The Relationship Among Social Support, Domains of Parental Self-Efficacy and Distress in Parents of Young Children

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Abstract

The present cross-sectional study investigated the relationships amongst social support, parental self-efficacy and postpartum distress. Parents of children under two (N = 327) were recruited via social media and poster advertisements. They were asked to complete three questionnaires regarding social support (Family Support Scale; FSS), parental self-efficacy (Karitane Parenting Confidence Scale; KPCS) and emotional distress (Depression, Anxiety and Stress Scale; DASS).

The participants from this study who had high levels of self-efficacy were found to be more likely to have high levels of social support; however, this correlation was not as strong as anticipated. Furthermore, the participants from this study who had high levels of self-efficacy were less likely to be experiencing distress symptoms; the strength of this correlation was moderate and similar to prior findings.

To further explore the relationships among these constructs, a post-hoc exploratory factor analysis of the Karitane Parenting Confidence Scale (KPCS) was conducted; yielding two factors: parenting role confidence (PRC) and baby care confidence (BCC). These two factors of the KPCS were found to be correlated with depression, anxiety and stress; parenting role confidence had a stronger relationship with these variables.

Additionally, it was found that a combination of parenting role confidence and baby care confidence had substantial power to predict depression, anxiety and stress; social support added a small but significant additional predictive value. These findings suggest that postpartum distress might be mitigated by providing interventions that would improve levels of social support and parenting self-efficacy.

Keywords: postpartum distress, parental self-efficacy, social support, self-efficacy, Karitane Parenting Confidence Scale

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Introduction

Experiences of postpartum psychological problems

Becoming a parent can be a joyous time, it can also be a time of challenge, difficulty and psychological affliction (Coates et al., 2012; Leahy-Warren, 2006). Unfortunately, a substantial number of parents experience psychological distress in the postpartum period, with an estimated one in five women who have recently given birth experiencing some degree of mental illness (World Health Organisation [WHO], 2015). For the purposes of this study, distress will be defined as stress, anxiety or depression, including low to high levels of severity. Data from the longitudinal Growing Up in New Zealand study found that 8% of mothers reported significant depressive symptomatology nine months after childbirth (Underwood et al., 2016). However, these numbers may be an underestimate, as definitions of postpartum depression and the postpartum period vary around the world (Batt et al., 2020). Estimates that include other sorts of emotional distress tend to be significantly higher than this, with approximately 15% of New Zealand women being affected (Abbott & Williams, 2006). Postpartum mental affliction disproportionately impacts migrants (Zlotnick et al., 2023) and indigenous populations, such as Māori (Abbott & Williams, 2006; Te Tāhū Hauora - Health Quality and Safety Commission, 2022). Mental illness in the postpartum period can be devastating, with suicide being the leading cause of maternal mortality in the United Kingdom (Khalifeh et al., 2016) and New Zealand (Te Tāhū Hauora - Health Quality and Safety Commission, 2022). Decades worth of scientific literature has shown that postpartum mental health problems can have devastating effects on a parent's interpersonal relationships (Haslam et al., 2006; Ross & Mclean, 2006) and can negatively impact the cognitive (Kingston et al., 2018 Murray et al., 2003), behavioural (Treat et al., 2020; Walker et al., 2013) and even physical development of the child (Avan et al., 2010; O'Hara & McCabe, 2013). Children with mothers who have experienced postpartum depression are more likely

to exhibit behavioural issues, including mood disorders (Treat et al., 2020), difficult temperaments, emotional dysregulation (Walker et al., 2013), hyperactivity, antisocial behaviour and conduct maladjustments (Avan et al., 2010; Treat et al., 2020; Walker et al., 2013). The above research is correlational, as such, there is no firm evidence of a causal effect of postpartum mental health issues. However, there is evidence to suggest negative outcomes are more likely to occur if a parent is experiencing postpartum depression, even whilst controlling for other mitigating factors, such as the socioeconomic status of the family (Avan et al., 2010; Treat et al., 2020; Walker et al., 2013).

Most of the scientific research on parents' psychological distress primarily focuses on depression. However, there is an increasingly large body of literature that explores other forms and types of distress experienced by parents, such as anxiety and stress (Dol et al., 2021). Postpartum anxiety is closely linked, yet distinct from postpartum depression (Dol et al., 2021). The prevalence of anxiety is more widespread than depression; its prevalence ranges from 17.8% at one month postpartum, to 14.8% at six months postpartum (Dennis et al., 2017). Much research has found anxiety levels peak during pregnancy and then typically decrease during the postpartum period (Dennis et al., 2017; Figueiredo & Conde, 2011). Dol et al. (2017) found first-time mothers experience higher levels of anxiety, in comparison to parents of multiple children. Perinatal anxiety is associated with adverse pregnancy and birth outcomes, insecure maternal-infant attachment (Fairbrother et al., 2017) and is a strong predictor of perinatal depression (Wisner et al., 2013). Sixty percent of women with perinatal depression have a pre-existing comorbid psychological disorder, of which 80% is perinatal anxiety (Wisner et al., 2013). Whilst some level of anxiety is believed to be a natural evolutionary response that functions to increase vigilance in the mother, thus protecting the infant; anxiety becomes problematic when it consumes a person’s time, interferes with self-care and their ability to perform their parenting duties (Infante-Gil et al., 2022).

Parenting stress can be defined as the discrepancy between the resources that are available and the needs of the parent (Vismara et al., 2016). Studies have found perinatal depression and anxiety are predictors of parenting stress, with depression being the strongest predictor (Mazzeschi et al., 2015; Misri et al., 2010; Cheng et al., 2021). Previous research has found temperament and characteristics of the infants, as well as the parents, can predict levels of stress (Vismara et al., 2016). A recent study conducted in Italy recruited twins and their parents, discovered a link between challenging temperaments in children, stress coping strategies in parents, and higher levels of parental stress (Vismara et al., 2016). Mothers who experience high levels of stress are more likely to experience pregnancy complications, go into preterm labour (Roy-Matton et al., 2011) and are less likely to breastfeed (Insaf et al., 2011).

The precise aetiology of postpartum mental health issues is difficult to ascertain, but the literature has found psychosocial factors, such as a lack of social support and self-efficacy to be significantly correlated (Batt et al., 2020; Dol et al., 2017; Dennis et al., 2013).

Self-efficacy

Self-efficacy, initially introduced by psychologist Albert Bandura in 1977, pertains to an individual's conviction in their capacity to effectively execute a task or accomplish a desired objective. Self-efficacy reflects a person's perception of their competence and effectiveness within a specific context (Bandura, 1977, 1986). Self-efficacy encompasses an individual's perception of their ability to influence their surroundings, behaviour, and personal motivation (Bandura, 1977, 1986).

Parental self-efficacy

Using Bandura’s (1995, 1997) framework, De Montigny & Lacharité (2005, p. 390) defined parental self-efficacy as “beliefs or judgements a parent holds of their capabilities to organise and execute a set of tasks related to parenting a child”. Parental self-efficacy is the

belief a parent has in their ability to learn and successfully perform new parenting tasks and skills. Parental self-efficacy is thought to lay the foundation for the healthy development of the family unit (De Montigny & Lacharité, 2002, 2005).

Social cognitive theory

The concept of self-efficacy is embedded in social cognitive theory (Bandura, 2012). Understanding the properties of self-efficacy requires a brief outline of social cognitive theory (Bandura, 1977, 1986, 2012). Social cognitive theory is based on the concept of individual agency (Bandura, 2006, 2012). An agent is one who behaves intentionally to exert some control over the course of one's life (Bandura, 2012). Social cognitive theory posits three interrelated factors which have a causative effect on the course of a person's life: behavioural determinants, environmental determinants and intrapersonal determinants (Bandura, 2012).

Behavioural determinants can be defined as the actions an individual performs (Vance et al., 2017). Examples of parenting behaviours include: changing, feeding and playing. Environmental determinants can be defined as physically external factors that are constantly in interaction with each other. These determinants can be either physical or social in nature (Vance et al., 2017). A new parent may have accommodation that has limited space, which may restrict the parent's ability to provide a play space for the child. The lack of space may impact on the amount of play time between the parent and the child. Intrapersonal determinants can be defined as the constructs which happen within a person, such as thoughts, beliefs, attitudes and values (Vance et al., 2017). A parent who values education and learning may nurture their child's curiosity. Self-efficacy is a constituent of intrapersonal determinants as it pertains to the beliefs and confidence an individual has to successfully execute certain tasks (Bandura, 2012). The level of self-efficacy an individual possesses

influences their perceived ability to exert control over the direction of their life (Bandura, 2012).

Approaches to self-efficacy

A significant issue of self-efficacy research was whether it should be conceptualised as a global, or specific and multifaceted concept (Byrne, 1996). There is now significant evidence in the literature supporting the multidimensional nature of self-efficacy (Boruszak-Kiziukiewicz & Kmita, 2020; Byrne, 1996; Coleman & Karraker, 2000). In a recent review (Boruszak-Kiziukiewicz & Kmita, 2020) of 34 self-efficacy tools, researchers found there were various differences in how these tools assessed self-efficacy The Parent-Patient Activation Measure focuses on measuring a parent's confidence in managing and seeking support for their child's diagnosed mental health disorder (Alegría et al., 2008). This tool is only relevant for parents in that specific situation. Another tool, the Cleminshaw-Guidubaldi Parenting Satisfaction Scale, measures a person's overall confidence in parenting, and can be used in various parenting situations, adding to its flexibility (Guidubaldi & Cleminshaw, 1989). There is no singular way to measure parental self-efficacy as there are several lenses through which it can be understood (Boruszak-Kiziukiewicz & Kmita, 2020).

Researchers have identified four different categories, or domains, of parenting self-efficacy: task-specific domain, task-related domain, general domain, and global domain (Boruszak-Kiziukiewicz & Kmita, 2020; Byrne, 1996; Coleman & Karraker, 2000, 2003; Sæther et al., 2023). These categories help classify the different ways in which parenting self-efficacy is assessed and measured (Bandura, 2012). It is important to understand these domains in order to grasp the theory of parental self-efficacy fully.

Task specific parenting self-efficacy

Task specific self-efficacy refers to a parent's perceived competency in one distinct task that is very specific to parenting children of a certain age and development (Boruszak-

Kiziukiewicz & Kmita, 2020; Coleman & Karraker, 2000, 2003; Sæther et al., 2023). The task specific domain focuses on one area of parenting, such as infant sleep or play. Wittkowski et al. (2017) emphasised items conceptualised within this domain should all be task specific, age-specific and situation specific. A task specific tool focusing on sleep might include the following items: “I feel confident about getting my baby to sleep”, “I know what to do when my baby wakes up early”, “I know the best way to get my baby to sleep”. An example of a task specific self-efficacy tool called the Parent-Patient Activation Measure. This tool focuses on measuring a parent's confidence in managing and seeking support for their child's diagnosed mental health disorder (Alegría et al., 2008). The task specific domain is the narrowest in scope in comparison to the other three self-efficacy domains (Grether et al., 2018). Bandura (1978) asserted that among all of the domains of self-efficacy, the strongest relationship exists between the self-efficacy to perform highly specific tasks and the actual performance of those tasks.

Domain specific parenting self-efficacy

Domain specific self-efficacy involves combining an individual’s task specific self-efficacy within broader circumscribed domains, such as, parenting infants, parenting adolescents or parenting teenagers (Boruszak-Kiziukiewicz & Kmita, 2020; Coleman & Karraker, 2000, 2003; Sæther et al., 2023). A domain specific tool measuring infant parenting may include prompts such as: “I can burp my baby”, “I can bathe my baby”, “I feel confident caring for my sick baby”. This means an individual can be highly efficacious in one question, but not in another. Domain specific is the second most specific category of self-efficacy. A systematic review by Wittkowski and colleagues (2017) found domain specific is the most common domain used in parenting self-efficacy measurement tools.

General domain parenting self-efficacy

General domain refers to a parent's overall perception of their capability in parenting (Boruszak-Kiziukiewicz & Kmita, 2020; Coleman & Karraker, 2000, 2003; Sæther et al., 2023). This domain refers broadly to the extent in which the parent feels confident in their parenting role, without referring to particular tasks of parenting. For instance, a parent with high general parenting self-efficacy may agree with the statement "I am doing a fine job as a parent" (Coleman & Karraker, 2000). Wittkowski and colleagues (2017) add general domain self-efficacy refers to the everyday realities of parenting, without including particular tasks. An item assessing general domain self-efficacy might be: "I have good parenting tips I can share with others" (Freiberg et al., 2014) and "I feel sure of myself as a parent" (Dumka et al., 2002). General domain self-efficacy is perhaps the most generalisable across different ages and stages of childhood development (Coleman & Karraker, 2000, 2003; Crnčec et al., 2010; Jones & Prinz, 2005; Sæther et al., 2023).

Global self-efficacy

Global self-efficacy refers to perceived efficacy that is stable across situations, with parenting being just one of many possible situations (Boruszak-Kiziukiewicz & Kmita, 2020; Coleman & Karraker, 2000, 2003; Sæther et al., 2023). Global efficacy relates to a person's overall confidence in their ability to successfully accomplish tasks, overcome challenges, and achieve desired outcomes in different aspects of life (Boruszak-Kiziukiewicz & Kmita, 2020; Coleman & Karraker, 2000, 2003; Sæther et al., 2023). A tool measuring global self-efficacy may include the item: "I feel confident in my ability to overcome difficulties". Bandura (2006, 2012) argued against the use of global self-efficacy as it lacks predictive power, unlike the previously mentioned domains.

Domains used in parenting self-efficacy tools

A scale incorporating different domains (i.e., task specific, domain specific, general domain, and global) provides a multidimensional assessment of parental self-efficacy, allowing for a comprehensive understanding (Byrne, 1996; Črnčec et al., 2010). Domain specific tools are commonly used due to their reasonable predictive power and generalisability across different populations (Wittkowski et al., 2017). However task-specific measurements, as suggested by Bandura (1997), offer greater precision in evaluating self-efficacy. This is because task specific focuses on specific aspects and tasks, thus minimising confounding factors (Coleman & Karraker, 2000, 2003; Liu et al., 2020).

The relationship between self-efficacy and postpartum mental wellbeing

Many studies have found positive correlations between self-efficacy and mental wellbeing in the postpartum period (Dol et al., 2021; Gao et al., 2014; Haslam et al., 2006; Leahy-Warren et al., 2011; Reck et al., 2012). The relationship between self-efficacy and postpartum stress has been studied by Ngai and Chan (2011). They found that in 92 Chinese mothers, those who had higher levels of self-efficacy were less likely to describe the challenges of the postpartum period as ‘stressful’, compared to those mothers with low self-efficacy. Chan and Levy (2004) conducted a descriptive study with a sample of 35 women living in Hong Kong who had a diagnosis of postpartum depression; they found many parents feel out of control of their daily life and new identity during the postpartum period. Those with low levels of self-efficacy typically have an external locus of control, meaning they believe their circumstances to be largely uncontrollable (Bandura, 2012; Cleary & Zimmerman, 2006). An external locus of control has a negative relationship mental wellbeing (Bandura, 2012; Cleary & Zimmerman, 2006). Similarly, Reck et al. (2012) found maternal self-efficacy was significantly linked to postpartum anxiety in their sample of 798 women. It

is important to note none of these studies were investigating a particular domain of parental self-efficacy, just parental self-efficacy in general.

The above findings are in line with Bandura's (1995, 1997) theoretical framework. Bandura (2012) postulates those parents with low self-efficacy may be less likely to engage in challenging tasks, as they may have low resilience and motivation as they do not have confidence in their ability to overcome challenging circumstances. Conversely, parents with high self-efficacy are more likely to persevere through adversity as they believe in their competence to control, adapt to and overcome challenging circumstances (Bandura, 1995, 1997; Gao et al., 2014; Leahy-Warren et al., 2011).

The bilateral relationship between self-efficacy and mental health

Bandura (1995, 1997, 2012) proposes an interplay between self-efficacy and mental health, characterising their connection as reciprocally interactive. Bandura (1995, 1997, 2010) posits self-efficacy has an impact on mental health, while simultaneously acknowledging mental health has an influence on self-efficacy. This notion has been evidenced by Kunseler et al. (2014). In their sample of 822 first time parents, they found that higher prenatal parenting self-efficacy was associated with decreases in anxiety and depressive symptoms, while lower prenatal mood symptoms were associated with increases in parenting self-efficacy. Suggesting that low mood can impact parental self-efficacy and higher self-efficacy can contribute to improvements in mood.

As there is good evidence self-efficacy is correlated with mental health, it is important researchers and clinicians consider self-efficacy when looking at mental health outcomes for postpartum people (Haslam et al., 2006).

The impact of self-efficacy

Bandura (1977, 1986, 2012) argues self-efficacy plays a significant role in shaping an individual's thoughts, emotions, and behaviours. Self-efficacy can influence a person in

several ways: it affects the goals they set, their expectations of success, how they attribute their successes and failures, and the decisions they make (Bandura, 1986, 2012; Phillips & Gully, 1997).

The level of self-efficacy a person possesses influences the goals they choose. An individual with low self-efficacy tends to doubt their capabilities and avoids setting ambitious goals, even if those goals may bring positive outcomes (Bandura, 1986, 2012). Someone with high self-efficacy is more likely to believe in their abilities and set challenging goals (Bandura, 2012). A parent with high self-efficacy may be inclined to set goals for their development, growth and improvement in parenting related tasks.

Self-efficacy also impacts a person's expectations of the outcomes they will achieve (Bandura, 2012). Those with high self-efficacy are more optimistic about achieving positive outcomes in their endeavours, while individuals with low self-efficacy may have less confidence in their ability to succeed (Bandura, 1986, 2012). In their study of 300 Australian women Blyth and colleague (2004) found that a mother who experiences low self-efficacy in breastfeeding may have reduced expectations in their ability to successfully nurse their infant. This reduced expectation may influence the level of time and effort they invest in breastfeeding, which may reduce their efficacy in this task. Thus, a cycle of low self-efficacy and low expectations is initiated (Blyth et al., 2004).

Self-efficacy affects how individuals attribute success or failure (Bandura, 1986, 2012). Individuals with low self-efficacy tend to blame themselves for failures, even when evidence suggests otherwise (Bandura, 2012). This self-blame can negatively impact their self-perception and hinder their motivation (Bandura, 1986, 2012). In their study of 340 preschoolers and their parents Meunier and colleagues (2010) found that parents with low self-efficacy may not attribute their child’s healthy development to their parenting skills, instead they may believe an external factor is at play.

Self-efficacy plays a vital role in decision-making, self-conception, and interactions with the world (Bandura, 2012). It shapes how individuals think and feel about themselves and their abilities. Self-efficacy has the potential to significantly impact a person's mental wellbeing, behaviour, and ultimately, the trajectory of their life (Bandura, 1977, 2012).

Factors that impact self-efficacy

Bandura (1977, 1986, 2012) described four factors that can influence self-efficacy: mastery experience, a person's physical and emotional state, social modelling and social persuasion. Mastery experiences are where individuals have learnt how to master a particular skill through experience (Bandura, 1986, 2012). If people only experience easy successes they are easily discouraged by failures and setbacks. Experiencing failures is vital in learning how to overcome difficulties through perseverance (Phillips & Gully, 1997). According to Bandura (2012), experiencing setbacks builds resilience as it teaches people how to manage failure in a way that is informative, rather than demoralising.

The second factor that can influence self-efficacy is an individual's assessment on their own emotional and physical states (Bandura, 2012). Bandura (2012) suggests efficacy beliefs are strengthened by reducing levels of depression, anxiety and stress and building physical stamina.

The third factor that can influence self-efficacy is social modelling (Bandura, 1977, 1986, 2012). This is where individuals learn a skill by seeing people similar to them succeed in a task (Bandura, 1977, 1986, 2012).

The final source of self-efficacy is social persuasion, this is where people are encouraged and persuaded by others to believe in their abilities (Bandura, 1986, 2012). According to Bandura (2012) social persuasion encourages people to persevere in the face of challenges. Social modelling and social persuasion could be considered as types of social support as they are dependent on influence from an outside individual (Leahy-Warren et al.,

2011). Self-efficacy and social support have been found to have a strong correlation to each other (Gao et al., 2014; Haslam et al., 2006; Leahy-Warren et al., 2011, 2012, 2018).

Social support

Social support has been defined as the "verbal and non-verbal information or advice, tangible aid, or action that is proffered by social intimates or inferred by their presence and has beneficial emotional or behavioural effects on the recipients." (Gottlieb, 1983, p. 28). A more modern definition defines social support as: "the information and actions that lead to a user's feelings of being cared for, loved, esteemed and valued" (Zhou, 2019, p. 221). This more modern definition has been broadened to include social support provided online by both social intimates, professionals and internet strangers (Rai et al., 2016; Zhou et al., 2019). For the purposes of this study the second definition will be used as it is more in line with the measurement of social support used. Social support can take many forms, including: tangible aid, emotional concern and information sharing. Social support can be provided through any medium, such as in person, or online (Dennis & Dowswell, 2013; Leahy-Warren et al., 2011). Social support can be provided by any person or persons in an individual's social sphere, such as family, friends or professionals (Gao et al., 2014; Leahy-Warren et al., 2011, 2018; Nowak et al., 2022). The source of social support is differentiated by whether it comes from a formal relationship (doctor, nurse or midwife), or from an informal relationship (friend, mother, partner) (Leahy-Warren et al., 2018). Social support in the context of the postpartum period can be defined as that which supports a parent in their transition from to the parenting role (Dennis & Dowswell 2013; Morrell et al., 2016). A parent in the postpartum period will seek out social support based on their previous experience and expectations of parenthood (Leahy-Warren et al., 2018).A new parent may seek out a friend who can provide social support through information sharing by modelling a behaviour, such as settling an upset baby (Haslam et al., 2006). The literature notes social support must be

perceived as beneficial to the recipient, by the recipient, in order for it to be classified as social support (Gao et al., 2014; Gottlieb, 1983; Leahy-Warren et al., 2018).

Gao et al. (2014) conducted a study focusing on new mothers, wherein they discovered a significant proportion of participants did not perceive the traditional Chinese practice of "doing the month" as subjectively supportive. This cultural ritual involves the mother-in-law providing support to the new mother for a duration of 40 days. In this instance, although the participants were being aided by their families, they did not find it to be beneficial, therefore it cannot be defined as social support (Gao et al., 2014). On a fundamental level social support is defined as aid given by another person. It can be provided in person, or in another way (Rai et al., 2016). The support can be formal or informal (Leahy-Warren et al., 2018), but the respondent must consider the support to be subjectively helpful (Gao et al., 2014).

The relationship between social support and postpartum mental wellbeing

Substantial research has found higher levels of social support are associated with higher levels of psychological wellbeing in the postpartum period (Cutrona & Troutman, 1987; Haslam et al., 2006; Nowak et al., 2022; Shorey et al., 2014). A meta-analysis by Dennis and Dowswell (2013) reviewed 28 postpartum social support interventions from around the world and found that women who received the right subjective type and amount of social support during the postpartum period were significantly less likely to develop postpartum depression compared to control groups. Dennis and Dowswell (2013) found one-on-one interventions, such as home visits from midwives, peer based telephone support and interpersonal psychotherapy were particularly beneficial to postpartum mothers. Social support needs to be aligned with the needs and expectations of the recipients in order to be effective (Dennis & Dowswell, 2013; Gao et al., 2014; Leahy-Warren et al., 2011, 2018). It also needs to be provided by the appropriate person for that individual and situation in order

to facilitate mental health and wellbeing (Dennis & Dowswell, 2013; Gao et al., 2014; Leahy-Warren et al., 2011, 2018). A comprehensive study involving thousands of women emphasised the importance of social support in relation to postpartum depression (Cooper & Murray, 1997). The study revealed that mothers who experienced a lack of social support were approximately twice as likely to develop postpartum depression compared to mothers who had an adequate support network (Cooper & Murray, 1997).

The relationship between social support and parental self-efficacy in the postpartum period

As mentioned before, Bandura (1977, 1984, 2012) proposed four sources of self-efficacy: mastery experiences, physical and emotional states, social modelling and social persuasion. Social modelling and social persuasion are akin to social support in that they are forms of facilitation which can only be provided via external agents (De Montigny & Lacharité, 2005; Leahy-Warren et al., 2011). In other words, a social exchange between two people, or groups of people, must occur with social persuasion and social modelling (De Montigny & Lacharité, 2005; Leahy-Warren et al., 2011). Social modelling is defined by Bandura (2012) as observing other people successfully execute a desired skill. Social modelling can increase a person's aspirations and beliefs in their own capabilities (Bandura, 2012). Social persuasion is defined as the action of emboldening people through encouragement (Bandura, 2012). If people are persuaded to believe in themselves, they will be more likely to persevere in the face of adversity, they will also be more likely to be motivated to achieve their goals (Bandura, 2012). Modelling and encouragement are two of the ways social support may influence self-efficacy in new parents.

Several studies have found a positive correlation between social support received and levels of self-efficacy (Baker et al., 2013; Cutrona & Troutman, 1986; Fang et al., 2021). In a study conducted by Baker and colleagues (2013), examining a group of mothers with preterm

babies, it was revealed social support exhibited a significant positive correlation with the levels of self-efficacy among new parents during the early postpartum period. The positive relationship between self-efficacy and social support is in line with Bandura's (1995, 1997) theory of parental self-efficacy. For instance, a parent caring for a newborn child might be socially supported by her friends to breastfeed; they may offer her advice or encouragement. Through this social support, the mother's self-efficacy in regards to breastfeeding may increase.

The relationships among self-efficacy, social support and postpartum mental wellbeing

Perinatal mental health research consistently highlights two factors which exacerbate the experience of postpartum mental distress: a lack of social support (Dennis & Dowswell, 2013; Fang et al., 2021; Haslam et al., 2006; Leahy-Warren et al., 2011) and low self-efficacy (Fang et al., 2021; Haslam et al., 2006; Leahy-Warren et al., 2011). Social support and self-efficacy are related to several postpartum mental health problems, including depression (Dennis et al., 2013; Gao et al., 2014; Haslam et al., 2006; Leahy-Warren et al., 2011; Treat et al., 2020), anxiety (Dol et al., 2021) and stress (Mohammad et al., 2021).

Parental self-efficacy and social support not only have independent effects on postpartum mental health but they also have an interactive relationship with each other (Haslam et al., 2006; Leahy-Warren et al., 2011). Through the provision of encouragement, guidance, and practical aid, social support empowers parents to confront challenges, persevere in the face of adversity, and achieve desired outcomes for their family (De Montigny & Lacharité, 2005; Leahy-Warren et al., 2011). In turn, self-efficacy enhances individuals' ability to seek and utilise social support effectively (Liu et al., 2022). This mutual interaction between social support and self-efficacy ultimately impacts an individuals' mental wellbeing (Dennis & Dowswell, 2013; Fang et al., 2021; Haslam et al., 2006; Leahy-Warren et al., 2011).

There have been several attempts to elucidate the direction of the relationship between these variables (Haslam et al., 2006; Leahy-Warren et al., 2011, 2012), with differing results. In their sample of 247 first time mothers living in Brisbane, Australia, Haslam and colleagues (2006) found self-efficacy mediates the influence of social support on postpartum depression. Similarly, in their sample of first-time mothers who were six weeks postpartum and living in Ireland, Leahy-Warren et al. (2012) found social support to be positively correlated with self-efficacy, which was negatively correlated with postpartum distress. The aforementioned studies found parental self-efficacy and social support not only have independent effects on postpartum mental health but they also have an interactive relationship. The causality of this relationship remains difficult to ascertain, though the notion of bidirectionality aligns with Bandura's theory (1977, 1986, 1995, 1997, 2012). Further exploration of the relationship between parental self-efficacy and social support is warranted.

Hypotheses

The primary aim of this research was to investigate the relationship between social support and self-efficacy and the relationship between self-efficacy and distress. The secondary aim of this research was to investigate how much of an effect self-efficacy has on distress, and then see if social support has a predictive value additionally. Given that social support interventions are widely recognised, readily accessible (Montgomery et al., 2012), and arguably easier to implement compared to interventions targeting self-efficacy, we wanted to investigate whether increasing social support with self-efficacy held constant would impact levels of distress in new parents. We examined the measurement of self-efficacy in greater detail in order to gain further insight into the participant’s level of self-efficacy across different domains. Anticipated findings included a positive correlation between social support and self-efficacy, as well as between distress and self-efficacy. It was

hypothesised social support would add predictive value, in addition to self-efficacy in predicting different types of emotional distress.

Methods

The current study utilised a cross-sectional online survey measuring postpartum distress, parental self-efficacy and social support among parents of children up to two years old. A convenience sample of participants were recruited through social media.

Participants

Approximately 585 people followed the link to access the survey. Initially data were screened for any missing values; any participant who had completed less than 80% of the items on one or more of the three key measures were permanently deleted from the data pool. If a participant completed between 80% and 100% of the items, their mean score across items in that scale was used to replace the missing items. The total number of deleted participants was 243. The final sample consisted of 342 self-selected primary caregivers of children under two who consented to partake in the study.

The mean age was 30.6 years (*SD* = 6.66). The mean number of children was 1.5 (*SD* = 0.79). A detailed breakdown of the sociodemographic characteristics of the sample is shown in Table 1.

Table 1

Demographics of Participants

Gender		*N*	%
	Woman	318	93.3
	Man	5	1.5
	Gender diverse	2	0.9
	Missing	14	4.3
Place of residence		*N*	%
	New Zealand	126	37
	Australia	22	6.5

	United States of America	129	41.2
	Other	36	11.5
	Missing	29	3.8
Ethnicity		*N*	%
	Māori	12	3.5
	Pākehā/New Zealand European	30	8.8
	Asian	8	2.3
	Australian European	6	1.8
	European	31	9.1
	Middle Eastern	1	0.3
	Latin American	5	1.5
	North American	92	27
	African	1	0.3
	Other	6	1.8
	Missing	177	56.4
Age (years)		*N*	%
	16 - 20	3	0.9
	21 - 25	28	8.2
	26- 30	95	27.9
	31 - 35	118	34.6
	36 - 40	61	17.9
	41 - 45	4	1.2
	46 - 50	2	0.6
	Missing	31	8.7

Number of children			
	1	188	55.1
	2	98	28.7
	3	26	7.6
	4+	4	1.2
	Missing	26	7.4
Education		*N*	%
	No qualification	5	1.5
	Some HS/ NCEA level 1 & 2	13	3.8
	HS completion/ NCEA level 3	34	10
	Certificate	33	9.7
	Diploma	29	8.5
	Undergraduate	120	35.2
	Postgraduate	82	24
	Missing	26	7.3
Relationship status		*N*	%
	Single	20	5.9
	Open/Non-committal	2	0.6
	De-facto/Living together	71	20.8
	Married	223	65.4
	Divorced	5	1.5
	Missing	21	5.8
Sexual Orientation			
	Lesbian	3	0.9
	Asexual	2	0.6
	Bisexual	35	10.3
	Heterosexual	271	79.5

Pansexual	7	2.1
Queer	1	0.3
Other	4	1.2
Missing	19	5.1

Note. HS = high school. NCEA = National Certificate for Educational Achievement (New Zealand's main secondary school qualification)

Procedure

Prior to commencing the study, full ethical approval was obtained from The University of Waikato (2021#66) and the Royal New Zealand Plunket ethical review boards. Voluntary response sampling was used to recruit participants via advertisement posters, word of mouth, targeted internet marketing and posts on social media parenting groups. The advertisements used included an electronic link to the survey which provided an information page outlining the requirements of the study, the inclusion criteria and their rights as participants, before asking for their informed consent. The inclusion criteria were as follows: (1) full consent given, (2) the current primary caregiver of a child under the age of two years, (3) conversational level of English, (4) access to the internet and (5) over the age of 16. Mothers, fathers and non-biological caregivers were eligible to participate in this survey. Participants were recruited between August 29th 2021 and May 2nd 2022. If a participant met the full criteria, they were then asked to complete a 49-question survey about their perceived social support, self-efficacy and emotional state (further information about the assessments used can be found in the "Measures" section). The survey was entirely anonymous and could only be completed online, with each survey taking between 10 and 25 minutes to complete. On completion of the survey each participant had the opportunity to go into the draw to win a $50 voucher. Data for this study were collected alongside data for another study evaluating the psychometric characteristics of a new measure of social support

for parenting. Participants also completed that measure and were asked to repeat that measure after two weeks, but that study is reported elsewhere.

Measures

Depression, Anxiety, Stress Scale 21

The Depression Anxiety Stress Scale (DASS) is a self-report psychometric measurement tool which aims to measure three related negative emotional states: depression, anxiety and stress (Lovibond & Lovibond, 1995). The DASS-21 consists of 21 negative emotional state questions, and asks the participant to rate how many times in the past week they have experienced these negative feelings (Lovibond & Lovibond, 1995). There are three subscales with 7 items on each and a four-point prevalence scale is used (0 = *does not apply to me at all*, 3 = *applies to me most of the time*). An item example from the depression subscale is "I couldn't seem to experience any positive feeling at all". An example item from the stress subscale is: "I found it hard to wind down". An example item from the anxiety subscale is: "I was aware of dryness in my mouth". Osman et al. (2012) found the DASS-21 to have good reliability, construct and structure validity across multiple different cultures. Scores from the DASS-21 have previously shown a good level of internal consistency (Ahmed, 2022). This study utilised the DASS-21 Rasch-adjusted scoring in order to resolve the limitations of ordinal response scales and advance the scores to interval level scoring (Medvedev et al., 2018). In this study, DASS total score internal consistency (Cronbach α) was 0.94; furthermore, internal consistency (Cronbach α) for the depression, anxiety and stress subscales were 0.92, 0.97, 0.89 respectively.

Karitane Parenting Confidence Scale

The Karitane Parenting Confidence Scale (KPCS) is a self-report psychometric measurement tool that was developed to measure a parent's level of perceived parenting self-efficacy. The KPCS has 15 items asking the participant to rate how confident they feel

executing certain parenting related tasks and how they feel about themselves as parents. The scoring system for the KPCS involves assigning a value of 0, 1, 2, or 3 to each item. There are no items with reversed scoring, and all items follow a consistent scoring order. If an item is marked as not applicable, it is scored as 2. The individual item scores are then summed to obtain a total score, which ranges from 0 to 45. Higher scores indicate higher parenting self-efficacy. The two items that had 'not applicable' options were "I feel confident about feeding my baby (, not applicable, my partner feeds my baby)" and "I feel sure my partner will be there for me when I need support (not applicable, I don't have a partner)". The KPCS has a good variety of items which pertain to different types of self-efficacy. There are two items that ask about social support: "I feel sure that people will be there for me when I need support" and "I feel sure that my partner will be there for me when I need support". There are also eight items that ask about specific tasks, such as: "I am confident about playing with my baby" and "I can settle my baby". There are also several items which ask more general domain questions, such as: "Other people think I am doing a good job as a mother/father" and "I feel I am doing a good job as a mother/father". Good validity and reliability have been confirmed (Usui et al., 2019). Findings from previous studies have shown a sufficient level of internal consistency (Črnčec et al., 2008, 2010). In this study, internal consistency (Cronbach's α) is good with a score of .78.

To our knowledge, the KPCS is the only parenting self-efficacy scale developed in the Australian context, which makes it highly appropriate for our study focused on participants from New Zealand and Australia (Črnčec et al., 2008, 2010). However, nearly half of our participants were actually located outside of these countries. One advantage of the KPCS is its inclusivity, as it is designed for both mothers and fathers (Črnčec et al., 2008, 2010; Wright et al., 2022), which was beneficial for our study that actively recruited and included all parental groups. The KPCS has demonstrated satisfactory psychometric

properties, including acceptable levels of internal consistency, test-retest reliability, and convergent and discriminant validity (Črnčec et al., 2008, 2010). Its brevity and ease of administration make it an attractive tool for researching parental self-efficacy in an online environment (Črnčec et al., 2010; Wright et al., 2022). These two questions were omitted when the relationship between social support and self-efficacy was examined in order to avoid a confounding effect.

Family Support Scale

The Family Support Scale (FSS) (Dunst et al., 1984) is a self-report psychometric assessment tool that has been developed to measure levels of social support from various different sources. The FSS was developed for the specific purpose of measuring the helpfulness of sources of support to parents raising young children (Dunst et al., 1984). The survey begins by asking the respondent to rate a variety of potential sources of support in raising their child(ren). A respondent indicates on a six point scale (0 = *not all helpful,* 5 = *extremely helpful)* the extent to which child-rearing assistance received from a particular social support has been valuable to their life. Nineteen different sources of social support are listed and the respondent is asked to rate each one. One open narrative question which allows the respondent the opportunity to enter an "other" source of help was omitted from the survey, as is allowed by the authors of the tool. The sources of support on the FSS can be divided into formal and informal support; formal support includes health professionals and service providers, while informal support includes friends, family and partners. Good validity and reliability have been found (Dunst et al., 1984). Scores from previous studies have shown a sufficient level of internal consistency (Dunst et al., 1984); in this study, the FSS had good internal consistency (Cronbach α) with a score of .72.

Analysis

Multivariate and univariate normality was examined using Statistical Package for the Social Sciences (SPSS) 28.0 (2022). For this correlational study, bivariate correlations were used to examine the relationships amongst the variables social support, self-efficacy and distress. The data were non-normally distributed, as the KPCS was negatively skewed (-2.850). Therefore, two Spearman's correlation coefficients were used to investigate the primary hypothesis of a negative correlation between self-efficacy and distress, as well as for the second hypothesis of a positive correlation between social support and self-efficacy. Cohen's (1998) guideline for interpreting a correlational relationship was utilised. An *r* between 0.10 - 0.29 indicates a small or weak correlation. An *r* between 0.30 - 0.49 indicates a medium or moderate sized correlation. An *r* between 0.50 - 1.0 indicates a large or strong correlation. For the third hypothesis of self-efficacy being a predictive factor for postnatal distress and social support having a predictive power in addition to this, three multiple linear regressions were conducted, one for each aspect of distress: depression, anxiety and stress.

Results

Overall levels of distress, social support and self-efficacy

The scores, standard deviations and means for the Depression, Anxiety and Stress Scale (DASS 21) can be found in table 2; the majority of the participants were in the 'normal' category (Lovibond & Lovibond, 1995). The majority of the scores fell within the 'mild clinical' to 'non-clinical' range for the Karitane Parenting Confidence Scale (KPCS). The mean (*M*) and standard deviation (*SD*) for the total scores was 37.91 and 5.45 respectively. The scores in table 3 are the total of all 15 items as per the authors (Črnčec et al., 2008) scoring procedures, further information can be found in table 3. The mean score for the Family Support Scale (FSS) was 23.85, the standard deviation was 10.25; there are no clinical or severity categories for the FSS.

Table 2

Descriptive Statistics for DASS21 Subscales: Depression, Anxiety and Stress

Subscale	M	SD	Normal %	Mild %	Moderate %	Severe %	Extremely severe %
Depression	5.73	3.96	76.6	11.9	2.6	0	0
Anxiety	6.70	3.43	59.6	16.6	19.6	1.2	0.3
Stress	9.25	3.16	92.4	4.4	0.9	0	0

N = 342

Table 3

Descriptive Statistics for Karitane Parenting Confidence Scale (KPCS)

	Non-clinical range, 40 or more	Mild clinical range, 36 - 39	Moderate clinical range, 31 - 35	Severe clinical range, 30 or less
n	145	99	56	25
%	42.4	28.9	16.4	7.3

N = 342

Correlations among social support and self-efficacy, and distress and self-efficacy

As we were trying to examine the relationship between self efficacy and social support, the 13-item version of the KPCS, removing the two social support items (questions nine and 15), was used to evaluate associations among social support, self-efficacy and distress. The *M* and *SD* for the 13-item version was 33.45 and 4.37 respectively. Due to the KPCS being non-normally distributed a Spearman's Rho was conducted to evaluate the correlations among key constructs. A small positive, statistically significant, correlation between social support and self-efficacy was found (r=.188, [.061, .298], p=<.001). A medium correlation between self-efficacy and distress (total DASS) was found (r=.331, [-.428, -.230], p=<.001). Furthermore, a small negative correlation between social support and distress (total DASS) was found (r= -.266, [-.370, -.164], p=<.001).

Exploring the parenting self-efficacy domains of the KPCS

An exploratory factor analysis was conducted in order to ascertain if the KPCS was measuring separable domains (Bandura, 2012) of parenting self-efficacy, as has been found by previous literature (Usui et al., 2020; Wright et al., 2022). As we were trying to examine the relationship between social support and self-efficacy we omitted the social support items

(items nine and 15) as we wanted to measure self-efficacy as a separate construct from social support.

An exploratory factor analysis (EFA) with oblique rotation (direct oblimin) was conducted on 13 items of the KPCS, with the two social support items being omitted. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the EFA (KMO=.875), which is considered a 'meritorious' score according to Kaiser and Rice (1974). Two factors had eigenvalues over 1 and together accounted for 51.99% of the variance. The scree plot was unambiguous and only justified retaining two factors. Factor one included items assessing 'baby care confidence' (the confidence an individual has to carry out a baby related care task), factor two includes items assessing 'parenting confidence' (how an individual feels about themselves as a parent) (Table 4). The component correlation matrix showed there was a medium sized correlation of -.431 between the two factors. As scored for this study, a high score on F1 indicates a high level of confidence at specific baby care tasks, while a high score on F2 indicates a low degree of confidence in the overall parenting domain.

Table 4

Rotated Factor Loadings of the Karitane Parenting Scale (KPCS)

Item no.	KPCS item	Factor one	Factor two
1	I am confident about feeding my baby	.513	-
2	I can settle my baby	.819	-
3	I am confident about helping my baby to establish a good sleep routine	.355	-
4	I know what to do when my baby cries	.810	-
5	I understand what my baby is trying to tell me	.746	-
6	I can soothe my baby when they are distressed	.907	-
7	I am confident about playing with my baby	.453	-.331
8	If my baby has a common cold or slight fever, I am confident about handling this	.531	-
10	I am confident that my baby is doing well	.590	-
11	I can make decisions about the care of my baby	.755	-
12	Being a parent is very stressful for me	-	.852
13	I feel I am doing a good job as a parent	-	-.748

Item no.	KPCS item	Factor one	Factor two
14	Other people think I am doing a good job as a parent	-	-.595
	% of variance	41.51%	10.08%
	Label	Baby care confidence	Parental role confidence

Note. Only factor loadings >.3 depicted

Correlations between social support and factors of self-efficacy

Bivariate correlations were conducted to investigate the relationship between the two factors of the KPCS and social support. Due to the KPCS being non-normally distributed a Spearman's Rho was used. A small positive, statistically significant, correlation between social support and baby care confidence (factor 1) was found (r=.133, [.017, .245], p=<.001). A medium correlation between social support and parenting role confidence (factor 2) was found (r=.283, [.178, .387], p=<.001).

Predictors of parental distress

Three linear multiple regressions were conducted to evaluate the value of baby care confidence (self-efficacy), parenting role confidence (self-efficacy) and social support in predicting parental depression, stress, and anxiety. These findings are reported in tables 9, 10 and 11. Baby care confidence and parenting role confidence were entered in the first block, then social support was entered into the second block to assess whether this added significantly to the prediction of distress.

Depression

Parenting role confidence significantly predicted depression ($S\beta$ = -.54, p = <.001). Baby care confidence did not significantly predict depression ($S\beta$ = -.07, p = .19). It was

found that social support significantly predicted depression ($S\beta$ = -.14, p = .005) additionally. The overall regression was statistically significant (R^2 = .339 for step 1, R^2 = .355 for step 2).

Table 9

Multiple Linear Regression of Predictors of Depression

Predictor	Unstandardised β	Coefficient Std. Error	Standardised β	t	p
Step 1					
Constant	16.99	1.45		11.72	<.001
F1 BCC	-.08	.06	-.07	-1.31	.19
F2 PRC	-1.28	-.13	-.54	-9.81	<.001
Step 2					
Constant	17.65	1.45		12.12	<.001
F1 BCC	-.07	.06	-.06	-1.25	.212
F2 PRC	-1.21	.13	-.51	-9.18	<.001
Social support	-.05	.02	-.14	-2.86	.005

Note. R^2 = .339 for step 1, R^2 = .355 for step 2

BCC = baby care confidence, PRC = parenting role confidence

N = 312

Anxiety

Parenting role confidence significantly predicted anxiety ($S\beta$ = -.38, p = <.001) Baby care confidence significantly predicted anxiety ($S\beta$ = –.25, p = <.001). It was found that social support significantly predicted anxiety ($S\beta$ = –.10, p = .034) additionally. The overall regression was statistically significant (R^2 = .316 for step 1, R^2 = .327 for step 2).

Table 10

Multiple Linear Regression of Predictors of Anxiety

Predictor	Unstandardised β	Coefficient Std. Error	Standardised β	t	p

Step 1					
Constant	17.45	1.12		15.46	<.001
F1 BCC	-2.21	.04	-.25	-4.57	<.001
F2 PRC	-.76	.11	-.38	-6.97	<.001
Step 2					
Constant	17.77	1.13		15.70	<.001
F1 BCC	-.21	.048	-.24	-4.41	<.001
F2 PRC	-.72	.112	-.36	-6.43	<.001
Social support	-.03	.017	-.10	-2.21	.034

Note. R^2 = .316 for step 1, R^2 = .327 for step 2

BCC = baby care confidence, PRC = parenting role confidence

N = 312

Stress

Parenting role confidence significantly predicted stress (*Sβ* = -.46, *p* = <.001). Baby care confidence significantly predicted stress (*Sβ* = -.18, *p* = <.001). It was found that social support significantly predicted stress (*Sβ* = -.10, *p* = .033) additionally. The overall regression was statistically significant (R^2 = .334 for step 1, R^2 = .344 for step 2).

Table 11

Multiple Linear Regression of Predictors of Stress

Predictor	Unstandardised *B*	Coefficient Std. Error	Standardised Coefficients *B*	*t*	*p*
Step 1					
Constant	18.69	1.04		17.95	<.001
F1 BCC	-.15	.04	-.18	-3.38	<.001
F2 PRC	-.85	.10	-.46	-8.41	<.001
Step 2					

Constant	18.98	1.04		18.18	<.001
F1 BCC	-.14	.04	-.17	-3.21	<.001
F2 PRC	-.81	.10	-.43	-7.84	<.001
Social support	-.03	.01	-.10	-2.13	.033

Note. R^2 = .334 for step 1, R^2 = .344 for step 2

BCC = baby care confidence, PRC = parenting role confidence

N = 312, 95% bias corrected

Confidence intervals and standard errors based on 1000 bootstrap sample

Discussion

The aim of the present study was to add to the existing knowledge base on postnatal distress in parents of children under two. The goal was to further the knowledge of the relationship amongst self-efficacy, social support and postnatal distress symptoms, namely depression, anxiety and stress. A post-hoc analysis was conducted to further elucidate the contribution of different types of self-efficacy on distress and social support. The goals of this study were deemed important as postnatal distress can have significant effects on mother, child and the family unit (Kingston et al., 2012; Yu & Bowers, 2020). In their study sample of Chinese mothers Yu and Bowers (2020) found postpartum distress was likely to lead to feelings of isolation and a sense of a loss of control. If left untreated, postpartum distress can lead to consequences for the child and family (Okun et al., 2018).

The relationship between social support and self-efficacy

As expected, a small statistically significant positive correlation between social support and self-efficacy, measured without the confounding social support items, was found. A finding which is consistent with current literature (Gao et al., 2014; Haslam et al., 2006; Leahy-Warren et al., 2011; Mohammad et al., 2021). In their sample of mothers living in mainland China, Gao and colleagues (2014) found a moderate, statistically significant positive correlation between social support and parenting self-efficacy at three months postpartum.

Unexpectedly, the current study found only a small correlation unlike the aforementioned studies who found moderate correlations (Gao et al., 2014; Haslam et al., 2006; Leahy-Warren et al., 2011; Mohammad et al., 2021). The different measures of self-efficacy being utilised by each study could account for this discrepancy. Gao and colleagues (2014) used the Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman, 1978) which focuses only on general self-efficacy, as well as, satisfaction with parenting.

Leahy-Warren and colleagues (2012) used the Perceived Maternal Self-Efficacy Scale (Barnes & Adamson-Macedo 2007) which focuses on task-specific efficacy only. The tool used in this study included items which pertained to both general and task-specific domain self-efficacy.

Sample demographics, particularly the age of the child, could also account for this discrepancy of correlation strength. This study sampled parents of children who were up to two years old, which is considerably older than the children from the previously mentioned studies (Gao et al., 2014; Dol et al., 2021; Haslam et al., 2006; Leahy-Warren et al., 2011; Mohammad et al., 2021). Therefore, it is likely the participants from this study had more previous experience with child rearing tasks. This means that a person who has previous experience of successfully executing a task will be more likely to feel confident about said task. Therefore, the parents from this study required less social support as they were already self-efficacious in child care related tasks This explanation is in line with Bandura (1995, 1997) who theorised self-efficacy, particularly task specific domain, can be increased through mastery experiences.

Furthermore, it was found social support had a stronger correlation with parenting role confidence than with baby care confidence. This indicates that social support has a stronger relationship with the confidence a parent has in themselves as a parent. As the KPCS was found to be measuring both task-specific and general domain self-efficacy, with the majority of the items falling to the task specific category; it is possible the results from the present study were indicative of the task specific self-efficacy mostly.

The relationship between self-efficacy and distress symptoms

A medium negative correlation between postpartum distress and parental self-efficacy was also found. A finding which is consistent with the body of perinatal literature (Reck et al., 2012; Teti & Gelfand, 1991, Zheng et al., 2018b). Zheng and colleagues' (2018b) study,

found maternal self-efficacy was significantly related to postnatal depressive symptoms in Chinese mothers who were 12 weeks postpartum.

However, it is not possible to know from this cross-sectional study if a third, unknown element is influencing the correlation between these variables. It is possible an unmeasured factor such as: education level, income level, marital status and childbirth experience is possibly contributing to distress.

Furthermore, it is not possible to know the direction of the relationship between self-efficacy and distress symptoms from this cross-sectional study. Bandura (1995, 1997, 2012) proposes a bidirectional relationship wherein self-efficacy and mental health shape one another, resulting in a relationship that extends beyond mere unidirectional causality (Bandura, 1995, 1997, 2012; Multon et al., 1991). To better understand the dynamics between these factors, longitudinal research would help verify the directionality of this relationship.

This finding highlights the complex relationship between postpartum distress and parental self-efficacy. Distress can undermine self-efficacy causing ineffective coping strategies and low resilience and a healthy psychological state can encourage healthy coping strategies and adaptive behaviours. Understanding this relationship is crucial in ensuring positive mental health outcomes for postpartum people. By focussing on preventing and treating postpartum distress, parents and their children could be spared from more pronounced negative outcomes that can accompany more severe postpartum distress (Okun et al., 2018)

Bandura's theory on the relationship between self-efficacy, social support and psychological distress

The above findings of a correlation between self-efficacy and social support are consistent with Bandura's (1995, 1997) theoretical explanation of parental self-efficacy. This

theory describes how social support may influence an individual's self-efficacy through the process of providing information, feedback, tangible or emotional support. For instance, a family member may provide information to a new mother on the techniques to burp a baby. Through this act of social support, the new mother may learn a new skill, which Bandura (1995, 1997) argues may serve to increase her maternal self-efficacy, which in turn increases her mental wellbeing.

The correlation between self-efficacy and distress can be explained using Bandura's (1995, 1997) theory. He theorised self-efficacy can influence an individual's goal setting, motivation to persevere through difficult situations and causal attributions of successes and failures (Bandura, 2012). Those with higher levels of self-efficacy will be more likely to be more positive, persistent and to initiate positive courses of action and coping strategies (Haslam et al., 2006). Those with low self-efficacy are more likely to believe they do not have the necessary skills to achieve their goals, or the perseverance to overcome difficulties when they arise (Phillips & Gully, 1997). When a new mother feels as though she does not have the ability to placate a crying child, for example, she is less likely to make legitimate attempts to achieve this (Cutrona & Troutman, 1986). When failure results, their negative beliefs about themselves as parents are confirmed, resulting in negative affect. They are also more likely to attribute blame to themselves for their perceived failure (Coleman and Karraker, 1987). This diminished view of self could increase their level of distress and their distress could diminish their view of self; instigating a vicious cycle of diminishing emotional states and self-efficacy (Bandura, 1995, 1997; Kunseler et al., 2014).

There is a complex web of relationships among social support, self-efficacy and postpartum distress. It is possible both social support and self-efficacy may be appropriate targets for interventions in the postpartum period for parents who are either at risk of, or experiencing postpartum mental health distress.

Interventions focusing on social support and self-efficacy for postpartum distress

Interventions for postpartum distress should focus on improving parental self-efficacy and providing social support. As these two variables appear to be correlated, it is possible an improvement in one could elicit a betterment in the other. By increasing the amount of social support an individual receives, additional social modelling and persuasion, both of which are sources of self-efficacy, may occur. This could have a positive effect on their self-efficacy (Bandura, 1995, 1997). Interventions could take many forms, such as one on one psychotherapy, support groups and residential parenting programmes.

Support groups offer an economical intervention for parents who are experiencing mental distress. Support groups are therapeutic spaces where individuals facing similar challenges can come together, share information, and support one another through their struggles (Montgomery et al., 2012). There are many potential benefits from engaging in a parent support group. Alstveit et al. (2010) conducted an exploratory study involving first-time mothers; their findings indicated the support received from other mothers contributed to the development of trust in their own parenting skills. Berggren-Clive (2009) reported following childbirth, mothers benefited from being around other mothers who have also just given birth. Socialising with those who were experiencing a similar situation created a sense of community and reduced feelings of isolation (Berggren-Clive, 2009). A possible outcome of parenting support groups is recovery from the mental distress that is being experienced (Alstveit et al., 2010; Berggren-Clive, 2009; Montgomery et al., 2012). A systematic review on the effects of parenting groups (Park et al., 2019) found the 12 programmes they reviewed had a large effect on the mental wellbeing of mothers with children under the age of 24 months.

However, many parents report difficulties in accessing in-person support groups due to unpredictable child schedules, lack of transportation, as well as stigma and a sense of

shame (Rai et al., 2016). The use of online technology has become an attractive strategy for delivering support to parents who would otherwise miss out. Rai et al. (2016) reported many mothers deem online support to be acceptable as it allows them to receive help any time of the day, which works well with the unpredictability of the postpartum period. There is developing evidence in the literature about the promise of online support for individuals (Rai et al., 2016; Vigod & Dennis, 2020); however, recent research (Vigod et al., 2021) has suggested it can also be beneficial for groups.

Another intervention strategy that can be utilised is cognitive-behavioural therapy (CBT). CBT aims to help parents change distorted thought patterns and enhance their problem-solving skills (Brenes et al., 2012; Mohr et al., 2012; Ngai et al., 2019). Research has shown CBT is effective in reducing various mental health issues, including depression (Mohr et al., 2012) and anxiety (Brenes et al., 2012). A recent study by Ngai et al. (2019) discovered CBT can also increase maternal self-efficacy. In their experimental design, Ngai and colleagues (2019) found administering CBT over the phone significantly improved maternal self-efficacy at six weeks and effects were still present at six months postpartum. Delivering CBT over the phone increases accessibility for parents who may otherwise face challenges due to the unpredictable nature of the postpartum period (Ngai et al., 2019).

Parents who are experiencing severe, or clinical level postpartum mental health disorders may benefit from receiving more significant intervention strategies, such as a residential programme. Previous residential parenting programmes which have focussed on improving self-efficacy and social support have been helpful to distressed mothers. Wilson et al. (2019) discovered distress symptoms, including fatigue, anxiety, and insomnia, significantly decreased in women who had participated in a residential program focused on providing social support and enhancing parental self-efficacy. Similarly, in Rowe and Fisher's (2010) sample 75% of mothers who attended a maternal skills residential programme

found the social support they received to be very helpful in reducing their negative emotions and cognitions.

It is vital the social support which is offered is deemed as supportive by the recipient. Clinicians should thoroughly investigate the types of social support which are needed by the parent; otherwise it is possible their needs will not be met, which could have a negative impact on their levels of self-efficacy, which could have a cascading effect on their mental health.

Two types of parental self-efficacy

As we were wanting to identify underlying dimensions of self-efficacy and any potential relationship between them, an exploratory factor analysis was conducted on the Karitane Parenting Confidence Scale (KPCS). The social items were not included in this analysis, which are: “I feel sure my partner will be there for me when I need support” and “I feel sure people will be there for me when I need support”. This analysis indicated there are two factors within the scale, the first factor is named “baby care confidence”. Factor one includes questions about caring for the baby, such as: “I am confident about feeding my baby” and “I can settle my baby”. The second factor is named “parenting role confidence”. This factor includes questions about how a parent feels about themselves as parents, such as: “Being a parent is very stressful for me” and “I feel I am doing a good job as a parent”. The two-factor structure is consistent with previous literature findings (Usui et al., 2019; Wright et al., 2022), both of which found similar constructs of specific baby care tasks and general parenting confidence.

It differs from the original author's three factor structure (Črnčec et al., 2008). The items loaded onto factor one were associated with individuals' perceptions of their parenting abilities and their ability to execute parenting related tasks, such as burping, feeding and sleeping. Factor two was associated with perceptions of available social support and other

peoples' perceptions of their parenting ability. Factor two included five items such as "other people believe I am doing a good job". The items loaded onto factor three were associated with their perceptions of their child's development. Factor three included two items only: "My baby is doing well" and "I am confident feeding my baby". These three factors were labelled as 'parenting,' 'support,' and 'child development'. The findings from the factor analysis of this study differ from the original authors' (Črnčec et al., 2008), not only in number, but also in ways self-efficacy was conceptualised. Črnčec et al. (2008) did not have a factor pertaining to how a parent feels about themselves as parents, nor did they have a factor which was measuring general domain self-efficacy, as the 'parenting role confidence' factor did.

Wright et al. (2022) excluded three factors from their study. The first removed item was item 12, which assessed the stress of being a parent, it was deemed conceptually separate from parenting self-efficacy. The second removed item was item nine, assessing support from a partner, also not considered a component of self-efficacy. However, item 15, assessing support from others, was retained. The third removed item was item two, concerning the ability to settle a baby. Removing these three items resulted in improved statistical fit indices (Wright et al., 2022).

Usui et al. (2020) conducted two factor analyses. The first analysis, which included all 15 items, indicated a three factor solution could be appropriate. However, the items "I feel sure my partner will be there for me when I need support", "Being a parent is very stressful for me" and "I feel sure people will be there for me when I need support" had factor loadings <.3 on all factors, indicating poor fit. The second analysis omitted items 9, 12 and 15, just as Wright et al. (2022) did, this model indicated a much better fit (Usui et al., 2020).

Across all three factor analysis studies of the KPCS, including this one, the most robust factors are those including task specific items and general domain self-efficacy. The

social support items are consistently unstable across these same studies (Usui et al., 2019; Wright et al., 2022). Usui and colleagues (2019) found the factor loadings on the social support items to be small ($R^2<.35$). Although Wright and colleagues (2022) included factor 15 (I feel sure others will be there for me when I need support), this had a small factor loading ($R^2=0.08$).

Social support is correlated with self-efficacy in this study and in many others (Gao et al., 2014; Haslam et al., 2008; Leahy-Warren, et al., 2011, 2012). While self-efficacy theory places emphasis on the importance of social support in the development of parenting self-efficacy, social support is a conceptually distinct entity (Wright et al., 2022; Raike & Thompson et al., 2005). The social support items in the KPCS should be interpreted with caution when assessing a parent's self-efficacy. These items should be interpreted as an indication of the level of support a parent is receiving rather than measuring self-efficacy itself. In order to assess if the KPCS is the correct tool for their purposes, researchers and clinicians should understand which domains it is measuring.

Relation of KPCS factors to domains of parental self-efficacy

Previous literature theorises there are four domains of parenting self-efficacy: global, general domain, domain specific and task specific (Bandura, 2012; Coleman & Karraker, 2003). Factor one of the KPCS, or baby care confidence, is an example of task specific domain as it pertains to discrete tasks such as feeding and soothing a baby. Factor two, or parenting role confidence, is an example of general domain as it pertains to a parent's perception of their ability in their parenting role, without referring to specific tasks. Bandura (2012), the original author of self-efficacy theory, suggests self-efficacy has been historically misconstrued by the literature as being highly task specific only. Bandura (2012) argues in most domains of life there are multiple types of self-efficacy that can contribute to the

attainment of any given objective, therefore it seems reasonable self-efficacy assessments should assess various domains of self-efficacy simultaneously.

Measurement of self-efficacy

Self-efficacy tools that assess only one domain can be limited in their examination power. Such tools will inevitably only provide a truncated view of the area which they are measuring (Bandura, 2012). Bandura argues instead clinicians should be examining various domains of an individual's self-efficacy, including their perceived competence in task specific, domain specific and general domain. Ten of the 13 items of the KPCS measure task specific self-efficacy; this suggests the KPCS tool mostly focuses on the task specific domain of parenting. Considering there are many separable aspects that contribute to parenting, not just the execution of tasks, it may be beneficial to include additional items pertaining to narrow and general domains of parenting self-efficacy. Items pertaining to the emotional connection, communication style and perceived ability to control their child's environment could also be included in a multi domain parenting self-efficacy measure.

Clinical implications of the two factors of the KPCS

The two factor structure of the KPCS has important implications as it highlights parental self-efficacy as a nuanced concept. As the two factors only had a medium correlation to each other (.431), this implies whilst the factors are related to each other, they should be treated and viewed as separate. This finding highlights that researchers and clinicians need to incorporate both parenting role confidence and baby care confidence in their assessments of parental self-efficacy (Boruszak-Kiziukiewicz and Kmita, 2020; Coleman & Karraker, 2003; Usui et al., 2018). The KPCS focuses mainly on infant care self-efficacy; it appears this domain may be less important as the parent gains experience, and other aspects of self-efficacy may come more into play.

This finding indicates a parent may exhibit high levels of self-efficacy in baby care tasks, while simultaneously experiencing feelings of inadequacy as a parent. This highlights the importance of considering interventions that address both the enhancement of parenting skills and the nurturing of parental self-perception. Recognising this duality can guide the development of comprehensive interventions that cater to the multifaceted needs of parents in the postpartum period.

When contemplating effective interventions for parental self-efficacy it is pertinent to consider the factors that impact on self-efficacy as purported by Bandura (1977, 1986, 2012): mastery experience, a person's physical and emotional state, social modelling and social persuasion.

Mastery experience can be described as when parents gain confidence by successfully completing tasks related to parenting. Each time they handle a situation well, it boosts their belief in their abilities (Bandura, 1986, 2012). Mastery experience might be gained through the process of parents practising parenting related tasks before the arrival of their child. This can be done through antenatal or support groups where experienced parents can serve as positive role models.

A parent's physical and emotional state can be described as how a parent feels physically, such as, levels of fatigue, health and energy. When parents are feeling well rested, energised and healthy they are more likely to feel self-efficacious (Bandura, 1986, 2012). It is therefore important to encourage mothers to prioritise self-care and well-being. Physical exercise is an effective way to improve physical wellbeing; but this can be difficult when caring for a young child. However, removing barriers may make this a more attainable intervention. For example, mothers could be encouraged to attend low cost exercise classes where child care is provided.

Parents learn from observing others, particularly in regards to task-specific self-efficacy. When parents observe other parents performing parenting related tasks, it can increase their confidence in their own parenting abilities. Social modelling and persuasion may be provided through buddy systems, wherein an experienced parent guides and encourages a new parent (Leahy-Warren et al., 2011).

Bandura's fourth way to effect self-efficacy is through social persuasion. Social support may provide social persuasion to parents in the postpartum period. Families and significant others might provide emotional aid and verbal persuasion, encouraging parents to overcome challenges (Zheng et al., 2023). If low parental self-efficacy persists, or worsens, it may be helpful to refer mothers to professional support services; such as psychotherapies. Psychotherapies have shown to be effective at reducing negative affect in postpartum mothers, by addressing interpersonal issues without attributing blame. Psychotherapies have shown to be successful, regardless of aetiology (Dennis & Dowswell, 2013).

Predictive value of social support

The current study found in parents of children under two, the combination of parenting role confidence and baby care confidence had substantial power to predict depression, anxiety and stress; social support added a small but significant additional predictive value. This finding supports previous research (Gao et al., 2014; Haslam et al., 2006; Leahy-Warren et al., 2011, 2012, 2018) which shows a strong connection among social support and self-efficacy. Previous literature shows social support plays a pivotal role in bolstering an individual's belief in their own capabilities. Through the provision of encouragement, guidance, and practical aid, social support empowers individuals to confront challenges, persevere in the face of adversity, and achieve desired outcomes. In turn, self-efficacy enhances individuals' ability to seek and utilise social support effectively. This

mutual interaction between social support and self-efficacy has been well documented empirically, and theoretically (Bandura, 1995, 1997, 2012).

The current cross-sectional study goes further by revealing social support has additional benefits for parents beyond what is already accounted for in the correlation between social support and self-efficacy. This suggests social support may offer extra help and assistance to parents of young children that goes beyond the effects of the social support that is heavily related to self-efficacy. This finding highlights that although the relationship between self-efficacy and social support is interconnected, social support has an added value in the mental health of parents with young children.

Future research could focus on interventions to increase self-efficacy and social support, and look at the combined effects of these variables.

Predictive value of baby care confidence and parenting role confidence in postpartum distress

Both parenting role confidence and baby care confidence exhibited significant predictive value across the three distress subscale: depression, anxiety, and stress.

Depression

Baby care confidence did not have a statistically significant predictive relationship to depression. This suggests confidence in the ability to perform baby care tasks, such as changing a nappy, feeding and burping, is not associated with a parent's depressive state. Parenting role confidence was found to account for the majority of the variance of this distress subscale. The predictive value of parental role efficacy was the strongest for depression, in comparison to stress and anxiety. This implies the perception of oneself as a parent is more closely related to depression than is the parent’s perception of their ability to perform baby care tasks. The connection between negative thoughts about oneself and depression has been thoroughly evidenced in the literature (Ayhan & Budak, 2021; Kitamura

& Tanaka, 2012; Özdel et al., 2014; Wang et al., 2021). A recent study in China by Wang and colleagues (2021) found negative thoughts about oneself are correlated with prenatal depression, even after controlling for other confounding variables.

Anxiety

Both baby care confidence and parenting role confidence had significant value in predicting anxiety. Baby care confidence had the largest predictive value for anxiety, compared to depression and stress. The postpartum period can be a time where many new skills need to be learnt and acquired (Erfina et al., 2019). A parent who feels they underperform in parenting tasks, may feel anxious when they are to perform said task. This notion has been evidenced in the literature (Ginsburg et al., 2006). In their sample of 50 African American women, Ginsburg and colleagues (2006) found anxiety was reduced in parenting tasks that were mastered, in comparison to tasks that were novel. However, how a parent feels about themselves in their parenting role has the greatest predictive value of anxiety. This implies the subjective perception of oneself is more significant in the development of anxiety, which may explain the variation in predictive values between the two factors.

Stress

Parenting role confidence had a stronger predictive value for postpartum stress than baby care confidence. Once again, this suggests a parent's self-perception is vital in the prediction of postpartum distress. It is possible parents with low parental role self-efficacy may also have low levels of resilience, coping resources and an external locus of control; which may lead to negative affect and stress.

How a parent feels about themselves in their parenting role appears to be the greatest predictor of postpartum mental distress. Despite this, a significant portion of the literature has focussed on task specific self-efficacy (Sæther et al., 2023). Sæther and colleagues (2023)

found in the 61 studies they reviewed, a third were measuring breastfeeding self-efficacy, which is task specific. The findings from this study suggests researchers and clinicians should place greater importance on measuring general domain self-efficacy, as well as task specific. Self-efficacy interventions should not just focus on the teaching of new parenting skills, such as bathing, feeding and burping; instead a multi-faceted approach should be adopted. Future tools could include items regarding emotions and self-perceptions about the parenting role. If a parent was lacking in parental role self-efficacy, interventions could focus around helping them to evaluate and possibly restructure their thought patterns. By adopting a multi-faceted approach to measuring parental self-efficacy clinicians and researchers would gather a holistic view of a parent's level of self-efficacy. Implementing interventions in this way is in line with Bandura (2012), who argued self-efficacy has been highly misconstrued as being highly task-specific only. Bandura (2012) argued the true sense of self-efficacy encompasses all the different domains of self-efficacy: task-specific, domain specific and general domain.

Limitations

Several limitations of this study must be addressed. Firstly, it is not possible to know the direction of the relationship between social support, self-efficacy and distress as a cross-sectional and correlational design was used in this study. As a causal role cannot be elucidated, further research is needed to evaluate the relationship between self-efficacy, social support and postpartum distress. It is important to acknowledge there may be another unknown variable at play affecting these variables, such as number of children, socio-economic status, ethnicity and relationship status.

Our respondents were mostly well educated, white, western women; therefore, the findings from this study cannot be generalised to other populations, particularly marginalised ones.

The ethnicity demographic items were unclear, and some participants indicated multiple response categories. This caused confusion for the participants regarding ethnicity and nationality and made it challenging to draw conclusions using this variable. In future research on self-efficacy, social support and distress in the postpartum period, it would be advantageous to have a more precise set of items for the ethnicity demographic question.

Future directions

Future research could adopt an experimental design, such as having one group attend a parenting skill course to see if levels of self-efficacy are affected. Levels of distress could be compared to before attending the skills course and after. If there appears to be no difference in levels of distress it is possible focusing on another domain of self efficacy, such as general domain, could prove more valuable. An experiment such as this could provide information about the importance of task specific self efficacy versus general domain.

There is very little research into parenting role confidence using the lens of general domain self-efficacy; however, considering its highly predictive nature, further investigation is warranted. Future research could qualitatively investigate parenting role confidence to further the knowledge base in this area. By having a greater understanding of this area, further items could be developed to assess parenting role confidence. As only three of the KPCS items were loaded onto the parenting role confidence factor, additional items pertaining to this domain could further assess parenting role confidence.

The other factors affecting the mental well-being of parents of young children, such as socio-economic status (Rich-Edwards et al., 2006), childbirth experience, perinatal complications (Blom et al., 2010) and infant temperament (Cutrona & Troutman, 1986; Vik et al., 2009) are all relatively fixed and thus, difficult to change. Both self-efficacy and social support are dynamic and amenable to change, making these factors the preferred choice when

it comes to developing interventions with the aim of reducing, or preventing, postpartum distress (Leahy-Warren et al., 2011).

Conclusion

A positive correlation between self-efficacy and social support was found; however, this correlation was not as strong as anticipated. A negative correlation between self-efficacy and distress symptoms was also found, the strength of this correlation was moderate and similar to prior findings.

A post-hoc oblique factor analysis of the Karitane Parenting Confidence Scale (KPCS) was conducted; yielding two factors: parenting role confidence (PRC) and baby care confidence (BCC). These two factors of the KPCS were found to be correlated with depression, anxiety and stress; parenting role confidence had a stronger relationship with these variables.

Additionally, it was found that a combination of parenting role confidence and baby care confidence had substantial power to predict depression, anxiety and stress; social support added a small but significant additional predictive value. These findings highlight the importance of self-efficacy and social support to parents of young children. They also suggest that postpartum distress might be mitigated by providing interventions that would improve levels of social support and parenting self-efficacy. Future self-efficacy interventions could focus on parenting role confidence as it is more strongly correlated with distress than baby care confidence.

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