The pages approached were The Sleep Store's 4–12 Month, Bottle and Formula Feeding, Breastfeeding NZ, and Timaru Parents Centre. The inclusion criteria for the participants were to be aged 18 years or over, have given birth in the last 12 months, and have this child in their care. Using Braun and Clarke's six-step thematic analysis, four major themes were identified from the data: lifestyle changes, personal changes, postpartum support, and emotional challenges. Within these four themes were a total of 14 subthemes. This study emphasises the importance of social connection during the postpartum phase for women, as well as highlighting the importance of feelings of competence and achievement during this time. An important finding of this study was the mental benefits for women who were working outside the home in some capacity, as well as the positive impact of regular physical activity. The timing of this study allowed for a unique insight into the postpartum experience for women during the COVID-19 pandemic and how social isolation was an added challenge for women post-birth. These findings highlight how autonomy, competence, and relatedness are strong influencing factors in a woman's overall wellbeing during the first 12 months post-birth.

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Introduction

For many women, pregnancy is a joyous time filled with excitement to begin a new chapter of their life and begin their journey of motherhood. For some women, however, pregnancy can be an extremely stressful event (Waqas et al., 2015).

Now more than ever, it seems women are under a lot of added stress and pressure in their role of motherhood due to the more modern way of family life. In the past, women were often constricted to the more traditional gender role within the household of parenting and taking care of the home. The traditional family dynamic where the male is the sole "breadwinner" or income earner, and the women fills the role of a housewife has gradually become outdated and a new ideal has emerged. This new ideal is referred to as the adult worker family model, which is based around gender equality where there is economic independence and a sharing of household work of childcare between partners (Knudsen & Wærness, 2009). The benefit of this more modern lifestyle is that it has allowed women to define themselves more broadly by incorporating their career into their role in the family (Perrone et al., 2009). While this shift from the traditional family dynamic to a more modern family dynamic has been a positive shift in many ways, for many, the reality is arguably more stress and demands on mothers who are now somewhat expected to be working outside the home and contributing financially to the household while still balancing childcare and the majority of the household tasks (Forste & Fox, 2012). For some women, the decision, whether it be out of desire to work outside the home or necessity, can also present some challenges when negative societal attitudes towards straying from the traditional stay-at-home mother role impact on their mental wellbeing (Brescoll & Uhlmann, 2005). This societal pressure to be a full-time parent, contribute to the household financially and have a successful career means that on top of these physiological and biological changes, new mothers are

under intense strain and pressure. Research has shown that strain and pressure can lead to more serious psychological issues such as postpartum depression (PPD) and postpartum anxiety (PPA). Throughout this study, the acronyms PPD and PND (postnatal depression) are used interchangeably, as well as PPA and PNA for postpartum/postnatal anxiety, respectively. Both PPD and PPA will be discussed extensively in the next chapter including the epidemiology of both conditions.

In the next section, I will discuss the existing body of literature surrounding maternal mental health. This will include discussing maternal mental health disorders with a focus on PPD and PPA. I will also discuss the impact that these disorders can potentially have on child development as well as the risk and protective factors and help seeking barriers. As much of this discussion revolves around the mother–child bond, I will also discuss Bowlby's attachment theory with a focus on how adverse maternal mental health issues can influence the formation of healthy and secure attachment. Finally, I will discuss self-determination theory (SDT). SDT is one of the core theories of human wellbeing created by Ryan and Deci (Ryan & Deci, 2000). SDT is an empirically based theory which impacts human motivation, development, and overall wellbeing (Deci & Ryan, 2008). According to this theory, three basic psychological needs—autonomy, relatedness, and competence—are the driving forces behind one's psychological wellbeing (Conzo et al., 2017). In the next chapter I will discuss SDT in a broad sense and then break down the three elements, autonomy, competence, and relatedness, and discuss how these elements pertain to postpartum women.

Chapter 2: Review of the Literature

Adverse Maternal Mental Health

Motherhood naturally brings about significant physiological and biological changes, many of which contribute to a woman's vulnerability to anxiety and depression during both pregnancy and postpartum periods (Dudek et al., 2018). For some women, stress during pregnancy can develop into a more serious issue and trigger the onset of mental disorders such as depression and anxiety (Lin et al., 2019). The World Health Organisation has declared maternal mental health to be a public health concern across the globe. Research now shows that as many as one in four women across the globe will suffer from a psychiatric disorder perinatally (Lin et al., 2019). One of the most common disorders during the postpartum period is PPD. PPD is a major depressive disorder that affects many women in the perinatal period (Cozzolino et al., 2021). There are many and varying symptoms associated with PPD, but these can include feelings of hopelessness and sadness, low energy, increased tearfulness and crying, anger, poor sleep, changes in appetite, physical aches and pains, struggling to bond with baby, and thoughts of harming oneself or baby (Plunket, 2022b). Studies have identified that globally 17.7% of women will experience PPD in the first 12 months post-birth (Hahn-Holbrook et al., 2018). Among New Zealand mothers, 14% will suffer from PPD (Health Promotion Agency, 2016); other statistics show higher rates of up to one in five women (Hoffman et al., 2017). Overall, there is a dearth of information around the prevalence of maternal mental health conditions in New Zealand, highlighting the need for further research to be conducted in this area.

Few studies have investigated the prevalence of maternal mental health issues in minority populations. A relatively recent epidemiological observational study evaluating the prevalence of mental health disorders in women during the postpartum period attempted to

fill some of this gap in the literature by being sure to include indigenous women in their participant pool. Indigenous women from Australia, Canada, New Zealand, and the United States were included. The review consisted of six studies. Overall, the results showed that indigenous women were 87% more likely to suffer from PPD than Caucasian women. Results from this study were limited in the fact that other postpartum mental health disorders were excluded and only data on PPD was included (Black et al., 2019). It would be important to investigate how indigenous women were impacted by other maternal mental health issues, such as postpartum anxiety (PPA), to gain a clearer picture of the overall impact of maternal mental health on this population. Narrowing the focus just to the indigenous population in New Zealand, research indicates that Māori women are much more likely to experience conditions such as anxiety and depression throughout their pregnancy and postpartum experience. A 2017 study which compared the prevalence of anxiety and depression in Māori women to non-Māori women found the rates of depression in pregnant Māori women to be 22% compared to 15% in non-Māori women. Comparison of anxiety statistics presented similarly, with 25% of Māori women experiencing anxiety during their pregnancy compared to 20% of non-Māori women (Signal et al., 2017). A concerning statistic identified in this study was that less than half of the women who had experienced low mood for longer than 2 weeks in their pregnancy reached out for help or discussed this with anyone. This disparity in the statistics between Māori and non-Māori is not new. A 1994 study investigating PND identified that Māori women were more likely to suffer from mental health conditions during their pregnancy (Webster et al., 1994). Statistics such as these suggest that whatever work has been done to reduce the gap between Māori and non-Māori women's maternal mental health have not been effective and that other services that specifically target this group need to be more of a focus for New Zealand.

Research has also shown that all minority women in New Zealand, not just Māori, are more affected by adverse maternal mental health conditions (Health Promotion Agency, 2016). The prevalence of PND in Pacific Island mothers was assessed as part of the Pacific Island Families Study (Abbott & Williams, 2006). This study involved interviewing 1376 Pacific Island women when their babies were 6 weeks old. At this time, 16.4% of the women reported symptoms of depression. There was a large difference in the rates of depressive symptoms between Samoan and Tongan women. Only 7.6% of the Samoan women in the study were assumed to have depression, whereas the percentage of Tongan women who likely had depression was 30.9%. An important conclusion from this study was that homogeneity between ethnic categories cannot, and should not, be assumed, and more specific prevention and intervention strategies need to be developed (Abbott & Williams, 2006). More recently, rates of antenatal depression are detected in 23% of Pacific women (McDaid et al., 2019). The risk factors identified in this study for developing antenatal depression were being under the age of 25, experiencing moderate to severe nausea during pregnancy as well as family stress and conflict with their partner. A unique finding of this study was the importance of maintaining culture and cultural traditions. This study found that women who had not maintained their Pacific culture and did not see the importance of doing so were at an increased risk of experiencing depression antenatally (McDaid et al., 2019).

A report discussing the survey results of the 2015 New Mothers' Mental Health Survey aimed to add to current knowledge around PND in New Zealand and provide more information around prevalence as well as help-seeking knowledge and attitudes of women who may be experiencing PND. From a total sample size of 805 women, the results show that women who identified as Asian had the highest rates of PND, with 23% of respondents who identified as Asian meeting the diagnostic criteria for PND. This is compared to 13% of NZ European or Other, 12% of women who identified as Māori, and 11% of Pacific women

(Health Promotion Agency, 2016). This report suggests that Asian women are suffering significantly more often than any other ethnic group in New Zealand. A potential issue with this study that could have skewed the results was the uneven spread of the ethnic groups amongst the total sample size. Out of the 805 participants, only 29 of these identified as Pacific, 71 as Asian, 97 as Māori, and the rest, 606, identified as NZ European or Other (Health Promotion Agency, 2016). This uneven spread could indicate that recruitment methods for research in this field are not reaching our most at risk populations or there is a fear of judgment or stigma by discussing their mental health in a research setting. This uneven spread could have potentially impacted the results. While this particular report did not go into specific detail as to why PND could be more prevalent in Asian populations, a 2014 study which investigated the psychosocial factors of antenatal anxiety and depression in Pakistan reported on how cultural stigmas impact the mental health of pregnant women in South Asia (Waqas et al., 2015). With the unique cultural and socioeconomic environment in South Asian regions and other developing regions across the globe comes equally unique factors that contribute to antenatal anxiety and depression. It is widely known that people in these parts of the world face huge social economic and health challenges largely due to overpopulation. In addition to these challenges, however, women are also faced with discrimination for their gender and are typically treated as second-class citizens and denied their social rights. The result of this is that families generally prefer to have male offspring rather than female offspring. The aim of this study was to investigate the relationship between maternal mental health and gender discrimination and the preference for sons. The results showed that preference for sons was indeed a strong influencing factor on the mother's mental health. Pregnant women who already had a daughter were significantly more affected by adverse mental health, whereas already having a son was considered to be a strong protective factor against any maternal mental health issues. The study showed that

overall, the rates of both antenatal depression and anxiety were higher in Pakistan than the reported rates of the same disorders in western countries. The prevalence for antenatal depression in this study was 31.8% and 49% for anxiety. Aside from the extremely high rates of these health conditions compared to western countries, another major difference was that women living in a rural setting were almost twice as likely to experience depression and anxiety compared to women living in an urban setting. This is the opposite of what is typically reported in western countries. Waqas et al. (2015) believe that this difference is largely due to the low standards of living in rural settings in underdeveloped countries. Pregnant women living in these areas are struggling to meet their basic needs, including health services, clean water, electricity, and gas, which would no doubt impact their stress levels and mental health. The levels of gender discrimination are also higher in these areas, with women often having even less respect and rights than women living in urban settings (Waqas et al., 2015). All of these factors combined paint a picture as to why women living in these communities in South Asia are impacted severely by adverse mental health.

Despite PNA being highly comorbid with PPD (Falah-Hassani et al., 2016), there is less research in the current body of literature that focuses solely on PPA compared to what is available for PPD (Dennis et al., 2017). Dennis et al. (2017) found that the prevalence for anxiety symptoms in pregnant women between 1–14 weeks gestation to be 15% and those whose symptoms were considered to meet the threshold for an anxiety disorder was 9.9%. Their results showed that the rates were higher in low–middle income countries. A study based in the Netherlands discussed that the effects from anxiety during the antenatal period are ongoing for both mother and child (Van den Bergh & Marcoen, 2004). Their study, whose sample consisted of women between 12 and 22 weeks gestation, found that anxiety during this period can account for 22%, 15%, and 9% of the variance in the rates of attention-deficit hyperactivity disorder symptoms, externalising problems, and self-reported anxiety

amongst the children of these women at ages 8 and 9. A similar result was found in Barker et al., (2011), where overcontrolling maternal behaviours associated with PPA increased the likelihood of both internalising and externalising difficulties in children. Aside from overcontrolling maternal behaviours, maternal postnatal anxiety is also associated with negative and disengaged parenting, which can be damaging to the mother–infant bond (Barker et al., 2011).

A 2021 community-based study on the risk factors for adverse mental health conditions before, during, and after pregnancy reported the risk factors for PPA independently of PND. The risk factors they identified for anxiety were a history of depression, preterm birth, negative experience of birth, excessive infant crying, low self-efficacy, poor partner support, as well as a negative outlook on the first week post-birth, and low education. The authors of this study highlighted the importance of recognising the shared and independent risk factors when identifying mothers who may be more susceptible to mental health conditions throughout their pregnancy or post-birth (van der Zee-van den Berg et al., 2021).

The symptoms of anxiety can present differently depending on at what stage of the woman's pregnancy or postpartum phase the symptoms present. For example, a 2006 New Zealand based study found that the most severe anxiety symptom for women during pregnancy was fear of still birth or foetal death. This was particularly evident in women who had struggled with fertility or had suffered miscarriages in prior pregnancies. Post-birth, the most severe symptoms of anxiety were fear of cot death or fear of being judged for their parenting decisions (Brockington et al., 2006). The less severe symptoms include difficulty with relaxing, restlessness, and trouble sleeping even when the baby is asleep. A feeling of increasingly frequent or severe thoughts of concern for baby's wellbeing and a constant need

to check on the baby are also common symptoms. These symptoms can also present somatically, including shakiness, increased heart rate, and difficulty breathing (Plunket, 2022b).

An Italy-based study investigated the maternal suicide rate and a description of the women who died by suicide during pregnancy or the first 12 months postpartum, including induced abortion or miscarriage. This was a comprehensive study, covering 77% of the total births in Italy between 2006 and 2012, and investigated the suicide rates after birth, induced abortion, and miscarriage. The results showed the suicide ratio to be 1.18 per 100,000 after giving birth, 2.77 after induced abortion, and 2.90 after a miscarriage. The analysis also concluded that most women who died by maternal suicide had a previous psychiatric history, which highlights the need for improved continuity of care between primary, mental health, and maternity care to decrease the rates of maternal suicide (Lega et al., 2020). From a public health perspective, maternal mental health disorders and the resulting impact on maternal and child health comes at a large cost to the public health system, which further highlights the need for more efforts and resources to be put into the development of effective prevention and treatment strategies (Waqas et al., 2022). The research shows that women who do get access to screening programmes for depression report an improvement in their depressive and anxiety symptoms. With this said, there seems to be a gap in the current literature of screening programmes for perinatal anxiety specifically (Waqas et al., 2022). A more holistic approach to maternal mental health is something that is proving to be beneficial to women in the postpartum phase (Shelton & Cormier, 2018). The importance of including aspects of women's health such as stress perception, diet, sleep patterns, and general wellbeing rather than just a more medical approach of breastfeeding, perineal or postoperative care, and contraception is becoming more evident. It is believed that focusing on both physical and mental wellbeing during postpartum could improve health outcomes for the mother and her

family. Shelton and Cormier (2018) report in their study, which focused on depression symptoms and influencing factors in low-risk mothers that although some women may not report depressive symptoms at their usual post-delivery visits, they may be experiencing some symptoms which, if neglected, could develop into a mood disorder. Although some common symptoms of mood disorders such as chronic stress, sleep disturbance, and fatigue have come to be expected in the days and weeks post-birth, it is important that assessment of these symptoms is taken seriously and individualised to the specific woman to ensure there is nothing more sinister developing. A lot of this holistic assessment approach involves asking open-ended questions and gives the women more of an opportunity for healthcare professionals to engage the women in conversation around symptoms she may be experiencing as well as self-care habits she could develop as a protective factor against any adverse mental health symptoms (Shelton & Cormier, 2018). It is widely accepted that dietary habits play a crucial role in the development of depressive symptoms amongst the general population. A 2020 study, with postpartum women as their target group, aimed to investigate how diet influences the development of PPD symptoms in the postpartum period. This study synthesised data from published works on the topic of healthy diet and PPD. The review consisted of six studies, five of these confirmed the hypothesis that greater adherence to a healthy diet during the postpartum phase was associated with fewer PPD symptoms. It was concluded that a maternal diet with a focus on fruits, vegetables, fish, grains, legumes, and herbs was the most beneficial for reducing PPD symptoms (Opie et al., 2020). Studies such as this highlight the importance of including a holistic mentality in the approach to maternal mental health.

Screening and Diagnostics

The use of sound diagnostic tools is of upmost importance when it comes to any health conditions. When it comes to diagnosing conditions such as PPD, it is crucial that the diagnostic tools are trustworthy, culturally safe, and effective (Chan et al., 2020). The Edinburgh Postnatal Depression Scale (EPDS) is the most commonly used screening tool for diagnosing PPD in postpartum women. The scale consists of 10 items to which the women scale their answer from 0–3 that best matches how they have been feeling in relation to the statement. Scores of 10 or more or 13 or more are the two most widely used scores that indicate a women may be depressed. The EPDS has been widely tested and has now been translated and validated in 20 different languages (Hewitt et al., 2010). Despite the translation of the EPDS into different languages, perceptions and understandings of the questions are not always straight forward in different cultural contexts (Hewitt et al., 2010). An example of this is a 2010 study which had a group of HIV positive women living in Malawi as the population study. Participants in this study, when presented with the EPDS, although they generally understood the scale, they did need clarification on some questions, at times needing them to be rephrased (Hewitt et al., 2010). This study also explored the cultural relevance of another widely accepted diagnostic tool for PPD, the Patient Health Questionnaire-9 (PHQ-9). This was similar to the EPDS, with some explaining and rephrasing needed for the women to understand the question, but to a lesser extent than the EPDS. A concerning finding was that not many of the women in this study believed the tool to be sufficient to detect depression; it was clear that neither instrument had the ability to capture all of the symptoms of depression that this specific group of women were experiencing (Harrington et al., 2021). One of the benefits of the EPDS is that it is specifically designed for women in the postpartum period so it omits some classic depression symptoms which may be considered normal during the postpartum phase, such as changes in weight, appetite, and energy levels, as well as being sensitive to the change or severity of symptoms overtime (Cox et al., 1987). The fact that the

EPDS is considered to be the gold standard when it comes to diagnosing PPD in postpartum women yet has so many shortcomings in relation to cultural competency is a significant concern (Chan et al., 2020).

For PPA, a commonly used tool to screen and diagnose is the State Trait Anxiety Inventory (Nazzari et al., 2020). This is a 20-item scale which is scored on a 4-point Likert scale and has been tested for specificity for the perinatal period (Meades & Ayers, 2011).

As discussed earlier, minority and indigenous women are often the most at risk to developing maternal mental health issues; the fact that these most commonly used tools may not be effective in screening and diagnosing for these women is a major issue (Chan et al., 2020). This highlights a desperate need for more culturally safe and effective tools to be developed that can accurately and safely diagnose PPD, PPA, and other maternal mental health issues.

Impact of Maternal Mental Health on Child Development

While it is clear that motherhood can have significant impacts on the mother's mental health, less discussed is the adverse effects these mental health issues can have on the child's development. Research has shown that poor mental health can compromise bonding between a mother and her child, impede early childhood development, and increase risk of child maltreatment (Klawetter et al., 2020). Meta-analysis not only shows the importance of identifying and treating perinatal depression and anxiety for the health benefits of the women, but it also suggests that timely interventions could also have indirect benefits for their children in terms of their overall health and development (Gelaye et al., 2016). A register-based cohort study in Denmark highlighted the impact of maternal mental health on child development and wellness. The unique contribution of this study was the comparison of

paternal and maternal mental health and the effects this had on the amount of healthcare contacts for the child. The results showed that children of mothers with mental health conditions were seen more frequently by their health practitioners than children whose fathers reported mental health conditions (Heuckendorff et al., 2021). The authors discussed potential reasons for these results, which included the idea that higher levels of stress resulting from their own mental health conditions, such as anxiety and depression, could potentially lead to the parent wanting more frequent medical guidance and assessment for their children (Heuckendorff et al., 2021).

Hoffman et al. (2017) conducted a study which investigated the impact of PPD and anxiety on infant development. This study found that these postpartum illnesses can potentially affect the cognitions and beliefs of the mother and their attachment to their infant. These issues can have a profound impact on the developing mother–child relationship and when left untreated can lead to adverse effects on the infant's neurosynaptic development, regulatory development, and a delay in developmental milestones (Hoffman et al., 2017). This study also identified a potential issue in terms of identifying women who are experiencing mental health issues post-birth. An important part of this identifying process is the first 4–6 weeks postpartum, where mother and baby have regular visits with their lead maternity carer (LMC), usually a midwife. This is the standard care plan for all women who give birth in New Zealand. Aside from the checks on the babies growth and development, these visits involve both physical checks of the abdomen and any stitches, as well providing assistance with breastfeeding and checking on the mental and emotional wellbeing of the mother (Soteria, 2022). It is typically routine for women to also visit their general healthcare provider at 6 weeks postpartum in New Zealand, but for many women, problematic symptoms may not be present at this check-up or with the visits with their LMC leading up to this final appointment. Once this 4–6-week period has ended, women and their babies are

discharged into the care of their Well Child Tamariki Ora provider (Soteria, 2022). One of the most common of these care providers is Plunket. In the report summarising the results from the 2015 New Mothers' Mental Health Survey, only 7% of women identified Plunket as a place where they would seek help for any mental health concerns (Health Promotion Agency, 2016). This calls for a stronger emphasis to be placed on assessing maternal mental health at infants' paediatric appointments after the 6-week mark (Hoffman et al., 2017) to prevent women who may not seek help from their own practitioners and well child providers from falling through the cracks. A 2016 study which investigated the relationship between maternal depression and mental health in early childhood in low- and middle-income countries found that maternal depression and the resulting outcomes for the child are influenced by sociodemographic and environmental influences as well as social support (Herba et al., 2016). As with other types of mental illness, maternal depression is more prevalent in countries with average lower incomes. In these low- and middle-income countries, factors that encourage the development of perinatal maternal depression, such as food insecurity, poor health care, unsanitary living conditions, and interpersonal violence, are far more prevalent than in high income countries. This highlights the increased risk for maternal mental health conditions of women living in these lower income countries. These findings have been supported in a more recent study which discussed the fact that parents trying to raise children in lower income countries, where conditions of poverty and violence are plentiful, are under higher levels of stress and, therefore, often do not have the capacity or resources to provide an environment for their child with the level of care that encourages sound development, and that this is especially true of parents who, in addition, are also suffering from depression (Tomlinson et al., 2022).

A 13-year longitudinal study on the impacts of maternal depression also support these claims, showing that PPD was associated with higher rates of affective disorders in

adolescent offspring (Halligan et al., 2007). An interesting finding in this study, however, was those mothers with PPD were more likely to suffer from subsequent depressive episodes, and it was, in fact, these subsequent episodes which increased the risk for adolescent depression in the offspring. With this said, the majority of women who suffered from PPD also suffered from recurrent episodes of depression, therefore, the majority of the offspring were at increased risk based on PPD. Risk for anxiety disorders was elevated in offspring regardless of if there were subsequent depressive episodes or not (Halligan et al., 2007). Offspring of women who had committed suicide are at increased risk for hospitalisation for suicide attempts compared to offspring whose fathers had committed suicide, according to Kuramoto et al., whose 2010 study investigated maternal or paternal suicide and offspring's psychiatric and suicide-attempt hospitalisation risk. This study found that the risk of offspring hospitalisation for suicide attempt with mothers who had completed suicide was beyond the risk of offspring whose mothers had passed from accidental death, whereas paternal suicide was not associated with higher risk of hospitalisation for suicide (Kuramoto et al., 2010). This shows that the consequences of maternal suicide are far-reaching for the child's own future mental wellbeing.

The benefits of positive maternal mental health have been proven to begin during pregnancy. A recent longitudinal study found that positive maternal mental health during pregnancy was linked to lower rates of mental and behavioural disorders in all children. The study also found this association to be true for children whose mothers had suffered from mental health adversities before and during their pregnancy (Lähdepuro et al., 2022). Herba et al.'s (2016) study found that the underlying associations between maternal depression and adverse outcomes for the child, such as socioemotional, behavioural, and emotion regulation issues, could be caused by altered placental function, epigenetic changes, and stress reactivity. It is also believed that infection and dietary deficiency in the mother and child,

combined with the child's genetic vulnerability, could also be a contributing factor (Herba et al., 2016). These results highlight the importance of supporting women to enhance their mental health during their pregnancy, which in turn lays a positive foundation for their child's overall wellbeing and development.

Ultimately, these studies highlight the fact that the effects of PPD and PPA are far-reaching for both mother and baby, which means that early detection and treatment are essential for a healthy family system and ultimately for optimal infant development. The current literature around PPD and PPA also draws attention to deficiencies in the area of screening for these mental health conditions. Many of these deficiencies stem from a lack of cultural competency in developing screening tools that are safe and effective for minority cultures. It is crucial that these issues are targeted to help improve the postpartum experience for minority women.

Risk and Protective Factors

Research around maternal mental health has identified many risk factors that increase the likelihood that a woman will suffer from mental health issues. A longitudinal study which looked at the relationship between prenatal attachment, maternal anxiety, and postpartum depression identified several risk factors for postpartum depression. These risks were a maternal age over 31 years, a high-risk pregnancy, and having another child in the home (Kaydırak et al., 2021). Lega et al.'s (2020) study on maternal suicide in Italy also identified several risk factors for maternal suicide. The results from this study showed that women aged over 40 were overrepresented among women who completed suicide post-birth and also in those who suffered a miscarriage, compared to women in lower age brackets. Another factor that has been identified to increase the risk of PPD is the mother's own expectations of motherhood when considered alongside rigid birth plans versus the actual birth experience.

The study also showed that women who had an ideal birth in their mind and were not as open to things outside of this plan felt disappointed if this plan did not play out as they had hoped (Kahalon et al., 2020). A recent study found that women who anticipated that motherhood would be naturally fulfilling were significantly less likely to experience symptoms of PPD. However, when compounded with the factor of the birth experience differing from the birth plan, these high natural fulfilment expectations turn into a significant risk factor for PPD (Kahalon et al., 2020). The risk factors show certain areas that should be given more attention when screening for potential mental health issues in new mothers.

A New Zealand based survey, the New Mothers' Mental Health Survey, identified the top risk factors for PPD (Health Promotion Agency, 2016). They found that greater life difficulties, lack of social connectedness, lower family/whānau wellbeing, and lower coping self-efficacy were all common factors in those who met the criteria for PPD. In terms of assessing life difficulty, participants were asked to indicate their level of agreement with the statement, "The last 12 months have been among the most difficult times of my life." The results show that half of the women agreed that this had been the most difficult 12 months of their life (Health Promotion Agency, 2016). A large majority of participants in this study felt like they made an effort to see family and friends (83%) and felt that they could rely on a friend or family member for support (85%). There was a definite correlation with these factors and mental distress, with participants who met the criteria for PPD being less likely to agree with either statement. This indicates that having both social connectedness and social support are protective factors against postpartum mental health issues. An encouraging result from this study was that 82% of women reported that they would know where to go to get help if they were worried about their mental health. Less encouraging, though, was that 5% of participants indicated that they would not seek help for these symptoms regardless of whether they knew where to get it (Health Promotion Agency, 2016). These results highlight the need

to target the women who either do not know where to seek help or would not be willing to do so should they need it. Another risk factor for maternal mental health issues is being in a lower socioeconomic household and having a lower level of education (Buist et al., 2008). Abbott and Williams (2006) also identified risk factors in their study focused on Pacific Island mothers. They found that aside from ethnicity, first birth, insufficient food, low income, difficulty with transport, dissatisfaction with pregnancy as well as poor birth experience, baby sleeping poorly, and dissatisfaction in relationship with partner to be risk factors for PND at 6 weeks postpartum. Eastwood et al. (2012) broke down the measure of poverty and social exclusion and found that financial difficulties, accommodation issues, father's unemployment, sole parenthood, and no access to a car all negatively impact maternal mental health.

A compounding issue with these risk factors is that the low income also acts as a barrier to accessing mental health support for these issues (Klawetter et al., 2020). This presents a concerning issue where our most at risk women are also the least likely to be able to access help if they need it. This seems to be a vicious cycle where risk factors for experiencing adverse maternal mental health are acting as a barrier to accessing help for these conditions. Help seeking barriers will be discussed further later in the chapter.

Recently, social isolation has been a popular topic of research as due to the COVID-19 pandemic, many mothers have been stripped of this protective factor. As a result, maternal mental health issues have been a significant secondary effect of the pandemic, with a substantial increase in PPD and anxiety in postpartum mothers (Cameron, 2020). A second study which investigated the impact of stress and isolation caused by COVID-19 on maternal mental health and infant development also supports the idea that isolation has had a profound impact on the rates of clinically significant mental health disorders in postpartum women

(Venta et al., 2021). One of the reasons for this increase in maternal distress was discussed by Marzilli et al. (2021), who said that the negative psychological impact of the COVID-19 on family units was due to increased parenting stress levels brought on by factors such as financial strain and the closing of education and childcare facilities. Other studies support the idea that low social support is a strong risk factor for adverse maternal mental health. In the study of pregnant women's mental health in South Asia, Waqas et al. (2015) found that even in a country where meeting one's basic needs of survival are a stress for pregnant women, low social support still had a significant impact on women, where those with a lack of social support had higher rates of both anxiety and depression.

Because of the global high prevalence of maternal mental health issues, attempts have been made to reduce this burden on the public health sector by developing programmes aimed at educating postnatal healthcare services on the neglected risks (Rowe et al., 2017). Research into one programme, What Were We Thinking (WWWT), was conducted to see how effective this intervention would be compared to usual postnatal care in women without a psychiatric history. Overall, it is clear that maternity services need to consider how the emotional health needs of mothers in their care are managed, with a particular emphasis on serving women with significant risk factors for mental distress (Rowe et al., 2017). Steps have been taken in some areas to reduce this imbalance with programmes such as Warm Connections. Warm Connections is a behavioural health programme which is rooted in an infant and early childhood mental health framework and delivered in community-based settings which are regularly accessed by low-income families (Klawetter et al., 2020). The results from delivery of this programme show that Warm Connections may have a positive impact on participants' levels of distress by identifying their most urgent concern and increasing their confidence in addressing this concern, which results in decreased levels of distress. This study highlights the importance of social connection and feeling heard and

understood, as through their interactions with a specialist in the Warm Connections programme, their distress decreased and enabled the participants to respond more effectively to their urgent concern.

Ultimately, a build-up of unresolved parental stress can lead to parental burnout. Recent studies have focused on the impact this has on the parent individually and on the family unit as a whole. A 2022 study focused on the chronic stress faced by families during COVID-19. Many of these stressors were brought on by school closures and the added pressure on parents to not only provide fulltime childcare, but also supervising their remote learning (Nyanamba et al., 2022). The main finding of Nyanamba et al. (2022) was that if the parent's basic and universal need for autonomy, competence, and relatedness were met they were more optimally motivated to support their children's learning as well as meeting their other needs. Parental burnout is also linked to burnout in the workplace. A study which focused on parental and job burnout in working couples found that parental burnout can overflow into job burnout, not only for their own job but also for their partners (Wang et al., 2022). This is an important finding as it looks broadly at the effects of parental burnout and the impact it can have on the family, both inside and outside the family home.

An interesting finding from Cline and Decker (2012) was an inverse relationship between weight gain and PPD in women who were classified as obese according to their BMI. This study found that for women who were obese, the less weight they gained during their pregnancy the more likely they were to experience PPD. This went against their hypothesis of the more weight the higher the likelihood of experiencing PPD symptoms. They did, however, discuss some potential reasons for this, including perhaps less pressure to not gain as much weight and a potentially more positive body image when carrying child (Cline & Decker, 2012).In Kaydırak et al.'s (2021) longitudinal study on prenatal attachment,

maternal anxiety, and PPD, social support was found to be the strongest protective factor against maternal anxiety and depression. Research has identified that partner support specifically is a crucial protective factor in the prevention and treatment of PND for women (Misri et al., 2000). The results of this 2000 study by Misri et al. highlighted how having a supportive partner not only aids in a more rapid recovery from PPD but women with supportive partners are more appreciative of their contribution to the relationship overall. The findings from this study show that relationship difficulties are a strong contributing factor to PPD symptoms (Misri et al., 2000).

One of the ways in which partner support can be challenging for some couples is if the partner is also suffering with adverse mental health symptoms postpartum. It is far less discussed, but fathers are also at increased risk of suffering from depression and anxiety during the first 12 months after their child is born. It is believed that somewhere between 4% and 25% of new fathers suffer from postpartum depression (Melrose, 2010). Paternal postpartum depression can often be more difficult to diagnose, and it typically presents differently to maternal PPD. New fathers will often seem to be angrier and more anxious rather than sad. The consequences for paternal postpartum depression can be damaging not only for himself as an individual, but it can severely limit their capacity to provide support to both their partner and child (Melrose, 2010). Part of the increase in susceptibility for PPD amongst fathers at this time is a hormonal change they experience whilst their partner is pregnant and for several months after the baby is born. These hormonal shifts are designed to assist in bonding with their new baby. A decrease in testosterone and increased cortisol levels result in decreased levels of aggression and a more sympathetic response to their crying baby (Scarff, 2019). Research has identified that men who are suffering from excessive stress, have limited social support, and feel excluded from the mother–infant bond may be at increased risk of developing PPD. The recommendations to help reduce rates of PPD in new fathers are

support from their partner, paid parental leave, and education around their new role (Kim & Swain, 2007).

Naturally, the strongest protective factor against postpartum mental health issues is to have practices in place which increase positive maternal health. Phua et al. (2020) suggests that a combined approach between treatment and prevention is the best way forward. Their study, which looked at maternal mental health, parenting, and child development through a positive psychology lens, emphasised the importance identifying protective factors. Identifying these protective factors is key to developing more individualised and effective interventions with a dual focus on decreasing prenatal maternal stress and increasing positive maternal mental health. Phua et al. (2020) suggests that combining current treatments with other interventions is proven to improve mental health, such as mindfulness could be hugely beneficial for pregnant women.

Guo et al., (2021) conducted a cross-validation study which assessed the impacts of the COVID-19 lockdown on mothers' mental health in three different countries: China, Italy, and the Netherlands. Overall, stress directly related to the pandemic and family conflict were the two highest risk factors and resilience was a strong protective factor for maternal mental health. Unsurprisingly, due to the vast cultural differences in these three countries, there were also some unique risk and protective factors associated with each. In Italy, increased maternal age and poor physical health was linked to higher rates of maternal mental health issues. In the Netherlands, higher maternal education and unemployment were risk factors. Grandparental support, being married as well as having more than one child were protective factors for women in China against maternal mental health issues (Guo et al., 2021). Results of this study show that supporting our mothers is not a one-size-fits-all issue and that cultural differences must be accounted for when working on how to lower these statistics.

In terms of maternal suicide rates, a 2006 study found that women who have other dependent children have a lower suicide prevalence than those with no dependent offspring. They also found that women between the ages of 25 and 39 have a lower suicide rate than those on either side of that age bracket, which shows that becoming a mother during that period to be a protective factor against maternal suicide (Beautrais, 2006 as cited in (Lega et al., 2020).

Studies have shown that one of the most crucial relationships in terms of social support to act as a protective factor against maternal mental illness is the woman's relationship with the mother-in-law (Shi et al., 2018). This same study also supports the idea that being a first-time mother, as well as marital satisfaction, is a protective factor against PPD. This is an interesting finding as the literature shows that having other dependent offspring is a protective factor against maternal suicide (Lega et al., 2020), but having no other dependent offspring and being a first-time parent is a protective factor against PPD (Shi et al., 2018). This suggests that some women may suffer more with their mental health with subsequent children with higher rates of PPD but are protected against suicide by their older children's dependence on them, which explains the lower rates of maternal suicide.

Another protective factor against maternal mental health issues is self-efficacy. Studies have shown that parents who have higher parental self-efficacy are more confident that they are a positive influence in their children's lives (Buchanan et al., 2022). This same study also found that this same confidence in one's parental influence has reduced stress and anxiety when their child faces challenges. A 2017 study also supported this idea and found that healthy regulation of psychological processes is hugely important in the parent's interaction with their children (Connell et al., 2017).

Help Seeking Barriers

A common issue amongst all mental health issues globally is the amount of people suffering from mental health issues and not seeking help. There are many reasons or barriers as to why this occurs, including financial struggles, transport, knowledge, and stigma associated with seeking help for mental illness. This is no different when it comes to maternal mental health and many new mothers are facing some significant help seeking barriers. One study, conducted by Ta Park, Goyal, Nguyen, Lien and Rosidi (2017), focused on the help seeking barriers for mothers in Vietnam. This study found that out of the 15 mothers who had given birth in the last 12 months who participated in the study, more than half of these reported having experienced feelings of postpartum sadness; a PPD screening tool found that a third of these mothers had probable PPD. In terms of seeking help for PPD, only one of these five women with probable PPD reported seeking professional mental help for their symptoms (Ta Park et al., 2017). One of the risk factors identified in this study for low postnatal mood was a poor-quality relationship with their partner and feelings of not sharing the parenting load in terms of receiving enough practical help. One of the key findings from this study was that the women who reported sadness and low postnatal mood said that they would seek professional help if they thought their condition was severe enough. This highlights an important issue of educating around what the signs of depression are but framing it in a way that women who are experiencing these symptoms will feel they fit the requirements to gain professional help. Aside from this lack of knowledge around what qualifies for mental health support, the other help seeking barriers identified in this study were the stigma associated with receiving professional help for their mental health and the shortage of culturally appropriate care. This lack of cultural competence in the professional realm of mental health could explain why the women reported that they would be more likely to seek alternative help for depression as these practices (Ta Park et al., 2017) may be more aligned with their cultural traditions and beliefs.

A 2017 study which investigated women's experience of seeking and receiving psychological and psychosocial interventions for PPD found that overall, women found the process of seeking help difficult. They found that there were several help seeking barriers that prevented women from gaining the psychological and/or psychosocial support they needed. One of these barriers comes from the women themselves, with the belief that these services would not be helpful in terms of alleviating their symptoms. This belief was based on previous negative experiences with healthcare services, even if this wasn't mental health related. Many of the women in this study also expressed that they felt shame and embarrassment for needing to seek mental health support for PPD-related symptoms as they associated this with feelings of incompetence and failing to cope (Hadfield & Wittkowski, 2017). As with Ta Park et al. (2017), this study also found that a lack of knowledge surrounding PPD was a help seeking barrier as it impacted the women's ability to recognise that their symptoms could possibly be more serious and require some sort of professional help (Hadfield & Wittkowski, 2017).

This same study reported positive and encouraging results from women who did engage in professional help for maternal mental health. Overall, the women described the support as a positive experience and found the help to be beneficial in terms of feeling more positive and confident and experiencing a stronger bond with their infant and in other relationships (Hadfield & Wittkowski, 2017). This study highlights the importance of overcoming the initial help seeking barriers as the results show the positive outcomes that are possible from engaging in professional support.

Attachment

Attachment theory is a theory based on the work of John Bowlby and highlights the importance of the bond between a child and his or her primary caregiver. The principles of

attachment theory are derived from Bowlby's interest in psychoanalysis, ethology, evolution, and cognitive and developmental psychology. From his knowledge in these scientific disciplines, Bowlby created the principles of attachment theory to explain affectional bonding between infants and their caregivers and the long term effects of this bond on all aspects of the infants development, including their personality development, interpersonal functioning, and psychopathology (Levy, 2013). This caregiver/child bond is built through the caregiver's response to the child's needs early on in their life. An erratic or minimally supportive response from the caregiver to the child disrupts the child's ability to form secure and trusting attachments to this caregiver and other relationships throughout the child's lifespan (Bowlby, 1969, as cited in (Haney, 2021). It is widely believed that attachment relationships between infant and the primary caregiver are transmitted across generations (Bowlby, 1969, as cited in (Haney, 2021).

Much of what is known about attachment theory has been researched from the perspective of the child, but it is important to acknowledge and understand that mothers can also struggle with this attachment process and that it can be strongly influenced by stress and low mood during pregnancy. If these stressors are not addressed, they can develop into more serious mental health issues such as PPD. Many women suffer from prenatal depression throughout their pregnancy, which can impact their ability to form a bond with their unborn child, a struggle which can continue into the postnatal period (Koire et al., 2021). A 2020 study found that the quality of the prenatal bond was a strong predictor in the postnatal attachment between a mother and her child (Branjerdporn et al., 2020).

Research has shown that pregnancy increases a woman's susceptibility to mental health issues, yet many of these mental health struggles go undetected and women are often left to fend for themselves. A major contributing factor to prenatal mental health issues is the

experience of trauma during this period (Filippetti et al., 2022). A 2022 study, investigated the effects of the COVID-19 pandemic on prenatal mental health, antenatal attachment, and social support of women in the United Kingdom. This study aimed to examine how COVID-19-related anxiety, depression, and general stress impacted the attachment between mothers and infants antenatally. The second goal for this study was to explore how perceived social support and COVID-19 appraisal contributed to maternal anxiety and depression. The results from this study showed that experiencing any trauma, such as the trauma that many women have experienced as a direct result of the COVID-19 pandemic, significantly increases a woman's likelihood of developing mental health issues such as anxiety and depression. The results also showed that trauma can impact a woman's ability to form a bond with her unborn child. Koire, et al., (2021) found that depressive symptoms in pregnant women were associated with lower quality maternal–foetal bonding. The consequences of prenatal mental illness are far-reaching and can have devastating consequences, with a direct relationship between prenatal depression and prenatal suicide ideation as well as increasing the risk for PPD and postpartum suicide ideation as well (Shi et al., 2018).

A recent study has found that women with a fear of birth, along with depressive symptoms, showed the highest risk of impaired bonding with their child post-birth (Hildingsson & Rubertsson, 2022).. From this study, Hildingsson and Rubertsson (2022) concluded that more focus is required to be placed on women's mental health during pregnancy to reduce the risk of impaired bonding; they also stated that due to the relationship between fear of birth and depressive symptoms, it is important to screen for both of these factors during pregnancy. These results show that there are many factors which affect mother and infant bonding and that screening for these factors should be a routine part of a woman's pre-natal care.

Mason et al., (2011) found that poor maternal–infant attachment may lead to social emotional developmental issues for the child. It is widely accepted that adults who form secure attachments feel safe and secure in their relationships, and adults who form insecure attachments do not feel safe nor secure in their relationships (Joeng et al., 2017). This highlights the ongoing effects of insecure attachment in children and how it translates into insecure adult relationships also. This growing body of literature highlights the importance of caring for our mothers in a way which fosters this crucial bond. Part of this care for mothers needs to involve identifying those at risk in order to put strategies in place early to help prevent issues from arising.

Halligan et al.'s (2007) longitudinal study on the impacts of maternal depression on offspring mental health supports the theory that early environmental exposures are crucial to developing sound mental health and attachment. A 2004 study which investigated attachment security in children at 36 months of age found that depressive symptoms in the mother were a strong predicting factor of insecure attachment in the child. An interesting and encouraging find was children of women who only suffered from depressive symptoms in the first 15 months did not have elevated rates of insecurity (Campbell et al., 2004). This shows that just because a women may suffer early with depressive symptoms in the first 15 months post-birth, does not mean that there will be lasting damage when it comes to attachment security with her child. Similar results were also found in a study which analysed child attachment in postpartum immigrant women. The study found that there was a strong relationship between clinical anxiety and depression and low attachment security (Lecompte & Rousseau, 2018). These results highlight the importance of identifying mental health issues early in the postnatal period to prevent insecure child attachments and ultimately improve the wellbeing of both mother and child.

In terms of maternal/infant attachment and its impact on maternal mental health, one of the strongest predictors of depressive symptoms in the mother was infant temperament and unmet maternal expectations (Eastwood et al., 2012). An example highlighted in Eastwood et al.'s (2012) study on the relationship of postnatal depressive symptoms to infant temperament, maternal expectations, social support, and other potential risk factors is that a baby who has difficulty sleeping is a significant risk factor for maternal distress. This further highlights the importance for women to have support and have regular screening postpartum to assess risk factors and monitor symptoms.

Self-Determination Theory

SDT is thought to impact personality development, self-regulation, life goals and aspirations, energy and vitality, nonconscious processes, and the impact of social environments on motivation, affect, behaviour, and wellbeing (Deci & Ryan, 2008). Autonomy in relation to this theory can be defined as acting to one's own true interests and values and fulfilling the need to act with a sense of ownership. Relatedness is the interaction with others, feeling cared for, connected, and the feeling of belonging to a group or community. The final element to SDT, competence, is the feeling that by developing new skills, they can pursue mastery over their environment and ultimately create personal fulfilment and self-efficacy (Conzo et al., 2017).

Although initial research around SDT dates back to the 1970s, it has not been until the last decade that research in this area has really taken off, especially in sport, education, and healthcare fields (Deci & Ryan, 2008). Research has highlighted the importance of all three components working unanimously for a person to experience optimum wellbeing. Ryan and Deci (2000) report that simply achieving one or two of the components whilst leaving the other unfulfilled will lead to some impoverishment of wellbeing.

SDT differs from other theories of motivation due to its unique focus on the quality of motivation as well as the quantity. The most predominant characteristic of SDT is the differentiation between autonomous motivation and controlled motivation (Deci & Ryan, 2008). A recent study which investigated motivation and behaviour change techniques in SDT highlighted the difference between these two types of motivation. Teixeira et al., (2020) defined autonomous motivation as motivation which "reflects self-endorsed reasons for engaging in a behaviour or pursuing a particular goal" (p. 440) and controlled motivation as "reasons for acting that are not self-endorsed" (p. 440). People engaging in a behaviour based on autonomous motivation feel as though they are acting in a way which aligns with their sense of self, their values and personal goals, and most importantly, that they are the origin of their actions. Those acting from a place of controlled motivation are likely to feel as though their actions are very much controlled by external factors rather than from inside themselves. Because of this, the quality of autonomous motivation is higher and much stronger than controlled motivation (Teixeira et al., 2020). Some positive outcomes of autonomous motivation are that it typically results in persistence to long-term goals, such as working towards healthier behaviours (Deci & Ryan, 2008).

SDT differs from other theories of motivation in the way it focuses on the concepts resulting from the degree the needs for autonomy, competence, and relatedness are met and the effect this has on one's wellbeing. SDT also focuses on the fact that these three components are basic and universal. In contrast, other theories of motivation focus on the strength of different motivating factors, such as achievement, intimacy, or control, and the fact that these needs are learned and varying amongst different people. The two individual difference concepts within SDT are causality orientations and life goals. Causality orientations are general motivational orientations that refer to the way people orient to the environment concerning information related to the regulation of behaviour and the extent to

which they are self-determined. There are three different categories of causality orientations: autonomous, controlled, and impersonal. Autonomous orientation occurs when all three categories of SDT, autonomy, competence, and relatedness are satisfied. Controlled orientation occurs when competence and relatedness needs are met, but the need for autonomy is dissatisfied. Impersonal orientation results from all three components being left unsatisfied. The most favourable of all three orientations is autonomous orientation, which has proven to be the most beneficial in terms of psychological wellbeing and positive behavioural outcomes. Controlled orientation has been related to more rigid functioning and diminished wellbeing. The final orientation, impersonal, has shown to be linked to poor functioning and symptoms of poor wellbeing (Deci & Ryan, 2008).

A particularly relevant study at this time focused on emotional regulation during the COVID-19 pandemic. Based on SDT, this study focused on how emotional regulation styles, integration, suppression, and dysregulation impacted individuals' vulnerability to ill wellbeing as a result of the emotional stress brought on by COVID-19. The findings of this study show that emotional regulation played a strong part in individuals' mental wellbeing during stressful periods such as the COVID-19 pandemic. Specifically, participants who scored high on suppression and dysregulation displayed more negative stress-related symptoms, such as ill wellbeing, low life satisfaction, and poorer sleep (Waterschoot et al., 2022). This study highlights how SDT forms the basis of many current research concepts.

Stanton et al., 2020) aimed to fill a gap in the current body of literature by applying SDT in the mental healthcare sector. Their study found that autonomy, competence, and relatedness were all impacted in some way as a result of being a patient in an acute child and adolescent mental health facility. One of the main findings was the loss of autonomy experienced by the participants. This feeling was somewhat combatted when they were

presented with an opportunity to be involved in certain choices around their care. Feelings of competence were also something that was lost as a result of being an inpatient, but the participants felt that this was something they regained to some extent during their admission. A key finding was that feelings of relatedness with staff and peers was really valued by the participants and they felt that they also were able to regain some connection with family. Perhaps the most important finding of this study was that meeting all three components of SDT enhanced feelings of safety. This brings to light a potential idea that focusing on these elements will not only have therapeutic potential but will also enhance safety in a more positive way than physical containment. Overall, this study supports the idea that using SDT in a therapeutic manner can help to enhance inpatient care (Stanton et al., 2020).

Another study in the healthcare sector focused on SDT from the informal caregiver perspective. Informal caregivers provide valuable care for disabled adults, often at the personal cost of their own mental health. The background theory of this study was that caregivers whose needs of autonomy, competence, and relatedness are satisfied should be more autonomously motivated to care (Barry et al., 2021).

Relatedness

Ryan and Deci (2017) report on the importance of relatedness by explaining that it is a basic psychological need to have close emotional bonds and attachments with other people. For relatedness need satisfaction, one must feel socially connected to others as well as both giving and receiving care and benevolence to the important people in one’s life.

The COVID-19 pandemic has provided a unique opportunity for researchers to explore the impact of social isolation on parents worldwide. A 2020 study focused on parenting-related exhaustion during the Italian COVID-19 lockdown. The results of this study

showed that 17% of parents in this study experienced significant parenting-related exhaustion. The study identified that mothers were more heavily impacted by this than fathers. Risk factors for parenting-related exhaustion were psychological distress, lower parenting resilience, fewer perceived social connections, being a single parent, having a large number of children and young children, as well as having a child with special needs (Marchetti et al., 2020). They also identified a high level of psychosocial distress, which is thought to be a result of the prolonged social isolation as well as increased childcare demands with the closing of many schools and childcare facilities over the lockdown. Marchetti et al. (2020) concluded that the higher psychological distress in mothers compared to fathers may be due to unrealistic pressure on mothers to balance their traditional primary caregiving demands with professional demands.

A recent study focused on the woman's experience of distress and recovery in the perinatal period recovery in the perinatal period. The sample of participants for this study consisted of eight women with at least one child under the age of three and who felt they had experienced distress in the perinatal period. The results highlighted the importance of both practical and emotional support. Women who felt that there was a deficiency of this support attributed their psychological distress to this (Enlander et al., 2022). Another strong theme in this study was the role of socio-cultural norms, with many participants feeling as though their relationships with other mothers played an important role in distress, with an emphasis on how other mothers reinforced socio-cultural norms around motherhood. These relationships had the potential to be damaging to mental health if they reinforced unhelpful social norms around motherhood. Enlader et al. (2022) concluded that support for women in the perinatal period needs to put an emphasis on cultivating relationships between the women that can meet these relational needs while also nurturing the cultural discourses of motherhood.

It is important to acknowledge the link between the impact of culture on one's interpersonal needs. It is evident that family support has a strong impact on a woman's postnatal experience. A study investigating the postpartum experience of Vietnamese women found that family support had a strong impact on both the development and recovery of PPD. It is thought that the strong influence of family was largely due to the collective culture of the Vietnamese people, who have strong rooted values in familial hierarchy, family honour, and support from family and close friends (Ta Park et al., 2017). Taking into account these cultural norms, Ta Park et al. (2017) concluded that a family-oriented intervention may be effective to protect against or treat PPD in Vietnamese women. This shows the importance of taking a woman's culture into consideration when considering the importance of relatedness to her overall wellbeing.

It is clear that social isolation not only impacts the wellbeing of our mothers, but that the ultimate consequence of this is the detriment to the wellbeing of children.

Autonomy

Autonomy is the psychological need to experience self-direction and the personal endorsement and regulation of one's own behaviour (Ryan & Deci, 2017). Research in this area has shown the many positive impacts of autonomy across different stages of the lifespan, right from infancy to adulthood. Overall, studies show that learning, performance, and mental wellbeing are all positively impacted by higher levels of autonomy in all areas of life, including health, work, academic, and sports (Ryan & Deci, 2000).

Studies have focused on autonomy in particular populations. A study conducted by Pelletier and Joussemet (2017) focused on the autonomy of people with mild intellectual disabilities. The goal of this study was to see if autonomy could be enhanced through

autonomy support. Results showed that participants in the assigned autonomy support group had greater autonomy satisfaction whilst engaging in the assigned task than those in the control (no autonomy support) group. Participants experiencing autonomy support were also more engaged in the task and had reduced anxiety because of the support. This study is important as it highlights the ability for autonomy support to benefit individuals with intellectual disability (Pelletier & Joussemet, 2017).

Another area in which autonomy can be perceived differently is amongst different types of lifestyles and cultures. Cultural relativists have claimed that the need for autonomy is only important in individualistic cultures and not necessarily important in those that value collectivism. Studies have, however, proven that this is not the case and some feelings of autonomy are considered to be important for psychological wellbeing (Deci & Ryan, 2008). Another example is in more contemporary culture, autonomy and personal development are values which are held in higher regard than care and concern for others. With this said, women are traditionally expected to be empathic and devoted to others and are now also expected to be autonomous and self-fulfilling in order to be meeting their own mental health needs (Skowronska, 2021). Evidence such as this further highlights the strain put on women to encompass traditional female values as well as lead a fulfilling life by modern standards and meeting their mental health needs.

One of the areas in which Ryan and Deci's SDT is thought to be a strong influencing factor is in meaningful work. Autin et al., (2022) conducted a study investigating the relationships between need satisfaction, autonomous motivation, and work meaning. Through their research, they found evidence to support Deci's et al., (2017) assertion that overall, more autonomous forms of motivation have a positive impact on vocational outcomes (Autin et al., 2022). Specifically, autonomous forms of motivation improve work satisfaction,

performance, and increase persistence in work task and overall wellbeing, which decreases the likelihood of burnout and exhaustion through work (Deci et al., 2017). This highlights the impact that the reasoning behind our motivation is important not only for positive vocational outcomes, but for overall mental wellbeing.

According to Vansteenkiste and Ryan (2013), autonomy also plays an important role in behaviour regulation. A more autonomous regulation means that one will respond to events and respond in a way which is true to their personal values, preferences, and interests. This type of response typically causes more need satisfaction and comes across with more openness to others. An ability to respond in this way provides an armour against certain effects of harmful and stressful events. In contrast to this, the opposite approach, control motivated, one often responds to events by processing information in a bias and self-serving way and often come across as defensive and intolerant which can act as a risk factor for psychopathology (Vansteenkiste & Ryan, 2013). This information highlights the way autonomy can have further reaching consequences than just our own internal wellbeing but how we respond to external events and to other people.

Competence

Simply broken down, the need satisfaction of competence is the need to be effective in one's interactions with the environment. People have the desire to use their capabilities and skills to acquire personal growth and development (Ryan & Deci, 2017). One term that can be attributed to parents' feelings of competence is self-efficacy. Ardelt and Eccles (2001) define this as "the degree to which the parent believes he or she has the ability to influence the child and the child's environment in ways that will foster the child's development and ability to thrive" (p. 945). This view is supported in a study which reviewed the reliability and validity of a Parenting Sense of Competence Scale in Spain. They found that a parent's

perceived competence in parenting is a decisive factor in a child's development and their overall health (Oltra-Benavent et al., 2020).

There are many contributing factors when it comes to a mother's perceived confidence in parenting, including their own childhood experiences. Research has shown that mothers who reported a history of childhood abuse and neglect were more likely to have issues such as adult attachment anxiety and avoidance as well as more severe symptoms of depression. Mothers with these risk factors perceived themselves as less competent when it came to their ability to parent their child because of their lack of security in their relationships as their depression symptom (Caldwell et al., 2011).

From reviewing the current body of literature, it is clear that maternal mental health issues are a major concern in our society and that the development and implication of effective and culturally safe screening and intervention tools need to be at the forefront of the approach. The risk and protective factors are also clearly identified and supported in the literature, so in developing preventative and appropriate screening measures which target the most at-risk populations, we can hope to reduce the statistics of women suffering with postpartum mental health issues. There is ample research which highlights how SDT impacts mental health in a broad sense and even how the specific elements are associated with parenting, but there is limited research on how autonomy, competence, and relatedness impact postpartum women. The current study aims to fill this gap in the literature by investigating how SDT impacts women's psychological wellbeing in the first 12 months post-birth.

In the next section, I will discuss in depth my methodology for conducting this research, including the theoretical foundation and study design, as well as my recruitment

method and data collection process. I will also discuss how I analysed the data to develop themes which encompass the key information obtained from the interview process.

Chapter 3: Methodology

Summary of Study

The current study aims to explore how the three components of self-determination theory, autonomy, competence, and relatedness, impact maternal mental health during the first 12 months post-birth. A total of 11 postpartum women were interviewed using a semi-structured interview design. Participants were recruited from motherhood-related Facebook pages. The pages approached were The Sleep Store's 4–12 Month, Bottle and Formula Feeding, Breastfeeding NZ, and Timaru Parents Centre. The inclusion criteria for the participants were to be aged 18 years or over, have given birth in the last 12 months, and have this child in their care. The Braun and Clarke (2006) six-step thematic analysis was applied to interview transcripts to identify key themes (this will be expanded upon in more depth in a following section). The aim of this analysis process was to identify and gain an understanding of the main themes surrounding the participants overall mental wellbeing during the postpartum phase.

Research Question

As the three elements of SDT, autonomy, competence, and relatedness, are considered the driving force behind psychological wellbeing (Conzo et al., 2017), I wanted to investigate to what extent these three components impact a woman's overall wellbeing during the first year post-birth.

Epistemology

Phenomenology is the approach to research that seeks to describe a particular phenomenon from the perspective of those who have experienced it (Teherani et al., 2015). In the case of this study, the entire purpose was to gain an understanding of how the participants

viewed their postpartum and to investigate how the three elements of SDT impacted on their mental wellbeing during this time. While this study lends itself to the approach of what is known as Hermeneutic phenomenology or interpretive phenomenology (Reiners, 2012), it is important to note that the data analysis technique used I the current study is Braun and Clarke (2006) six step thematic analysis.

Hermeneutic phenomenology was developed by Martin Heidegger. Originally, Heidegger's philosophical inquiry was aligned with Edmond Husserl transcendental phenomenology. He eventually began to challenge several of the key elements to Husserl's approach (Reiners, 2012). The key difference was Heidegger's focus on human experience, specifically the relationship between an individual and his/her life world. Heidegger defined the concept of 'lifeworld' as the idea that individuals' realities are influenced by the world in which they live. This is in contrast to Husserl's focus on 'acts of attending, perceiving, recalling and thinking about the world' (Lopez & Willis, 2004). Heidegger claimed that an individual's experience of any phenomenon is not separate from the world nor that individuals personal history and their cultural background (Lopez & Willis, 2004). The current study is a strong example of Heidegger's claim as we aim to investigate a group of women's individual experience of their overall wellbeing postpartum including how their personal history and cultural background have influenced this. Heidegger also recognises that the researcher cannot be separated from his/her life world. He felt that by embracing the researchers experience and knowledge makes them a valuable guide to the inquiry. He also emphasised the importance of researchers being able to openly acknowledge their preconceptions and reflect on how this might influence the study as a whole (Neubauer et al., 2019). In the current study, it was important that the researcher be aware of how her own experience as a mother in the postpartum phase may have influenced the data collection and analysis process.

Ethics

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 21/39.

Recruitment

Participants were recruited from motherhood-related Facebook pages. The pages approached were The Sleep Store's 4–12 Month, Bottle and Formula Feeding, Breastfeeding NZ, and Timaru Parents Centre. These Facebook pages were chosen to ensure a diverse range of women had the opportunity to participate in the study from all over New Zealand rather than just from the researcher's local area. Another factor in selecting these Facebook pages were that it ensures that mothers who are either breast or bottle feeding their babies can participate in the study as these two differing methods of feeding have the potential to heavily impact the overall postpartum experience. Initial contact was made with the Facebook page's administrators to explain the purpose of the study and ask permission to post the advertisement (see Appendix A) on the page for the members to see or to post it themselves on my behalf. If the administrators had any questions about the study, I answered them. Once a potential participant reached out from the Facebook advertisement, I sent them a Participant Information Sheet (PIS; see Appendix B) to give them more information about the study, including the inclusion criteria. Potential participants were followed up with via email after 2 weeks if I had not heard from them to answer any questions and to gauge interest. This recruitment method resulted in a total of 19 women responding to the advertisement with an expression of interest. A total of two of these respondents were excluded due to failure to meet the inclusion criteria; both women had babies who were over 12 months old. Another six participants in the study were excluded as I already had 11 participants and felt that this was adequate for the resources I had available to me. If the advertisement respondent wished

to participate, a date and a time for an interview was set up at the participant's convenience. Interviews were conducted between August and October 2021.

Participants

The recruitment phase of the study was successful in recruiting 11 women from across New Zealand. Of the 11 participants, 10 were currently living in South Island and one in the North Island. All participants were over the age of 18 who had given birth in the last 12 months. In terms of ethnicity, 8 of the women identified as pākehā or New Zealand European, one identified as part pākehā and part Pacific Islander, one as Canadian and one as British.

Development of Questionnaire

Interview questions were developed by the principal researcher and consisted of a three-part structure (see Appendix C). The first section focused on the mother's perception of their level of autonomy during their postpartum period. The second section focused on how competent the participants felt in all areas of their life since becoming a parent. The final section focused on the participants support system to assess their levels of relatedness to others at this time. These interview questions were used in a semi-structured style interview to allow for the interviewer to further enquire on some issues and to omit others that became irrelevant based on previous answers. The Self-Determination Scale (SDS), which is a scale designed to assess individual differences in the extent to which people tend to function in a self-determined way, was used as a guide for the development of the questions (see Appendix D). Referring to this scale was useful in constructing the questions which were designed to determine how the participant's felt autonomy was affecting their overall wellbeing. The rest of the questions in the interview schedule were developed based off the research question to determine how the three elements of SDT were affecting postpartum women's mental health.

A total of 11 interviews were conducted over a 6-week period through August 2021 and October 2021. All interviews were one-to-one with participant and one interviewer and followed the semi-structured format. The interviews ranged from 16 minutes to 36 minutes in length. All interviews were held via Zoom due to the Covid-19 restrictions. They were also given a verbal explanation of the research and given the opportunity to ask any questions before signing the consent form (Appendix E). All the interviews were audio recorded using the Voice Recorder App on the interviewer's laptop and then transcribed. Otter, an online tool designed to transcribe audio, was used for transcribing the interviews (Otter.ai, 2021). Once a transcript was formulated, they were uploaded onto the Otranscribe app to edit the transcript against the voice recording to make sure they matched. Once the transcript was edited and finalised it was sent back to the participant along with a Authority for the Release of Transcripts form (Appendix F). The participant then signed and returned the form to give consent for the information in the transcript to be reported in the study.

The next section, data analysis, will provide a description of the data collection and analysis process using Braun and Clarke's (2006) six-step process of thematic analysis.

Data Analysis

To analyse the data, Braun and Clarke's (2006) six-step process of thematic analysis was used. This process provided a step-by-step method to identify and analyse the main themes of the data.

Phases of Thematic Analysis

1) Familiarising Yourself with Your Data.

A large part of becoming familiar with the data came during the transcribing process. The researcher transcribed the first interview, which required listening to the audio and typing the transcript before listening to it back several times. Otter tool was

used to transcribe subsequent interviews. The accuracy of the transcription, however, was not perfect, and therefore required listening back over the audio as well as editing of the transcript to enable familiarity of the data. Whilst reading through the data, an active manner was taken to search for meanings and patterns throughout the data. This enabled possible ideas for codes to be developed throughout this first phase (Braun & Clarke, 2006).

2) ***Generating Initial Codes.***

Once the transcripts were edited and a list of key ideas were noted for each theme, they were read through once again and codes were manually developed. The transcripts were read through systematically and patterns and key ideas were marked on the text. This process was repeated for all transcripts and then the codes were copied down on an Excel spreadsheet so they could be compared. Any discrepancies in wording were edited. For the first transcript only, the lead researcher of the project double coded the data, which enabled me to compare my notes to hers. For the remaining transcripts another fellow researcher read through the transcripts and repeated the coding process in order to double code the data to help identify anything that may have been missed or rule out any bias. A phone call with this researcher allowed us to discuss any differences in coding, including terminology, and any contrasting ideas were discussed, and an agreement was reached.

3) ***Searching for Themes.***

Following the completion of coding, matching codes from each transcript were grouped together and formed themes. Any separate codes that fell into the same category were included under the theme as a subtheme. Themes were generated and all relevant data was collated for each theme.

4) ***Reviewing Themes.***

During this phase, the data for each theme was reviewed and as a result of this, some themes were too diverse and so were narrowed down or included in another theme. This phase can be divided into two separate stages. The goal for the end of the first stage is for the data within the themes to fit together and the data between separate themes to be distinct from one another (Braun & Clarke, 2006). The second stage of phase four is where the validity of each theme needs to be determined in relation to the data set as a whole. To carry this out, the themes were compared to the initial notes that were made after the transcripts were edited. These initial notes were made to capture the feel of the interview, which may have been forgotten or overlooked between the interview date and this stage of analysis.

5) Defining and Naming Themes.

During this phase, the themes were analysed further to determine if any important information was left out, if the themes told the story of the data, and if any themes in fact contained any subthemes. At the end of this phase, the themes and subthemes were clearly defined, including the final names they will have in the report.

6) Producing the Report.

The final phase of the analysis is writing the report. For this phase, the data extracts for each theme were carefully chosen. Braun and Clarke (2006) highlight the importance of the selection of the data used to demonstrate the theme that encompasses the meaning of the theme without adding complexity. This phase is crucial for the argument of the research question to be made.

In the next chapter, I will report my findings and provide quotes from the interviews which demonstrate the particular theme or subtheme.

Chapter 4: Findings

A total of 11 women were interviewed (participants 1–11) from across New Zealand for this study. All of these women were over the age of 18 years old and had given birth in the last 12 months at the time of their interview. The study aimed to explore the women's experience postpartum regarding their mental health and how these could be attributed to SDT. The interview schedule was designed to investigate how the three elements of SDT, autonomy, competence, and relatedness impact maternal mental health during the first 12 months post-birth. In terms of autonomy, the objective was to investigate how the participants level of autonomy had changed as a result of motherhood and how this impacts their mental health. I also wanted to explore how levels of perceived competence in terms of achievement outside of their roles affected their experience. Finally, I wanted to explore the impact of relatedness and social connection on the participants mental wellbeing, with a particular emphasis on how the COVID-19 pandemic may have impacted this. All 11 participants were interviewed using a semi-structured interview design. Thematic analysis was applied to interview transcripts to identify key themes.

Identified Themes

Four themes were identified as a result of the thematic analysis: (a) lifestyle changes, (b) personal changes, (c) postpartum support, (d) emotional challenges. Within these four major themes, smaller subthemes were also identified. The 'lifestyle changes' and 'emotional challenges' both have three subthemes and 'postpartum support' and 'personal changes' both have four subthemes (see Table 1).

Table 1

Summary of Themes and Subthemes from Interview Data

Theme	Subtheme A	Subtheme B	Subtheme C	Subtheme D
Lifestyle changes	Barriers to independence	Loss of control	Isolation	
Personal changes	Self-identity	Self-confidence	Body confidence	Career and achievement
Postpartum support	Societal pressure	Social connection	Unconditional support	Comparison
Emotional challenges	Postpartum emotions	Feelings of failure	Mental load	

1. Lifestyle Changes

The first theme, lifestyle changes, is comprised of three smaller subthemes: barriers to independence, loss of control, and isolation. These subthemes emerged as a result of the thematic analysis to be crucial contributing factors to the overall lifestyle changes the participants experienced post-birth.

Barriers To Independence. The majority of the participants commented on how the loss of their independence was one of the biggest changes of entering motherhood. They commented on the fact that they could no longer just go and do whatever they want without considering the needs of their baby. This appears to be a barrier to many mums engaging in

activities that they did pre-parenthood, especially sports and exercise. One participant spoke of how their ability to keep up with exercise and enjoy the benefits of this physically, mentally, and socially was that her gym provided childcare. This meant that she could take her children with her and eliminate the childcare barrier.

> The gym that I go to has childcare, that motivates me to go because I've got a 5-month-old and a 2-year-old, so that's really working for me at the moment because I can take both of them to the gym with me and they're just there.
>
> (Participant 6)

Another participant's contrasting experience showed the reality of when this barrier cannot be overcome, and the only option is to wait until their children are asleep at night. The result of this was this woman giving up one of her biggest hobbies and something she had previously found beneficial for all aspects of her health.

> By the time the kids are in bed, which is pretty much the only time I can find to go [to yoga], the kids are in bed, the last thing I want to do is get up and go out of the house and do something, you know. (Participant 8)

Loss of Control. The second contributing factor to the overall lifestyle changes experienced by the participants was the loss of control over both their own time and also learning that the reality of motherhood was that you cannot control every aspect of your child. A common comparison made by a few participants was that they felt in the past they had lots of control over things, such as their career, as they could take a logical step-by-step approach to solve problems but found this a huge challenge in dealing with difficult times with their baby, such as issues with sleep and breastfeeding. One participant commented on the contrast between dealing with issues at work and referring to policy documents versus applying information from parenting books to their parenting.

> I've had to have like two really big disciplinary things like, we've excluded a student and we almost, ones been suspended, but it was borderline, but it was fine, because I was like, yep. What does the policy say? This is what I do, I action this action, I get this reaction. Whereas with baby, I'm like, this is what I've read, but this is what I do.
>
> (Participant 1)

This same participant also commented on how this loss of control has impacted her family life in that it can cause stress in the household when she tries to control too much.

> Our family life is a lot happier when I let go a little bit. (Participant 1)

Another common factor in this loss of control subtheme was the reality being much different to what was anticipated by the participants. Throughout the interviews, there was an overwhelming feeling of the inability to be prepared for motherhood or explain it to someone who has not experienced it.

> I was sort of like, oh well, I'm ready to like be selfless and whatever, but you just absolutely lose everything, like it's just a completely different life.
>
> (Participant 8)

Isolation. This subtheme was particularly prominent at the time the interviews were conducted as it was during the second lockdown of 2021 due to the COVID-19 pandemic. These circumstances resulted in the majority of the participants commenting on the feelings of isolation they had experienced. It was obvious that the pandemic had added another layer of difficulty and been a barrier to participants connecting with other mums and their own family members due to the restrictions in place.

> I thought we didn't go out much, but we clearly did. You don't realise how much you just pop out to see someone or pop round to see like relatives or anything. My partner

> was still working, so he was leaving at like six in the morning and he wouldn't get home till like five or six at night. So, it was such long days like not having anyone to talk to.
>
> (Participant 10)

One participant spoke of her experience with her own self-inflicted isolation. She had the help ready and available to her from friends and whānau, but due to her postpartum mental health struggles she isolated herself from her support network.

> I didn't want to see people just because I felt so awful about everything.
>
> (Participant 3)

Similarly, another participant spoke of overcoming this sense of isolation and realised that by reaching out, she was enabling herself to have some freedom and a well needed break for her own mental health.

> Once I got out of the house a couple of times, I realised how good it felt and I would just ask people to watch him so I could do that a wee bit more.
>
> (Participant 11)

Another common factor in terms of isolation was the resentment that can arise between parents when one parent is at home full-time with the baby, feeling somewhat isolated, and the other parent leaves to work outside of the home for the day.

I hold it in, but yeah irritated with little things that my partner does or get frustrated that they've been at work and had some adult time and I've been stuck at home, and I don't know, I get resentful.

(Participant 4)

One participant spoke of the difficulty to meet new people and connect with other mothers on the same postpartum journey if you don't already have those connections.

If you don't know like one or two people, you don't really know where you can go to like meet people.

(Participant 10)

2) Personal Changes

The second theme to emerge as a result of the thematic analysis was the personal changes that the participants felt that they went through in their postpartum journey. This theme is made up of four subthemes that sum up the personal changes experienced by the women in the study: self-identity, self-confidence, body confidence and career and achievement.

Self-identity. A loss of self-identity was brought up by the majority of the participants for a variety of different reasons. One participant spoke of cementing their identity in terms of their role at work, as a wife, and their role as a mother, but at the expense of losing their own personal identity.

I've got this kind of I'm …the hostel manager or like Mrs…and I'm learning how to be baby's mum, but then I don't know necessarily who I am.

(Participant 1)

Another participant touched on this also and discussed how important it was for them to connect with friends without discussing the baby to retain their self-identity.

> A couple of friends like came over and we just like we didn't talk about the baby, we talked about other stuff…I got to kind of use my brain and be myself, not just like baby's mum.
>
> (Participant 7)

A common belief amongst participants was that becoming a mother is a permanent change to your identity and something that yourself, your partner, and your friends all need to learn to accept.

> You've kind of got to learn who you are and then you've got to hope that your partner still wants to love that version of you and recognise you and your friends are like oh yeah, you're still cool.
>
> (Participant 7)

Self-confidence. The second subtheme to contribute to the personal changes theme is self-confidence. This was a major contributing factor to this theme as the majority of the women felt that learning to navigate these personal changes postpartum was somewhat of a challenge. This participant highlighted how adapting to the changes of motherhood was a trigger to previous issues with self-confidence:

> I've worked so hard to sort of be successful and achieve and feel like I'm in a really good space and then all of a sudden, I was back, you know, being, I've always had quite a lot of issues with, you know, self-confidence.
>
> (Participant 1)

Participants often used the term "old me" when referring to their pre-parenthood self and it was common amongst the participants to strive to feel like that version of themselves.

> Like I want to put on proper clothes and stuff and that makes me feel like the old me.
> (Participant 8)

Body Confidence. Body confidence is the third subtheme of the larger personal changes theme. There was a mixture of views of body image and body confidence amongst the participants. Some felt empowered by what their body had achieved, and some found it hard to come to terms with the physical changes that pregnancy and birth had caused. This was also linked to the self-identity of the women with a strong link between looking different and feeling different.

> I think that just because I didn't look like me, then I didn't feel like me. (Participant 7)

> I think the worst part is the embarrassment of the mum body…I do struggle with that a bit because before I'm usually a fit person, I'm not used to having that extra like chub in my belly.
> (Participant 2)

One participant described her feelings of achievement when she was able to achieve something in her postpartum body that she was able to do pre-pregnancy.

> I guess like when I did go back to the gym, like if I'd reach like a milestone that I've done like since having a baby, I'm like, oh I've done that again.
>
> (Participant 3)

Feelings of empowerment as a result of pregnancy, birth, and breastfeeding was also a contributing factor to body confidence postpartum.

> The whole process has just made me in awe of a woman's body, like my body did that. So, trying to look at it through a like I suppose empowered lens rather than like a oh no what's happened.
>
> (Participant 9)

Career and Achievement. Career and achievement is the final subtheme of the personal changes theme. The need for direction and achievement was strong amongst the participants and all the participants who had returned to work or study in some capacity found it beneficial for their mental health.

> I honestly think going back to work. I went back to work when he was 5 and a half months, about the same time, I started going back to the gym. Just having something outside of the baby like really helped.
>
> (Participant 3)

It was evident that it was difficult for some participants to come to terms with a stay-at-home mum role after a busy and successful job outside of the home pre-pregnancy.

> I guess I just felt a bit like at sea, like oh where am I heading, what's my direction, like I know I've got to keep this baby alive but that can't be my goal, so yeah it did feel weird to not be ticking things off.
>
> (Participant 7)

Being back at work gives me a bit of purpose and a bit of autonomy.

(Participant 1)

These feelings of achievement were not just linked to work and career but also fitness, sport, and contributing to the community.

I set myself a goal that I want to, I've entered a race, another running race in February so now I've got something to work for.

(Participant 7)

I'm starting to have this little like pull towards wanting to just join back in so that I feel like I am contributing and feeling included in a community.

(Participant 11)

Overall, the participants in this study had a pull to be contributing to society in other ways outside of raising their babies and seemed to gain a lot from being able to do that.

I still want to be more than just a mum though. I will look forward to down the track being able to get back into a bit more of what I enjoy for myself as well

(Participant 4)

But what I've found is that I'm actually kind of enjoying having a purpose that's different to being a mum. So yeah, that's actually been quite good for my soul…and it just feels like a different purpose, so people wanting something from you other than your mum role, you know?

(Participant 8)

3. Postpartum Support

The third theme to emerge from the interviews with the women is postpartum support. This theme was strong amongst all participants in the study and had a huge impact on their wellbeing postpartum, in a positive way if they had support and negatively if they did not.

Societal Pressure. The first subtheme of the postpartum support theme is societal pressure. The majority of participants commented on experiencing some form of this postpartum. One of the most common forms of this comes with the physical pressures to return to your postpartum body.

> We're kind of expected to bounce back straightaway, yeah all those other pressures that are on there.
>
> (Participant 1)

> I'm not doing a very good job at this and my body's let me down…and why isn't it skinny again like, you know, all that over and over.
>
> (Participant 7)

One participant reported feeling the pressure to return to her pre-pregnancy size, but the stress of adapting to her new lifestyle was causing her to crave sugar, which led to her continuing to gain weight postpartum. This continued weight gainhad a negative impact on her mental health.

> I really love sprite so I was drinking three or four cans. I was like this is not probably helping me at all, but it was definitely. I was going to town on the sugar.
>
> (Participant 7)

Another common element to this theme was the pressure of breastfeeding. Many participants commented on how much they struggled with breastfeeding but felt a lot of pressure to carry on.

> I had quite a lot of issues with breastfeeding and stuff with my first and was quite unwell. And I think like a lot of women, they get, you know, you get that guilt that

> you can't breastfeed, and all that sort of stuff and I probably, like, I was really hard on myself about that.
>
> (Participant 5)

Participants with more than one child commented on the fact that over time they have become more open with discussing issues and not worried about how admitting things aren't going perfectly will look to others.

> I think I have, over time, become more open I guess with people around me and talking about things too, I guess you're not so bothered if things aren't going alright.
>
> (Participant 5)

One way that the societal expectations was a positive for one participant was a sense of fulfilment she got from being a stay-at-home mum as that was what her mum did and that she felt was expected and normal for her to do as well.

> I think my background probably comes into it. My mum was a stay-at-home mum with all four of us kids…that was something I always wanted to be, a stay-at-home mum.
>
> (Participant 8)

Social Connection. The second subtheme is social connection. Being able to connect with others had a strong impact on all of the participants' wellbeing postpartum. A big contributor to many of the participants connecting socially was through sport. So for those early in their postpartum journey, not being able to participate as they normally would, some or a majority of participants found this to be a barrier in connecting with others.

> I wasn't really able to play netball this year and yeah, I was kind of in an indoor netball team which gave me the physical but then it also gave me the social connection.
>
> (Participant 1)

Having this social connection in relation to sports was also helpful in getting participants to exercise when they might otherwise not.

> I told my friend I'd go to the gym with her this morning, so I got up at 5.30 and went. I just wanted to stay in bed but I've told my friend, I've got to go now.
>
> (Participant 6)

Many of the participants discussed the benefits of being around people and how it was important for them to commit to plans even when they didn't feel like it, as they always benefited from these interactions.

> So, then I was like, okay no matter what, if I've had a terrible night I'm gonna make sure that I still do the things that I plan to do because I definitely feel better once I've been around people.
>
> (Participant 9)

One participant spoke of the challenge to maintain social connections when struggling with postpartum anxiety.

> When I didn't want anyone to help, because I was like so anxious about people with baby so then when they tried to help and I would just like shut everyone away and be like, no thank you, leave me alone.
>
> (Participant 3)

Another element to social connection that is common for the participants to use is through technology.

> So we've got a group on Facebook, so that's quite cool, like if someone's struggling, well not struggling, but not sure about something, we just post on there.
>
> (Participant 10)

Unconditional Support. Unconditional support was mentioned frequently amongst the majority of participants and often highlighted the difference between those that had immediate family close by and those that did not and the impact this had.

> They're really supportive and there for us, but kind of to a point because they can't drop everything and come, you know?
>
> (Participant 2)
>
> Having them there, it's like, I don't think I would have coped as well if I didn't have them.
>
> (Participant 6)

Comparison to Others. Comparison to others is the final subtheme and was a contributing factor to a moderate number of participants. A common barrier to good social connection is the feeling of comparison and judgement, particularly from other mums or comparing your own parenting journey to those of your peers. One mum spoke of not returning to exercise as quickly as some of the other mums she knew and how she couldn't help but compare.

> I think it's really tough because you see other people doing it. And I'm like, are they just destroying their bodies?
>
> (Participant 2)

There was a link to support and comparison with the common idea that people offer their support but only if you are parenting in the way which they believe to be right.

> As much as people are supportive, I think that they're supportive and how they would parent themselves.
>
> (Participant 3)

4. Emotional Challenges

The final theme to emerge as a result of the thematic analysis is emotional challenges. This theme is comprised of three subthemes: postpartum emotions, feelings of failure, and mental load.

Postpartum Emotions. The first subtheme, postpartum emotions, was something that was mentioned by all participants to varying degrees. One woman who was diagnosed with postpartum depression (PPD) spoke about her experience of losing control of her emotions and eventually admitting to a friend that she was struggling to cope.

> And I completely lost control of my emotions and everything, and then that for me like I realised even actually quite early on and having baby how much of a perfectionist I was.
>
> (Participant 1)
>
> She just said to me, do you think you're okay? And in that moment, I wasn't able to say yes, and I didn't have to say no.
>
> (Participant 1)

There was a strong feeling amongst the participants that there was a strong need for emotional challenges during the postpartum phase to be normalised in society in order for women to feel like they can ask for help without shame or stigma.

> The more we can make postnatal depression and, and even the I guess just the postnatal emotions, more commonplace in the chat, the easier it is.
>
> (Participant 1)

A second participant who struggled with severe anxiety during the first few months after giving birth spoke how this experience made her feel physically, and also how she expressed it in terms of not wanting anyone holding or caring for her baby and how now that she is on the other side of it, she can see that those were irrational thoughts, but at the time it was ever consuming. This participant also shared that despite these overwhelming feelings she was experiencing, it did not impact her bond with her baby.

> I was so paranoid, and I didn't want anyone touching him. And so, then I was just like, you know, when people do come over, and they'll be like oh can I hold them? And I'd be like…no.
>
> (Participant 3)
>
> But, you know, like when you just get like that ball of like anxiety and just like your stomach is in knots.
>
> (Participant 3)
>
> I would never feel anxious about that now and it seems quite irrational.
>
> (Participant 3)
>
> I love the baby. It wasn't anything to do with him. It's just everything else is overwhelming.
>
> (Participant 3)

This participant spoke of the negative experience she had when she did reach out for help and how her feelings were dismissed, even after admitting that she was not coping.

> I was like, in tears like, this is really hard. Like, I'm not really coping, she was like, yeah, it is hard. And then I was like, oh, maybe this is completely normal to feel like this.
>
> (Participant 3)

One mother spoke of how due to societal pressures and expectations, she expected to experience an instant connection with her baby and when that didn't happen it caused her a lot of worry.

> I just, I didn't feel that connection with him and it took probably a good at least probably a good month to actually start to feel a bond with him.
>
> (Participant 9)

All the women in this study spoke of how important it was to get some time for themselves and the impact of this on their outlook and mental health.

> There's definitely parts where I'm like, man I'm really negative. And I'm not usually like that. Then I was like, I actually really need to, I need to do something to take a break.
>
> (Participant 9)
>
> I feel like my attitude becomes quite negative quite quickly if I haven't had a break of some description.
>
> (Participant 9)

Feelings of Failure. The second subtheme of this major theme is feelings of failure. A few of the participants described the feeling of failure in their postpartum journey in relation to their baby being unsettled; breastfeeding struggles; and changes in their physical

appearance, especially weight gain. One participant described how that feeling of failure came over her all at once when her baby was unsettled and made her feel like she wasn't succeeding at motherhood.

> As I said, I lost control of my emotions and I felt like he was really unsettled and everything which no one else did, he was just a normal baby.
>
> (Participant 1)

Another mother who was struggling with breastfeeding described this as a major trigger to her feeling of failure, which spiralled into feeling disappointment in her birth resulting in a c-section, and then struggling with breastfeeding, and then not regaining her pre-pregnancy body back as fast as she would have liked.

> Just feeling like I'm not doing a very good job at this and my body's let me down and it's not even feeding my baby now, why isn't it skinny again like, you know, all that over and over.
>
> (Participant 7)
>
> Then all this stuff like with the birth came back and it was just like, augh, like none of this is going the way I thought it would, like my body is failing me, why can I not seem to…so I went through a bit of a probably about a week where it was pretty dark and I was just like, man like why did I decide, why did we decide to have a baby, like I can't do this, this is way too hard.
>
> (Participant 7)

The same participant also shared how these emotions caused her to feel restless and affected her ability to sleep.

I can remember being quite restless, like trying to get to sleep and being like auugh, I just want to go to sleep, but not being able to.

(Participant 7)

Mental Load. The final subtheme is mental load. The mental load carried by the women was brought on by taking on the responsibility of their child's mental, emotional, and physical wellbeing as well as managing their other roles in their day-to-day life. This was particularly prominent amongst women who had more than one child.

I guess the guilt between that like I was always able to give the older one my full attention and now I split my time and that's probably been a really big struggle for me the last couple of months.

(Participant 4)

I mean, I think I'm probably not as relaxed this time. Like I'm definitely always thinking like what do I have to do next, like what, like what have I got on tomorrow. What do I have to do? So, I guess I don't, I find it harder to actually switch off.

(Participant 6)

All participants, regardless of the number of children they had, commented on the overall mental changes they experienced as a result of becoming a mother.

You've got to remember and retain more things, so it's the pressure that comes with that is probably the biggest change I think.

(Participant 5)

In the next chapter, I will discuss in detail the themes and subthemes identified through the data collection and data analysis processes and compare and contrast these findings to the information from previous studies discussed in the literature review.

Chapter 5: Discussion

The results of this study highlight the many changes a woman goes through in the first 12 months post-birth. Overall, the changes to the women's lifestyle, as well as personal and emotional changes along with the level of support women had on their post-partum phase were the biggest factors impacting on the overall mental wellbeing of the women at this time. The results from this study indicate that SDT is a significant contributor to mental wellbeing, which will be discussed further throughout the next section. The three components of this theory, autonomy, competence, and relatedness, have all proven to have significant implications on the participants' wellbeing while they adjust to motherhood either for the first or for subsequent times. The 14 subthemes derived from the four major themes of the study can all be attributed to the three elements of SDT. The subthemes of barriers to independence and loss of control can both be related to autonomy. The subthemes of self-identity, self-confidence, body-confidence, career and achievement, post-partum emotions, feelings of failure, and mental load can all be attributed to the competence component of SDT. Finally, the subthemes of relatedness, societal pressure, social connection, unconditional support, and comparison can all be categorised under the relatedness component of SDT. This association between the resulting themes from the thematic analysis and the components of SDT show the significance of this theory on mental health, including in post-partum women.

In the next section, I will discuss the four major themes and their corresponding subthemes in relation to how the information in the body of literature supports or differs from the findings in the current study. I will also discuss how, as the researcher, I managed ethical boundaries throughout the study as well as the unique implications brought on by the COVID-19 pandemic. I will also discuss the strengths and limitations of the current study as well as making recommendations for future research in the area of post-partum health care.

Lifestyle Changes

The first major theme to emerge as a result of the analysis process was lifestyle changes. This theme encompasses three subthemes: barriers to independence, loss of control, and isolation. This theme was something that was evident to be a large factor in all the women's postpartum experiences. Many of the women frequently mentioned a major difference in their pre- and post-baby lives that had resulted in significant lifestyle shifts. For some women, it was a lot of small things combined that resulted in the overall change in lifestyle. Relatively minor things, such as being able to play sport or exercise whenever they wanted to, catching up with friends over coffee, date nights with their partner, and change in sleep routine, are some examples of minor things that have changed in these women's lives, but when all combined, have a significant impact on one's lifestyle. Other more major things, such as career changes, loss of friendships and change in friendship groups, as well as poor body image and losing sense of self and independence, also quite dramatically impacted on how the women perceived their pre- and post-baby lives. The majority of these lifestyle changes come down to changes in levels of autonomy. All the women in the current study felt that their autonomy levels were affected by becoming a parent as their own needs were secondary to those of their baby. The fact that some of these changes had a negative supports Ryan and Deci's (2017) explanation that autonomy encourages feelings of personal endorsement and self-direction. It is important to mention that not all of these changes are negative, with many of the women commenting on how many of these factors had been positive shifts in their world.

Barriers to Independence

One of the major elements to contribute to the overall lifestyle change experienced by the participants postpartum was a loss of independence. The majority of the participants

commented on how this loss of their independence was one of the biggest changes of entering motherhood. The most common thing brought up by the majority of women was the impact that this loss of independence had on their physical exercise. This is a two-fold issue, with both ability in terms of time and childcare to work out and the second was their levels of motivation to work out. In terms of ability and time to exercise, one of the biggest barriers to engaging in physical activity is childcare. One participant commented that although she had a strong support system around her, she felt that to ask for childcare from them so that she could exercise would be asking too much as they already help out so that she can work. This issue also seemed to be amplified when there was more than one child that needed to be taken care of. Other participants found that this barrier was overcome by having access to a gym with childcare. This meant that the women could do their workout and have their child looked after within the same facility. The other factor that heavily impacted the ability to access gyms or play sport and have that independence was motivation. Some of the women felt that the only times they could exercise might be first thing in the morning or last thing at night when their partner could care for their child/ren. A frequent comment made was that "by the end of the day and the kids are in bed, the last thing I want to do is leave the house." In terms of the early morning wake, the participants who were working out at this time said that the biggest barrier to this happening consistently was that after a poor night sleep with lots of wakes with the baby, the hardest thing to do is to get up and go and exercise. One woman said that to overcome this, she works out with a friend at this time so she has someone to keep her accountable and who she has to show up for. Overall, the current study shows that the biggest barrier to independence for the participants was a lack of social support and/or lack of childcare. As discussed in Marzilli et al. (2021) in their study on COVID-19 and the impact on family mental health, the closing of childcare and education facilities increased the strain and pressure on parents, which negatively impacted their mental health. Similarly,

Marchetti et al., (2020) also found that prolonged social isolation and increased childcare demands on parents due to COVID-19 increased feelings of parenting related exhaustion. From these findings, we can conclude that women who do not have access to childcare or social support for reasons such as living far away from family or financial issues and are unable to overcome these barriers to gaining some independence would be under increased levels of stress and strain, which negatively impacts their mental wellbeing.

Loss of Control

The second contributing factor to the overall lifestyle changes experienced by the participants was loss of control. Many of the women in the study felt that one of the biggest adjustments to motherhood was the loss of control of their own time and also loss of control of specific situations. Two particular situations which women felt were, for the most part, out of their control were their baby's sleep and also struggles with breastfeeding. Women who, pre-motherhood, had held positions of power in the workforce often compared the way they would approach challenges in their place of work to how they approach parenting challenges. The women who were in these positions of authority in their workplace often said that when faced with challenges at work they were usually able to consult policy or follow a step-by-step process of how to handle a particular situation compared to parenting issues such as helping baby sleep when there is not a one-size-fits-all approach. This was an adjustment for some of the women who had high expectations of themselves and initially expected to be able to find solutions to parenting challenges in the same manner as they did in their professional lives.

A second aspect of loss of control was how this feeling impacted the participants mentally and their relationships with their partners and immediate family. One participant discussed how learning to let go a little bit of the control of everything around the house and

surrendering to the stage of life they are in made their home a happier place compared to when she is feeling stressed and trying to keep everything perfectly under control.

Isolation

Isolation was something that all the participants had felt at some stage of their post-partum journey. The main cause of this was due to COVID-19 and all of the women experiencing lockdown during some stage of their motherhood experience. It was clear through discussions with the women that the pandemic had added another layer of difficulty and had been a barrier to participants seeking support of both a practical and social nature. These findings support recent research investigating the impact of COVID-19, which has consistently shown that the added stress and isolation brought on by COVID-19 lockdowns has increased the rates of mental health disorders in postpartum women (Marchetti et al., 2020; Marzilli et al., 2021; Venta et al., 2021). It is common that many women create a circle of support with other mums from meeting families at antenatal classes and coffee groups (Plunket, 2022a), which can be a real strong support system for women who can all relate to one another on a very specific level as they have babies at the same age so are often experiencing similar challenges simultaneously. The inability to do this due to the lockdown requirements meant that many women missed out on forming this support network; this was particularly difficult for women who were having their first child or who did not already have friends who had children. This unique situation has highlighted the importance of these support networks for women to be able to engage with others going through the same stage of life as them. This identified that having an older child for some women could be a protective factor as it increases the likelihood that they have already developed connections with other mothers with young children. In this case, where women were isolated for long periods of time with no childcare available or no ability to meet with and connect with other mothers in person, having a support network of other mothers already would allow women to still

connect remotely to discuss things that they would do in person. In contrast, a mother who has just had her first child and is now in lockdown has not had the opportunity to make these connections and build her support network with other women. This finding links to a study which reported on the risk and protective factors for maternal suicide. The study identified that having more than one child was a protective factor (Beautrais, 2006, as cited in Lega et al., 2000). This is likely to be a protective factor for some women, as to commit suicide would be to be leaving their older child as well, so there may be more of a sense of responsibility. However, another potential reason for this layer of protection is that women with an older child may have a stronger and more established support system that they have been using throughout their motherhood journey. One woman commented on how it wasn't until lockdown that she realised how much she actually does go out just to visit people and how much of her day this filled in. Then, when in lockdown and with a husband who was an essential worker, she was at home all day with a young baby on her own and felt very lonely and isolated.

Other participants offered a different viewpoint and perspective of isolation during the postpartum experience. For some participants, even when the nation was not in a government-enforced lockdown, they chose to isolate for mental health reasons. One woman who suffered from postpartum anxiety struggled to let anyone help her with her baby and felt very anxious with anyone else holding or doing anything for her baby, but because she was so unwell, she wasn't coping with doing it all alone. This was a negative spiral and she said eventually she pushed everyone away because she felt so awful, she didn't want to see anybody. This decision to not accept any help and to decline any offer for social interaction led her to feel even more isolated and alone. Research has identified that this refusal to seek or to accept help when offered is a symptom that some women suffering with PPA experience (Barker et al., 2011). Often, this can come across as overcontrolling behaviour.

The participant who was experiencing this, when someone asked her why she was refusing help, said she was made to seem like she was being selfish and not "letting" people visit her baby, when really the thought of having other people around her baby was very triggering for her. This particular participant could vividly recall an incident early on in her experience with anxiety, when a visitor kissed her baby and triggered her into worrying about her baby getting sick, which began the cycle of her not wanting people around her baby. While it is common for the mother-infant bond to be affected by feelings of anxiety and depression (Barker et al., 2011), this was not the case for this mother, who reported still feeling a very close bond with her baby; it was just everything else making her feel overwhelmed. This highlights the fact that every case is very individual, and that just because certain symptoms of PPA can be associated with a mother struggling to bond with her baby, this is not the case for everyone. The interview with this participant also highlighted another contributing factor to her desire to isolate from everyone, including her friends: fear of judgement. This fear of being judged for parenting style and decisions has been reported as one of the more severe symptoms of PPA (Brockington et al., 2006). When this participant's anxiety started to ease and she was able to get out of the house more with her baby in group settings, this awareness of other people's judgement lingered and she still felt that "as much as people are supportive, I think that they're supportive and how they would parent themselves." This highlights that even when others have a support system, there are people within this group that may be having a negative influence on a new mother's mental health even though their intentions may be good.

Another participant who had a similar experience with postnatal anxiety and depression said that once she started to accept a little bit of help and was able to get out of the house alone for a little bit at a time, she noticed an improvement in her overall wellbeing. After noticing this improvement and gaining more confidence in leaving her child with

another person for a short period of time, she felt she was slowly able to accept more help and take more time for herself more regularly, which was the beginning of her journey to recovery. Previous research has identified refusal to accept help as a symptom of PPA (Barker et al., 2011) and it is clear from the current study that overcoming this symptom and accepting help was a key step in overcoming her anxiety. This also highlights the importance of relatedness and having those social connections so that women have somebody that they can turn to, to ask for help. This has a strong link to Ryan and Deci's (2017) explanation of relatedness need satisfaction. In order for this crucial element in human wellbeing to be met, one must feel socially connected to others, as well as both giving and receiving care and benevolence to the important people in one's life. This highlights the impact that purposefully avoiding your loved ones and isolating yourself as a result of anxiety or other mental distress is preventing relatedness need satisfaction. This has the potential to be somewhat of a vicious cycle, as isolation can increase the likelihood of suffering from PPA (Kaydırak et al., 2021), which encourages people to isolate even more.

Something that was brought up frequently by participants, particularly those who had not returned to work outside of the home post-birth, was resentment towards their partner for being able to leave the house to go to work and have social interaction with other adults. Even when the women knew that this was sightly irrational, they said it made them feel a sense of entrapment to know that their partner could leave the house and they were at home with the baby all day. It is worth mentioning that even though some participants felt resentment at the time, they also acknowledged the position of privilege they were in to be home with their babies. It wasn't necessarily a change that they were looking for but more of a need to be seen and acknowledged for how they were feeling and what they were giving up raising their family.

Although this participant was able to work through these feelings of resentment, it is clear that with poor communication it could be damaging to the relationship. Research has shown that when issues do arise that affect the quality of the relationship, they can have an adverse effect on the woman's mental wellbeing and increase her susceptibility to PPD (Ta Park et al., 2017)

Personal Changes

This theme encompasses all the changes the participants went through in the post-partum period. Becoming a mother for the first time or adding a new child to the family can be an all-consuming process. All of the participants in the current study commented on numerous personal changes they experienced since becoming a parent.

Self-Identity

The majority of participants felt to some degree they had issues with their self-identity after having a baby. A common thought amongst the women was that they felt they had a strong sense of identity in their place of work, as a wife, and as a mother, but often this had come at the expense of their own personal identity outside of these things. One thing that seemed to help participants regain or keep hold of their personal identity was continuing to engage in activities that they did before they had kids, such as play sport, go to the gym, or spend time with friends they had prior to having kids. One participant spoke of the importance of catching up with old friends and talking about things other than the baby. She said that this helped her feel like her old self again and regain some normality. This participant spoke of how she felt that when she became a parent, She felt as though her identity had changed so much that there was an adjustment period of getting her friends and partner acquainted with this new version of herself. These issues associated with self-identity could potentially be a result of the more complex lives women live, with many different roles

to fill (Knudsen & Wærness, 2009). As discussed in Forste and Fox (2012), for many women, the pressure to be contributing financially whilst maintaining the home and balancing childcare results in increased stress levels. With time spread thin over different roles, it could be easy for women to get lost, in a sense, amongst their responsibility to their family, friends, relationship, and career that they don't have time to be alone or focus on themselves as they have done before becoming a parent.

Self-Confidence

The majority of the women felt that learning to navigate personal changes post-partum was a challenge and at times this acted as a trigger to previous issues with self-confidence. An example of this was a participant who had suffered from issues with low self-esteem and self-confidence during adolescence and young adulthood and had worked hard to get herself into a good place mentally where she felt she had a good level of self-confidence. This was a result of her success in her career, establishing a good relationship with her partner, and her friend group. This finding draws attention to risk factors and those who have suffered with issues such as self-confidence or self-esteem in the past, some women can be triggered back into these negative thought patterns when placed in heightened situations such as becoming a parent. Past history of depression is proven to be a risk factor for future mental illnesses such as PPA (van der Zee-van den Berg et al., 2021). This participant felt that her self-confidence was really tested in the postpartum period as she was no longer gaining this feeling of achievement and success from her career and didn't have as much time to put into things that would make her feel good, such as exercise and spending time with friends.

Body Confidence

In terms of body confidence, there was a mixture of feelings and views of their body image and levels of body confidence. Some women felt a sense of empowerment as a result

of their growing, delivering, and nourishing their child post-birth through breastfeeding; other participants struggled with the physical changes in their body post-birth, mainly weight gain. One woman who described always having issues with body confidence actually enjoyed being pregnant as she felt like she could wear tighter fitting clothes that she wouldn't normally feel confident in that accentuated her baby bump. This finding is in line with the research showing that some women do in fact have a surge in body confidence later in pregnancy for this reason (Cline & Decker, 2012). While it was not necessary in the current study for the participants' weight or BMI to be recorded, it would be interesting to compare these findings to another finding in Cline and Decker's (2012) study, which claimed that for women who were overweight pre-pregnancy, there was an inverse relationship between weight gain and their likelihood to develop PPD post-birth, namely, the less weight they gained, the higher the likelihood was of developing PPD. For some women, these physical changes in their body resulted in a level of disconnect where they didn't feel like "themselves" as looking different led them to feel different.

Career and Achievement

Career and achievement were topics that carried a lot of weight for the majority of the participants. Nearly all of the women commented on still needing a sense of direction and achievement outside of their work inside the home and caring for their babies. Participants were finding this feeling of achievement and satisfaction through means such as exercise and work. This subtheme had a particularly strong link to autonomy, where women who had the opportunity to work outside of the home felt that this had a positive impact on their mental health. This finding supports Ryan and Deci (2017) in their claim that autonomy is critical to experience the feeling of personal endorsement as well as the satisfaction of self-direction. A common feeling amongst the participants was to have "something" else to focus on and work towards outside of motherhood. One participant who struggled with postpartum anxiety said

that the turning point for her was when she went back to work part-time and started going back to the gym. Both of these activities gave her a sense of purpose and achievement. She said it made her feel motivated and helped with her feelings of anxiety as she had no choice but to let someone else share the load in terms of caring for her baby as she needed to be at work. This sense of freedom allowed her to go back to the gym also, which is something that she had been passionate about pre-birth. Another woman spoke of how she needed a goal to work towards and felt that the day-to-day goal of looking after her baby wasn't making her feel very fulfilled, so she decided to enter and train for a running event. All of the participants who had returned to work in some capacity found that the feeling of being respected and valued, either in their workplace or by clients, was great for their mental health as it reminded them that although motherhood can feel all-consuming in the beginning, they are still capable of achieving in other areas also. This finding supports previous research which shows that people desire to utilise their skills and capabilities (Ryan & Deci, 2017) and that in today's day and age, women often achieve this through their career. As discussed in the introductory section of this study, the more modern way of life, with women working outside of the home, allows women to define themselves more broadly by incorporating their career into their role in the family (Perrone et al., 2009), which is a something the current study really highlights.

Two participants spoke of how one thing they missed from their pre-motherhood life was contributing to the community through volunteering. They found that this was something they were struggling to find the time for, but the feeling of belonging and achievement they felt from this was something they felt was missing postpartum. This desire for community highlights the importance of relatedness and social connection (Conzo et al., 2017).

Postpartum Support

The theme of postpartum support covers societal pressure, social connection, and unconditional support, and the positive and negative impacts the women's different experiences of these factors had on the participants' post-partum journeys.

Societal Pressure

Societal pressure impacted all the participants to some extent during their postpartum experience. One of the most common ways which society pressures women during this stage is the pressure to physically "bounce back" post-birth. A lot of this pressure is focused on weight loss and women going back to their pre-pregnancy weight and shape soon after delivering their baby. For one participant in particular, this was something she struggled with as she had always been naturally thin and fit and then to all of a sudden not be able to exercise like she once could and to actually continue to gain weight after delivering her baby made her feel like she was failing. This particular participant also commented frequently on how her high levels of sugar intake were only perpetuating her concern about her weight gain. This finding supports the findings from a 2020 study which investigated how diet influences the development of PPD symptoms. This study highlighted the importance of a healthy diet for maternal health, particularly during the early stages of postpartum (Opie et al., 2020).

Another common area of pressure enforced by society is around breastfeeding. There is a strong "breast is best" culture in today's society (Leung & Sauve, 2005) and women are made to feel inadequate or like they are failing should they not be able to, or choose not to, breastfeed. While there is very little research that formally investigates the 'breast is best' culture, it was evident from discussions with the participants in the current study that they were negatively affected by external pressures to breastfeed. The majority of participants commented on how they didn't find breastfeeding straightforward, and it was something they

struggled with. There was a sense of failure for these women as many had just assumed they would easily be able to breastfeed as it is not something that is commonly discussed as being difficult. One woman who struggled to breastfeed said it made her feel as though her body was failing her and her child. It was clear that many of the participants who struggled with breastfeeding persevered with this at the expense of their own mental health. One participant spoke of how she wished she had given up sooner and the toll and stress this took on her body negatively impacted her mental health. One participant who had multiple children spoke of how these societal pressures were still around after her third baby, but that by this stage of her motherhood journey, she wasn't as affected by them and was more likely to be upfront when things weren't going well instead of trying to meet society's standards.

One way in which society had had a positive impact was on one of the participants who had chosen/was able to be a stay-at-home mum. She said that she felt that this was what she had always envisioned for her life, to stay home and care for her baby, as this is what her own mother had done for her and her siblings. Her ability to fulfil this societal or traditional expectation gave her a sense of achievement and fulfilment. This was an interesting finding as it highlighted the importance of modelling behaviour and how what we experienced in our family of origin in terms of the overall dynamic and specific roles of the mother and father can impact what women can envision for themselves and their own family. This finding is in contrast to the more modern ideal and goal for many families, which is to pass on the traditional family dynamic where the male is the sole breadwinner, or income earner, and the woman takes responsibility for the childcare and housekeeping (Knudsen & Wærness, 2009). It is also important that society is accepting that this more traditional way of life is actually what some people want for their families.

Social Connection

Social connection was the most dominant subtheme of the overall postpartum support theme and arguably the strongest theme throughout the whole study in terms of impact on mental wellbeing postpartum. One of the most common ways the participants discussed their means of gaining social connection was through sport. This highlights how important it is for women to have the support around them to be able to return to sport and exercise when it is safe to do so post-birth, as not only does it give them the physical benefits but also the social and emotional benefits of socialising with other people. Another common way for the women to access social connection was through their coffee groups or other parenting groups. These coffee groups or parenting groups are often formed through women meeting at antenatal class during pregnancy and then the group continues to meet with their babies regularly. For many of the women, this sort of connection hasn't been possible due to COVID-19 restrictions. For those that were able to engage with other mums in this way, they found it beneficial as it made them get out of the house and go and meet with other women who are going through the same experiences and whose babies are at a similar age and stage. Some women commented on how these groups can at times be triggering as there can be pressure to appear to be keeping up or to have a "good" baby.

Unconditional Support

One element of support that was frequently mentioned by the participants was the need for unconditional support and the impact the presence or absence of this had on their mental wellness postpartum. The biggest divide in terms of support was women who had their own parents around versus those who did not. The women described having their own family around as unconditional support, having people who would drop anything to be there, day or night. Whereas those that only had their partner's parents felt support, but that this often had conditions or they wouldn't feel comfortable to ask for help too often or at short notice. It was similar for women who had lots of friendship support. While they felt

supported by their peers, the unconditional aspect was lost as many of these friends had their own families which were understandably their priority. These findings were supportive of previous research focusing on the impact of social support post-birth. This study involved the women reporting their level of agreement with the following statement about their post-partum experience, “The last 12 months have been among the most difficult times of my life.” The results showed that half of the women agreed that this had been the most difficult 12 months of their life (Health Promotion Agency, 2016). The large majority of the participants felt like they made an effort to see family and friends and also that they could rely on a friend or family member for support. This study also showed that there was a strong relationship between participants who didn’t agree with these statements and those who met the criteria for PPD.

Comparison

In this study, comparison appeared to be a barrier to social connection. Some of the women felt like they couldn’t connect with other mums as there was a fear of falling short or being judged by other mums for doing things differently. Some women also commented on the pressure to return to exercise at the same time as other women, even when they didn’t feel like it was the right time for their own bodies; there was a fear of being left behind. One participant commented on how she felt others were supportive but only to your parenting in a way that they would parent their own children.

Emotional Challenges

Emotional challenges was something that all participants felt impacted on their postpartum experience. The three major categories that can summarise these challenges were postpartum emotions, feelings of failure, and mental load.

Postpartum Emotions

One participant had a formal PPD diagnosis and one other, although not formally diagnosed, in hindsight felt she suffered from post-partum anxiety. Even participants who didn't feel that their emotions lay outside of the normal realm, definitely noticed some changes in their levels of sensitivity or ability to cope with small issues during this stage. One woman spoke of how she struggled with the loss of control in her day-to-day life and she found her lack of ability to control all aspects of her day quite triggering. She said that this experience made her realise how much of a perfectionist she was and how this character trait was detrimental to her wellbeing during the early stages of her post-partum journey.

The subtheme of postpartum emotions highlighted the importance of having a strong support network. One participant spoke of how she was in denial that she was struggling with PPD until one of her close friends asked her if she was doing ok. She felt like this finally gave her permission to open up and admit that she was struggling. This friend was then able to support her to seek help and provide regular check ins and someone she could openly talk to about how she was feeling. Another participant unfortunately had a negative experience when she did reach out for help to a medical professional. After struggling with what sounds like quite severe PPA symptoms, this woman reached out to her Well Child provider about how she was feeling and was not provided any support or even reassurance and was just told that what she was feeling was normal. Responses such as this have the potential to be very damaging as it not only results in a struggling woman not receiving help, but it also reinforces stigma associated with seeking help for mental health issues. Research has shown that one of the largest help seeking barriers for women during the first 12 months post-birth is their belief that these services would not be helpful in terms of alleviating their symptoms. This belief was based on previous negative experiences with healthcare services, even if this wasn't mental health-related. Many of the women in this study also expressed that they felt shame and embarrassment for needing to seek mental health support for PPD related

symptoms as they associated this with feelings of incompetence and failing to cope (Hadfield & Wittkowski, 2017). To hear that even when women do overcome these feelings of doubt, shame, and embarrassment, they are still not guaranteed help is an extreme concern. Left untreated, these symptoms can develop into more serious issues leading to maternal suicide. We know from previous literature that this clearly has a devastating impact on that family/ whānau and that completed maternal suicide increased the risk of their child requiring hospitalisation for suicide attempts in the future (Kuramoto et al., 2010).

A few participants experienced a negative cycle of anxiety and isolation, where their low mood and heightened anxiety led them to shut out their friends and family to avoid any triggering behaviours, such as wanting to hold the baby, kissing their baby, and unsolicited advice. The outcome of this was the women becoming and feeling more isolated and alone, which perpetuated the low mood and feeling of anxiety. On the other hand, participants who were able to overcome the need to be with their baby all of the time and take breaks, whether it be to exercise or be with friends, really benefited from this and found their whole mindset shifted to a much more positive place.

One participant spoke extensively of the pressure she felt to form a connection with her baby right from birth. She spoke of how other women had spoken of this overwhelming feeling of love and connection upon holding their baby for the first time. When she didn't experience this, she felt like something was wrong. She feels that it is important for women to share that this isn't always the case and that sometimes it can take time for this bond to grow and develop.

A popular opinion amongst the participants was for discussions around PPD and PPA, and just postpartum emotions in general, to occur more openly and honestly. A few participants felt that they did not feel their symptoms were severe enough to reach out for professional help or felt their cry for help wasn't well received when they did reach out. This

aligns with past research that shows that women often do not believe their symptoms would qualify them for professional help (Ta Park et al., 2017). More open conversations would help this issue as people would realise what could be categorised as "normal" postpartum emotions and those that might require some more attentions just by talking within their friend groups. This would also help greatly to reduce the stigma associated with these issues (Hadfield & Wittkowski, 2017; Ta Park et al., 2017) and as a result encourage women to seek help. The importance of this is highlighted in the maternal mental health statistics and the far-reaching consequences for these issues going undiagnosed and untreated.

Feelings of Failure

The majority of the participants experienced feelings of failure to some extent in relation to their capability as a parent. One woman explained how things that are "normal baby behaviour," such as being unsettled or not sleeping, made her feel like she was failing. She explained the pressure she felt to show her family what a good mum she was and how she was doing such a great job, and then at a family gathering and her baby was more unsettled than usual; she attributed this to herself and arrived at the conclusion that she was failing. A common area which many of the participants commented on was feeling like a failure if they weren't able to/chose not to breastfeed. One woman experienced a huge amount of pressure from her midwife to continue this despite her baby not putting on weight at the expected rate. This left her feeling as though her body was failing and she wasn't able to provide for her baby in the way that she should be able to.

One woman said that her c-section birth also contributed to her feeling of failure in that her body wasn't able to do what it naturally should be able to. This finding supports Kahalon et al.'s (2020) study which showed that women who had a rigid birth plan were more susceptible to PPD if their actual birth experience differed from this initial plan. These

findings suggest that women whose birth plans do not eventuate can experience feelings of failure, which negatively impacts their mental health.

Mental Load

Mental load can be defined as a combination of the cognitive labour of family life—the thinking, planning, scheduling, and organising of family members—and the emotional labour associated with this work, including the feelings of caring and being responsible for family members but also the emotional impact of this work (Dean et al., 2021, p.13). Mental load was a contributing factor to emotional changes for all participants. It seemed to weigh more heavily on those with more than one child. The biggest change for the women with multiple children in their care was feeling as though they were dividing time and attention equally amongst their children and dealing with the guilt when this balance was slightly off. A few participants also said they were finding it hard to wind down and switch off as they were always thinking about what needed to be done and what their kids needed, trying to stay ahead. This increased mental load has proven to be a factor in increasing the risk for PPD. Shi et al. (2018) found that being a first-time mother is a protective factor against PPD. A reason for this, which the current study suggests through this theme, is that multiple children increase the mental load, which potentially increases one's likelihood to suffer from PPD.

Once again, the benefits of having a strong support network to share some of this load as well as allowing mothers to take a break and do something for themselves was evident.

Autonomy

Autonomy is critical to experience the feeling of personal endorsement, regulation of one's own behaviour, as well as the feeling and satisfaction of self-direction (Ryan & Deci, 2017). The analysis process identified how autonomy impacted the participants in the post-partum period. The majority of participants commented on how becoming a mother led to

loss of this autonomy in some way. A common comment from the participants in regard to loss of autonomy in their day-to-day life was being caught in a cycle of sleep and feeding cycles with their baby. Everything revolved around that and there wasn't much of an opportunity for anything outside of this to encourage personal endorsement or satisfaction of self-direction. This finding supports previous research which highlights the difficulty women face in the modern world as they are expected to encompass traditional female values of devotion to others, but are also expected to be autonomous and self-fulfilling in their own needs and desires (Skowronska, 2021).

The current study identified that the biggest barrier to autonomy for women once they became mothers was childcare. In simpler terms, the results showed that because there was no one to take over when there was something they wanted to do for themselves, women were neglecting their own personal needs for autonomy and self-fulfilment. This finding aligns with Vansteenkiste and Ryan (2013) who described the influence of autonomy on behaviour regulation. Their study highlighted the impact that increased autonomy has on people's response to stressful events. They found that those with increased levels of autonomy were able to respond to stressful events in a way which reflects their true values, whereas those with lower autonomy were more likely to respond in a closed off and defensive manner when exposed to a stressful or challenging event. This is particularly relevant to the current study as many of the women commented on the fact that when they felt they had very little autonomy or control over their day, they felt stressed and overwhelmed. Many participants commented on how this led to conflict in their relationships with their partner and other members of their wider whānau and social groups. On the other hand, women who felt that they were getting time for themselves felt much more positive in general and felt they were able to cope with the stresses of parenthood a lot better. An example of this was one participant who said that when she hasn't had a break, she feels she

has a negative outlook on life, has a lower mood, and is more resentful towards her partner. This finding highlighting the potential added strain on a relationship during the postpartum period, which aligns with findings from previous literature that show that good partner support to be a strong protective factor against PPD and PPA (Misri et al., 2000; van der Zee-van den Berg et al., 2021). This once again highlights the importance of having social support in order for women to have the opportunity to seek out autonomy if it is something they feel they are missing in their day-to-day life. The evidence shows the benefits of this would be wide-reaching for not only mother and baby, but also her wider whānau.

One area in which autonomy has a strong influence is in the workforce. Research has shown that autonomy positively influences vocational outcomes (Autin et al., 2022). Autin et al. (2022) found SDT to be a strong contributing factor to meaningful work. Amongst the participants that had returned to work, all of them felt that this move had given them a sense of autonomy and has positively impacted their mental wellbeing during the postpartum period. In terms of meaningful work, one participant who felt a very strong positive shift in her mental health after returning to work in the health sector said that a big part of this was knowing at the end of the day that her work had had some meaning and she had been able to help someone that day. This shows that by increasing autonomy and women having the opportunity to engage in meaningful work this can be extremely beneficial for their mental health post-birth.

Competence

Competence, as defined by Ryan and Deci (2017) as the need to be effective in one's interactions with their environment and to use their capabilities and skills to acquire personal growth and development, was a clear contributor to the participants' overall mental health and wellbeing. The desire to feel a sense of achievement was strong amongst all the

participants. A common avenue amongst the women where this need was being met was in the workplace. Overall, participants who were working outside the home in some capacity seemed to feel more fulfilled in the area of competence than those who did not. Another area where the women gain the feeling of competence is through exercise. Success through sport, or even just through exercising at the gym, gave the women a sense of success that they had before pregnancy. One participant described the feeling of success and achievement she got when she would meet milestones in the gym in terms of what weights she could lift or exercises she could perform to the same level she was before becoming pregnant. This, combined with returning to work, was a crucial turning point for her mental health.

A major contributing factor to the women's wellbeing in regard to returning to work was the sense of feeling valued and respected as well as a sense of community within the workplace. One participant described her desire to be "needed" for something other than being a wife or a parent and described the satisfaction she gained by using her skill set to help her customers. This finding supports previous research which shows that people desire to utilise their skills and capabilities (Ryan & Deci, 2017).

On the other hand, an absence or lack of community and social interaction that the workplace brings was a source of conflict for one of the participants and her partner. The participant described feeling resentment towards her partner for being still able to socialise in the work environment, have adult conversations, and time away from the house and baby. This caused her to have a feeling of entrapment and isolation. The absence of personal achievement and development led to a lack of self-identification for some of the women. Many felt that with this loss of personal achievement and growth they had less of a sense of self. Some participants felt that this disconnect within themselves was due to the physical changes in their body since becoming pregnant. A few women mentioned that because they looked different physically, it also made them feel differently, mentally and emotionally, than

they had before becoming pregnant. One participant described a list of compounding issues which led to her developing a feeling of disconnect with herself and a feeling of failure as a new parent. After a C-section birth, she felt a sense of failure within her body for not having the birth experience that she had envisioned; this was intensified by her struggles with breastfeeding and being told her baby was "failing to thrive" by medical professionals. Her own weight gain was also another contributing factor to this feeling of failure and lack of self-confidence. She was able to combat these negative feelings by setting herself a goal to compete in an upcoming running event. She also set challenges for other runners in a Facebook group which also gave her a sense of community and belonging that she had been missing. This feeling of community has been proven to be an important aspect of overall wellbeing according to SDT, with a large part of the relatedness element being satisfied by feelings of connection and belonging to a specific group of people (Conzo et al., 2017). Her feelings of failure brought on by being told that her baby was "failing to thrive," as well as her own internal struggle with coming to terms with her birth not going to plan and difficulty breastfeeding, highlights a potentially damaging aspect of parenting that appears to be commonly overlooked by medical professionals, being that it is important for women to feel as though they are doing a good job and that they are looking after their baby in the best way possible. A recent study highlighted the importance of this perceived competence and found it to be a decisive factor in the child's development and overall health (Oltra-Benavent et al., 2020). This research shows that women need to be encouraged and supported to give the best care for their child and to be reassured that they are doing a good job for the betterment of the overall health and wellbeing of both mother and child.

Amongst the women that had returned to work, although they were gaining a sense of competence from this, some still battled with self-identification. One woman explained that

she felt she knew who she was in her role as a wife, as a mother, and as an employee, but in terms of who she was as a singular woman, she felt she had lost that piece of herself.

One aspect that stood out to be an issue with women regaining this feeling of competence and achievement was the lack of time and/or support they had to be able to go out and do the things that would allow them to regain this feeling. Having a strong support network is crucial in this aspect as it means that women are more likely to be able to schedule in these activities where they can focus on their own personal growth and development once again.

Relatedness

The results of the current study support the importance of relatedness, defined by Ryan and Deci (2017) as the basic psychological need to have close emotional bonds and attachments with others. All the participants felt strongly about the importance of relatedness and social connection during their postpartum journeys and were able to explain the impacts both the presence and/or absence of this support had on their overall mental wellbeing and experience of motherhood. Throughout the interview process, it was clear that this support and social connection was important for all the women. However, it was evident that those who suffered with difficult postpartum emotions felt that this was crucial to their recovery from these issues. These findings support research in the current body of literature, such as Enlander et al.'s (2022) study, which found that a deficiency of support for women in the perinatal period resulted in increased psychological distress.

One participant who suffered with postpartum depression symptoms after giving birth to her baby said that without the support of a close friend, she would have never opened up to anyone about the internal struggles she was experiencing and would have never sought help from a medical professional without this encouragement and support. This participant

explained that it was not until her friend asked her if she was okay that she realised that she actually wasn't coping and needed to seek some help. It is clear that many women without social support would not seek help for mental health-related issues postpartum for fear of facing judgement and stigma, which research has identified to be a major help seeking barrier (Hadfield & Wittkowski, 2017; Ta Park et al., 2017). Another way which postpartum emotions impacted the participants' experience of relatedness and social connection with others during their postpartum phase was by self-isolation. Two of the participants described their experience of intentionally refusing help and visitors and socially isolating themselves due to their mental health struggles post-birth. One participant explained that because her mood was so low, she didn't want to leave the house and see anyone, which resulted in a vicious cycle of low mood and feelings of isolation. A second participant who suffered with symptoms of postpartum anxiety explained that the thought of having visitors who wanted to hold and cuddle her baby made her feel extremely anxious, so she would turn down any offer of help, even from her own mother. This participant also commented on how she didn't enjoy the traditional coffee group, where mothers from the same antenatal education group would get together with their babies. Her perspective was that these groups were just added stress, where she felt anxious about her baby waking and being unsettled, and she felt like the groups were an opportunity for comparison and societal pressure to thrive. The fact that this participant was struggling deeply with her anxiety symptoms, but at no stage was screened for PPA highlights the importance of the findings in previous literature, which emphasises the importance of screening for PPA independently (van der Zee-van den Berg et al., 2021). It also is an example of how women who are suffering mentally fall through the gaps in the healthcare system.

A comment that was made by several women was the difference of having social support versus unconditional support. This was evident amongst the women who lived far

away from their own families, especially their parents, and who relied on support from friends and even in-laws to help with the baby. One comment was that when you don't have your own family around, whilst you still may have support, it is only to a certain extent and is not the same unconditional support that you would be more likely to receive from your own parents (the baby's maternal grandparents). One of the reasons for this was that the friends that some women relied on as their main support system, often had their own families and jobs to juggle and could not just drop everything to provide that support.

Managing Ethical Boundaries

One of the main elements to manage in the data collection phase of this study was managing ethical boundaries. I used Facebook as my recruiting platform and was wary of inadvertently ending up with a bias population sample of people associated with me. To overcome this, I selected four different New Zealand-based Facebook pages that were associated with mothers and babies under 12 months. The idea of this was to ensure that all the participants could be recruited in an impersonal manner and could also be recruited from all over New Zealand, from all cultural and ethnic backgrounds, and to avoid any of my personal bias coming into the participant selection. Due to the limited resources to conduct this study, I only had the capacity for a maximum of 12 participants. I was fortunate enough to receive a lot of interest from post-partum women wanting to participate in the study and to remove any selection bias, I used the first 11 participants who responded to the advertisement, met the inclusion criteria, and gave written consent to participate.

Throughout the study, ethical boundaries were something that was continually assessed and monitored. It was monitored by checking regularly that all personal information was stored safely and securely to make sure that confidentiality protocols were being upheld. Identity of participants was kept confidential and any personal identifying information was

kept discreet. For example, when participants used their child's or partner's name throughout the interview, in the transcript they are referred to as "baby" or "partner." This was something that had to be monitored throughout to ensure that no names accidently ended up in the report. This was first monitored when editing the transcript and again when adding in quotes into the report.

Part of the consent process was to inform participants of the ethical boundaries and how these would be respected, and managed, and written consent was a requirement to proceed with the interview process.

Implications of COVID-19 on the Current Study

COVID-19 has had a widespread effect across the world. The pandemic has caused financial stress with job losses and business closures, as well as increased stress in the household due to social isolation and increased childcare demands. These factors have proven to have been a major contributing factor to increased psychological distress in parents over the course of the pandemic (Marchetti et al., 2020). The current study supported these claims, with the majority of the participants feeling this added stress as a result of social isolation.

Women who gave birth to their first baby were in a unique situation as a lot of the typical social experiences associated with this experience were not available to them. An example of this were antenatal groups. Many women were not able to access these in person due to lockdown restrictions so were forced to choose to either take these classes online or to forgo them all together. It is common for women at these antenatal groups to continue to have regular catch-ups post-birth with their babies. This is a way for women who don't have other "mum friends" to connect with women in the same phase of life as them. Some participants who were able to have this experience or who had it with a previous child mostly found this to be beneficial as it forced them to get out of the house and to connect with other mothers.

The absence of this left some participants without the opportunity or means to make connections with other mothers. This was especially true for women in their friend group who were the first to have babies. The impact of this was participants feeling isolated and alone in their motherhood journey.

Aside from the antenatal group connection, COVID-19 also impacted connections with friends and family for the participants. One participant commented on how with their husband being an essential worker and working 12-hour days, she found it hard to fill in the days at home with her baby without the freedom to go out and about and visit friends and family. It is clear how strong the impact of the social isolation due to COVID-19 was on new mums during this time and it would be interesting for further research to investigate the role of isolation during a time with non-restrictions and if this was still a contributing factor in maternal mental health.

The pandemic did, however, have a positive impact on the current study. The advertisement was released while the nation was in lockdown, which meant the majority of people were isolating at home. This could potentially have played a role in why there was a lot of interest in people wanting to participate as they had lots of free time and were looking to find ways to occupy this time.

Strengths

The strength of this study is the qualitative research design. This design, supported by the semi-structured interview, allowed us to gain detailed and insightful information from the participants. The format of the interviews allowed for both structure and flexibility. This combination allowed for the interview to stay on track to explore the research questions fully while allowing both the interviewer and the participants the freedom to elaborate further on topics or to omit some altogether when appropriate. This freedom helps build a good

relationship between the interviewer and participant as the interviewer can show genuine interest in the participant by reading what is most important to them and allowing them to tell their story in a way which they are comfortable with and is beneficial for them. The ability to omit questions from the interview schedule also helps to build this relationship as the questions all seem to be of relevance to the participant.

Another strength of the study was the fact that the participants came from all over New Zealand. The importance of this is that it includes women who have experienced their post-partum journey under different health boards from all over the country. This allows for any impact that the health care provided by the health boards in different districts to be accounted for.

The nature of the recruitment process was another strength of this study as it allowed for a diverse group of participants to be reached. As the advertisement was posted on several public Facebook groups and then shared by individual members on those pages, it reached many women who would not have been aware of this study if any other recruitment method had been used. The participants were diverse in age as well as the number of children in their family.

A strength of this study, which developed by chance during the recruitment process, was that one of the participants was from a same-sex couple, which allowed us to have the benefit of hearing her experience, both as a parent to a child she had carried and as a parent to a child that her partner had carried. It would have been beneficial to the study to ask some more individualised questions to this participant to gain more of an insight into her experience being in the support role with her first child.

This study is also unique as there is no other study (to my knowledge) investigating the impacts of the three components of SDT on postpartum women, which research shows to

be a particularly vulnerable stage of life for women, increasing their susceptibility to adverse mental health conditions. It also comes from a positive psychology angle in the way it highlights how incorporating autonomy, competence, and relatedness into post-partum care could be beneficial for women's overall wellbeing.

Limitations

The largest limitation of this study is the relatively small number of participants. This limitation was brought on by the limited resources available to fund this research study. A small participant pool limits the ability to generalise the results to the general population. This limitation was somewhat overcome by the diverse group of participants that the study did recruit. Another limitation in this study is the lack of questions that aimed to investigate how cultural differences amongst the participants impacted their post-partum experience. This is due to the low number of ethnic minorities that participated in the research. This was somewhat combated by the questions around social connection and relatedness, as it gave the participants the opportunity to share how their culture impacted their experience of this. This does highlight a deficiency with the recruitment method of just taking the first 11 participants that met the inclusion criteria for the study as I was unaware of the lack of diversity until I had interviewed tall the participants. Further research that had a more ethnically and culturally diverse participant group would be beneficial.

Another limitation of this study was that none of the participants were single mothers. This was a result of the participants to be recruited and selected on a "first in, first served" basis provided they fitted the inclusion criteria. Having single mothers in the participant group would have given us the opportunity to report the impact of having no partner support in the home. It also would have been beneficial to have multiple women covering all different types of family dynamics to make the results more generalisable.

Recommendations for Further Research

The previous literature highlighted that there was a difference in the prevalence of maternal mental health disorders in many countries between women in rural settings and those in urban areas. This study included women from both areas, but it was not a target during the interview to see how this impacted their mental wellbeing during their postpartum period. Another area which clearly needs to be investigated further is paternal mental health. It would be interesting and beneficial to assess how the elements of SDT impact fathers during their child's first year also. It was clear that two areas which had a strong impact on the women during the first 12 months post-birth were breastfeeding and exercise. Both of these factors seemed to have a strong influence on the women's overall wellbeing so it would be beneficial for future research to focus on how we can enhance the positive aspects and mitigate the negative in these areas. The 'lifestyle changes' and 'postpartum support' themes were strongly influenced by COVID-19 and periods of lockdown and social isolation. Further research of a similar nature to the current study at a time when COVID-19 isn't a factor would be beneficial to investigate if social isolation and social connection impacts women's wellbeing postpartum in a more normal environment. The 'personal changes' theme showed a strong link between career and achievement and self-identity. It would be interesting to investigate this further to identify how sense of achievement during this time can enhance ones self-identity.

My final recommendation would be for more longitudinal studies to be conducted in order to see the long-term effects of SDT during the first 12 months post-partum on both the mother and her child.

Conclusion

Overall, this study demonstrated how the components of SDT impacted women's mental health post-partum. The component that had the strongest impact was relatedness. All the participants were impacted by relatedness and social connection, or the absence of it, in some way. For those that were impacted positively by social connection, it was the support of friends and family in the post-partum phase who provided them with emotional support and practical help with childcare. For those that noticed an absence of social support during this time, many had some support through friends, but did not feel as though this support was unconditional or the same as what they would receive if their own families were close by. A few of the participants suffered with postpartum depression and/or postpartum anxiety and found themselves isolating themselves to avoid triggers and situations that would worsen these symptoms. COVID-19 was also a strong influencing factor to the women's experience with relatedness as a significant period of their post-partum phase was spent during government-enforced lockdowns. COVID-19 also impacted the women's abilities to meet other new mums by preventing antenatal groups and play groups to go ahead during this time.

Secondly, the results identified that there was a negatively correlated relationship between autonomy and feelings of resentment and overwhelm; women who had low levels of autonomy with feeling like they had little control over their day felt overwhelmed and completely bound by their baby's routine. This often led to feelings of resentment to their partner for having the freedom to get out of the house and work outside of the home, having scheduled breaks, and social interaction with other adults. Having supports in place that allowed women time to themselves to work towards their own personal goals helped women regain feelings of autonomy.

The final component of SDT, competence, was a strong contributing factor to women's mental wellbeing post-partum. Overall, it seemed that the women who were working outside of the home felt that this was of significant help to their mental health as not

only did it allow them a break from their motherhood role, but it also allowed them to feel that they were valued and respected in something outside of motherhood. Aside from gaining this feeling in the workplace, women who enjoyed exercise pre-pregnancy found a sense of pride and satisfaction when they were able to regain strength and meet certain milestones in their fitness journey. In contrast to feelings of achievement and competence, for some women, the post-partum phase brought on feelings of inadequacy and failure. For many women who felt this way, it seemed to be linked to breastfeeding struggles as well as struggling to lose the "baby weight."

In conclusion, it is evident that the components of self-determination theory have a significant impact on a women's mental health in the first 12 months post-birth and it is clear that social support is a crucial foundation to all of these components and without this foundation in place the other components cannot be satisfied.

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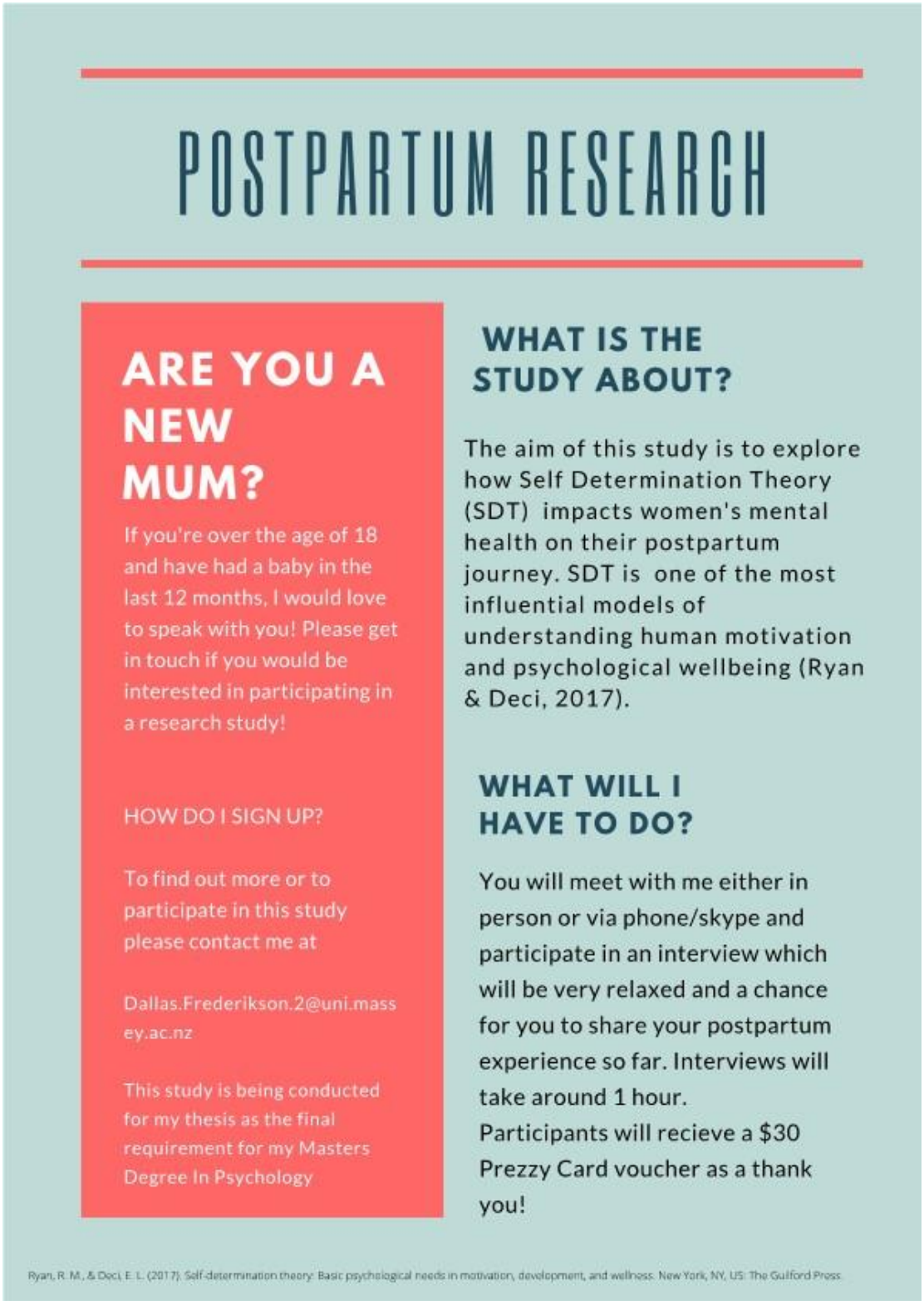
Appendices

Appendix A: Advertisement



Appendix B: Participant Information Sheet

RESEARCHER INFORMATION

This research is being conducted by Dallas Frederikson, a master's student at Massey University. This project is being completed in fulfilment of a Master of Arts Degree in Psychology and is supervised by Dr Matt Shepherd.

CONTACT DETAILS

If you have any questions or would like more information, please contact us:

Dallas Frederikson [redacted]
or
Dallas.Frederikson.2@uni.massey.ac.nz

Dr Matt Shepherd: [redacted]
or M.Shepherd1@massey.ac.nz

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

AN EXPLORATION OF SELF DETERMINATION THEORY IN A MATERNAL MENTAL HEALTH CONTEXT

PARTICIPANT INFORMATION SHEET

Project Description…

This project aims to explore how the three components of Self Determination Theory: autonomy, competence, and relatedness impact maternal mental health during the first 12 months post birth.

We want to talk to women who are aged 18 years or older, have given birth in the past 12 months and have this child in their care. We want to gain an understanding of how autonomy, competence and relatedness have impacted your mental well-being during this post-partum phase.

You are invited to take part in this voluntary study. If you do not wish to participate you do not need to provide a reason for declining the invitation nor do you need to justify your decision to pull out of the study later.

Participant Identification and Recruitment…

- I will invite you to a one-on-one interview.
- I will explain the study and check if you want to take part.
- Should you wish to participate, you will sign a consent form.
- I want to find out about your post-partum experience with a particular emphasis on the three components of Self Determination Theory: autonomy, competence, and relatedness.
- I will audio record the interview and have it transcribed for analysis.
- You will have the opportunity to review this transcript and will sign a release form if you are happy for the information to be anonymously used in the report.
- Participants will receive a $30 Prezzy Card as compensation for their time.

Data Management

- All information that you give to us will be confidential.
- We will not identify anyone who takes part.
- Interview transcripts, data spreadsheets will not feature any personally identifying information.
- All the information given to us will be kept safe in secure password/log in protected computer files.
- The information will be kept for 10 years and then destroyed.

- Interviews will typically last about 1 hour.
- I plan to talk to between 8-12 different women from around New Zealand. This number of participants will allow me to explore a wide range of experiences, whilst still being manageable for the size of the project required for my degree.
- There is the potential that some of the questions may be triggering to past trauma. If you feel triggered or uncomfortable by any of the questions you are not obligated to answer. There are also relevant mental health resources at the bottom of this document should you feel the need to talk any of these issues through. I am not aware of any other risks involved in participating in this study.

Your Rights…

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- *decline to answer any question.*
- *Withdraw from the study at any stage up to 2 weeks after your interview at which time a Transcript Release Authority form must be returned.*
- *ask any questions about the study at any time during participation.*
- *provide information on the understanding that your name will not be used unless you give permission to the researcher.*
- *be given access to a summary of the project findings when it is concluded.*
- *ask for the recording device to be turned off at any time during the interview.*

Ethics…

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 21/39. If you have any concerns about the conduct of this research, please contact A/Prof Fiona Te Momo, Chair, Massey University Human Ethics Committee: Northern, telephone 09 414 0800, x 43347, email humanethicsnorth@massey.ac.nz.

Helplines. Need to talk? Free call or text 1737 any time Lifeline- 0800 543 3The Depression helpline- 0800 111 757 OR Contact Research Team for more information

Appendix C: Interview Schedule

AUTONOMY

1. In this post-partum period, how much control do you feel you have over the things that you do in your day? What are some of the things that you do in your day/week that you CHOOSE to do? Eg exercise, catch up with friends etc. How do these things impact your mood? Do you notice a difference when you haven't been able to do these things?
2. How have your emotions been since the birth of your baby? Do you ever have emotions that you feel you don't understand? Do these emotions bring on any physical symptoms such as dizziness, sore stomach, feeling tense etc?
3. Since the birth of your baby do you feel like yourself? How long do you think it took to feel like this? What things do you think helped you to reach this point? What aspects of yourself do you think have changed over this period?
4. What are the biggest changes you have noticed within yourself since the birth of your baby?
5. How do you think the lack of autonomy or choice in your day to day life impacts on how you feel during the day both good and bad?

COMPETENCE

1. Are there activities/hobbies/interests that you used to do before you had your baby that you don't do know which you wish that you could? What are the barriers to you doing these things?

2. Are there things outside of parenting since becoming a mum that you have accomplished which you feel proud of? How do you think this impacts your mental health?
3. How have the physical changes in your body since the birth of your baby affected your mental health? Has this been a positive or a negative change? How do you think these physical changes have impacted on your sense of self?
4. In terms of career outside of the home do you feel the changes in this (if any) have impacted your self confidence and feelings of competence?

RELATEDNESS

1. Do you feel like you have social support to take time out and do things for yourself? If so, what are these things and how have they helped your mental health.
2. Who is your support system? How do these people support you? If this isn't your first child, has your support system changed this time around? If so, has that impacted your experience?
3. How important would you say this social connection is for your mental health and why?

Appendix D: The Self Determination Scale

The Self-Determination Scale (SDS) Scale Description

The Self-Determination Scale (SDS) was designed to assess individual differences in the extent to which people tend to function in a self-determined way. It is thus considered a relatively enduring aspect of people personalities which reflects (1) being more aware of their feelings and their sense of self, and (2) feeling a sense of choice with respect to their behavior. The SDS is a short, 10-item scale, with two 5-item subscales. The first subscale is awareness of oneself, and the second is perceived choice in oneÕs actions. The subscales can either be used separately or they can be combined into an overall SDS score.

Articles in which the SDS has been used.

Sheldon, K. M., Ryan, R. M., & Reis, H. (1996). What makes for a good day? Competence and

autonomy in the day and in the person. Personality and Social Psychology Bulletin, 22, 1270-1279.

Sheldon, K. M. (1995). Creativity and self-determination in personality. Creativity Research Journal,

8, 61-72.

The Scale

Instructions: Please read the pairs of statements, one pair at a time, and think about which statement within the pair seems more true to you at this point in your life. Indicate the degree to which statement A feels true, relative to the degree that Statement B feels true, on the 5-point scale shown after each pair of statements. If statement A feels completely true and statement B feels completely untrue, the appropriate response would be 1. If the two

statements are equally true, the appropriate response would be a 3. If only statement B feels true

And so on.

1. A. I always feel like I choose the things I do.

B. I sometimes feel that its not really me choosing the things I do.

Only A feels true 1 2 3 4 5 Only B feels true

2. A. My emotions sometimes seem alien to me.

B. My emotions always seem to belong to me.

Only A feels true 1 2 3 4 5 Only B feels true

3. A. I choose to do what I have to do.

B. I do what I have to, but I dont feel like it is really my choice.

Only A feels true 1 2 3 4 5 Only B feels true

4. A. I feel that I am rarely myself.

B. I feel like I am always completely myself.

Only A feels true 1 2 3 4 5 Only B feels true

5. A. I do what I do because it interests me.

B. I do what I do because I have to.

Only A feels true 1 2 3 4 5 Only B feels true

6. A. When I accomplish something, I often feel it wasn't really me who did it.

B. When I accomplish something, I always feel it's me who did it.

Only A feels true 1 2 3 4 5 Only B feels true

7. A. I am free to do whatever I decide to do.

B. What I do is often not what I'd choose to do.

Only A feels true 1 2 3 4 5 Only B feels true

8. A. My body sometimes feels like a stranger to me.

B. My body always feels like me.

Only A feels true 1 2 3 4 5 Only B feels true

9. A. I feel pretty free to do whatever I choose to.

B. I often do things that I don't choose to do.

Only A feels true 1 2 3 4 5 Only B feels true

10. A. Sometimes I look into the mirror and see a stranger.

B. When I look into the mirror I see myself.

Only A feels true 1 2 3 4 5 Only B feels true

Scoring Information for the SDS. First, items 1, 3, 5, 7, 9 need to be reverse scored so that higher scores on every item will indicate a higher level of self-determination. To reverse score an item, subtract the item response from 6 and use that as the item score. Then, calculate the scores for the Awareness of Self subscale and the Perceived Choice subscale by averaging the item scores for the 5 items within each subscale. The subscales are:

Awareness of Self: 2, 4, 6, 8, 10

Perceived Choice: 1, 3, 5, 7, 9

Appendix E: Consent Form

An Exploration of Self Determination Theory in a Maternal Mental Health Context

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read, or have had read to me in my first language, and I understand the Participant Information Sheet attached as Appendix I. I have had the details of the study explained to me, any questions I had have been answered to my satisfaction, and I understand that I may ask further questions at any time. I have been given sufficient time to consider whether to participate in this study and I understand participation is voluntary and that I may withdraw from the study at any time up to two weeks after the conclusion of my interview. I understand that I must sign a Transcript Release Form within this two week period before information from this interview can be used.

1. I agree/do not agree to the interview being sound recorded.
2. I wish/do not wish to have my recordings returned to me.
3. I wish/ do not wish to have a summary of the research sent to me at the conclusion of the project.
4. I agree to participate in this study under the conditions set out in the Participant Information Sheet.

Declaration by Participant:

I [print full name]_____ hereby consent to take part in this study.

Email:_____

Signature: _____ Date: _____

Appendix F: Authority for the Release of Transcript

An Exploration of Self Determination Theory in a Maternal Mental Health Context

AUTHORITY FOR THE RELEASE OF TRANSCRIPTS

I confirm that I have had the opportunity to read and amend the transcript of the interview(s) conducted with me.

I agree that the edited transcript and extracts from this may be used in reports and publications arising from the research.

Signature: ..... **Date:** .....

Full Name - printed .....