

Evolving Emotions:
Critically Analysing the Associations between
Mindful Parenting and Affect Regulation

Thesis submitted by

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Abstract

Ancient scholars, theologians and philosophers have debated for centuries about the nature of the mind. Yet depression is the leading cause of disability across the world. The ubiquitous growth of mindfulness has in recent decades, been applied to assist parents with affect regulation. Mindful parenting is defined as a set of parenting skills that enhance present-centred, discerning awareness in parent–child relationships. The potential benefits of mindful parenting could span across generations to promote affect regulation for both children and parents. However further clarity is needed on how mindful parenting facilitates affect regulation. To date the literature examining the effectiveness of Mindful Parenting (MP) programs has been plagued by poor methodological design, diversity of interventions, questions surrounding program fidelity and a lack of clarity about change processes.

Aims

The overall purpose of this dissertation was to critically analyse how mindful parenting is associated with affect regulation to evolve emotions. The focus of this dissertation is on mindful parenting of children aged 0 to 18 years. More specifically it aims to: -

1. Systematically review the international and national literature on the effectiveness of MP programs in promoting the wellbeing of children and parents (Study 1).
2. Investigate the effectiveness of an Australian MP program called *Caring for Body and Mind in Pregnancy* (CBMP) in reducing perinatal depression, anxiety and stress amongst a sample of at-risk pregnant women (Study 2).
3. Critically analyse how change processes utilised by MP programs are associated with affect regulation (Study 3).
4. Clarify which factors in the change processes of self-compassion and mindfulness scales have the strongest correlation with the reduction of perinatal depression (Study 4).

Method

Four diverse epistemologies were utilised to investigate the overarching research aim. Study 1 utilised the systematic review methodology to review the best available evidence on the effectiveness of MP Programs. Study 2 employed a repeated measures design to investigate the effectiveness of CBMP from a seven-year hospital dataset. Study 3 critically analysed the change processes that promote affect regulation by using Interpretative phenomenological analysis (IPA) to examine semi-structured interviews with four facilitators of MP programs. Finally, Study 4 utilised Structural Equation Modelling (SEM) to analyse the change processes associated with the reduction of perinatal depression.

Results

The systematic review yielded inconclusive evidence to support the effectiveness of MP programs due to the poor methodological quality of studies. Study 2 found CBMP significantly improved perinatal depression, anxiety, stress, mindfulness and self-compassion. The findings from Study 3 resulted in the anchor, a novel theoretical framework to investigate change processes. The anchor incorporates closely interconnected change mechanisms namely reflective functioning, attachment, cognitive, affective, somatic and social change mechanisms. The results from Study 4 indicated that *self-kindness*, *observing* and *acting with awareness* were associated with significant reductions in perinatal depression.

Conclusion

Although the systematic review was unable to conclusively establish the effectiveness of Mindful Parenting programs, the other three studies provided suggestive evidence of its effectiveness. Contributions to new knowledge include conducting one of the first systematic reviews on mindful parenting, clarifying change processes associated with the

reduction of perinatal depression and developing, a novel model of change, the anchor. The phenomenology of affect regulation still appears to puzzle humanity.

Keywords: mindful parenting, mindfulness, affect regulation, attention regulation, emotions, perinatal depression, perinatal anxiety and stress.

Statement of Original Authorship

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution. To the best of my knowledge and belief, I declare this work contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree. The author acknowledges that copyright of published works contained within this thesis resides with the copyright holder(s) of those works. I give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time. I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

Signature _____ 14th December 2018
Date _____

Kishani Townshend

Name

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Statement of the Contribution of Others

Nature of Assistance	Contribution	Name, Titles and Affiliations of Co-Contributors
Supervision	Systematic Review methodology for Study 1 and general feedback.	Professor Zoe Jordan, University of Adelaide
	Systematic Review methodology for Study 1 and general feedback.	Dr Matthew Stephenson, University of Adelaide
	Methodological and clinical advice. Quantitative and qualitative data analysis for Study 2, 3 and 4.	Associate Professor Nerina Caltabiano, James Cook University
	Clinical and subject matter expertise on mindfulness and parenting. Facilitated access to datasets for Study 2, 3 and 4.	Dr Rosalyn Powrie, Perinatal Psychiatrist,
Intellectual Support	Data analysis for systematic review	Professor Petra Butner
	Systematic review methodology	Professor Komla Tsey
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The authors listed below have certified that:

1. They meet the criteria for authorship in that they have participated in the conception, execution or interpretation of at least that part of the publication in their field of expertise;
2. They take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. There are no other authors of the publication according to the criteria;
4. Potential conflicts of interest have been disclosed to (a) granting bodies, (b) the editor or publisher of journals or other publications and (c) the head of the responsible academic unit; and
5. They agree to the use of the publication in the student's thesis and its publication on the University of Adelaide database consistent with any limitations set by publisher requirements.

List of Abbreviations

Abbreviation	Name
ACE	Adverse Childhood Events
ACT	Acceptance Commitment Therapy
AGFI	Adjusted Goodness-of-Fit Index
BDI	Beck's Depression Inventory
CBMP	Caring for Body and Mind in Pregnancy
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
COS	Circle of Security
COS-M	Circle of Security and Mindfulness Based Stress Reduction
DASS	Depression, Anxiety and Stress Scale
DBT	Dialectical Behaviour Therapy
EFA	Exploratory Factor Analysis
EPDS	Edinburgh Postnatal Depression Scale (EPDS)
FFMQ	Five Fact Mindfulness Scale
GFI	Goodness-of-Fit-Index
IAA	Intention, Attention and Attitude
IAAAA	Intention, Attention, Attitude, Affection Regulation and Attachment
IPA	Interpretative Phenomenological Analysis
KIMS	Kentucky Inventory Mindfulness Skills
MAAS	Mindful Awareness and Attention Scale
MBCT	Mindfulness Based Cognitive Therapy
MBCP	Mindfulness Based Childbirth and Parenting
MBSR	Mindfulness Based Stress Reduction
MCBT	Mindfulness Based Cognitive Behaviour Therapy
MP programs	Mindful Parenting programs
PANDA	Perinatal Anxiety and Depression Australia
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses

List of Abbreviations (continued)

Abbreviation	Name
QUOROM	Quality of Reporting of Meta-Analyses
RCT	Randomised Control Trials
RMSEA	Root Mean Square Error of Approximation
SCED	Single-Case Experimental Design
SCS	Self-Compassion Scale
SEM	Structural Equation Modelling
SR	Systematic Review
SRMR	Standardised Root Mean Square Residual
TLI	Tucker-Lewis Index

Conference Presentations

1. Mindful Families, Schools and Communities: Research-to-Practice Promoting Child Well-Being, (Aril 2015), Seattle, Washington, United States of America.
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2. Creating Futures Conference (May 2015) Cairns, Australia
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Publications

Paper One:

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Paper Six:

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Chapter 1 Introduction

“A mind not to be changed by place or time,
The mind is in its own place and in itself
Can make a Heaven of Hell, a Hell of Heaven.”

John Milton (1667, p. 6)

1.1 Synopsis

This introductory chapter sets the scene to explore how mindful parenting is associated with affect regulation to evolve emotions. It outlines the rationale for conducting four studies to critically analyze the conceptual, epistemological and phenomenological basis of mindful parenting in facilitating affect regulation. Mindful parenting has emerged from a confluence of epistemologies by synthesising Eastern psychology with Western science. The chapter begins with the rising rates of depression, youth suicide and child abuse. It then analyses the influence of Siddhartha Gautama and Charles Darwin in shaping the contemporary study of emotions. The chapter ends with the conceptual and methodological issues in defining mindful parenting.

1.2 Introduction

Emotions, in all their grandeur and grit, have inspired vigorous inquiry across cultures, throughout history. Contemporary Western theories on emotion are fundamentally influenced by Darwinian principles (Mayr, 2000). From an evolutionary perspective, the primary directive for *Homo sapiens* is to survive and procreate (Darwin, 1871). According to Darwin (1871), it is neither the strongest nor the most intelligent that survive, but those who can adapt. The central argument of this dissertation is that adaptation requires emotions to evolve from destructive to more altruistic states to promote

affect regulation, for not just survival but flourishing across generations. Amidst the endless advice given to parents, mindful parenting is one of the newer paradigms. The principal purpose of this dissertation is to critically analyze how mindful parenting promotes affect regulation by clarifying its measurement, mechanisms and mediators.

The philosophical ponderings from Aristotle, Plato, Darwin to Wallace have all questioned this ubiquitous construct of emotions. There are numerous definitions of emotion with no consensual conceptualisation nor operationalisation (Scherer, 2005). Plato viewed emotions as *wild horses* that need to be tamed by intellect (de Paula & Raabe, 2015). Aristotle believed ethics cultivated emotions to develop character (Schmitter, 2016). *Catharism* or discharge of unpleasant emotions of pity and fear is one of Aristotle's most famous contributions, even though he only mentioned it in passing (Schmitter, 2016). Erasmus Darwin, the grandfather of Charles, was a physician, poet and leading intellectual of the 18th century who influenced his grandson's thinking (C. U. Smith, 2010). Two influential figures, namely Charles Darwin (1872) and Siddhartha Gautama, also known as Buddha (Nanamoli & Bodhi, 1995) have shaped the conceptual as well as the methodological foundations driving the current scientific inquiry into emotions. Charles Darwin (1872) systematically applied the principles of natural selection to the evolution of emotion. Similarly, recent research into Buddhist affect regulation strategies have burgeoned (Van Dam et al., 2018). However, a consensual definition of emotion appears elusive in the literature.

Emotion has been described as a noun of the action *to move out* (Oxford English Dictionary, 2017). Its etymology has been traced to 1579 Middle French *émouvoir* (to stir up), Old French *esmovoir*, which was based on the Latin *emovere*, a variant of *ex* or *out* and *movere* to move (Merriam-Webster Dictionary, 2017; Oxford English Dictionary, 2017). Emotion has been defined as “relatively short-duration intentional states that

entrain changes in motor behaviour, physiological changes and cognitions” (Hess & Thibault, 2009, p. 120). Wallace and Ekman (2015) define it as an automatic appraisal process influenced by our evolutionary and personal past, which, if appraised as being important, triggers a set of physiologically driven behaviors to deal with the situation. Similarly, although affect regulation also has several definitions, it is operationalised here as referring to a parent’s capacity to influence the experience and expression of their emotions in caregiving contexts (Gross & Thompson, 2007). Despite centuries of inquiry dedicated to taming the *wild horses* of emotions, destructive emotions still pose global challenges.

1.3 Prevalence of Depression, Anxiety, Youth Suicide and Child Abuse

The dissertation critically analyzed mindful parenting across the developmental stages from 0 to 18 years of age. From infancy to late adolescence, a parent’s inability to be responsive to their child has a detrimental impact on their child’s mental health. To understand parenting in the 21st century, it is necessary to understand its context. Contemporary parenting occurs within a global milieu of escalating conflict, perinatal mental illness, depression, youth suicide and child abuse.

1.3.1 The enigma of the human intellect. Humanity prides itself on being the most intelligent of all species with its enlarged prefrontal cortex. Yet, global warming, the Anthropocene, emergence of neo-Nazis, terrorism, racism and rising inequality are just a few forces threatening global peace. The United Nations (UN) was established in 1945 after World War II to preserve world peace (UN, 2017) . The world faces the largest humanitarian crisis since the UN was founded, with more than 20 million people in four countries facing war and famine (UN, 2017). The intellectual malaise of modernity cannot be the reason for these escalating global tensions. Driven by emotions, instincts and genes,

humanity's intellect appears to be no longer adequate to address the challenges it faces. A central argument of this dissertation is that it is humanity's inability to regulate destructive emotions that threatens its ability to adapt.

1.3.2 Prevalence of perinatal depression, anxiety and stress. Approximately 10 to 20% of perinatal women experience clinically significant depressive symptoms and/or notable anxiety symptoms (O'Hara et al., 2012; Ross & McLean, 2006). The untreated rates of perinatal depression, anxiety and stress are a global health concern (Shidhaye & Giri, 2014). Parenting affects the mental health of both parents and their children (J.A. Sawyer, 2007). Some of the intergenerational consequences of not treating perinatal mental conditions include impaired mother–infant attachment, parenting capacity and infant mental health (Shidhaye & Giri, 2014). During the perinatal period, a depressed mother's mental health condition can affect mother–baby interactions. Negative mother–infant interactions that may result because of mother's mental health status include ignoring the crying infant and inability to regulate emotions. Difficulties with infant's sleeping, settling and feeding are other consequences of negative mother–infant interactions. Mindful parenting (Duncan & Bardacke, 2010) can train parents to become more responsive to their child's needs.

1.3.3 Prevalence of depression, anxiety and youth suicide. Depression is the leading cause of global disease burden with more than 300 million people living with the disease (World Health Organisation [WHO], 2017). These rates have risen 18% since 2005 (WHO, 2017). Affluent countries, such as Australia, Britain and the United States, have escalating rates of youth depression, anxiety and suicide (D. Campbell, 2016; Lawrence et al., 2015; Mojtabai, Olfson, & Han, 2016). Current rates of youth depression

and anxiety in the United States are five times higher than rates during the Great Depression era in 1938 (Twenge et al., 2010). Suicide is the leading cause of death for 15- to 24-year-old Australians (Australian Human Rights Commission, 2014). Suicide rates among 5- to 17-year-old Australians have increased from 78 to 89 from 2012 to 2016 (Australian Bureau of Statistics [ABS], 2016). However suicide rates for Aboriginal and Torres Strait children aged 4 to 11 years are 80 % higher compared with 20% for their non-Indigenous counterparts (Mitchell, 2015). Federal funding for mental health services were at least \$200 million in 2015–2016 (Cutler & Olin, 2017). Even by infancy, risk factors for adult mental illness are established, with 51.7% of infants having multiple risks according to the Longitudinal Study of Australian Children (Guy, Furber, Leach, & Segal, 2016). Given that the rising funding is not halting the soaring rates of youth suicide, it is reasonable to question the effectiveness of current mental health programs.

Research has indicated that the age of onset for anxiety and conduct disorders is approximately 11 years (Kessler et al., 2005). However, a recent study with a sample of 1,759 children at ages 1, 5 and 11 indicates poor mental health may begin during infancy for some children (Cook, 2018). This study by the Murdoch Children’s Research Institute found that approximately 3.4% of one-year-olds in the sample with severe to moderate multiple regulatory problems were 10 times more likely to develop mental health concerns during childhood, compared with infants who are settled (Cook, 2018). Severely unsettled infants with multiple regulatory difficulties in sleeping, crying, feeding and tantrums were more likely to develop affect dysregulation, conduct problems, hyperactivity, delayed language development and reduced academic achievement (Cook, 2018). Training parents to soothe unsettled behaviour in the early years may reduce the development of childhood mental health and learning difficulties.

1.3.4 Increasing rates of child abuse. Mental illness in a parent does not necessarily lead to child maltreatment. However, parents with mental illness are over-represented among maltreating families (Centre for Parenting and Research, 2008). Child protection rates have increased by 20% in 2015–2016 with more than 162,175 children receiving protection, up from 135,139 children four years ago (Australian Institute of Health and Welfare [AIHW], 2017). Children in out-of-home care have also surged by 17 % from 39,621 in 2012 to 46,448 in 2015–2016, where grandparents are the most likely relatives to care for children who cannot live with their parents (AIHW, 2017). Emotional abuse and neglect are the most common causes of substantiated child abuse (AIHW, 2017). The link between parental depression and children’s wellbeing (J. A. Sawyer, 2007) has been associated with a parent’s inability to be responsive to a child’s needs to provide secure attachment and to create a nurturing environment.

1.4 History of Mindful Parenting

The contemporary study of mindfulness as it relates to parenting began in 1997, when Myla and Jon Kabat-Zinn coined the term *mindful parenting*, the explicit application of mindfulness to the parenting context (M. Kabat-Zinn & Kabat-Zinn, 1997). The theoretical and methodological foundations of mindful parenting appear to be influenced by Charles Darwin (1872) as well as the Buddha (Nanamoli & Bodhi, 1995). Darwin (1872) was one of the first Western scientists to systematically study emotions. The theoretical basis of mindful parenting is strongly based on secular mindfulness practices derived from Buddhism. In 1979, Kabat-Zinn secularised the ancient Buddhist practices of meditation by applying it to the Western mainstream medical and psychological setting (J. Kabat-Zinn, 1982). Over the past 40 years, there has been an extraordinary explosion of research into the field of mindfulness. Yet, mindful parenting research is still in its infancy.

A substantial body of literature, from Eastern, Western to Indigenous epistemologies, has proposed different conceptualisations of mindfulness. Although mindfulness has gained traction in recent times as a Buddhist construct, it is not exclusively Buddhist. For centuries, present-centered awareness has been described as a fundamental tenet of Indigenous, Hindu, Buddhist, Christian, Islamic, Jewish, Taoist and Maori teachings (Evans, 2008; Goleman, 1988). The current Western mindfulness draws predominantly from a Buddhist perspective. There are many similarities between Buddhism and Hinduism since Buddhism evolved out of Hinduism.

Different religious and cultural traditions have used different techniques to train the mind to become aware of the present moment. *Dadiri* is an Indigenous Australian term for mindfulness defined as a deep listening accompanied by compassion and quiet, still awareness (Evans, 2008). Hinduism uses meditation, yoga and prayer to achieve pure awareness, which is called *Atman* or *Brahma* (Prabhupada, 2008). The Bhagavad Gita states, “him who has conquered the mind, the mind is the best of friends; but one who has failed to do so, his mind will remain the greatest enemy” (Prabhupada, 2008, p. 268). This seminal Hindu text devoted Chapter 6 to mindfulness long before Buddhism was established.

Buddhism uses mindfulness meditation (Kornfield, 1993; Nhat Hanh, 2012). Christianity uses centering prayer (Keating, 2009). Maori mindfulness practices are grounded in a variety of relational contexts that connect to the land, spiritual elements (Atua or Gods) and family (International Conference on Mindfulness (ICM), 2019; Mindfulness Education Centre (MEC), 2017). *Whanau* refers to the traditional extended and contemporary family (ICM, 2019). Some cultural practices that support Maori mindfulness include *manaakitanga*, *aroha*, *kaitiakitanga* and *karakia* (MEC, 2017). For instance, *manaakitanga* emphasises mindfulness within a family context of respect,

generosity and care for others (ICM, 2019). Finally, contemporary scholars (Lutz, Dunne, & Davidson, 2007) view present moment awareness as a secular study into the nature of mind rather than a theistic tradition.

Mindfulness is the inherent, universal metacognitive capacity to become '*aware of awareness*' (Wallace, 2014). The Buddhist tradition contributes to the study of mindfulness through the 2,500 years of refining simple, effective ways to cultivate present-centered awareness in all aspects of life. Buddhist psychology provides a coherent phenomenological description about the nature of the mind, emotion, suffering and potential release of suffering through highly refined practices (J. Kabat-Zinn, 2003). These practices systematically train various aspects of the mind and heart through mindful attention (J. Kabat-Zinn, 2003). The terms for mind and heart are the same in Asian languages (J. Kabat-Zinn, 2003). Hence, *mindfulness* in fact refers to an affectionate, compassionate quality of attention regulation (J. Kabat-Zinn, 2003). The theoretical basis of mindful parenting is the psychological discoveries of the Siddhartha Gautama, a renounced Hindu prince, referred to as Buddha after enlightenment.

1.4.1 Contemporary theories of Mindful Parenting

A comprehensive theory of mindful parenting is yet to be developed. Some of the key research groups that have contributed to theory development include M. Kabat-Zinn and Kabat-Zinn (2014), Bardacke (2012), Duncan, Coatsworth, and Greenberg (2009a), Bögels, Lehtonen, and Restifo (2010), de Bruin et al. (2014) and Singh et al. (2006). The Mindfulness Based Childbirth and Parenting Program (MBCP) was founded by Nancy Bardacke, certified nurse-midwife and mindfulness teacher (Bardacke, 2012). It is strongly influenced by Jon Kabat-Zinn's (2003) Mindfulness Based Stress Reduction (MBSR) and mindful parenting. It combines MBSR with pregnancy care, childbirth

preparation and parenting (Bardacke, 2012). The program extends beyond the perinatal periods, where parents are now engaging with the program during the different developmental stages.

Duncan, Coatsworth, and Greenberg (2009b) identified five core skills that facilitate mindful parenting. Similarly, Bögels and Restifo (2014) identified six change mechanisms that promote mindful parenting. Townshend (2016) summarised the change processes as intention, attention, attitude, secure attachment and affect regulation. Extensive research has confirmed that insecure attachment and the lack of emotional awareness by a parent often distress children (Bögels & Restifo, 2014). Mindful parenting appears to improve wellbeing by increasing self-awareness and reducing reactivity in the parent–child transactions.

1.5 Buddha as a Parent

Ancient Pali texts describe parenting techniques used by Buddha, which are still relevant to parents facilitating affect regulation with 21st century children. It is widely known that Prince Siddhartha, the Buddha-to-be, abandoned his family in search of liberation on the day his son, Rahula was born (Fronsdal, 2017). It should be noted that this abandonment does not concur with mindful parenting practices identified by contemporary scholars. However, it is less known that after his awakening, the Buddha became the primary parent for his son from when he was seven years old to adulthood (Fronsdal, 2017). Three Pali discourses describe how Buddha guided his son's development.

Buddha taught his son about virtue when he was seven, about meditation when he was an adolescent and about liberating wisdom when he was 20 years old (Fronsdal, 2017). Buddha returned to his hometown six years after he abandoned his family and one year after his awakening (Fronsdal, 2017). Persuaded by his mother, Rahula asked his father for his inheritance (Fronsdal, 2017). Rahula would have inherited the throne, if Siddhartha

had not renounced it to live in poverty in search of enlightenment. Buddha's response to Rahula's request was to ask Sariputta, his trusted monk to ordain him (Fronsdal, 2017). Rahula did not shave his hair or wear a robe but lived his father's lifestyle. Thus, rather than the throne, Rahula received a strong foundation for inner wellbeing.

1.5.1 Virtue. The Discourse of *Advice to Rahula at Ambalattika* (Middle Length Discourse 61) illustrates how Rahula was guided to live a life of integrity (Nanamoli & Bodhi, 1995). The sutra states that when Buddha discovered his son had deliberately lied, he first meditated (Fronsdal, 2017). When the time was right, he visited his son (Fronsdal, 2017). As was customary, Rahula prepared a seat for him and a bowl of water so that Buddha could rinse his feet (Fronsdal, 2017). After he had cleansed his feet, a little water remained in the bowl (Fronsdal, 2017). The Buddha asked, "Rahula, do you see that little water that was thrown away?" (Nanamoli & Bodhi, 1995, p. 523). Rahula replied, "Yes" (Nanamoli & Bodhi, 1995, p. 523).

By using water as a metaphor for integrity, Buddha likens the act of lying to the act of throwing away one's integrity. Then, Buddha asked Rahula, "What is the purpose of a mirror?" (Nanamoli & Bodhi, 1995, p. 524). Rahula responded, "For reflection" (Nanamoli & Bodhi, 1995, p. 524). Buddha encourages his son to purify his thoughts, actions and speech by reflecting whether they will "lead to my own affliction or affliction of others or the affliction of both?" (Nanamoli & Bodhi, 1995, p. 524). So, rather than teaching absolute notions of right or wrong, Buddha was teaching his son to reflect on the harmful or beneficial consequences of his actions. This is similar to Wallace's (2016) conative intelligence, the ability to discern whether the pursuit of an action causes harm or benefit.

This discourse is still relevant to modern parents developing reflective skills in their children. Reflection requires both self-awareness and empathy to discern whether one's actions cause harm or benefit. Over 2,500 years later, Bandura (1977) found role modelling was more effective than angry castigation. Applying the principles of Buddha and Bandura, it appears the capacity of reflection and compassion primarily develop from seeing others, particularly parents, model these qualities. Buddha had guided his son to notice whether or not his actions caused harm (Nanamoli & Bodhi, 1995). If harm had resulted, Rahula was asked to confide in a wise person as part of a strategy to do better in the future (Nanamoli & Bodhi, 1995). A child's development of self-worth depends on how parents receive their mistakes, whether a parent can be trusted and whether a parent is interested in the child's growth. Therefore, a parent's way of being and behaving in the world in relationship with their child is crucial to how a child learns virtue. Buddha's use of Socratic questioning, poetic devices and role modelling are still relevant to developing virtue in today's children.

1.5.2 Meditation. The second discourse, *Middle Length Discourse 62* (Nanamoli & Bodhi, 1995), illustrates how the Buddha began teaching meditation to Rahula as a way to develop a strong foundation for inner wellbeing. When Rahula was a young adolescent, he shared his confidence about his appearance with his father, while walking the morning alms rounds (Nanamoli & Bodhi, 1995). Buddha explains the impermanence of all material and mental forms, such as feelings, perceptions, or consciousness by encouraging Rahula to view them as "This is not mine, this I am not, this is not my self" (Nanamoli & Bodhi, 1995, p. 528). The discourse states that Rahula felt reprimanded by his father's response and returned to the monastery without collecting food for the day.

Viewed through the lenses of Western psychology, this comment questions whether Buddha's attempt to teach non-attachment and *not-self* was interfering with his son developing a healthy sense of self (Fronsdal, 2017). The answers to these questions were addressed by a series of analogies aimed at developing a strong foundation for inner wellbeing. The next evening, Rahula asked his father for instructions on breath meditation. Buddha first used analogies to build equanimity during meditation (Nanamoli & Bodhi, 1995). Buddha's advice for Rahula is paraphrased as:

Develop meditation [like earth], like water, like fire, like air and like space as all these things are not troubled by agreeable and disagreeable things... So if you meditate [like earth], like water, fire, air or space, agreeable and disagreeable experiences will not trouble you (Nanamoli & Bodhi, 1995, p. 529).

Buddha (Nanamoli & Bodhi, 1995) guided his son to meditate on loving kindness to heal ill-will, compassion to overcome cruelty, appreciative joy to master discontent, equanimity to subdue aversion and foulness to abandon lust. So, understanding impermanence (Nanamoli & Bodhi, 1995, p. 531) is thought to tranquilise the mind by removing the conceit of "I am."

Only after the analogies and antidotes for destructive emotions did Buddha teach Rahula the breath meditation in stages (Nanamoli & Bodhi, 1995). These stages include phases of (1) calming the body and mind; (2) cultivating a strong sense of inner wellbeing; (3) developing insight and (4) learning to let go (Nanamoli & Bodhi, 1995). A powerful finale to Buddha's teaching to his son was that if mindfulness of breath is cultivated, a person will have the ability to be calmly mindful of his last breath (Nanamoli & Bodhi, 1995). Buddha's discourse to Rahula on impermanence is still relevant for modern teenagers to build inner stability amidst the transitions and challenges. Breath meditation

can also be a valuable tool to cultivate ease within oneself and with others at every step of our life journey.

1.5.3 Wisdom. The third sutra, the *Middle Length Discourse 147* (Nanamoli & Bodhi, 1995), highlights how Buddha guides Rahula through a series of questions that lead him to liberating wisdom. During his adolescence, Rahula had devoted much of his time to the path of awakening (Nanamoli & Bodhi, 1995). He has been described as being exemplary in his love for training (Nanamoli & Bodhi, 1995). When Buddha realised his son was close to liberation, he took Rahula for a walk into the deep forest grove of majestic Sal trees (Fronsdal, 2017). Sitting at the base of one of these majestic trees, he guided Rahula through a series of questions to progressively loosen the clinging to the idea of a self (Fronsdal, 2017). The deeply rooted tendency to cling to an essential self can be the last barrier to liberation (Fronsdal, 2017). Letting go of self-concern and enchantment to an essential self, Rahula gained clarity about impermanence. This often-perplexing teaching on not-self is not an abstract philosophy, but a practical instruction in finding happiness by letting go (Fronsdal, 2017). When Rahula was seven years old, he asked his father for his inheritance (Fronsdal, 2017). Thirteen years later, he received the greatest gift a parent could pass on to a child, the gift of awakening known as the ultimate happiness (Fronsdal, 2017). During the different developmental stages, Buddha guided his son through three discourses on virtue, meditation and wisdom. His parenting strategies are still remarkably relevant to contemporary secular society. These discourses highlight developmental appropriateness, patience and sensitivity.

1.6 Darwin's Theory of Emotion

The parenting experiences of Darwin have also profoundly influenced the contemporary study of emotions. Darwin's expeditions into the facial expressions of his

infants launched the current study of emotion and developmental psychology (Costa, 2017):

One day in May 1840, a young scientist did something that will sound strange to any new parent: he deliberately startled his 4-month old son, provoking piercing squalls from the baby and probably a baleful glare from his wife. Then he did it again. (Costa, 2017, p. 1)

Darwin's experiment with his 4-month-old son William Erasmus Darwin led to a lifelong curiosity of how emotions are expressed through different developmental stages (Costa, 2017). Darwin's refined attentional skills in observing facial expressions in both humans and animals led to his principles on the universality of emotions.

Charles Darwin (1859) the naturalist is renowned for his groundbreaking theories on plant and animal evolution. However, the former theology and medical student's seminal work on emotions has also inspired the field of evolutionary psychology and psychiatry (Costa, 2017). Darwin's (1838) notebook, entitled *Metaphysics on Morals and Speculations on Expression*, had a section on "Natural History of Babies" where he carefully documented the infant observations (Costa, 2017). Paul Ekman (2009) considers Darwin's (1872) book entitled *The Expression of the Emotions in Man and Animals* the first pioneering study of emotion that began the science of psychology.



Plate 1.1. Charles Darwin with his eldest son William Erasmus Darwin in 1842.

Photograph taken at their home Down House in Downe, Kent. Presented with permission from Historic England Photo Library (2007).

The prevailing view of the time, espoused by theorists such as Sir Charles Bell, was that emotional expressions were given by God only to man (Ekman, 2009). A dominant discourse during this era was that Europeans descended from a more advanced progenitor than Africans (Ekman, 2009). Darwin challenged the racist, religious fundamentalism of his time by stating man and animals are similar as they are derived from a common ancestor (Black, 2002; Ekman, 2009). Darwin had scribbled in the margin of his copy of Bell's book "he never looked at a monkey" in relation to Bell's comments about humans' superiority over animals (Ekman, 2009, p. 3450). Although Darwin drew upon Bell's anatomical descriptions of emotions, he rejected Bell's theory of human superiority (Ekman, 2009). The inference is that all animals and humans, whether African or European, had evolved from a common ancestor (Ekman, 2009). The unity of all living beings was thus established with Darwin's proclamation of the common ancestor.

Five main tenets of Darwin's theory of emotions still underpin contemporary theories of emotion. Darwin's (1872) first major contribution to emotion regulation is the differentiation of emotions into six discrete families: fear, anger, disgust, surprise, sadness and happiness. In contrast, the German physician, Wilhelm Wundt proposed emotions were on a continuum of intensity and pleasantness (Ekman, 2009). Darwin described each emotion family as sharing similar characteristics that distinguished it from another emotion family (Ekman, 2009). By using 60 photographs of French physician Guillaume-Benjamin Amand Duchenne de Boulogne, Darwin recorded the first single-blinded psychology study (Costa, 2017). This study by Darwin (1872) has spurred a flurry of modern research on how the face is a window into emotions.

Duchenne de Boulogne had developed an ingenious technique of creating emotional expressions by selectively stimulating facial muscles (Costa, 2017). Duchenne believed there were 60 distinct emotions, associated with the 60 photographs (Costa,

2017). Darwin was convinced there were less. Darwin showed the 60 photographs to 24 successive visitors to his home. He asked these visitors, differing in age and gender, to describe the emotion illustrated by each photograph (Costa, 2017). Scoring the results as complete or nearly complete agreement of core emotions, he reduced Duchenne's 60 emotions to six (Costa, 2017). Costa (2017) considers this experiment the forerunner of modern facial recognition experiments.

Darwin's (1872) second major contribution to current theories of affect regulation is the assumption that facial expressions are universal and a rich source of information about emotion. Recognition of facial features are now used in clinical applications for assessing social cognition, schizophrenia and autism (Flannelly, 2017). While facial expressions provide a rich source of information, so does the voice. There is still a gap in emotion research regarding the voice, which is much harder to fabricate or regulate.

The principle of *serviceable habits* is Darwin's third major contribution to current affect regulation theories. According to Darwin (1872), emotions are expressed through acquired habits or serviceable habits rather than selection. Darwin (1872) stipulated:

Certain complex actions are of direct or indirect service under certain states of mind, in order to relieve or gratify certain sensations, desires, etc.; and whenever the same state of mind is induced, however feebly, there is a tendency through the force of habit and association for the same movements to be performed, though they not be of the least use. (p. 28)

Darwin's view that emotions are acquired habits to gratify certain mind states still prevails in the 21st century.

The *antithesis principle* is the fourth major contribution by Darwin to the current study of emotion. The antithesis principle states a signal has a certain form because it is

the opposite of another signal (Darwin, 1872). Dogs puff themselves to appear larger in a threatening encounter, a serviceable habit, but its antithesis is the submissive slinking and lowering of the body (Darwin, 1872). Finally, Darwin (1872) proposed certain actions are triggered by the nervous system independent of will or habit, “principle of actions due to the constitution of the nervous system, independently from the first of the will, independent to a certain extent of habit” (p. 29). For instance, when children and adults are traumatised, they often feel rejected, which is followed by an automatic reaction of distress or anger. Contemporary genetic and biochemical studies (Dias & Ressler, 2014) on the intergenerational transmission of trauma confirm Darwin’s (1872) proposition that the nervous system triggers actions, independent of will.

Darwin’s observations about the physiology of emotions have influenced some of the fundamental foundations of modern affect regulation theories. Mindful Parenting (MP) programs (Bögels & Restifo, 2014; Reynolds, 2017) focus on reducing parents’ automaticity, which refers to reactive, reflexive behaviors. Automaticity resembles Darwin’s (1872) proposition that the nervous system triggers actions independent of will. The intergenerational transmission of trauma also occurs through this automaticity where mindless or unconscious actions are passed onto the next generation without being processed or reflected (Bögels & Restifo, 2014). MP programs begin with training parents to observe a child’s facial expressions, then gradually proceed to transforming family dynamics.

1.7 The Evolving Affect Regulation System

The brain and hormonal systems underlying modern humans’ automatic, emotional reactions is believed to have evolved 10,000 to 100,000 years ago (Konner, 2010). However, the modern lifestyle is dramatically different from that of our ancestors. Paul Gilbert’s (2009) model proposes three domains of affect regulation—threat, drive and

contentment—which can help us understand parental reactivity. Our threat and drive systems appear to have evolved together, while the contentment/affiliation system regulates self-soothing (P. Gilbert, 2009). The drive system is essential for motivating us to seek rewards, resources, mates and achievements (P. Gilbert, 2009). Positive emotions of pleasure and excitement are associated with the drive system (P. Gilbert, 2009). For many individuals, the modern lifestyle has over activated the drive system, to constantly do, achieve, strive and compete (P. Gilbert, 2009). When modern humans are not in the *‘doing’* state, they feel depleted or self-critical if they are not in balance with the self-soothing, affiliation system. The threat system is also commonly activated, being triggered now by social, interpersonal and intrapersonal situations rather than physical danger (P. Gilbert, 2009). The pursuit of achievements aims to avoid feeling rejected, inferior, shamed or guilty about ourselves.

The third system, our contentment/affiliation system, is often under-activated according to P. Gilbert (2009). The contentment system is proposed to have evolved from our attachment system, which is associated with feelings of calm, peacefulness, security and safety (P. Gilbert, 2009). Modern lifestyles tend to stimulate our threat and drive systems while suppressing our contentment system.

Nature’s love drug, oxytocin, the hormone released during breastfeeding, lovemaking and bonding, is associated with the contentment system (P. Gilbert, 2009). Oxytocin has been found to play a critical role in calming the autonomic nervous system after a stressful experience as well as helping to establish close emotional bonds in times of stress (Carter, 1998). Our need to bond with others is supported by the contentment/affiliation system (P. Gilbert, 2009). It helps us to feel calm, content and soothed. A growing body of literature shows that secure attachments bring not only psychological benefits, such as feelings of security and trust, but also physiological,

neurochemical benefits, such as oxytocin (Carter, 1998). More recent evidence (Apter-Levy, Feldman, Vakart, Ebstein, & Feldman, 2013) shows oxytocin is lower in insecurely attached infants compared with their securely attached counterparts.

1.7.1 Evolution of empathy and compassion. The capacity to read facial expressions, which communicate emotions, intentions and motivations, is crucial to our survival. The evolutionary anthropologist Hrdy (1999) argues that our ancestors' motivation and capacity to share emotional and mental states led *Homo sapiens* to evolve into the most prosocial cooperative primates. Intersubjectivity refers to the capacity to share mental states and goals (Bögels & Restifo, 2014). Hrdy (1999) stipulates that intersubjectivity evolved to higher states in human beings compared with our ape relatives because these abilities were crucial to an infant's survival once cooperative breeding developed.

Bögels and Restifo (2014) propose that an infant had to develop the capacity to read intentions on the mother's face to survive. Our ancestors would have gained a survival advantage by using facial expressions to convey emotions and motivations (Hrdy, 1999). Developmental primatologist Michael Tomasello (2008) claims that human beings differ from other primates in their ability to 'mind read' or share mental states. Tomasello (2008) argues that human beings can (1) understand other human beings have thoughts, intentions and motivations; and (2) attempt to understand these thoughts, intentions and motivations. The assumption is human beings actively and constantly attempt to read each other's minds.

However not all *Homo sapiens* can accurately understand others' thoughts and intentions. Narcissistic parents are unable to understand that their child has different intentions from their own. In fact, a child's distress is heightened when a parent cannot

acknowledge the child has separate intentions from that of the parent. Evolutionary theorists and psychologists trace our unique ability for empathy and compassion back to the earliest relationship between a parent and a child, the source of our attachment system (Bögels & Restifo, 2014). Compassion is considered to have developed in our evolutionary history as an affective state designed to reduce suffering and meet the needs of vulnerable offspring (Bögels & Restifo, 2014). The mother–child attachment is a hallmark of all mammalian species, particularly primates (Goetz, Keltner, & Simon-Thomas, 2010). According to evolutionary theory (Hrdy, 1999) intersubjective skills such as empathy, compassion and cooperation were more highly developed in human beings compared with other apes to improve our chances of survival when cooperative breeding began.

Human infants developed these intersubjective skills to secure the mother’s attachment and commitment to raising them (Hrdy, 1999). Evolutionary theory proposes that when the burden of raising children became too high, mothers had to allow others to care for their young (Hrdy, 1999). The need for help came with an increased cognitive awareness to better read others’ intentions (Hrdy, 1999). From an early age, human babies are motivated to understand what others think and feel about them, particularly others’ intentions for them, “Do you really love me? Do you really care for me?” (Bögels & Restifo, 2014, p. 37). Implications for modern parents is that natural selection appears to favor infants who can secure their mother’s attachment and commitment to them. Within a few days of birth, maybe from birth, infants can engage with others through mutual gazing, cooing and smiling. These behaviors help infants to secure their mother’s care and protection. This body language of affect sharing, such as cooing, could also be early attempts of mind reading.

Evolutionary theory is relevant in understanding the evolution of emotions in relation to parenting. The rising rates of parenting stress may be due to the vast resources required to raise a human child, the lack of support in modern families compared with ancestral families, in addition to our inherited affect regulation and attachment system (Bögels & Restifo, 2014). The enormous resources required to raise a human child led our ancestors to become cooperative breeders (Hrdy, 1999; Konner, 2010). Evolutionary theorists argue over 90% of our evolution occurred when humans became cooperative breeders (Hrdy, 1999; Konner, 2010). That is, mothers had support from *allomothers* to care for their young (Bögels & Restifo, 2014). Allomothers included grandmothers, fathers, grandparents, aunts and siblings. The Western expectation that mothers should exclusively care for their young is not consistent with our evolutionary history (Bögels & Restifo, 2014). Thus, the nuclear family is an aberration of modernity.

The puzzle is how our ancestors reproduced to the point of outbreeding other primates to dominate the planet (Bögels & Restifo, 2014). Anthropologists argue grandmothers were more likely to consistently bring back food such as fruit, roots and nuts for the infants compared with fathers, who often returned empty-handed owing to the difficulty of hunting large game (Hawkes, O'Connell, & Blurton Jones, 1989). The grandmother's role in providing food increased her daughter's reproductive success (Hawkes, O'Connell, Blurton Jones, Alvarez, & Charnov, 1998). Among great apes, there is very little food sharing after weaning (Hawkes et al., 1998). Hawkes et al. (1998) emphasise that unlike the current ethics of the young caring for the old, our evolutionary history indicates postmenopausal women would have survived only if their presence increased the reproductive success of their daughters in addition to the survival of their granddaughters and nieces.

1.8 Conceptual and Methodological Issues in Defining Mindful Parenting

The construct of mindful parenting is relevant to cultivating affect regulation. Nevertheless, there is a diversity of views on what the term means or involves. The most significant challenges to the study of mindful parenting have been conceptual and methodological in nature. The debates on the nature of mindfulness (Van Dam et al., 2018) also influence its application to parenting. These debates continue to challenge its investigation. Mindful parenting is not easily operationalised or measured. Consensus is lacking on whether it is a single entity or a collection of related processes. Consequently, this has led to questions about the validity and reliability of the construct. Furthermore, it raises questions about treatment fidelity.

1.8.1 Conceptual issues. The conceptual challenges in defining mindful parenting stems from attempting to define a concept that is inherently non-conceptual, unconditional, non-dual and paradoxical in nature. Krishnamurti (1993, 1994) defines mindfulness as an *unconditioned or pure awareness*, a state of awareness that operates unconditionally and intelligently. Eastern philosophies are multifaceted, complex and often contradictory. It is non-dual as the duality between subject (oneself) and object (things) disappears in a state of pure observation or unconditioned awareness (Krishnamurti, 2002; Sikh & Spence, 2016). Unconditional refers to the stripping of preconceived knowledge and biases. It is paradoxical for how one can *be* and *not be*. The challenge of researching mindfulness, “lies in the paradox that in being unconditional, it is not amenable to methodologies and methods. Unconditional or pure awareness cannot be understood through a method, yet without a method, it will continue to remain obscure” (Sikh & Spence, 2016, p. 1). This dissertation does not attempt to solve this paradox, but rather, its purpose is to critically analyze

the research methodologies that seek to illuminate a deeper understanding of mindful parenting.

Krishnamurti (2002) proposed pure awareness occurs when one unconditionally observes everyday life events, including one's thoughts, feelings and activities. "Discovery (understanding) takes place not when mind is crowded with knowledge but when knowledge is absent; only then are there stillness and space and in this state understanding or discovery comes into being" (Krishnamurti, 1994, p. 13). Discovery or understanding unfolds in the *stillness of being* when the mind is still, free of preconceived ideas.

During enlightenment, Buddha realised there was no originating point to his past lives. Both Buddhist and Heideggerian philosophies concur that the existential nature of being is interconnected with no beginning, no end, or no permanence (Sikh & Spence, 2016). Heidegger's (1952) ontological hermeneutics, *dasein* (oneself) refers to the understanding of *being* in the world, being oneself in relation to the world. Krishnamurti's (2002) idea of crowdedness is similar to Heidegger's *dasein* being shrouded in layers of preconceived ideas (Sikh & Spence, 2016). Stripping *dasein* of the permanent self, the conditioning, biases and preconceived ideas, helps to reveal the inherent nature of pure awareness.

The operational definition of mindful parenting is the ability to pay attention to one's child and parenting style in a way that is *intentional, non-judgmental* while being *present* in the here and now (M. Kabat-Zinn & Kabat-Zinn, 2014). It is an interdependent phenomenon that highlights both domains, the interpersonal and intrapersonal. Intentional implies that this state is created with intention to focus on the present moment. *The Inner Kids* program for young children teaches basic mindfulness skills and intentionality by teaching children to become aware of what is happening as it is happening (Kaiser-

Greenland, 2010). Non-judgmental can be interpreted as not continually grasping, assessing and reacting to judgments (J. Kabat-Zinn, 2003). Being able to note those judgments, then disengage from them may be what non-judgmental feels like in practice (J. Kabat-Zinn, 2003). However, Wallace (2016) argues being non-judgmental is not enough. One needs to be discerning, that is, knowing which intentions or emotions to release and which to embrace.

Psychotherapeutic constructs, such as intersubjectivity, mentalizing and insight, are also used in mindful parenting. As previously stated, intersubjectivity is the sharing of mental states or goals (Bögels & Restifo, 2014). Hughes (2013) refers to mindfulness in the parenting context as *intersubjective mindfulness* meaning mindfulness of relationship. The intersubjective context or the shared experience is characterised by nonverbal attunement, reflective dialogue, acceptance, curiosity and empathy (Hughes, 2013). Thich Nhat Hanh (1987) also defines mindfulness as interdependent phenomena, which involves remembering *who* one is, *who* one is *with* and *what* one is doing. The Buddhist concept of *interbeing* (Nhat Hanh, 1987) refers to the independence of all life, where everything is connected. Interbeing is similar to mutual co-regulation, where a parent's actions or intentions create a response in the child to maintain a regulated state. Harvard researchers (Bales, Heckman, McEwen, & Rolnick, 2007) use the metaphor of *serve and return* to describe the interactive nature of co-regulation, which shapes the developing brain. Consequently, the genes and relationships with caregivers build the child's brain.

Mindful parenting has also been described in the context of promoting secure attachment in the infant since mindfulness enhances mentalizing (Fonagy, 1998b; Reynolds, 2003). Mentalizing is defined as *mindfulness of mind* (Fonagy & Bateman, 2008). As conceptual cousins, mindfulness and mentalizing share many similarities as well as differences. Mindfulness is broader than mentalizing, as the Buddhist construct is

embedded in a set of ethics. It is also narrower since it focuses on being present-centered. By contrast, mentalizing relates to past and future mental states. Mindfulness is not only extremely useful in its own right but also aptly captures the attentive spirit of mentalizing that is being mindful of mental states (Fonagy & Bateman, 2008, pp. 54-55). So, increasing mindfulness in parents enhances their capacity to become aware of and be responsive to, their child's needs.

1.8.2 Methodological issues. The fundamental challenge in the field of mindfulness is to clarify how to measure the change mechanisms and mediators of Mindfulness Based Programs (MBPs) (R. J. Davidson, 2016). Applying the Stage Model (Onken, Carroll, Shoham, Cuthbert, & Riddle, 2014) recommended by the National Institutes of Health to MBPs it appears that MBPs require greater clarity with all three Ms. According to the Onken et al. (2014) Stage Model, there are six stages of developing a behavioral intervention. Stage 0 is the basic science. Stage 1 is intervention generation, refinement, modification, adaptation and pilot testing. Stage 2 is the traditional efficacy testing. Stage 3 is the efficacy testing with real-world problems. Stage 4 is the effectiveness research. Stage 5 is the dissemination and implementation research. Dimidjian and Segal (2015) argue the MBP evidence is heavily saturated in Stage 1 but lightly represented in Stages 0 and 2. Furthermore, to date there is minimal research in Stages 3, 4 and 5.

The first wave of empirically tested psychotherapies was Behavior Therapy (Crane et al., 2017). The second wave was Cognitive Behavior Therapy (Crane et al., 2017). The third wave was mindfulness-informed interventions (Crane et al., 2017). A key feature of the third-wave approaches is a decreased emphasis on controlling internal experiences and an increased emphasis on how individuals relate to their experiences through themes such as

acceptance and metacognition (Crane et al., 2017). Mindfulness-informed programs include Acceptance and Commitment Therapy (S. C. Hayes, Strosahl, & Wilson, 2011), Compassion Focused Therapy (P. Gilbert, 2009), Dialectical Behavioral Therapy (Linehan, 1993b), Mindful Self-Compassion (Neff & Gerrmer, 2013) and developments in the field of Positive Psychology (Seligman & Csikszentmihalyi, 2000). Mindful parenting programs are included in MBP. The distinction between mindfulness-informed interventions and MBPs is the requirement for both teachers as well as participants to meditate through systematic, sustained formal and informal practices (Crane et al., 2017). Meditation practice is central to both the therapeutic approach and theoretical foundations (Crane et al., 2017). Crane et al. (2017) argue that there is a need to re-clarify the core ingredients of MBPs, agreed definitions and established protocols so that MBP teachers are trained appropriately. This clarity would assure the public that the program title accurately describes program content (Crane et al., 2017). Another important need for this clarity is that it ensures existing and future research can meaningfully interpret the established protocols.

1.8.3 Defining features. The defining feature of a MP program is the focus on mindfulness in the context of parenting, reflective functioning and Attachment Theory. Many MP programs are often based on either *Mindfulness Based Cognitive Therapy* (MBCT) or *Mindfulness Based Stress Reduction* (MBSR) with inclusions from components of the *Circle of Security* (COS) (Marvin, Cooper, Hoffman, & Powell, 2002) program. Mindfulness functions by facilitating metacognitive monitoring to reduce the cognitive reactivation of negative thoughts and feelings (Segal, Williams, & Teasdale, 2002). Reflective functioning operates through *mentalizing* or meaningfully reflecting on the mind states of oneself and others (Fonagy, 1996). Consequently, both reflective functioning and mindfulness involve metacognitive monitoring to reduce reactivity to allow perspective taking and thereby reduce unhelpful cognitive processes. Many MP

programs (Bögels & Restifo, 2014; Reynolds, 2017; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005) draw on Attachment Theory, which stipulates the quality of one's early attachment profoundly influences one's adult behavior and relationships (Slade, Grienenberger, et al., 2005). Parenting programs based on Attachment Theory, such as COS (Marvin et al., 2002), target the reactivation of maladaptive attachment styles. Therefore, MP programs target the reactivation of negative patterns, such as attachment styles, parenting behaviors, in addition to thoughts and emotions. To further understand the intergenerational transmission of emotion, this dissertation aims to pursue an epistemological and ontological inquiry into how mindful parenting facilitates affect regulation.

1.9 Aims of this Dissertation

The primary aim of this dissertation was to critically analyse how mindful parenting is associated with affect regulation to evolve emotions. The focus of this dissertation is on mindful parenting across the developmental stages of 0 to 18 years of age. More specifically it aims to:

1. Systematically review the international and national literature on the effectiveness of MP programs in promoting the wellbeing of children and parents (Study 1).
2. Investigate the effectiveness of an Australian MP program called *Caring for Body and Mind in Pregnancy* (CBMP) in reducing perinatal depression, anxiety and stress amongst a sample of at-risk pregnant women (Study 2).
3. Critically analyse how change processes utilised by MP programs are associated with affect regulation (Study 3).

4. Clarify which factors in the change processes of self-compassion and mindfulness scales have the strongest correlation with the reduction of perinatal depression (Study 4).

1.9.1 Contents of chapters. Chapter 2 describes affect regulation theories relevant to mindful parenting. Chapter 3 conceptualises the change mechanisms of MP programs that resulted from the systematic review (Study 1) and informs the interview questions for Study 3. Chapter 4 is the methodology chapter, which summarises the four methodologies used in this dissertation. Chapter 5 is the protocol for Study 1, the systematic review. Chapter 6 is a systematic review that synthesised the current evidence on mindful parenting. Chapter 7 outlines Study 2 on the effectiveness of CBMP. Study 3 outlined in Chapters 8 and 9 investigates the change processes facilitating mindful parenting. Chapter 10 investigates the factors within self-compassion and mindfulness scales strongly associated with the reduction of perinatal depression. Chapter 11, the discussion chapter, synthesises the overall findings from the four studies.

Chapter 2 Affect Regulation

To regulate affect the essential nature of mind becomes “still in an unfluctuating state” where one experiences “joy like the warmth of a fire, clarity like the dawn and non-conceptuality like an ocean unmoved by waves.” (Düdjom Lingpa, 2004, p. 20)

2.1 Synopsis

This chapter will first examine the determinants of affect regulation, namely neuroendocrine, epigenetic, social, economic and evolutionary factors. Second, it will critically analyze how mindful parenting theories promote affect regulation.

2.2 Introduction

Affect regulation is an essential goal of Western psychotherapy, Eastern mindfulness and parenting across all cultures. Mindful parenting integrates various disciplines from cognitive neuroscience to developmental psychology with Eastern contemplative practices in a quest to understand emotions. This ubiquitous construct of emotion has attracted enthusiastic interest across a broad range of disciplines from philosophy, psychology, theology to evolutionary biology. Even within the psychology discipline, each field has its own explanations for regulating emotions. Cognitive Behavior Therapy aims to modify faulty thinking to change emotions (Graham & Reynolds, 2013). Psychoanalysis has long pondered the power of early relational experiences in shaping the life course of later intrapsychic and interpersonal events (Freud, 1923; Reynolds, 2003). However, much broader evolutionary, societal, psychological and ethical issues also influence affect regulation. This chapter will first examine the determinants of affect

regulation before critically analyzing how mindful parenting theories promote affect regulation.

2.3 Neuroendocrine, Genetic, Social and Economic Determinants of Affect Regulation

Affect regulation is a complex skill now recognised to evolve throughout the lifetime with influences from the neuroendocrine, genetic, social and economic determinants (Rutherford, Wallace, Laurent, & Mayes, 2015). While affect regulation has numerous definitions, Gross and Thompson (2007) define it as a parent's capacity to influence the experience and expression of their emotions in the caregiving context. This section will briefly outline the aforementioned determinants of affect regulation.

2.3.1 Neuroendocrine basis of affect regulation. The neuroendocrine system has the potential to automatically stimulate the attachment system, evoking a mother to fall in love with her infant, thus motivating her to care for her infant. The attachment system is associated with oxytocin, nature's love potion. The neuropeptide oxytocin triggers labor contractions, reduces the stress of birth, promotes feelings of calm after birth and stimulates milk production (Carter, 1998). Oxytocin also buffers the response to stressors by reducing the reactivity of the autonomic nervous system, such as heart rate and blood pressure (Carter, 1998). It restores our feelings of calm, safety and trust after a stressful event, thus helping the mother and infant bond (Carter, 1998, 2005). Hence, mothers' care for their children occurs without much conscious awareness. Attachment reactions often occur automatically, triggering feelings of comfort and wellbeing.

Touch is the most highly developed modality at birth, which is imperative for caregiving and bonding (Bögels & Restifo, 2014). Physical touch has been found to release oxytocin and reduce cortisol, a stress hormone, thereby reducing activation of

neuroendocrine stress (Bögels & Restifo, 2014). Engaging in comforting activities, such as a soothing touch, holding our children, physically consoling them or ourselves when upset, activates the attachment system, which triggers feelings of calmness and contentment (P. Gilbert, 2009; Neff, 2011). Compassion and loving kindness meditation have also been found to shift the brain into patterns associated with positive mood states (Davidson et al., 2003). Accordingly, a soothing touch and compassion can activate attachment.

2.3.2 Genetic determinants of affect regulation. Epigenetics refers to “on top of the gene,” the lever that turns the gene on or off without altering the genetic code (Mellor, Dudek, & Clynes, 2008). *Epi* is derived from the Greek root meaning upon or over (Mellor et al., 2008). Recent epigenetic evidence (Yehuda et al., 2016) shows the life experiences of traumatised parents can be transmitted to their children. There is considerable interest surrounding the emerging field of epigenetics. The trails of trauma extend to future generations by imprinting the genes of the successive generations. Studies of survivors of the Holocaust, wars, September 11, 2001 terrorist attacks and their subsequent offspring born decades after the traumatic event have noted physiological changes in their offspring (Yehuda et al., 2016). For example, parents’ or grandparents’ Holocaust experience (Yehuda et al., 2016) has been associated with heightened anxiety in their children or grandchildren.

Earlier explanations of transgenerational transmission of trauma assumed it was caused primarily by environmental factors, such as parenting practices (Kellerman, 2001). However, recent research shows that transgenerational effects may also be inherited by epigenetic mechanisms (Kellermann, 2013; Yehuda et al., 2016). Changes in the Hypothalamic–Pituitary–Adrenal (HPA) axis and cortisol release have been found to be

transmitted to offspring through changes in FKBP5 methylation (Yehuda et al., 2016). Offspring of Holocaust survivors report hyper-arousal, hypersensitivity and overreaction to fear even though they were born decades after the Holocaust (Yehuda et al., 2016). The grandchildren and children of the Holocaust survivors never smelt the burning bodies, never saw the atrocities, yet after years of psychotherapy they report being unable to resolve or understand their trauma (Horak, 2000). The symptoms have included being anxious, fearful, over-reactive, hyper-vigilant, hypersensitive and unable to resolve an unexplainable trauma (Yehuda et al., 2016). Even if parents never spoke about the horrors of the trauma (Horak, 2000), the unprocessed trauma may be passed onto their children through both parenting practices and epigenetic mechanisms. These parental practices may include a range of behaviors, such as overprotection or intrusiveness, withdrawal from their child, or avoidance of painful feelings. Therefore, to stop the intergenerational transmission of trauma, both the physiological and psychological factors need to be addressed.

The *Dutch Famine Study* (Ravelli, Stein, & Susser, 1976) found two subsequent generations after the famine had metabolic changes that increased their risk of developing diabetes. During the Dutch famine, 20,000 people died when the Germans ceased the food supply from November 1944 to spring of 1945 (Ravelli et al., 1976). The deoxyribonucleic acid (DNA) of the starved mothers had affected the embryo of two subsequent generations (Roseboom et al., 2001). Findings from the Dutch Famine Study show environmental trauma experienced by mothers may not have changed the gene but changed how the DNA is read (Roseboom et al., 2001). Mothers being exposed to starvation led the genes of the offspring to conserve energy (O'Rourke, 2014). Accordingly, offspring who have access to abundant food supplies (O'Rourke, 2014) will be at risk of developing obesity and diabetes.

A frequently used quotation to minimise the past is “Do not live in the past.” As Olga Horak (2000), a Holocaust survivor, cogently states during an interview, “I do not live in the past. The past lives in me” (Horak, 2017, p. 1). When Olga was 14 years of age, the Nazis captured her mother, sister, father and her. Her sister was killed (Horak, 2000). She never saw her father again (Horak, 2000). He was imprisoned in a prisoner of war camp (Horak, 2000). Olga and her mother were transported in cattle cars, then subjected to unfathomable trauma. They experienced typhus, lice, sleeping on the ground in freezing conditions with no blankets, starvation and the smell of rotting corpses (Horak, 2000). When they were eventually rescued, her mother died moments after organising Olga’s Displaced Persons card (Horak, 2000). Her grandson, who was born in Australia, never experienced his grandmother’s traumatic past (Horak, 2017). Yet, he exhibits unexplainable fear even though he is an intellectually robust, articulate Human Rights lawyer. Olga (Horak, 2017) reaffirms, “Memories matter. Remember not to forget” (Horak, 2017, p. 1). These experiences from Olga’s narrative highlight the effect of the *lived experience* on future generations.

There is also evidence of this transmission from non-human experimentation. Dias and Ressler’s (2014) work at Harvard Medical School demonstrates that these intergenerational effects of trauma on mice offspring go beyond parenting practices. Stage 1 trained father mice to fear cherry blossoms by zapping them with an electric shock whenever they saw a cherry blossom (Dias & Ressler, 2014). The next generation showed an enhanced behavioral startle response to cherry blossoms, even though they had never experienced being electrocuted in the presence of cherry blossoms (Dias & Ressler, 2014). The findings show the next generation had inherited the paternal learned fear response through epigenetic transfer (Dias & Ressler, 2014). The offspring had the same marks of smell trauma, even though they had never experienced smell trauma (Dias & Ressler,

2014). To eliminate the possibility that the offspring may have learned to be fearful of cherry blossoms by watching or communicating with their fathers, Dias, Maddox, Klengel, and Ressler (2015) conducted a series of experiments.

Further studies (Dias et al., 2015) created the offspring through in-vitro fertilisation. The offspring were raised by foster parents who were either trained or not trained to fear cherry blossoms (Dias et al., 2015). At a behavioral and neural level, the offspring resembled the biological fathers, not the foster fathers who were trained to fear cherry blossoms (Dias et al., 2015). There were methylations or chemical signatures on the cherry blossom receptor gene of fathers trained to fear cherry blossoms (Dias et al., 2015). The genome had not changed, but the epigenetic levers that switch the gene on or off had changed (Dias et al., 2015). These changes were passed onto the next generation (Dias et al., 2015). Many Holocaust families feel comforted, reassured and validated knowing history lives in them through their biology (Yehuda et al., 2016). Fear changes the brain with neural changes that are passed on to the children and grandchildren. The studies presented in this section provided powerful examples of the genetic determinants of affect regulation.

2.3.3 Social determinants of affect regulation. Social determinants of affect regulation will be discussed next. Sir Michael Marmot (2015), the President of the World Medical Association, Director of Health Equity, University College London, links social determinants of health to wealth, power and status. The Millennium Birth Cohort Study (2017), a national longitudinal study in England, analyzed household income, parenting activities and early childhood outcomes. Parents of children aged three were asked how important it was to talk to their child, cuddle their child and read to their child (Marmot, 2015). The lower the household income, the less likely mothers thought it was important

to talk to their child, cuddle their child and read to their child (Marmot, 2015). These findings indicate low household income is associated with poor early childhood outcomes.

Marmot (2015) does not specifically propose a Mindful Parenting (MP) program. However, Marmot's research demonstrates that socioeconomic status of parents influences their ability to be 'good enough' parents. That is, the social gradient tends to shadow parenting. Marmot's (2015) analysis showed one half of the differences in children's social, emotional development could be attributed to the parents' socioeconomic status. Furthermore, parents' socioeconomic status was found to account for one-third of the differences in children's cognitive and linguistic development (Marmot, 2015). Regardless of cultural or ethnic background, families in the middle of the social gradient tend to interact with their children more than poor families, but are less engaged with their children than rich families (Marmot, September 10 2016). Enriching strategies to support child development include early childhood education, family support, parent training and systemic policy changes. Acknowledging the impact of inequity on parenting when implementing these strategies has the potential to change parental attitudes, thus reducing deprivation.

A large body of research on Adverse Childhood Events (ACE) has found experiencing such events in the first 18 years of life is associated with adult morbidity, mortality and premature death (J. A. Campbell, Walker, & Egede, 2016; Felitti et al., 1998; L. K. Gilbert et al., 2010). Adverse events include psychological, physical, or sexual abuse as well as household dysfunction (Felitti et al., 1998). Psychological abuse denoted being frequently put down, sworn at and threatened with physical harm (Felitti et al., 1998). Household dysfunction referred to living with a problem drinker, user of street drugs, mental illness, suicide, mother treated violently or criminal behavior in the household (Felitti et al., 1998). Findings indicated participants who had four or more ACE were five

times more at risk of experiencing a depressed mood for two or more weeks in the previous year (Felitti et al., 1998). Furthermore, these study participants were 12 times more at risk of attempting suicide (Felitti et al., 1998). The participants who experienced more types of ACE were more likely to describe themselves as being an alcoholic, injected drug user and having 50 or more sexual partners (Felitti et al., 1998). These participants also had higher rates of heart disease, diabetes, bronchitis, emphysema, stroke and pulmonary heart disease (Felitti et al., 1998). Consequently, ACE are more frequent in disadvantaged communities. Children raised in these contexts tend to have an increased risk of physical and mental illness in adulthood.

A study with 8,629 participants found childhood physical or sexual abuse or growing up with a battered mother doubled the risk of being victimised or becoming a perpetrator of violence (Whitfield, Anda, Dube, & Felitti, 2003). A graded, statistically significant relationship was found between exposure to violent events and risk of interpersonal violence (Whitfield et al., 2003). Among participants who experienced all three forms of violent childhood experiences in this study, the risk of victimisation and perpetration increased by 3.5 times for women and 3.8 times for men (Whitfield et al., 2003). Within the Australian context, ACE are more prevalent in deprived, disrupted, marginalised Aboriginal communities. The evidence from the *Millennium Cohort Study* and ACE studies challenges the assumption that everyone can take personal responsibility for their health as health is influenced by broader socioeconomic factors. It questions the prejudice that blames the poor for their misfortune. If social conditions are adequately established, then positive child development outcomes and personal responsibility are more likely to flow.

2.3.4 Influences of socioeconomic inequity on affect regulation. The impact of socioeconomic inequity on parents' ability to facilitate affect regulation is highlighted by the ongoing intergenerational trauma of the Stolen Generations. The *Stolen Generation* refers to Indigenous children who were deliberately removed from their parent from 1900 to 1967 as part of Australia's ethnic cleansing strategy called the White Australia Policy. Over the past 40 years, substantial funding has been invested on addressing the intergenerational trauma of the Stolen Generation (Steering Committee for the Review of Government Service Provision (SCRGSP), 2014). However, Indigenous mortality, psychological distress, suicide, unemployment, child sexual abuse, substance misuse, overcrowding and incarceration rates continue to rise (beyondblue, 2016; Hollands, 2018; Meyer, 2016). The annual expenditure on Indigenous affairs is \$33.4 billion for 500,000 Indigenous Australians (Steering Committee for the Review of Government Service Provision (SCRGSP), 2017). Despite this, Indigenous children are currently seven times more likely to be removed from their families (AIHW, 2017). The increased removal of Indigenous children in recent years has been dubbed the Second Stolen Generation. The intergenerational trauma caused by these Stolen Generations is still associated with intense psychological distress and family breakdown. While there are numerous contributing factors, such as racism, loss of language and loss of culture, this example highlights how generations of socioeconomic inequity influence parents' ability to facilitate affect regulation.

The media attention on an 11-year-old Indigenous boy, who killed himself by hanging on a rope near his grandparents' home in Geraldton (Marmot, 2016), highlights the widespread difficulties with affect regulation and suicide in the Indigenous communities. Conceptually, empowerment can be viewed in terms of material, psychosocial and political factors (Marmot, 2016). Marmot's (2016) findings show a clear relationship between

social and economic deprivation, leading to poor childhood outcomes. The more economically deprived the neighborhood, the lower the proportion of children aged 5 years that have adequate development in cognitive, linguistic, social, emotional and behavioral domains (Marmot, 2016). Within a context of socioeconomic inequity, mindful parenting offers strategies for affect regulation. It may assist with accepting that hardship is unlikely to change, but one can change one's response by maintaining an inner balance and an inner strength.

2.4 Evolutionary Perspectives of Parenting and Attachment

This section will examine the evolutionary perspectives of parenting, attachment and intergenerational trauma. Reactive parenting may have evolved to quickly detect and respond to threats. This reactive capacity gave our ancestors a survival advantage (LeDoux, 1996; 2012). Anxiety, from an evolutionary perspective, enabled our ancestors to detect threats (LeDoux, 1996). The fast, automatic reaction to perceived threat is mediated by the limbic system, which bypasses higher cortical involvement (LeDoux, 1996). Survivors of Post-Traumatic Stress Disorder are known for their startle response and overreaction. During the current stage of evolutionary history, *Homo sapiens*' reactive responses are now more often triggered by social threats than physical threats.

Bowley (1977) defined attachment as the "propensity of human beings to make strong affectional bonds to particular others" (p. 201). According to Bowley (1977), attachment behaviors are normal, evolutionarily adaptive reactions to separations from mother or to threats of predation. Secure attachment is considered to occur when a child seeks proximity to their mother when upset, but after being comforted, returns to explore the world. When a mother responds sensitively to a child's needs, the child feels secure in the relationship. Secure attachment has been found to promote better social, emotional and cognitive development (Bretherton, 1992). Attachment processes also evolved because it

ensured the mother's commitment of resources to her baby (Hrdy, 2009). During pregnancy, her attachment system has been primed through hormonal and biochemical changes to support, love and care for the infant. Once the infant is born, behaviors such as nursing, which releases oxytocin, trigger feelings of relaxation and calm to support bonding (Carter, 1998). Fathers have also been found to have similar hormonal changes in reaction to the birth of an infant, although the magnitude is smaller (Carter, 1998). Subsequently, parents' attachment system is primed by their neuroendocrine and genetic changes to care for their infant.

2.4.1 Attachment network. Our evolutionary history sheds further light on parent-child attachments. Hrdy (2009) shows similarities between humans and other closely related primates to highlight the evolution of multiple attachment relationships. A high-ranking baboon mother passes on her social status to her daughters, who, in turn, enjoy greater reproductive success (Hrdy, 2009). Multiple attachment relationships with different caretakers are an advantage over a single secure attachment (Hrdy, 2009). Studies from the Netherlands and Israel found children's attachment relationships to their different carers varied (van Ijzendoorn, Sagi, & Lambermon, 1992). These children were raised either primarily by their mother or by their mother and another caretaker (van Ijzendoorn et al., 1992). The overall quality of a child's attachment network was found to be the most important predictor of the child's socioemotional development (van Ijzendoorn et al., 1992). Furthermore, having three secure relationships was optimal (van Ijzendoorn et al., 1992). These findings indicate that while the mother-infant relationship is important, the attachment network needs to be widened to include a larger circle of caregivers. A secure relationship with a father could buffer the insecure relationship with a mother (Chang, Halpern, & Kaufman, 2007). A caretaking network or multiple carers evolved in our species as mothers needed additional support in raising children (Bögels & Restifo, 2014).

The use of multiple carers in our evolutionary history indicates there is flexibility in forming a caretaking network.



Plate 2.1. The similarities in attachment between *Homo sapiens* and primates.

Presented with permission from Onepixel (Butter, 2018).

The instinctive capacity for human infants to form multiple relationships with caregivers provides parents the flexibility to form caretaking networks in the 21st century. A study of Israeli kibbutzim children who were securely attached to their nursery caretaker showed greater self-confidence and social skills in kindergarten (van Ijzendoorn et al., 1992). Children who have secure relationships with multiple caregivers appear to be more secure in relationships as well as in displaying improved social and cognitive skills (van Ijzendoorn et al., 1992). These children were more likely to be able to comprehend multiple perspectives (Hrdy, 2009). Therefore, a caretaking network can improve a child's cognitive and social skills.

2.4.2 Intergenerational transmission of attachment. The *transmission gap* refers to the inability to measure or resolve the gap between how a parent's own attachment history influences their infant's attachment behaviour (van Ijzendoorn et al., 1992). The transmission of secure attachment from one generation to the next is determined by how significant caregivers, particularly the mother and father, make meaning of their attachment history in a coherent, emotionally integrated way (Slade, Grienenberger, et al., 2005). Research (Reynolds, 2003) indicates that adults can earn attachment security, even if they had an insecure attachment to their own parent, by reflecting on how their own attachment experiences emotionally influence current relationships. A large meta-analysis found a mother's ability to *reflect* on her own attachment relationships was the strongest predictor of whether an infant was securely attached rather than the infant's attachment behaviour (van Ijzendoorn et al., 1992). A principal factor influencing how infants attach to their mother is how the mother has internalised her own attachment story rather than what she does.

Attachment relationships develop and change throughout an individual's life. Insecure infants who became secure adolescents have been found to have better outcomes than those who were insecure at both times or those who switched from secure infancy to insecure adolescence (Sroufe, Carlson, Levy, & Egeland, 1999; Sroufe, Coffino, & Carlson, 2010). A compelling case for the plasticity of attachment relationships is illustrated by an experimental study of Roman orphans (Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010). This study randomly assigned orphans to care as usual in the orphanage or foster care. The foster care children made significant gains in their attachment security compared with those who remained in the orphanage even though 75% of the sample showed insecure or no attachment behaviors in the orphanage before foster care (Smyke et

al., 2010). This is a powerful demonstration that attachment security can be developed in favorable contexts.

2.5 Affect Regulation Theories Underpinning Mindful Parenting

The theoretical and practical foundations of mindful parenting stem from the revolutionary work of Bick (1964), Bögels and Restifo (2014), Bowley (1977) and Slade (2002). John Bowlby was the first to study child development after World War 1. Bowley (1977) and Bick (1964) from the Tavistock Clinic were pioneers in documenting infant observation. Bowley (1977) placed Esther Bick in charge of training the non-clinical, non-intervening infant observation method, which consisted of one-hour visits each week for one year. The trainee's observations were then analyzed and recorded. From these observations, 'normal' was given a wide birth. Through infant observations and supervision, clinicians developed the capacity to sit with difficult emotions and uncertainty arising from entering the infant's experience. Langer's (2009) theory on *attention to variability* is interwoven through Reynold's (2003) MP program. Attention to variability refers to the act of noticing new things (Langer, 2009). For Langer (2009), mindfulness is the simple process of actively noticing new things. Thus, mindful parenting shares the principles of infant observation and mindful practices, such as observing, describing, accepting and non-reactivity.

The reason some parents do not respond to behavioral parent training may be because of the *transmission gap*. Behavioral parent training often focuses on teaching basic parenting skills but not directly enhancing reflective functioning (Bögels & Restifo, 2014). Human infants have evolved to be extremely sensitive to reading the intentions of their mothers and caretakers, since their survival has depended upon their commitment (Hrdy, 2009). Consequently, children may be far more sensitive to their parent's nonverbal communication than what parents say or do.

Mindful Parenting aims to create the conditions that allow parents to understand their child's affective state or respond to their feelings. Efforts to understand the subtle, elusive process whereby one human being can meaningfully grasp what is inside another have been made by numerous researchers. Concepts such as *maternal reverie*, *alpha function* and *containment* by Bion (1962, 1967), *projective identification* by Klein (1946), *primary maternal preoccupation* by Winnicott (1960b) and *primary relatedness* by Stern (1995) are all constructs aimed at understanding how a parent regulates their child's affect. Other constructs that expand our understanding of these mechanisms include *intersubjective exchange* (Fonagy, 1998a), *ways of being with* (Stern, 1985), *implicit relational knowing* (Lyons-Ruth et al., 1998) and *moments of meeting* (Sander, 1995). Attunement occurs when one's awareness of another's intention reorganises consciousness (Sander, 2000). Mindful parenting appears to promote affect regulation by creating the *art of wonder* in their own and their infant's affective mind-body experience. The next section will consider the similarities between different Mindful Parenting theories.

2.5.1 Similarities between Mindful Parenting theories. Mindful Parenting is a multidisciplinary field synthesising evidence from genetics, cognitive neuroscience, child development and parenting. Numerous authors in the field of mindful parenting (Bögels & Restifo, 2014; Kaiser-Greenland, 2010; Race, 2014; Reynolds, 2003; Siegel & Hartzell, 2003) offer practical strategies to help parents build their child's capacity to regulate affect. Race (2014) refers to today's busy families as *generation stress*. Research indicates mindfulness practice creates changes in the prefrontal cortex, which leads to happier, calmer and more focused states or ways of being. Race (2014) also offers strategies to address stress, anger and anxiety. Neurobiological and attachment research (Siegel & Hartzell, 2003) illustrates how interpersonal relationships directly influence the developing brain. Siegel and Hartzell (2003) show parents how to form a deeper understanding of

their personal attachment stories, which are the necessary foundation for secure, loving relationships with their children. The neuroscientist and child psychiatrist Daniel Siegel joined with parenting expert Tina Payne Bryson to develop 12 strategies to help children regulate their emotions. Some of these strategies include *name it to tame it; engage, don't enrage; move it or lose it; let the clouds of emotion roll by; SIFT sensation, images, feelings and thoughts* and *connect through conflict* (Siegel & Payne Bryson, 2012). These clear, age-appropriate strategies prompt parents to reframe reactive, angry outbursts with a calmer, more meaningful response to help their children.

Kaiser-Greenland (2010) has recently become renowned for the transformative mindfulness practices she has designed over the past two decades. These practices aim at assisting parents in teaching their children mindful awareness. Kaiser-Greenland (2010) extends the benefits of mindfulness training to children aged 4 to 18 years through a range of age-appropriate exercises, songs, games and fables. The games develop the *new ABC*, that is attention, balance and compassion (Kaiser-Greenland, 2010). The playful games introduce children to breathing techniques that develop focus, concentration and affect regulation.

These authors' recommendations have many similarities. The core components of the theoretical foundations underpinning these MP programs include mindful observation, facilitation, reflective functioning and attachment. The aforementioned authors invite parents to become more observant of their own and their child's tendencies, feelings, thoughts, sensations and actions. Parents are facilitated to reconnect emotionally with their child after difficult conflicts or strong emotions. In fact, *rupture and repair* (Siegel & Hartzell, 2003) in close relationships is a common theme. Parents are invited to bring self-compassion to their vulnerable or angry child as a way to soften their punitive parent voice. Reflective functioning is also enhanced by inviting parents to recognise patterns in their

own childhood that may arise in their relationship with their child (Slade, Grienenberger, et al., 2005). When the child or adult schema modes are activated, parents are offered ways to work with the *back draft* of negative feelings toward them (Germer, 2009; Neff, 2011). However, these authors' recommendations also differ. Unlike the MP program by Reynolds (2003), the MP program by Bögels and Restifo (2014) is an adaption of Mindfulness Based Stress Reduction (MBSR) and Mindfulness Based Cognitive Therapy (MBCT). It applies MBSR and MBCT to the parenting context. Additional elements to the program by Bögels and Restifo (2014) include Neff and Germer's (2013) self-compassion practices, schema therapy and experiential practices.

2.6 How does Mindful Parenting Promote Affect Regulation?

Mindful Parenting programs use a convergence of different techniques, such as child observation, schema therapy, developing self-compassion, MBCT and MBSR, to facilitate affect regulation. This section will examine how MP programs use attachment, conflict, reflective functioning and intelligences, particularly conative intelligence, to facilitate affect regulation.

2.6.1 Attachment. Exploring how mindful parenting promotes affect regulation has the potential to identify change mechanisms and skills that need to be developed. Giving mindful attention to a child helps the parent and child to strengthen their attachment relationships. Parents are invited to recognise patterns in their own childhood that may arise in their current relationship with their child and to recognise when their child or adult schemas are activated (Slade, Grienenberger, et al., 2005). This is done by mindfully observing their child, so they practice mindful listening and speaking. Briefly summarising this section, resolving a parent's own attachment history helps both the parent and infant to soothe distressing emotions.

2.6.2 Rupture and repair. The concept of *rupture and repair* referred to by Siegel and Hartzell (2003) is often used by MP programs to help parents deal with the conflicts that occur with their children. Conflicts are viewed as a *rupture* in the relationship. However, Siegel and Hartzell (2003) argue it is important to return after a conflict to revisit what happened in order to repair the relationship when emotions have cooled. When parents ask children to share their emotional reactions then empathise with their experience, this helps to validate their child's emotional experience, which in turn, helps them to understand and accept their emotional states. Role modelling empathy helps children develop empathy and compassion. The *repair* also restores the emotional closeness and safety of the parent–child relationship, so the parent can remain a haven for children to return to when they are upset.

Mindful Parenting aims to reduce automatic reactivity in parenting by increasing self-awareness. It increases awareness of the *doing mode* and reactions to fear often manifest as aversion or avoidance (Siegel & Hartzell, 2003). Instead of criticising themselves, it helps parents to understand their reactions as part of how humans evolved. It helps to reduce the activation of the drive or threat systems. The active strengthening of the natural contentment system reduces the negative effect of the drive or threat systems (P. Gilbert, 2009). Mounting evidence illustrates that mindfulness and compassion-based meditation lead to changes in brain activation that are associated with positive emotional states (Davidson & Begley, 2012). The rupture and repair process naturally develops from empathy, when *good enough parents* are tuned into their child's feelings, which promotes affect regulation.

2.6.3 Reflective functioning. The Mindful Parenting program developed by Reynolds (2003) is an innovative therapy for child welfare infants prenatally exposed to

methamphetamines or postpartum psychotic episodes. The interdisciplinary underpinnings of this program are based on contemporary psychoanalysis, infant observation, Attachment Theory, infant research, neuroscience and affect regulation theory. The theoretical assumptions underpinning the Reynolds (2003) MP program are:

1. A secure attachment bond is the foundation for adaptive infant mental health (Shore, 2001).
2. The security of a child's attachment is based on a mother's reflective functioning capacity, a mother's ability to reflect on her child's affective experience (Slade et al., 2001).
3. The primary strategy to prevent psychopathology in early childhood is through the enhancement of mentalizing (Fonagy, 1998a, 1998b).

Reynold's MP program is eight weeks in duration, with each weekly session lasting one-and-a-half hours. The core components of this program are mindful observation, facilitation and reflection of parents with their child. Mindful observation draws on Langer's (2009) theory on *attention to variability*, which refers to the simple act of noticing new things. It results in sensitivity to the context by enlivening the senses. During mindful observation, the role of the facilitator is to firstly help the parent develop an observational stance. This is done by developing the practice of quiet, patient, curious and active attention to self as well as the other. The facilitator draws attention to micro-events that occur among children and adults. Secondly, the facilitator aims to strengthen the parent's capacity to come close to a child's affective experience. Parents are encouraged to reflect on their child's fresh view of the world by breaking experiences into small, meaningful pieces.

The second core component of MP is facilitation (Reynolds, 2003). It refers to flexible responsive facilitation by making nonverbal contact and promoting narration of the

child's experience (Reynolds, 2003). Parents learn to observe, reflect and then facilitate rather than direct their child's behavior, feelings, play and experiences. The facilitator role models to parents how to respect and follow the child's lead. This practice is consistent with Bowlby's assertion, "Another large theme omitted is how we can best help young men and women become the successful parents ... [to] seek always to teach by example, not precept, discovery not instructions" (Bowlby, 1988, p. 17). It provides parents opportunities to observe how sensitive caregiving can free themselves of premature conclusions about children's mental state and behaviors.

The third core component of Reynold's MP program is reflection. Reflective functioning is defined as the "essential human capacity to understand behaviour in light of underlying mental states and intentions" (Slade, Grienenberger, et al., 2005, p. 269). A reflective parent would have a complex understanding of how the mind works, particularly mental states (Slade, Grienenberger, et al., 2005). Originally, it was thought that a parent who is sensitive, warm and responsive was the key to positive mental health for the child (Reynolds, 2003). However, more recent evidence indicates a parent's reflective functioning improves the quality of caregiving in addition to the child's secure attachment, emotion regulation and reflective functioning (Camoirano, 2017). Randomised Control Trial (RCTs) show mentalization-based interventions improved the reflective functioning and caregiving of mothers who were at risk of abusing their children due to a history of experiencing maltreatment (Camoirano, 2017). These studies highlight the need for more targeted provision of clinical intervention to improve reflective functioning in abused parents for them to resolve their own painful feelings of being abused.

Reflective functioning emerged as a psychoanalytic construct over 20 years ago in relation to the intergenerational transmission of attachment. It involves the parents' ability to hold the child in their mind (Slade, Grienenberger, et al., 2005). "The centrality of the

parent as the mediator, reflector, interpreter and moderator of the child cannot be over emphasised” (Slade, Grienenberger, et al., 2005, p. 273). The three Rs of relationship security according to Reynold’s (2017) are reflective, regulating and responsive. With regard to being reflective, the parent is able to verbalise or demonstrate that they are holding the child’s mind in their mind (Reynolds, 2017). Regulating refers to whether one’s responses support the other in managing their feelings and behaviors (Reynolds, 2017). Responsive refers to attending to the other’s cues in a timely way, thus adjusting to the other’s changing needs (Reynolds, 2017). Reflective functioning is thus considered a stronger predictor of mental health than secure attachment.

The gold standard of reflective functioning is the ability to reflect under emotional turmoil. Strong emotional activation is considered to be the primary cause of poor reflection (Reynolds, 2017). Emotion escalates with fault-finding, name calling, black–white thinking and certainty about another person’s motive or by overlooking the role one plays in how others are feeling. Facilitators in Reynold’s (2017) MP program assess the parents’ reflective capacity as high, medium and low reflective functioning. The assessment process entails observation and responses to questions such as, “Tell me about a time in the last few weeks when you felt angry as a parent? How do you handle your angry feelings? What kind of effect do these feelings have on your child?” (Reynolds, 2017, p. 1). It thereby facilitates reflection about anger without reacting.



Plate 2.2. A parent's reflective functioning. Parental reflective functioning is a parent's ability to hold their child's perspective in their mind. Presented with permission from Onepixel (Vychegzhanina, 2018).

The parent or the caregiver who cannot think about a child's mental or emotional state deprives the child of a viable sense of self (Fonagy & Target, 1998). It extends Descartes' famous statement, "I think therefore I am," to "I reflect therefore I am" (Reynolds, 2017, p. 1). There are different psychometric measures to assess parenting styles and *states of mind*. Reynolds (2017) prefers states of mind over parenting styles. Low reflective functioning is characterised by hostility, generalisations and certainty. Parents using this style do not consider the infant a separate intentional being. Such parents frequently drop *grenades* by name calling and maintaining certainty about inaccurate attributions.

2.6.4 Conative intelligence and model for emotional balance. The contemplative scholar Allan Wallace (2016) deepens our understanding of affect regulation with his theory on four intelligences, namely, the conative, cognitive, attentional and emotional. Wallace (2016) coined the term ‘conative intelligence’. However, the term conation has been in use for centuries. Conation refers to the faculty of desire, intention, values, will and volition (Wallace, 2016). It encapsulates values, ideals, acting on one’s intentions and pursuing one’s desires. For Goldman (2007), emotional intelligence (EQ) is far more important than cognitive intelligence (IQ) in achieving overall happiness and success in life. In contrast, Wallace (2016) proposes conative intelligence may be more important than EQ. Conative intelligence (CQ) is the ability to discern the desires to follow to achieve our own and others’ wellbeing, while releasing desires that undermine such wellbeing (Wallace, 2016). It requires sound judgment or wise discernment to differentiate which desires to follow from which desires to cease in order to achieve exceptional wellbeing.

Wallace’s theory is not specifically a Mindful Parenting (MP) theory. The rationale for including Wallace’s (2016) theory is to emphasise the relevance of conative intelligence to mindful parenting. Many MP theories do infer wise discernment. However, there is a need to emphasise ethics and conative intelligence within MP theories, particularly the consequences of our behavior. The essence of mindfulness is to be present in the world. To relegate mindful parenting to only parenting issues fails to acknowledge the external pressures on parents and future generations. Therefore, solutions from all four intelligences, particularly conative intelligence are needed to address the existential challenges that plague contemporary parents.

The other three intelligences proposed by Wallace (2016) are attentional, cognitive and emotional. Attentional balance refers to the ability to sustain a voluntary flow of

attention with a quality of awareness that is infused by ease, focus and clarity (Wallace, 2016). The widely used concept of cognitive intelligence (IQ) refers to information processing abilities, including spatial and auditory abilities as well short-term memory. Cognitive balance refers to engaging with the world without projecting assumptions or ideas to misapprehend reality (Wallace, 2016). Emotional balance is achieved when there one is aware of one's own emotions, other's emotions and their triggers (Wallace, 2016). It also captures the ability to make wise choices while engaging in emotional experiences. Emotional balance naturally follows when the other three intelligences have been cultivated. It can also be explicitly cultivated.

Gardner's (1998) eight types of intelligences also play a role in affect regulation. Although Gardner (1998) does agree with Goldman's EQ, he disagrees with Goldman's (2007) value judgments on emotional expression. Goldman (2007) demonstrates that EQ is far more important than IQ for overall happiness and success in life. However, Wallace (2016) believes conative intelligence is even more crucial to one's happiness and success. Conative balance is achieved when desires and intentions are oriented toward one's own and others' happiness. The rationale for this assertion is that according to Wallace (2016) our intentions define us much more than the successes. Amongst the diversity of desires that arise, from wise to malicious, the ability to exercise wise discernment has the potential to cultivate exceptional mental balance (Wallace, 2016). Our intentions appear to be one of the few factors that can be controlled without being undermined by external forces.

Blaise Pascal (1669), the French mathematician, theologian and philosopher noticed, "All the unhappiness of men arises from one single fact, that they cannot stay quietly in their own chamber" (p. 139). A recent study by T. D. Wilson et al. (2014) confirms Pascal's observations. College students were instructed to entertain themselves with their thoughts for 15 minutes in a room or self-administer an electric shock if they

wanted to (T. D. Wilson et al., 2014). During the first part of the experiment, participants rated the pleasantness of an experiment of several positive stimuli (e.g., attractive photographs) and negative stimuli (e.g., electric shock). Participants confirmed that they would pay to avoid the electric shock (T. D. Wilson et al., 2014). Approximately 67% of the males and 25% of the females preferred to give themselves an electric shock than sit quietly alone at ease with their mind and body (T. D. Wilson et al., 2014). There was no negative stimulus apart from the electric shock they chose to inflict on themselves, which they had earlier confirmed they would pay to avoid. Similar results were obtained with community samples from a farmer's market and church (T. D. Wilson et al., 2014). Perhaps not *all*, but much of human unhappiness, may be rooted in the quality of our thoughts.

If the nature of the mind has a negative bias by default toward suffering, fear, depression, or anxiety, then the psychology discipline is merely managing the symptoms, not addressing the underlying causes. Hanson and Mendius (2009) refer to this negative bias as *Velcro* to threat and *Teflon* to ease or positives. This mind is taken to every relationship, workplace, holiday and intimate moment. The ancient Greek scholars identified two types of happiness, *hedonia* and *eudemonia* (Huta & Waterman, 2014; Irwin, 1985). Eudaimonia is associated with growth, meaning, authenticity and excellence (Huta & Waterman, 2014). In contrast, hedonia results from pleasure, enjoyment, comfort and absence of distress (Huta & Waterman, 2014). A useful distinction is that hedonia is derived from what is gained *from* the world, whereas eudemonia results from contributing *to* the world (Wallace, 2016). Some hedonic pleasures, such as food, housing, clothing, medical care and education, are necessary for our happiness. Causes of genuine unhappiness also stem from thoughts of rejection, delusions, ignorance, greed and hostility.

Consequently, afflictions of the mind misconstrue the nature of reality, leading to much unhappiness.

According to Wallace (2016) emotional balance can naturally arise when conative, cognitive and emotional balances have been developed. Conative balance has been developed by being discerning the desires to pursue. Attentional skills have been refined to attend to the world with wise, sound judgment. Emotional balance is then a natural consequence (Wallace, 2016). In addition, Wallace (2016) explains emotional balance can also be explicitly developed.

The starting point to explicitly develop emotional balance is to become clearly, accurately, vividly aware of what one is experiencing before it is expressed. Often, dysregulated parents learn about their emotions when everyone else in the home does. Affect regulation begins with cultivating an introspective, metacognitive awareness of the spark of the emotion before the flame (His Holiness the 14th Dalai Lama & Ekman, 2008; Wallace, 2016). This awareness is also highlighted in a popular yet controversial quotation, “Between the stimulus and the response is a space. In that space is the power to choose our response. In our response lies our growth and our freedom”(Pattakos, 2010, p. vi). This quotation is controversial because it is often attributed to the Austrian psychiatrist and Holocaust survivor, Viktor Frankl. However, the actual source is still unknown. So, what are some strategies to pause the gap between the spark of the stimulus and flame of the response?

Expanded awareness in recognising circumstances where one does not have free will is the first step in developing emotional balance. E-motion refers to motion outwards (Wallace, 2016). When an emotion arises, a tendency is to involuntarily express oneself in facial expressions, speech and sometimes physically. Darwin (1872) pioneered the formal study of facial expressions. Wallace (2016) extends our understanding by shifting the

focus to differentiate between circumstances where one does not have free will compared to those circumstances where one is freer to make wise choices that are truly conducive to our own and others wellbeing. States of loss, rage, fear, intoxication, jealousy, infatuation and addiction are all circumstances that impair wise choices (Wallace, 2016). Ekman (2004) refers to this as the *grip of emotion*, a *refractory period* where one is unable to objectively view the world. For instance, if one loathes another, their perception is biased. A strength of mindfulness training is that it facilitates awareness of one's emotions, intentions, cognitive deficits and attitudes. Cultivating this discerning awareness is akin to training a muscle.

On the face of it, it may seem Wallace's (2016) ideas of accepting personal responsibility for one's health is diametrically opposed to Marmot's (2017) systems approach to health. However, both are similar in establishing the right or *favorable* conditions for optimal health. The notion of free will is nonexistent when one is under the influence of emotions within the grip of emotions. The best course of action when one has been infected by the contagion of rage is to quarantine oneself until the anger is resolved and released (Wallace, 2016). When training this *muscle* of affect regulation, one learns to exercise sound discerning awareness (Wallace, 2016). Among the wide array of emotions that arise, some emotions are best kept to oneself, not acted upon, while others are to be embraced. Being non-judgmental is not effective in resolving abuse, disdain, contempt, or loathing. To build the affect regulation, muscle it is necessary,

1. first, to be aware of emotions that arise; and
2. second, to recognise some are to be released, while others are to be ceased.

Attention means to attend to, care for and watch over. Wallace (2016) uses the metaphor of throwing a golf ball into a glass of water, a swimming pool, a lake and an ocean. The glass of water is a metaphor for wearing the "*I, Me, My helmet*" where an

individual's attention is self-absorbed, constantly focused on self (Wallace, 2016). The center of the universe is the individual. A pebble is upsetting and rocks are constantly falling into the glass. However, when one expands one's attention to attend outward to the world around oneself, one's worldview expands to widen one's perception.

When adversity hits, it is a pebble in an ocean. The larger the field of awareness, the larger our heart, the greater the emotional balance. An expanded awareness leads to a sense of equilibrium, wisdom and emotional balance. Hence, rather than focusing on breathing and being non-judgmental, Wallace (2016) recommends a set of conative, attentional and cognitive strategies to develop realistic life goals, grounded in ethics as well as favorable conditions to achieve emotional balance.

2.7 Conclusion

Regardless of the theoretical foundations, a core theme in this chapter is the mind's primary influence on affect regulation. If the underlying causes of conative imbalance are not resolved, then the psychology discipline is only managing symptoms. Some affect regulation strategies used by Mindful Parenting theories include resolving unmet attachment needs by increasing reflective functioning in addition to viewing conflict in terms of *rupture and repair*. This chapter also emphasised the importance of developing attentional, emotional, cognitive and conative intelligence in maintaining emotional balance. The next chapter (Townshend, 2016) conceptualises a model of the change processes that facilitate mindful parenting. This model forms the basis of the interview questions for Study 3 in Chapters 8 and 9.

Chapter 3 Statement of Authorship for Published Paper

Title of Paper	Conceptualising change processes that facilitate mindful parenting
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Contribution to the Paper	Chief investigator responsible for designing study plan, literature review and writing manuscript. Also, the corresponding author to address reviewers' feedback.	
Overall percentage (%)	100%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.	
Signature	Date	24/9/2018

Chapter 3 Conceptualising the Key Processes of Mindful Parenting and its Application to Youth Mental Health

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3.1 Abstract

Youth mental health disorders are rising across the world. Mindful Parenting could be a potential tool to promote youth mental health. The primary distinction between Mindful Parenting programs and other behavioral parenting programs is the focus on emotional literacy and compassion. However, this emerging field has gaps in its theory and evidence. In order to objectively evaluate the impact of Mindful Parenting, it is important to identify how it promotes change. **Objective:** This theoretical paper aims to articulate the key change processes of mindful parenting that promote positive outcomes. **Method:** A literature review was conducted to synthesise the change processes outlined by different authors in the field. **Results:** Key processes argued to promote Mindful Parenting were listening, emotional awareness, emotional regulation, attentional regulation, attunement, attention to variability, intentionality, re-perceiving, compassion and non-judgmental acceptance. **Conclusion:** This preliminary analysis attempted to understand how Mindful Parenting fosters change and transformation. Whilst there are numerous change processes, the essence of Mindful Parenting appears to be the ability to be responsive to a child's needs.

Keywords: Mindfulness, parenting, Mindfulness Based Cognitive Therapy, interpersonal communication

Interest in Mindful Parenting has risen with the explosion of mindfulness-based research. Mindful Parenting has been defined as the ability to pay attention to your child and your parenting in a particular way, that is intentional, non-judgmental whilst being in the here and now (M. Kabat-Zinn & Kabat-Zinn, 1997; Langer & Moldoveanu, 2000). The term was coined by Myla and Jon Kabat-Zinn in 1997. Numerous studies have demonstrated the benefits of mindful parenting on the mental health outcomes of young people. In order to objectively evaluate the effects of Mindful Parenting, it is important to identify how Mindful Parenting works and how it affects positive change. This theoretical paper conducted a literature review to clearly outline key change processes of Mindful Parenting that may foster positive mental health outcomes.

3.2 The Prevalence of Youth Mental Health Issues

The prevalence of youth mental health disorders is the highest amongst any age group. Every year approximately one in four young Australians (26%) aged 18 to 24 experience a mental illness compared to one in five (20%) amongst other age groups . Approximately 75% of all lifetime mental illness cases have their initial onset by age 24 years (Kessler et al., 2005). The median age of onset was much earlier for anxiety disorders (age 11 years) and impulse-control disorders (age 11 years) than for substance use disorders (age 20 years) and mood disorders (age 30 years) (Kessler et al., 2005). Furthermore, a recent systematic review found increased rates of depression and anxiety amongst adolescent girls and boys over the last decade in 12 countries across Europe, Australia, United States and China (Bor, Dean, Najman, & Hayatbakhsh, 2014). These findings indicate youth mental illness is increasing in the 21st century.

3.2.1 The links between parenting and youth mental health. From Freud to Kabat-Zinn, there is now an abundance of evidence substantiating the link between

parenting, parental mental health and youth mental health. Critical hostile parenting, child abuse, neglect and inadequate parenting have been found to lead to depression, anxiety, conduct disorders and attachment disorders in children (Institute of Medicine (IOM) & National Research Council (NRC), 2014). Furthermore the highest rates of mental health disorders have been found to be amongst children from families in the lowest income bracket (less than \$52,000 per year or \$1,000 per week) in the previous 12 months (Lawrence et al., 2015). Subsequently the link between parenting and youth mental health are not only impacted by the parenting style, quality of the parent-child relationship and family dynamics but also the socioeconomic status of the family home.

3.3 What is Mindfulness?

The origins of mindfulness have been attributed to a variety of ancient roots from Eskimos to Indigenous Australians to Buddhist contemplative practices. These ancient practices highlight the physical, emotional and cognitive aspects of mindfulness. *Dadiri*, the Indigenous Australian term for mindfulness refers to inner deep listening with compassion and quiet still awareness (Evans, 2008). It is a profound non-judgmental listening and watching *in time* (Evans, 2008). Similarly, the eastern contemplative practices of mindfulness also emphasise compassion and an acknowledgement of a value system. Contemporary studies conceptualise mindfulness as a trait, psychological state (J. Kabat-Zinn, 2003) and cognitive process (Langer, 2009). According to Wallace (2012), the current study of mindfulness is focused on nothing more than bare attention.

3.4 Distinction between Parenting and Mindful Parenting programs

Most parenting programs involve parents exploring their thoughts, feelings and behaviors to increase parental insight and reduce dysfunctional parenting strategies. Attempts have also been made to adapt parenting programs to Indigenous parents and parents with mental illness (Phelan, Howe, Cashman, & Batchelor, 2012). Mindful Parenting is distinct from other types of parenting programs, in that it also emphasises the use of contemplative practices such as attention training and compassion. Some popular Mindful Parenting (MP) programs include the *Listening Mothers Program*, *Mindfulness Based Childbirth and Parenting (MBCP)* and *Mindfulness Enhanced Strengthening Families Program (MSFP)*. These programs are usually delivered in a group format for 2 hours per week from 6 to 9 weeks. It also includes daily home practice. Anecdotal evidence suggests that parents continue to practice their newly acquired skills in stress reduction, anger management and reactivity long after the programs have ceased.

3.5 Evidence for Mindful Parenting

Whilst the evidence is still tentative for this emerging field, the use of MP programs is increasing in popularity particularly in America, Canada and Europe. The evidence for MP programs is primarily based on qualitative studies and small quantitative studies (Bögels et al., 2010; Duncan, Coatsworth, Gayles, Geier, & Greenberg, 2015). These studies do show it has a positive impact on outcomes for both the parents and children. However a recent systematic review evaluating the effectiveness of MP programs found the evidence was inconclusive (Townshend, Jordan, Stephenson, & Tsey, 2016). This was primarily due to the lack of rigorous Randomised Control Trials (RCTs).

3.6 Conceptualising the Key Processes of Mindful Parenting

Mindful Parenting is a meta-cognitive process that encompasses both the intrapersonal and interpersonal processes of parenting. According to Duncan (2007) five processes of Mindful Parenting include listening, non-judgmental acceptance, self-regulation, compassion and emotional awareness. However, the mindfulness literature identifies numerous other change processes that contribute to positive mental health such as *attunement*, *attention to variability*, *intentionality* and *re-perceiving* to name a few. *Attunement* refers to the focusing of attention on the mind of another which enables two people to ‘*feel felt*’ (Siegel, 2007). It appears to encompass intentionality and emotional awareness. *Attention to variability*, is the active creative process of making novel distinctions about objects in one’s awareness (Langer, 1997). *Re-perceiving* is the process of shifting perspective (Shapiro, Carlson, Astin, & Freedman, 2006). It is the process of observing one’s thoughts rather than judging or reacting to it.

Figure 3.1 is one of the first preliminary models to summarise the multitude of change processes implicated in promoting Mindful Parenting. The key processes that facilitate Mindful Parenting are similar to those promoting mindfulness. However there appears to be an emphasis of the parent-child interpersonal and intrapersonal processes. It is apparent more work needs to be done on mapping all the change processes implicated in promoting mindfulness and whether these are distinct from processes that promote Mindful Parenting. The Interpersonal Mindfulness in Parenting Scale measures the five processes articulated by Duncan (2007). Future research that examines whether these processes promote youth mental health can make a substantial contribution to our understanding of how mindfulness facilitates positive change. Figure 3.1 summarises some of the key changes processes underpinning Mindful Parenting. It draws upon the diagram by Shapiro et al. (2006) and maps other change processes identified in the mindful parenting literature.

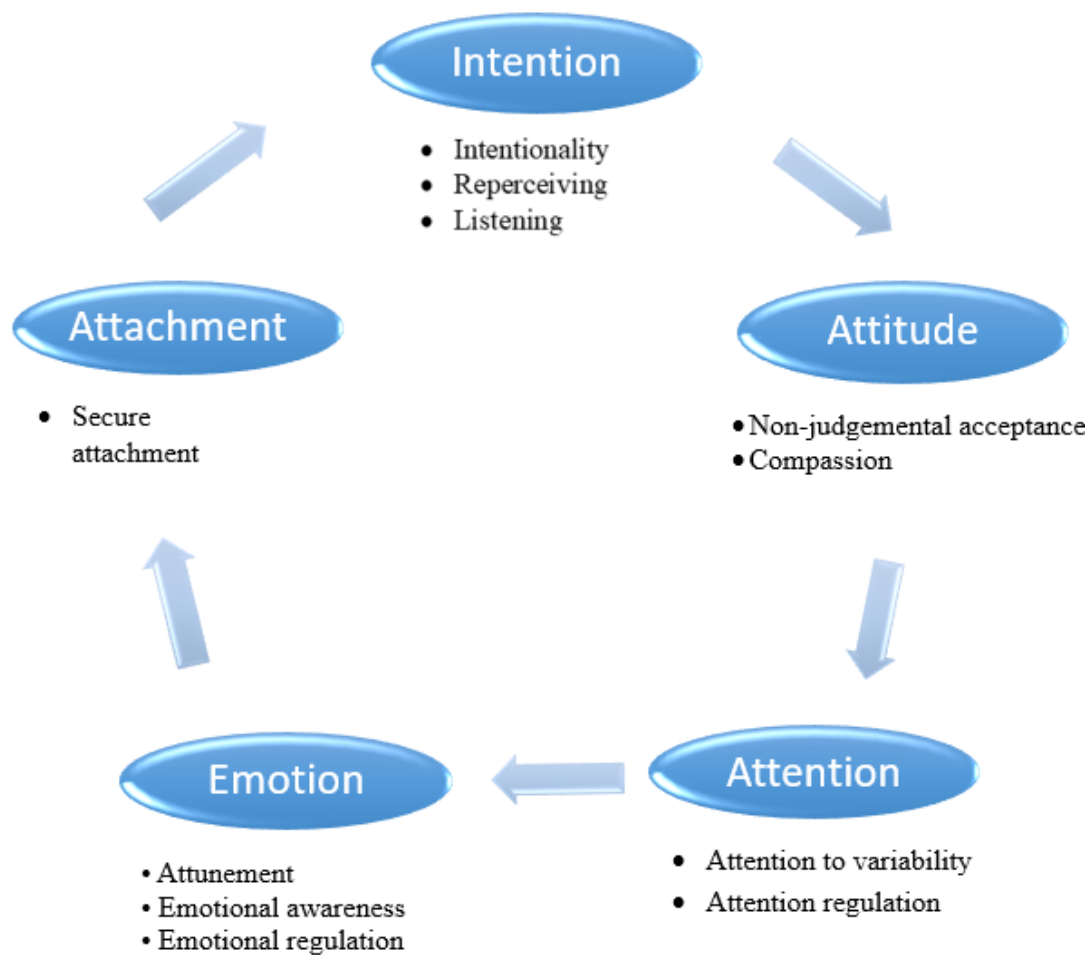


Figure 3.1 Model of Mindful Parenting processes.

3.7 Broader Application and Potential Impacts on Mental Health Outcomes

Mindful Parenting has been applied to a broad range of parenting contexts. Both experimental and descriptive studies have found MP programs can improve parenting skills and the quality of the parent-child relationship amongst pregnant women, parents of children aged 10 to 14 years, parents of pre-schoolers on a methadone program in addition to parents of children diagnosed with conduct disorders, cognitive impairments and autism. It appears to reduce parental reactivity and anger. Finally, it is widely used by parents from

the perinatal period to parents from culturally diverse backgrounds to improve youth mental health outcomes.

3.8 Conclusion

To conclude, this theoretical paper highlighted key change processes of Mindful Parenting that may foster transformation. Some of these key change processes include attunement, attention to variability, intentionality, re-perceiving, listening, non-judgmental acceptance, emotional awareness, emotional regulation, compassion and being responsive to a child's needs. The strength of Mindful Parenting programs is its ability to reduce parental anger, stress and reactivity. However, the evidence for the effectiveness of Mindful Parenting programs is still inconclusive due to the lack of rigorous Randomised Control Trials. Another limitation with this emerging field is the lack of clarification about active change processes. As more rigorous studies are conducted, an informative evaluation about the impact of Mindful Parenting can be considered. Given the mental health challenges faced by today's young people, Mindful Parenting offers accessible, practical skills to help parents tune into their children and promote emotional literacy.

Chapter 4 Methodology

“Every discourse, even a poetic or oracular sentence, carries with it a system of rules for producing analogous things and thus an outline of methodology.” Jacques Derrida (1995, p. 200)

4.1 Synopsis

This methodology chapter provides an overview of the four different methodologies used to critically analyze how mindful parenting promotes affect regulation. The chapter begins with clarifying the distinction between methodology and method before providing a rationale for why each methodology was chosen to address the substantive research question. Each methodology is then critically analyzed in terms of its theoretical foundations, strengths and weaknesses.

4.2 Introduction

Methodology is a critical design principle underpinning the entire dissertation rather than being restricted to a methodology chapter. It is the first step in planning a research project (Gabriel, 2011). *Epistemological reflexivity* refers to how the research question, study design, methods and data analysis affect the understanding of the phenomena under investigation (Pietkiewicz & Smith, 2012). All methodologies have a degree of epistemological flexibility. This dissertation utilises both positivist and phenomenological methodologies to critically analyze how mindful parenting promotes affect regulation. Each study is organised into one or two chapters with its own sections for the introduction, method, results and discussion. Consequently, this overarching chapter describes the methodologies used in the dissertation as opposed to the specific methods related to each study. Study 1 is a systematic review of Mindful Parenting (MP)

programs. Study 2 is a repeated measures design evaluating the effectiveness of a new Australian MP program called *Caring for Body and Mind in Pregnancy* (CBMP). Study 3 used Interpretative Phenomenological Analysis (IPA) to analyze interviews with the facilitators of MP programs. Study 4 investigated the factors within the change processes of self-compassion and mindfulness that were strongly associated with the reduction of perinatal depression by using structural equation modelling (SEM).

4.3 Methodology and Method

Clarifying the distinction between methodology and method is of paramount importance to the conceptual framework underpinning a study design. Methodology focuses on *how* the research was conducted, whereas method focuses on *what* the researchers did (Clough & Nutbrown, 2012). Methodology is the framework for approaching the research question. It provides the guiding principles by considering the research question, theoretical frameworks and the rationale for selecting a particular research method as the most effective method to meet the research objectives (Clough & Nutbrown, 2012). In contrast, methods refer to the tools, strategies and techniques used to obtain the data, whether quantitative or qualitative. The *Methods* section in research articles aid in establishing a valid standard for reporting methods, which assists in maintaining some uniformity in science. Methodology is the justification for *why* a method was used. Thus, methodology is much broader, encompassing the entire approach to the research project.

4.4 The Primary Research Objective

The overarching research objective for this dissertation was to understand how mindful parenting promotes affect regulation. A mixed methods approach with often opposing yet complementary methodologies was used to address the research objectives.

Positivist approaches, such as a systematic review, repeated measures design and SEM, were appropriate in investigating the effectiveness of mindful parenting. In contrast, qualitative methodologies, such as IPA, were considered more suitable to understanding the existential struggles of how mindful parenting promotes affect regulation.

4.4.1 Theoretical frameworks. A mixed methods theoretical framework was used to extend beyond one epistemology to comprehend the complexities of affect regulation. This dissertation utilises both quantitative and qualitative methodologies to gain a richer understanding of how mindful parenting facilitates affect regulation. These fundamentally different epistemologies provide a deeper understanding of consciousness and emotions. Positivists argue that the *only* authentic knowledge is scientific knowledge that is observable, empirical and measurable (Ferre, 1988). In contrast, phenomenology studies the structures of consciousness as experienced from a subjective view (Catalano, 1985). The central structure of an experience is argued to be its intentionality, that is, attention being directed toward an object as an experience of, or about, the object (Catalano, 1985). Existential phenomenology seeks to develop an in-depth understanding of human existence (Catalano, 1985). It challenges the reductionist traditions of studying the human condition that promote dualistic thinking, such as mind versus body (Catalano, 1985). Relying solely on a positivist methodology to study affect regulation is limiting. The lenses to study mindful parenting require both internal and external worldviews, positivist and phenomenological methodologies.

4.4.2 Procedure. Four ethics applications were submitted to access data. The first ethics application, which was submitted to the Human Research Ethics Committee (HREC) at the University of Adelaide in August 2015, was abandoned due to the lack of resources. The second ethics application to Queensland Health, which consisted of writing 108 pages

for the National Ethics Application Form (NEAF), was also abandoned because of time restrictions. The NEAF was submitted on October 24, 2015 and ethics approval was granted on January 24, 2017. The third ethics application was submitted on February 21, 2016 and approval was granted on February 25, 2016. The ethics approval letters for Studies 2, 3 and 4 are enclosed in Appendix A (HREC/16/WCHN/21). It approved access to a seven-year de-identified hospital dataset and approval to interview facilitators. A perinatal psychiatrist assisted with gaining access to the data for Studies 2, 3 and 4. The fourth ethics application for Study 3 is included in Appendix B (H-2017-080).

4.4.3 Sampling. Sampling issues beset all four studies. The studies included in Study 1 had sample sizes that were too small or too heterogeneous. A meta-analysis could not be conducted to synthesise the results from the systematic review because of the heterogeneity of the samples. The lack of Randomised Control Trials (RCTs) with large homogenous sample sizes also precluded the results from being generalised to a broader context. Convenience sampling used in Studies 2, 3 and 4 was associated with many potential extraneous variables. Consequently, the sample was not random, hence, the results cannot be generalised. Other sampling issues included high attrition rates in Study 2 after childbirth. Data were collected for pre, post, 3 months, 6 months and 12 months after birth. However, Study 2 only analysed pre- and post-program data owing to high attrition rates after childbirth. The sampling issue with Study 3 was the difficulty in recruiting participants, namely Australian facilitators of MP programs, which are still rare in Australia. However, these programs are widely used in America and Europe. Although data were collected at five measurement points in Study 4, only pre and post program data could be used for the analysis, due to the high attrition rates after childbirth. *Bollen–Stine bootstrap p* (Bollen & Stine, 1992), which replicated 2,000 samples, was used to compensate for the small sample size.

4.5 Systematic Reviews

The rationale for conducting a systematic review was to objectively review the evidence in the field of Mindful Parenting. A systematic review is defined as a research synthesis conducted through a systematic approach to minimise bias and random errors (Finckh & Tramèr, 2008). It is an important first step in clarifying *what works, what does not, where* areas of uncertainty exist and where little or no relevant research has been conducted (Petticrew & Roberts, 2006). Funding agencies are increasingly requesting systematic reviews before embarking on primary research, to justify whether further research in a particular direction is warranted (Gopalakrishnan & Ganeshkumar, 2013). When a field is still in its infancy, such as the Mindful Parenting field, a systematic review is less valuable since there are limited studies to synthesise. However, Petticrew and Roberts (2006) argue it is still an important contribution even if the findings highlight the absence of data and limited empirical evidence. To minimise bias, similar yet different predefined search protocols have been prescribed by Joanna Briggs Institute (JBI), Cochrane Collaboration, Campbell Collaboration, Gough, Thomas, and Oliver (2012) and Petticrew and Roberts (2006). This study used the predefined stages prescribed by the JBI since it was a course requirement.

4.5.1 Theoretical foundations. Systematic reviews were pioneered in the medical sciences during the 1970s to evaluate the effectiveness of health care interventions (Mallett, Hagen-Zanker, Slater, & Duvendack, 2012). Since the 1970s, systematic reviews have permeated across a wide array of disciplines from *astronomy to zoology* (Petticrew, 2001). The development of statistical techniques to integrate results from different studies date back to the early 20th century (Petticrew & Roberts, 2006). The first formal technique for pooling data was established by Karl Pearson (1904) when he examined the correlation

coefficients between typhoid and mortality by inoculation status among soldiers in various parts of the British Empire. Subsequently, Tippett (1931) identified a method for evaluating the likelihood of a significant effect from the ordered p -values observed across studies. Later, Fisher (1932) described a procedure for combining p -values from different studies asking a similar question. To make a definitive statement about a treatment effect, Fisher (1932) examined the null hypothesis of no treatment effect for all the studies against the alternative research hypothesis of a pooled treatment effect. Fisher's statistical method is still used to combine study results.

Glass (1976) coined the term *meta-analysis* to refer to "the analysis of analyses...the statistical analysis of a large collection of analysis results from individual studies for the purpose of integrating the findings" (p. 3). Glass (1976), a social scientist, also conducted psychological research. Meta-analytic techniques have continued to evolve with seminal advances by DerSimonian and Laird's (1986) random-effects model and the meta-regression methods to explain heterogeneity across studies (Bartolucci & Hillegas, 2010). Although systematic reviews have grown in popularity, there has been little critical evaluation on where they add value to psychological research and where they may be problematic.

4.5.2 Difference between a traditional literature review and systematic review.

Prior to the exponential growth of systematic reviews, traditional literature reviews were used to synthesise evidence in a specific field. The strength of narrative reviews is that it provides a broad overview of relevant literature tempered with years of practical knowledge from an experienced author (Garg, Hackam, & Tonelli, 2008). However, systematic reviews have been argued to be superior to traditional literature reviews because of their apparent objective, transparent, fixed process used to assess the evidence. This

fixed process aimed at minimising bias distinguishes a traditional literature review from a systematic review. Nevertheless, a critical evaluation of strengths and limitations reveals a systematic review can still be subject to the bias it claims to minimise.

4.5.3 Strengths. Mallett et al. (2012) provide a useful critique of the strengths and weaknesses of systematic reviews. The core principles underpinning systematic reviews are rigor, transparency and replicability, which are achieved by following a fixed process (Mallett et al., 2012). Objectivity, transparency and breadth are achieved through the explicit search strategy as well as the inclusion criteria, which are not influenced by prior knowledge of the primary studies (Garg et al., 2008). The transparency of the synthesis process allows the reader to evaluate the merits of each decision during the synthesis rather than simply contrasting the selected studies (Garg et al., 2008). This fixed process attempts to minimise bias and ensure replicability.

Systematic reviews claim to reduce implicit bias by forcing researchers to widen their search beyond their own preferences by adhering to broad search strategies, predefined search strings, inclusion criteria and exclusion criteria. The tight focus of systematic reviews is achieved through the careful deconstruction of the research question from the outset in terms of population, intervention, comparator and outcomes. This predefined protocol is considered to improve the likelihood of generating a clearer, more objective answer to a focused clinical question.

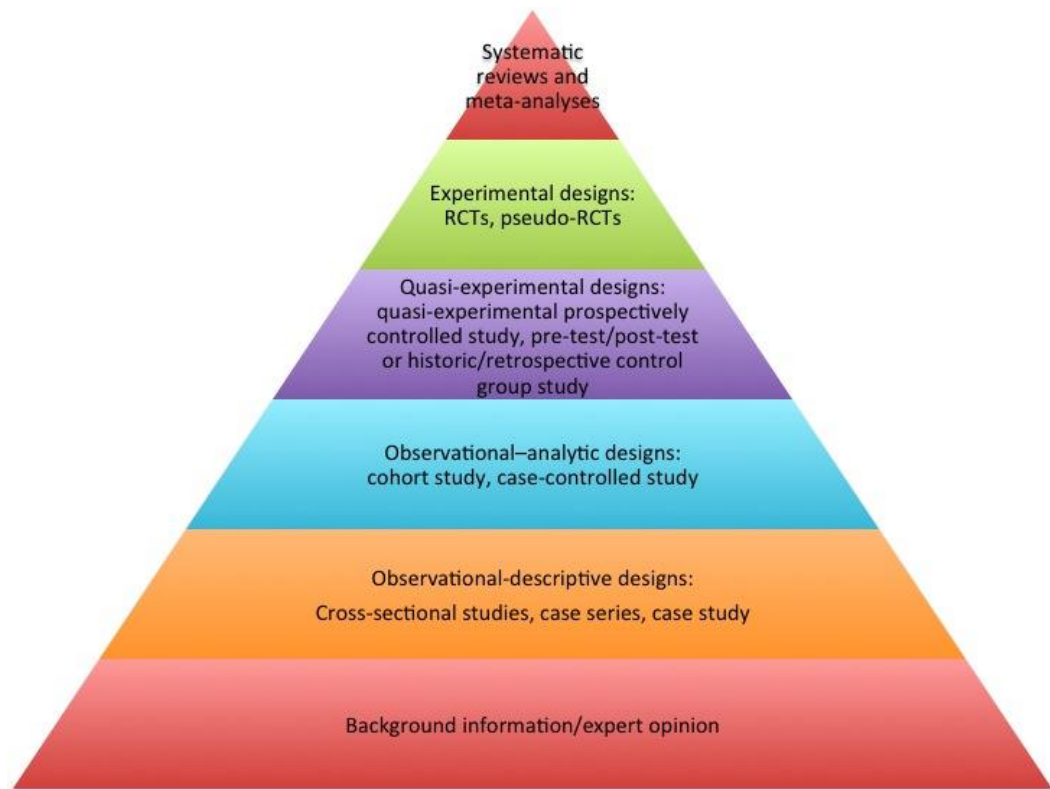


Figure 4.1 Hierarchy of Evidence (Joanna Briggs Institute (JBI), 2018).

A strength of systematic reviews is the critical appraisal of study characteristics against standardised criteria. It focuses on evaluating the robustness of the evidence by extracting information on study design, sampling, data analysis methods, evidence, impact validity and causality. Hence the predefined protocol guides researchers throughout the process, improving methodological transparency and enabling future replication.

Systematic reviews are considerably cheaper than impact evaluations (Snilstveit & Waddington, 2012). They can also be used to identify knowledge gaps, methodological inconsistencies and design weaknesses (Mallett et al., 2012). As a result, they have the potential to highlight future research priorities in clinically relevant directions. Systematic reviews are often used as a starting point to develop clinical practice guidelines (Gopalakrishnan & Ganeshkumar, 2013). Evidence-based medicine makes clinical decisions by reviewing the best available evidence, clinical experience, along with an

understanding of the patient's preferences (Garg et al., 2008). The sheer volume of medical literature makes it difficult for busy clinicians to critically evaluate and synthesise the current state of knowledge in their field (Finckh & Tramèr, 2008). Furthermore, clinical decision-making requires ongoing reconciliation of studies with conflicting results (Garg et al., 2008). To avoid potential bias in study selection, readers of reviews need to ascertain whether the eligibility criteria for the study inclusion was appropriate for the study selection.

4.5.4 Limitations. The quality of a systematic review or meta-analysis is only as good as the quality of the selected studies. The systematic review process is fraught with practical problems throughout the searching, screening and synthesis stages (Mallett et al., 2012). Key methodological elements of a systematic review are articulated by *The Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) guidelines and the *Assessment of Multiple Systematic Reviews* (AMSTAR) checklist (Moher et al., 1999; Shea et al., 2007). AMSTAR is an 11-item checklist for evaluating the methodological quality of systematic reviews (Shea et al., 2007). It remains unclear whether a systematic review that meets the PRISMA and AMSTAR guidelines guarantees credible content (Weir, Rabia, & Ardern, 2016). Hence the reader needs to be familiar with the key methodological elements of a systematic review to make informed decisions about its quality.

Weir et al. (2016) evaluated 10 systematic reviews from the *British Journal of Sports Medicine* using the AMSTAR tool. Their findings raise important methodological concerns. Only two out of eight reviews were registered or had written a protocol prior to commencing the review (Weir et al., 2016). Two reviews (25%) had not assessed the risk of bias in the included works. Studies often overlook the fact that a meta-analysis of

studies that are at high risk of bias only compounds the bias (Weir et al., 2016).

Publication bias was only examined by one study (Weir et al., 2016). Publication bias refers to selective publication of studies with positive results (Garg et al., 2008). These are more likely to be pooled in meta-analysis than in studies with negative results or smaller effect sizes since they are not published (Garg et al., 2008). Conflict of interest was not examined by any of the reviews (Weir et al., 2016). These findings indicate the quality of the systematic reviews need to be improved.

Often, the primary studies do not involve the same active treatment or the same control. Methodological flaws in RCTs often arise from real-world problems, such as lack of funding, lack of available patients, limited testing opportunities, lack of follow-up resources and logistical limitations (Bartolucci & Hillegass, 2010). Sometimes, the primary studies may be asking a similar, but not the same, question (Bartolucci & Hillegass, 2010). According to Finckh and Tramèr (2008), the internal validity of RCTs are threatened by selection bias (biased allocation to comparison group), observer bias (non-blinded outcome assessment) and attrition bias (unbalanced dropout rates). Inevitably, the review process identifies heterogeneous studies diverse in design, methodology, interventions and participants. Heterogeneity refers to how different the studies are from each other (Garg et al., 2008). The Q statistic, χ^2 test and I^2 are common statistical tests used to quantify heterogeneity (Garg et al., 2008). However, interpreting summarised results is controversial since combining discordant studies can provide false precision.

Although systematic reviews are heralded as being objective, there is a subjective element to selecting similar studies. Researchers often have disagreements in the screening and critical appraisal phases. Other methodological flaws of systematic reviews published in peer-reviewed journals include failure to critically assess the methodological

quality of the primary studies and failure to avoid bias during the study inclusion phase (Garg et al., 2008). Furthermore, variable treatment effects exist across different subgroups of participants. Industry-funded drug reviews have fewer reservations about methodological limitations of included trials than rigorously conducted Cochrane reviews (Garg et al., 2008). These cautionary tales highlight the need to carefully analyze the quality of the systematic review and adhere to the dictum *caveat emptor*, let the buyer beware (Garg et al., 2008). Hence, an objective homogenous approach is often not used.

Likewise, *outcome reporting bias* can influence the choice of study outcomes (Finckh & Tramèr, 2008). Outcome reporting bias refers to when the authors primarily report outcomes with significant results and suppress other outcomes with non-significant results (Finckh & Tramèr, 2008). Adhering to guidelines on how to report RCTs can reduce potential sources of bias.

The criteria for assessing the methodological quality of studies is often subjective. For instance, the JBI Critical Appraisal Checklist for assessing the methodological quality of Randomised Control/Pseudo-Randomised, Item 5 states “Was appropriate statistical analysis used?” (Appendix C, MASTARI appraisal instrument, p. 278). This introduces an element of subjectivity since it does not explicitly outline the statistical approaches that are appropriate. Objectivity is presumably achieved by using inclusion and exclusion criteria to screen potentially relevant studies. Systematic reviews claim to emphasise the importance of empirical evidence over preconceived knowledge. Nevertheless, there is inevitably subjectivity in the screening process, when different researchers interpret the inclusion criteria slightly differently. For instance, there was an 18% disagreement rate between researchers in the systematic review conducted by Hagen-Zanker, McCord, and Holmes (2011). Similarly, during Study 1, some assessors believed that a woman only becomes a parent after she gives birth whereas other researchers considered a woman to be

a parent when she became pregnant, not just when she gives birth. Disagreements in study selection were resolved through discussions.

Reporting bias tends to disproportionately affect smaller studies. The smaller the study, the larger the treatment effect needs to be for results to be statistically significant (Finckh & Tramèr, 2008). The larger the study, the more likely it will be published owing to the greater investment in time, money and methodological quality (Finckh & Tramèr, 2008). Graphical methods, such as asymmetrical funnel plots or statistical methods, are often misused to make inappropriately strong statements about the presence or absence of publication bias in meta-analysis (Finckh & Tramèr, 2008). The inclusion criteria often exclude studies that contradict the authors' views. To reduce reporting and publication bias, several authors (Finckh & Tramèr, 2008; Garg et al., 2008; Gopalakrishnan & Ganeshkumar, 2013) have recommended protocols for the meta-analysis.

Publication bias can be reduced by broadening the search strategy, to include institutional websites, conference proceedings, unpublished trials and ongoing studies. However, bias is introduced when search strings need to be varied for different websites (Mallett et al., 2012). Relevant websites may be excluded because of the lack of knowledge, time and resource constraints. So potentially, high numbers of pertinent studies could be missed.

The systematic review process is expensive, time-consuming and resource intensive. It is expensive for non-academic researchers to access databases (Mallett et al., 2012). Hence, a more inclusive process of evidence building is needed. Further work is also needed to improve the comparison between qualitative and quantitative research (Dixon-Woods & Fitzpatrick, 2001). The rigid process is time-consuming and resource intensive since numerous studies need to be thoroughly screened. On average, a

systematic review could take up to two years to complete with at least two researchers conducting the review.

4.5.5 Recommendations. Several evaluation tools have been developed to critically evaluate meta-analyses and systematic reviews. Checklists by Garg et al. (2008), Gopalakrishnan and Ganeshkumar (2013), Finckh and Tramèr (2008) in addition to Moher et al. (1999) are valuable resources. Currently, the most widely used tool is QUOROM (Quality Of Reporting Of Meta-analyses) (Moher et al., 1999). The 18-item checklist by Finckh and Tramèr (2008) adapts the original checklist by Moher et al. (1999) to provide the reader with information on literature searches, study selection, validity assessment, data abstraction, study characteristics, qualitative data synthesis and trial flow. To conclude, the aforementioned checklists aid in improving the methodological quality of systematic reviews.

4.6 Repeated Measures Design

The rationale for using a repeated measures design was to analyze whether there was a significant difference between the pre and post program scores in Study 2. Observational studies also tend to be more common in mental health research, as RCTs are not often feasible or ethical. A repeated measures design uses the same participants for all the experimental conditions (Field, 2013). Participants are measured before and after treatment for each independent variable (Field, 2013). The dataset in Study 2 had not been previously analyzed in its entirety over the 7 years. It is also one of the first Australian studies to evaluate the effectiveness of CBMP on pregnant women at high risk of developing perinatal depression, anxiety and stress.

Repeated measures design uses participants as their own controls by assessing how the participant responds to all the treatment conditions (Field, 2013). Only the within-

subject variability is included in the error term, which usually results in a smaller error term and greater statistical power. The term *repeated measures* design is often used interchangeably with *within-subject* design. However, some researchers only consider a crossover study as a repeated measures design (Field, 2013). A crossover design (Field, 2013) ensures all subjects receive all the treatments.

4.6.1 Strengths. Researchers often favour repeated measures design since it allows the detection of within-subject change over time. The primary advantage of using repeated measures design is that it can be statistically more powerful than independent subject designs because it controls for factors that cause variability between subjects (Guo, Logan, Glueck, & Muller, 2013). Factors such as age, intelligence, race and other important variables remain the same because it is the same person taking part in each condition (Field, 2011). Another strength of repeated measures design is it requires fewer participants than independent groups. Since repeated measures design have more statistical power, fewer subjects are needed to detect a desired effect size (Howitt & Cramer, 2011). The sample size can be reduced even further as the subject is involved with multiple treatments. For instance, if an independent measures design requires 20 subjects for each experimental condition, a repeated measures design requires only 20 subjects for the total sample size (Howitt & Cramer, 2011). Furthermore, repeated measures experiments are quicker and cheaper to conduct (Owen, 2011). Finally, changes occurring within subjects can be detected over time in repeated measures design. This is more advantageous than measuring different subjects at one point in time.

4.6.2 Limitations. Order effects are one of the primary limitations of repeated measures designs. Order effects refer to the performance changes resulting from the order in which the subjects are exposed to multiple treatments (Howitt & Cramer, 2011).

Subsequently, order effects are related to the order in which treatments are given but not to the treatment itself. Study 2 did not have limitations with order effects since only one treatment condition was tested. Unfortunately, scales measuring mindfulness and perinatal anxiety were changed to improve measurements. Subjects' improved performance could be due to practice effects, that is, the repetition provides an opportunity to practice and become familiar with the tasks (Collie, Maruff, Darby, & McStephen, 2003). Poor performance could be due to fatigue or boredom affecting reaction times or accuracy (Bergh & Vrana, 1998; Pan, Shell, & Schleifer, 1994). Another limitation of repeated measures is the individual differences in materials administered to different groups (Riedel, Klaassen, Deutz, Someren, & Praag, 1999). Therefore, the scale changes during the 7-year data collection may interfere with the ability to correctly estimate the treatment effect.

Confounding factors that influenced Study 2 included time effects, practice effects and maturation. Time effects refer to history, maturation and statistical regression (Shadish, Cook, & Campbell, 2002). History includes external events, such as job loss, which could cause differences that influence treatment effects (Shadish et al., 2002). Similarly, systematic physiological or psychological changes may influence treatment effects. Statistical regression is a mathematical phenomenon, where extreme scores on one measurement tend to be less extreme on the second measurement (Shadish et al., 2002). This is particularly concerning where treatment is supposed to cause scores to move away from extremes. Regression to the mean could be a potential confounding effect. Although it is not possible to eliminate confounding factors, such as the physiological and psychological changes during pregnancy, it is important to acknowledge confounding factors affecting Study 2 such as time effects, maturation and statistical regression to the mean.

4.6.3 Recommendations. Recommendations to manage the challenges of repeated measures design include randomisation, crossover, or counterbalancing. Independent subject design is an alternative for avoiding order effects. Crossover or counterbalancing repeated measures design can reduce order effects (Field, 2013). For Study 2, order effects were not a limitation as only one treatment condition was tested. Providing subjects with breaks during the experiment can also counteract boredom and loss of concentration (Pan et al., 1994). Ensuring the same materials are provided to participants maintains uniformity (Riedel et al., 1999). To conclude, the strength of a repeated measures design is ease of recruitment, which requires less participants and removes individual differences between participants. A repeated measures design is suitable for analysing the dataset if the limitations with the dataset are managed.

4.7 Interpretative Phenomenological Analysis (IPA)

The rationale for choosing IPA as the methodology for Study 3 is that it is particularly suited to understanding change processes. Brocki and Wearden (2006) recommend IPA as a useful methodology for understanding processes operating within models as opposed to outcomes. The primary aim of IPA is to investigate how individuals make meaning of their life experiences, how they experience events and what meaning they attribute to phenomena (Pietkiewicz & Smith, 2012). Jonathan Smith (1996) pioneered IPA as an alternative to the dominant discourse of quantitative analysis within the psychology discipline. In fact, J.A. Smith (1999) has previously analyzed transition to motherhood with IPA. Study 3 is one of the first studies to interview facilitators who work with pregnant women.

While all qualitative methodologies allow for epistemological reflexivity, IPA was also considered more suitable for Study 3 because it resonates with the values of patient-

centered healthcare. In contrast to the descriptive emphasis in many qualitative approaches, IPA emphasises the interpretative, hermeneutic elements, seeking to capture both convergence and divergence rather than focusing solely on commonalities (Pringle, Drummond, McLafferty, & Hendry, 2011). The theoretical roots of IPA add a sense of depth and purpose that goes beyond a thematic analysis (Pringle et al., 2011). Hence, IPA was chosen since it extends beyond the standard thematic analysis to acknowledge the researcher's role in knowledge creation.

The main distinction between IPA and other phenomenological approaches is the emphasis on the active role of the researcher during analysis (Pringle et al., 2011). This twofold *meaning making* process is described as the *double hermeneutics* (J.A. Smith, 2004). The first stage involves the idiographic focus on the participant's cognitive, linguistic, affective and physical analysis. The second stage emphasises the active role of the researcher as the analyst. Without the active role of the researcher, it is not possible for the account to be fully uncovered, brought *into the light*.

4.7.1 Theoretical foundations. The theoretical foundations of IPA are based on phenomenology, hermeneutics and idiography (Pietkiewicz & Smith, 2012). Phenomenology is essentially the study of experience (Pietkiewicz & Smith, 2012). The goal of phenomenology is to explore a *lived experience*. IPA is influenced by both *descriptive phenomenology* and *interpretative phenomenology*. *Descriptive phenomenology* aims to describe a lived experience without attempting to interpret it (J.A. Smith, Flowers, & Larkin, 2009). It is an *eidetic* method developed by Edmund Husserl in 1927 (Husserl, 1971). *Eidetic* method is concerned with identifying the essential components of a phenomenon that distinguishes it from others (Pietkiewicz & Smith, 2012). *Descriptive phenomenology* aims to describe how participants perceive and talk

about objects, rather than describing phenomena according to predetermined categorical, conceptual and scientific criteria (Pietkiewicz & Smith, 2012). Husserl's main influence on IPA is reflecting on the phenomenon itself rather than fitting participants' experiences into predefined categories (J.A. Smith et al., 2009). Bracketing is the second main influence by Husserl on IPA data analysis. It involves leaving aside the researcher's preconceptions to view the phenomena as experienced (Husserl, 1971). Consequently, Husserl's (1971) main influences on IPA are reflecting and bracketing .

Interpretative phenomenology aims to reveal and interpret the implicit meaning in a lived experience (J.A. Smith et al., 2009). Heidegger (1952), an advocate of Husserl, further developed his ideas into existential philosophy and hermeneutics. Three main interpretative phenomenological philosophers that have influenced IPA are Martin Heidegger (1952), Maurice Merleau-Ponty (1962) and Jean-Paul Sartre (1956). Whilst these philosophers emphasise a different focus, all three agree that there is no knowledge outside interpretation. Heidegger was concerned with the ontological question of existence itself. Heidegger proposed that knowledge can only exist through the interpretation of relationships, language, objects and people since one cannot step *outside* the world when one is already engaged *in* the world. Therefore, IPA researchers (J.A. Smith et al., 2009) acknowledge that any interpretation of participants' meaning making is connected to the researcher's perspective from being grounded in the world at a particular point in time.

Maurice Merleau-Ponty (1962) argued that humans view themselves as different from everything else in the world because our holistic sense of self is engaged in viewing the world rather than being subsumed within it. Merleau-Ponty (1962) refers to a *meeting point* between the self and the world. The perception of the *other* develops from one's embodied perspective. This influences IPA in that although IPA researchers (J.A. Smith et al., 2009) emphasise their participants' perspectives, the phenomena is ultimately viewed

thorough the researcher's perspective. Hence the phenomena are never entirely the participant's experience.

Jean-Paul Sartre (1956) extended the concept of embodied self to the evolving self. For Sartre, the self is not a pre-existing unity to be discovered, but rather an ongoing evolution, always becoming ourselves. Since our engagement with the world is always unfolding, the meaning-making is also unfolding for the researcher and the participant. The narrative is being developed as it is interpreted by both the researcher and participant.

Hermeneutics is the second major theoretical foundation of IPA. Hermeneutics originates from the Greek word to interpret or to make clear (Pietkiewicz & Smith, 2012). It is derived from the mythological Hermes translating the Gods' messages to humans (Pietkiewicz & Smith, 2012). Hermeneutics is the theory of interpretation (Finlay, 2011). Three influential hermeneutic theorists for IPA are Friedrich Schleiermacher, Martin Heidegger and Hans-Georg Gadamer. For Schleiermacher (1998), interpretation does not merely result from following grammatical rules, but rather it is an art requiring psychological interpretation and intuition. A comprehensive, holistic interpretation for Schleiermacher (1998) will exceed, as well as include, the explicit claims of the participants.

Martin Heidegger (1952) highlighted the importance of *appearing* and preconceptions when making meaning of the lived experience. Appearing refers to the process when a phenomenon is ready to "shine forth, but the detective work is required by the researcher to facilitate the coming forth and then to make sense of it once it has happened" (J.A. Smith et al., 2009, p.35). Heidegger emphasised that the researcher's preconceptions influence the meaning-making. *Double hermeneutic* or dual interpretation is often used to describe the IPA process (J.A. Smith & Osborn, 2008). This is because,

firstly the participants make meaning of their world and secondly the researcher tries to make sense of the participants' meaning making.

Both Heidegger (1952) and Gadamer (1996) argue that it is not possible to know one's preconceptions until the interpretation has begun. Gadamer (1996) used the term *fusion of horizons* to explain the complex relationship between the researcher and the researched. Thus, the phenomena influence the interpretation, which in turn influences the fore-structure, which in turn influences the interpretation.

4.7.2 Strengths. A commendable strength of IPA is that it aims to make phenomenology more accessible and user-friendly (J.A. Smith et al., 2009). Giorgi (2008) has criticised IPA for representing phenomenological research methods as a fixed set of prescribed stages. However, J.A. Smith et al. (2009) argue that IPA is nonprescriptive as it adapts to the research situation. Regardless of their differences, both Giorgi (2008) and J.A. Smith et al. (2009) have sought to operationalise phenomenology from its philosophical roots to a more user-friendly, transparent approach (Pringle et al., 2011). Giorgi (2008) argues against the rigorous use of steps, while J.A. Smith et al. (2009) advocate for a clear, transparent systematic process rather than a rigid prescriptive process. Therefore, another strength of IPA is the use of a clear, systematic process that opens the analysis to an external audit and enhances its rigor.

IPA evolved as a reaction against psychology's positivist preference to quantify phenomenological constructs. Unlike other phenomenological methods, J.A. Smith (1996) created IPA as a research method for health sciences, where understanding behavior is at the crux of influencing health promotion. Thus, a strength of using IPA for Study 3 is that it has been designed to understand health and illness from the participants' perspective.

Theory development is another strength of IPA. J.A. Smith et al. (2009) encourage IPA researchers to reflect on *theoretical transferability* rather than *empirical generalizability*. IPA lends itself to the theory development in healthcare because it can contextualise the contribution the research makes to the wider theory. Caldwell (2008) contends that while developing Theory with a capital T is not the purpose of IPA studies, it can contribute to theory in a broader lower-case sense. Understanding *life worlds* from a phenomenological perspective thereby contributes to theory development.

4.7.3 Weaknesses. One criticism of IPA is that the deeper, more interpretative analysis may be drawing away from the original meanings. Indeed, J.A. Smith et al. (2009) encourage researchers to go beyond immediately apparent content. Another limitation with IPA is that IPA studies do not always report the limitations with the data collection methods (Pringle et al., 2011). A variety of data collection methods can be used in IPA from interviews, diaries, written narrative accounts, email discussions to focus groups (Pringle et al., 2011). However, the review by Brocki and Wearden (2006) found the authors of IPA studies do not report sufficient details about the limitations of their data collection methods. Hence, IPA researchers need to discuss both the limitations and advantages of their chosen data collection methods.

Issues with sampling is another drawback of the IPA method. With regard to sampling, J.A. Smith et al. (2009) advised researchers to use a fairly homogenous sample, while also recommending the effectiveness of an IPA study should be judged by the light it sheds on a broader context. Thus, a weakness of IPA is this inevitable tension between evaluating the transferability of the findings and using a small homogenous group (Pringle et al., 2011). To overcome this tension, J.A. Smith et al. (2009) recommended using a rich,

transparent analysis that acknowledges the limitations of the participants. However, it is still difficult to make judgments about transferability with a small homogenous sample.

The validity of IPA findings has also been questioned. The evolving nature of the analysis results in earlier ideas being superseded or built on by subsequent interpretations. Moreover, the significance of the findings could dramatically change if another researcher analyzes the interviews. J.A. Smith et al. (2009) respond to these challenges by arguing that IPA ensures credibility of an account but does not claim it is the only credible account. According to J.A. Smith et al. (2009), IPA does not seek to find the single truth, but a coherent, legitimate account that is attentive to the words of participants. Hence, as with many qualitative approaches, which may be startling to quantitative researchers, IPA advocates there is no single truth. The narrative aims to resonate or '*strike a chord*' with the reader (Van der Zalm & Bergum, 2000). Strategies to improve the validity of findings include reflection, team discussion and triangulation (Pringle et al., 2011). Using more than one method of data collection, such as interviews and diaries, can improve the completeness of the data. J.A. Smith et al. (2009) encourage IPA analysts to go beyond an analysis that is sufficient, to explicitly detail the commitment to rigor with which the study was carried out. Thus, commitment to the topic, rigor, participant, method and data analysis are emphasised in IPA, just as in other methodologies.

The rigor and validity of all qualitative methodologies have been subject to intense debate (Pringle et al., 2011). Four broad principles for assessing quality recommended by Yardley (2000) include (1) sensitivity to context, (2) commitment and rigor, (3) transparency and coherence, in addition to (4) impact and importance. An explanation of how IPA can address these criteria is outlined by (J.A. Smith et al., 2009). According to J.A. Smith et al. (2009), being open to an external audit trail can enhance rigor. The audit

trail inferred by J.A. Smith et al. (2009) is similar to the decision trail advocated by Koch (2006).

4.7.4 Why was IPA more appropriate than grounded theory, discourse analysis and narrative analysis? The researcher considered IPA to be more appropriate than grounded theory because IPA privileges the individual, whereas Grounded Theory tends to use larger samples to substantiate theory (Barbour, 2007). Grounded Theory was developed by sociologist Barney Glaser and Anselm Strauss, while researching dying hospital patients (Glaser & Strauss, 1967). A small, homogenous sample is preferred by IPA. Conversely, Grounded Theory aims for a larger, more diverse sample to engage in constant comparisons to produce a multidimensional dynamic theory on how different factors affect human behaviour (Pietkiewicz & Smith, 2012). It does not advocate a theory and uses purposive sampling, somewhat diverse samples to produce a universal theory. The smaller sample size advocated by IPA allows for a richer depth of analysis in the similarities and differences. Grounded theory uses results from each interview to guide the next interview, whereas IPA treats each participant the same.

The key epistemological assumption underpinning Discourse Analysis is the social constructionism (J.A. Smith, 1996). IPA was better suited to Study 3 than discourse analysis, because the latter privileges the sociocultural systems over the individual's beliefs, cognitions and emotions. *Social constructionism* purports that reality and identity are systematically constructed through systems of social practices. Discourses are defined as *systems of meaning* that are related to the interactional, wider sociocultural context that operate regardless of the speakers' intentions (Wetherell, Taylor, & Yates, 2001). Narrative analysis believes that the process of telling a story encompasses a moral, ethical dimension that can be transformative (Rice & Ezzy, 1999). The distinctions between IPA and

narrative analysis are blurry. However, IPA was considered more suitable for Study 3 as it provides a structured approach to analyze the data.

4.8 Structural Equation Modelling

The rationale for using SEM was dictated by the research question, which examined the factors within the change processes of self-compassion and mindfulness that were strongly associated with the reduction of perinatal depression. The most appropriate technique for Study 4 was SEM, since it allowed the researcher to examine the factor structure between observed and latent variables. SEM has been referred to as “the preeminent multivariate technique” (p. 2), with widespread use across the medical, epidemiological, health and social sciences (Beran & Violato, 2010). It provides a flexible framework to develop, analyze and verify the validity of theories with complex relationships between multiple variables (Beran & Violato, 2010). Before deciding to use SEM, design factors were analyzed to ensure there was sufficient statistical power.

The longitudinal design used before and after CBMP scores for perinatal depression was suitable to test the mediational hypothesis. The power and sensitivity in the SEM context are influenced by design factors, such as sample size, reliability, number of observed indicators and number of assessment points, in the repeated measures study design (Tomarken & Waller, 2005). The results from the post-hoc power analysis with G-Power (3.1.9.2) (Faul, Erdfelder, Buchner, & Lanf, 2009) and computer simulations with AMOS (Version 25) (Arbuckle, 2017) indicated Study 4 had sufficient power to test the mediational hypothesis.

The theoretical framework of the structural model conceptualises the relationship between the *intervening variables*, the endogenous and exogenous variables. The intervening variables were self-compassion and mindfulness. The term mediator was

reserved for intervening variables that met assumptions by Baron and Kenny (1986) as well as A. F. Hayes (2013). The exogenous variable was pre-program perinatal depression scores. The endogenous variable was the post-program perinatal depression scores. The use of regression analysis and SEM in Study 4 provided a more detailed analysis. The regression analysis enabled the analysis of intervening variables according to A. F. Hayes (2013). The rationale for using SEM was to simultaneously determine the factors within the change processes of self-compassion and mindfulness that were associated with the reduction of perinatal depression. The researcher directly tested the theoretical hypothesis by aligning it with the null hypothesis in SEM rather than the alternative hypothesis.

4.8.1 Theoretical foundations. During the early 1900s, SEM emerged from factor analysis (Spearman, 1904) and path analysis (Wright, 1918, 1921). Yet, the first introductory textbook on SEM was not published until 1984 (Beran & Violato, 2010; Saris & Stronkhorst, 1984). Within the psychology discipline, its popularity has grown since Peter Bentler's (1980) original review. In fact, its popularity has also been growing in biological sciences (Shipley, 2000) and social sciences (Hayduk, 1996). However, a clear, concise, consensual definition of SEM is difficult to find. Nachtigall, Kroehne, Funke, and Steyer (2003) define a structural model as representing the relationships between latent variables and observed or manifest variables.

A distinct feature of SEM is the comparison between the hypothesised structural model with the measurement model from the dataset (Nachtigall et al., 2003). The comparison leads to *fit statistics* assessing the match between the hypothesised model and the data (Nachtigall et al., 2003). As a broad multivariate technique, SEM combines path analysis, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), multiple regression, between-group variance comparisons and within-group variance

comparisons (Nachtigall et al., 2003). To verify the theory, the researcher develops both a structural and measurement model. The structural model refers to the relationships among latent variables, which allows the researcher to determine the degree of correlation (path coefficients) (Beran & Violato, 2010). Wright (1920, p. 329) defined path coefficients as “measuring the importance of a given path of influence from cause to effect.” The difference between SEM and multiple regression is that SEM calculates each structural equation coefficient by simultaneously accounting for all endogenous variables (Beran & Violato, 2010). In contrast, multiple regression models sequentially account for endogenous variables.

4.8.2 Assumptions of SEM. The theoretical assumptions underpinning SEM stipulate that accurate, unbiased parameter estimates can only be calculated if observed variables are drawn from a continuous, multivariate normal distribution with a large sample size (Cunningham, 2008). Consequently, estimation methods are affected by normality, sample size and dependence of errors (Ullman, 2001). Prior to using SEM, Study 4 verified whether the dataset met the following assumptions:

1. Data are normally distributed. Study 4 conducted a pre-analysis as recommended by Schreiber, Stage, King, Nora, and Barlow (2006) to clarify the normality, multicollinearity, linearity and outliers. Plotting the dataset clarified whether it was normally distributed. Calculating Mardia’s multivariate displayed the skewness and kurtosis of the distribution. Finally, examining the Mahalanobis distance detected outliers.
2. A large sample size is needed to establish the stability of the parameter estimates (Schreiber et al., 2006). Using a large sample reduces the likelihood of unstable estimates and random variation that occur in small samples (Beran & Violato, 2010). There is no exact rule for sample size calculations. However, Cunningham

(2008) argues that a minimum sample size of 200 is needed for SEM, whereas Schreiber et al. (2006) recommends a minimum of 10 participants per estimated parameter.

3. Data are continuous (Cunningham, 2008). To ensure the data are continuous, the Likert scales need a minimum of 7 points (Cunningham, 2008). A common technique used to address the ordinal nature of data is item parcelling, which involves forming a composite or summed score (Cunningham, 2008). Item parcelling can also address lack of normality in the data (Cunningham, 2008).
4. Missing data are appropriately handled to minimise bias. Missing data are usually handled through pairwise deletion, list-wise deletion or estimated (Schreiber et al., 2006). Pairwise deletion is not recommended and list-wise deletion is problematic unless the missing data has been proved to be missing completely at random (Schreiber et al., 2006). Furthermore, some SEM models improve the quality of estimation by including auxiliary variables in a model that are predictors of missing values or variables that have missing values (Schreiber et al., 2006). There were no missing values in this dataset.
5. Maximum Likelihood estimation method assumes the data follow a continuous, multivariate, normal distribution. Three techniques that address violations of distributional assumptions include Asymptotically Distribution Free (ADF), Weighted Least Squares (WLS) and Bollen–Stine bootstrap p (Bollen & Stine, 1992; Cunningham, 2008). A disadvantage with using the first technique is the requirement for exceptionally large sample sizes greater than 1,000 cases (Cunningham, 2008; Flora & Curran, 2004). Jöreskog (1990) recommends WLS as an alternative to the ADF technique because it can be performed with smaller sample sizes and ordinal data.

4.8.3 Strengths. As a broad data analytic framework, SEM provides flexible, unique capabilities. A prominent strength includes its ability to address violations of multivariate normality (Cunningham, 2008). It has also been enriched by its ability to handle missing data (Enders, 2001), ordinal data (B.O. Muthén, 2001) and categorical data (B.O. Muthén, 2001). It handles missing data by fitting raw data instead of summary statistics (Enders, 2001). Other advantages include its ability to combine mathematical and computational complexities with relative ease (Tomarken & Waller, 2005). The burgeoning popularity of SEM is primarily due to the illustrative power of path diagrams, compatibility with other statistical packages and user-friendly graphical interface. It is distinguished from other types of analyses by its ability to examine many relationships while simultaneously managing measurement error.

In fact, it is superior to other correlational methods in its ability to manage measurement error. Beran and Violato (2010) argue that SEM's "greatest strength is the ability to manage measurement error, which is one of the greatest limitations in most studies" (p. 1). Another appealing advantage of SEM over multiple regression is that SEM has greater statistical power, that is, the probability of rejecting a false null hypothesis (Beran & Violato, 2010). It can also analyze dependent observations while managing longitudinal designs, such as time series and growth models (Beran & Violato, 2010). For instance, maternal characteristics during pregnancy predicted children's weight and blood pressure 20 years later while controlling for child's birth weight (Dahly, Adair, & Bollen, 2008). It allows testing of hypotheses with multiple constructs that may be directly or indirectly related to both linear or nonlinear models (Beran & Violato, 2010). It can also examine the correlated measurement error, to determine the degree of unknown factors that influence shared error among variables, which may affect the estimated parameters of the model (Beran & Violato, 2010). Given these commendable advantages, many disciplines,

including psychological research, appear to favor SEM as a preferred multivariate technique.

4.8.4 Limitations. A recurring limitation with SEM is the misinterpretation of causality (Beran & Violato, 2010; Nachtigall et al., 2003). SEM is not a test of causality (Nachtigall et al., 2003). A model with excellent fit statistics does not have to infer causality. Steyer (1992, 2003) has developed a mathematical theory of causal regression models. However, this is not available in many of the commercial SEM programs (Nachtigall et al., 2003). Other limitations include producing post-hoc models that neglect substantive theory (Nachtigall et al., 2003). Post-hoc model tuning without a priori specification may result in models that are *senseless* from a theoretical perspective, *unstable* from a statistical perspective and lacking potential for replication (Nachtigall et al., 2003). A theoretically sound model from a stable dataset is more likely to be replicable.

The requirement for considerable sample sizes, from 200 to 2,000, limits its utility for many researchers (Beran & Violato, 2010; Nachtigall et al., 2003). The need for large sample sizes offsets the strength of simultaneously examining multiple variables (Beran & Violato, 2010). Finally, SEM cannot compensate for inherent weaknesses in study design (Beran & Violato, 2010). Poor research planning, unreliable data, invalid data, lack of theoretical guidance and over-interpretation of causal relationships can lead to misleading conclusions (Beran & Violato, 2010). Hence, caution is needed to judiciously draw on the strengths of SEM and avoid its pitfalls.

4.8.5 Recommendations. During the planning phase of Study 4, a power analysis, distribution analysis and analysis of scales were conducted to clarify whether SEM assumptions were met. A pre-analysis indicated the sample was not normally distributed.

Some of the Likert scales in Study 4 were less than the minimum 7-Likert points and the sample size was small. The sample size did meet the minimum recommended by Cunningham (2008) to maintain the stability of parameters. Item parcelling was used to address the ordinal data where Likert scales had less than 7 points. The small sample size was addressed with WLS and Bollen–Stine bootstrap p (Bollen & Stine, 1992). The use of item parcelling and Bollen–Stine bootstrap p estimation technique aimed to mitigate the limitations with the dataset. Bootstrapping is a method of drawing many pseudo-replicate samples from a given dataset (Nachtigall et al., 2003). The bootstrap samples are typically in the range of 1,000 to 2,000. Bollen–Stine bootstrap p (Bollen & Stine, 1992) is a chi-square technique used to estimate model fit for small samples that may violate multivariate normality (Bollen & Stine, 1992). Given the limitations, caution is needed when interpreting the results.

4.9 Reflections on Researcher’s Biases

The implication for IPA researchers, according to J.A. Smith et al. (2009), is the importance of being aware of one’s biases. Although all efforts were made to be objective, the researcher’s clinical and personal experiences inevitably influenced the research process. The unique cross-cultural perspective gained by living in Asia, Africa, England and Far North Queensland influenced the formulation of the research question and data analysis. Witnessing the impact of destructive emotions through civil war and apartheid highlight a global need to evolve emotions. Over the past 10 years, the researcher has been working in Indigenous education. During 2018, the researcher supported the local community after four suicides of Indigenous youth under the age of 18 years of age and the suicide of an intern psychologist. The insights from mindfulness research have been particularly valuable in working with Indigenous children and families. Although this dissertation does not have a multicultural focus, it bears relevance to these communities. It

is particularly relevant to vulnerable parents and children that grapple with affect regulation. Hence, during the analyses the data can present themselves in all their uniqueness, asserting their own certainty against the researcher's preconceptions and the colorful backdrop of the tropics.

4.10 Conclusion

Despite the outdated rivalries between quantitative and qualitative methodologies, this dissertation highlights their complementarity for investigating different components of the overarching research question. A historical analysis of the methodologies revealed Pearson's correlation coefficient has made influential contributions to the development of data pooling techniques, such as systematic reviews and SEM. All four methodologies are subject to familiar constraints and misconceptions. These methodologies offer opportunities to undertake both useful and useless research. The appropriate use of these four methodologies requires a balanced perspective of their strengths and weaknesses. Investigating mindful parenting from these seemingly opposing yet complementary epistemologies may lead to a richer, more comprehensive understanding of how it promotes affect regulation.

Chapter 5 Statement of Authorship for Published Paper

Title of Paper	The effectiveness of mindful parenting programs in promoting parents' and children's wellbeing: A systematic review protocol.
Publication Status	<input checked="" type="checkbox"/> Published <input type="checkbox"/> Submitted for Publication <input type="checkbox"/> Accepted for Publication <input type="checkbox"/> Unpublished and Un-submitted in manuscript style
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Principal Author

Name of Principal Author (Candidate)	Kishani Townshend	
Contribution to the Paper	Chief investigator responsible for study plan, literature review, protocol registration and writing the manuscript. Also, the corresponding author to address reviewers' feedback.	
Overall percentage (%)	85%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.	
Signature	Date	24/9/2018

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contribution is equal to 100% less the candidate's contribution.

Name of Co-Author	Professor Zoe	
Contribution to the Paper	Assisted with Joanna Briggs Institute (JBI) methodology.	
Signature		24/9/2018
Name of Co-Author	Dr Micah Peterson	
Contribution to the Paper	Assisted with JBI systematic review methodology	
Signature		24/9/2018
Name of Co-Author	Professor Komla	
Contribution to the Paper	Assisted with general systematic review methodology.	
Signature		24/9/2018

Chapter 5 Protocol for Study 1

Townshend, K., Jordan, Z., Peters, M., & Tsey, K. (2014). The effectiveness of mindful parenting programs in promoting parents' and children's wellbeing: A systematic review protocol. *JBIR Databases of Systematic Reviews and Implementation Reports*, 12(11), 184-196. doi: 10.11124/jbisrir-2014-1666

5.1 Review Question / Objective

The primary objective of this review is to systematically evaluate the effectiveness of Mindful Parenting (MP) programs in promoting children's, adolescents' and parents' wellbeing, particularly in relation to the intensity of symptoms associated with internalising (depression, anxiety, stress) as well as externalising (conduct) disorders. The secondary objective is to evaluate how effective MP programs are in improving emotional regulation, quality of the parent-child relationship, resilience in addition to mindfulness of the children, adolescents and parents. The comparator is the control or waitlist conditions. The population of interest in this study is children aged between 0 to 18 years and their parents who have completed a MP program.

5.2 Background

There is a growing consensus that a paradigm shift is needed to address the profound impact of mental illness, the delayed diagnosis and long waiting lists. Depression is the leading cause of disability with 350 million people affected across the world (Marcus, Yasamy, van Ommeren, Chisholm, & Saxena, 2012). The cost of mental health disorders to the Australian community is approximately \$20 billion per annum which includes loss of productivity and labour force participation (Australian Bureau of Statistics [ABS], 2011). The initial onset of anxiety, depression and conduct disorders tends to occur in childhood and adolescence (Kessler et al., 2005). However, they are not detected until later in life due to gaps in the efficacy and effectiveness of mental health

services to young people (Patel, Fisher, Hetrick, & McGorry, 2007). Mental illness has complex, multifaceted etiologies. The dominant view is that parenting and the quality of the parent-child relationship significantly influence early brain development and the development of mental health disorders (Sawyer-Cohen & Semple, 2009). Mindful Parenting has been defined as the ability to pay attention to your child and your parenting in a particular way, that is intentional, non-judgemental whilst being in the here and now (Langer & Moldoveanu, 2000). This study aims to investigate whether MP programs could be added to the repertoire of tools used in the prevention and early intervention of mental illness.

Epidemiological evidence shows that half of all lifetime mental health disorders commence by the age of 14 years, with anxiety and impulse control disorders having a median age of onset at 11 years for clinical diagnoses (Kessler et al., 2005). The primary mental health disorders in childhood tend to be internalising (anxiety, depression) and externalising (aggression, oppositional defiance) disorders (Bayer et al., 2012). Internalising disorders represent disorders associated with depression, anxiety and somatic symptoms (American Psychiatric Association [APA], 2013). Externalising disorders refer to disorders characterised by impulsive, disruptive conduct and substance use symptoms (APA, 2013). Approximately 25% of youth in Australian and international populations present with these disorders which continue to adolescence and adulthood (Anderson, 1994; Egger & Angold, 2006; M. G. Sawyer et al., 2000). Furthermore, there are higher rates of mental health conditions amongst Indigenous, migrant and African American children. Yet, due to the stigma associated with mental illness and gaps in services, these children are even less likely to receive a timely diagnosis or treatment (Patel et al., 2007; World Health Organisation [WHO], 2014). Childhood mental health problems that are not effectively treated can result in

significant health costs to society, protracted psychological distress, learning difficulties, school dropout, poor employment outcomes, social isolation, substance abuse, family violence and suicide (Bor, McGee, & Fagan, 2004).

The term *Mindful Parenting* was coined by Myla and John Kabat-Zinn (1997) in their book, *Everyday Blessings: The inner work of mindful parenting*. It originates from the Eastern and Western concept of mindfulness. Mindfulness is defined as the ability to be attentive to the present (M. Kabat-Zinn & Kabat-Zinn, 1997; Langer & Moldoveanu, 2000). It is an attention process that focuses on clarity of thinking, flexibility of thinking and being present in the moment rather than running on automatic pilot. Over the last three decades, studies have indicated that mindfulness based interventions have positive outcomes in relation to mental health issues, weight loss, cancer, parenting stress and the parent-child relationship (Bögels et al., 2010; Langer, 1989, 2009). Integrating mindfulness with parenting, Mindful Parenting is one of the newer applications of mindfulness in mental health contexts (Bögels et al., 2010). Although mindfulness based psychotherapies are becoming increasingly popular in promoting mental health, there is a scarcity of literature on whether MP programs can promote children's wellbeing. However the definition of wellbeing is just as controversial as its measurement (Dodge, Daly, Huyton, & Sanders, 2012). This paper will refer to the definition of wellbeing provided by Dodge et al. (2012) that is, wellbeing as the state of equilibrium or balance that can be affected by life events or challenges. In the absence of studies with validated wellbeing measures, this review will measure wellbeing in terms of the reduction in the intensity of symptoms associated with internalising and externalising disorders.

The growing interest by clinicians and researchers in the field of mindfulness is fuelled by the promise of a new tool to alleviate the suffering associated with physical,

psychological and psychosomatic disorders. Whilst mindfulness is an ancient concept, its application in modern healthcare, education, employment and prison systems is becoming increasingly popular. The key active ingredient of mindfulness is thought to be the improved self-observation that promotes better coping skills (Fjorback et al., 2013). Two broad approaches of mindfulness that have been integrated into psychotherapy include mindfulness based and mindfulness-oriented (Sawyer-Cohen & Semple, 2009). Mindfulness based psychotherapy includes Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT) and Mindfulness Based Cognitive Behavior Therapy (MCBT) (Sawyer-Cohen & Semple, 2009). Mindfulness-oriented models include Acceptance Commitment Therapy (ACT) and Dialectical Behavior Therapy (DBT) (Khoury et al., 2013; Linehan, 1993a). A comprehensive meta-analysis found Mindfulness Based Therapy is an effective treatment for a variety of psychological disorders, especially for reducing anxiety, depression and stress (Khoury et al., 2013).

Although an initial search found no systematic reviews on Mindful Parenting, it found several systematic reviews on the burgeoning field of mindfulness. A recent systematic review of Randomised Control Trials (RCTs) using MBSR and MBCT found that MBSR improves mental health and MBCT prevents depressive relapse with medium effect sizes (Fjorback, Arendt, Ornbol, Fink, & Walach, 2011). From the 21 studies included in this study, 11 studies found MBSR improved mental health compared to the waitlist control or treatment as usual (TAU) and was as efficacious in the active control group in three studies (Fjorback et al., 2011). Mindfulness Based Cognitive Therapy was found to reduce the risk of relapse in two studies and was found to be as efficacious as TAU on the active control group in two studies (Fjorback et al., 2011). The literature however does acknowledge the limitations with “mindfulness”. One

limitation is that the results are only generalizable to individuals who have an interest in mindfulness and the ability to participate in such programs (Fjorback et al., 2011). This is because mindfulness studies are not double-blinded as participants actively chose the program and know they are participating. So, bias is inherent in self-selected samples. Publication bias may be another limitation as most studies report positive results (Fjorback et al., 2011). Regardless of these limitations, the studies tend to concur that attention is one of the mechanisms of change. Future research needs to clarify how attention is therapeutic.

Over the last 17 years since Myla and Jon Kabat-Zinn's first significant application of mindfulness in 1997, there have been several primary studies on Mindful Parenting. Whilst some of these are RCTs (Dawe & Harnett, 2007; Duncan et al., 2009b), the majority of the study designs tend to be single case experimental designs (Singh et al., 2007; Singh, Singh, et al., 2010; van de Weijer-Bergsma, Formsma, de Bruin, & Bögels, 2012; van der Oord, Bögels, & Peijnenburg, 2012). The sample sizes are generally small. The settings tend to be mostly home-based with parents attending two to two-and-a-half hours per week for eight to twelve weeks. The studies are usually conducted in America, Australia or Europe. While all the participants are parents, the target group of parents tends to vary from pregnant mothers, parents with children presenting with autism, parents with children diagnosed with conduct disorders and parents of children from the age 10-14 to parents from a methadone program with pre-schoolers. Both experimental and descriptive studies indicate that MP programs can improve the parent-child relationship, parenting skills as well as the child's wellbeing with regard to social and emotional competence (Bögels et al., 2010). Furthermore MP programs have also been used to prevent the transmission of mental

health disorders from parent to child (Bögels et al., 2010). The results from these primary studies indicate some consistency of positive effects.

A preliminary search in the major bibliographical databases identified no completed systematic review or review protocol on the topic of interest for this proposal. The databases that were searched included the Joanna Briggs Institute Database of Systematic Reviews and Implementation Reports, PubMed, CINAHL, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects (DARE), EMBASE, PsycINFO and PROSPERO, the international database of prospectively registered systematic reviews in health as well as social care. A systematic review evaluating the effectiveness of MP programs on children's and parents' outcomes is the first step in establishing whether there is sufficient empirical support to justify the promotion of Mindful Parenting as a prevention intervention.

5.3 Inclusion Criteria

5.3.1 Types of participants. This review will consider studies that include all children aged 0 to 18 years old, whose parents have completed a MP program. The participants are the children or adolescents and their parents. Most countries across the world consider a child to be an adult when they become 18 years old. This study will consider those under 18 years old as a child. Mindful parenting is the same regardless of age. It is the ability to be attentive to a child's changing needs from birth to adulthood and beyond. Given the large developmental differences between the ages of 0 to 18, a sub-group analysis will be conducted according to the following age groups: 0 to 18 months; 2 to 3 years; 3 to 5 years; 6 to 11 years; and 12 to 18 years, if there are sufficient studies. The bracketing of these age groups are consistent with Erikson's psychosocial developmental stages of infancy (0 to 18 months), early childhood (2 to 3

years), preschool (3 to 5 years), school age (6 to 11 years) and adolescence (12 to 18 years) (Erikson & Erikson, 1998).

Children and adolescents with or without a mental health diagnosis from culturally diverse backgrounds, from adopted or fostered backgrounds or children living with their family of origin will be included in this review, as long as their parents have completed a MP program. For all children whose parents have completed a MP program, a priori subgroup analysis will be conducted for Indigenous children, migrant children and African American children in addition to children diagnosed with mental health conditions, if there are sufficient studies. This is to account for any confounding factors, cultural differences and mental illness that may affect the children's outcomes.

5.3.2 Types of intervention(s). This review will consider studies that evaluate Mindful Parenting interventions with a minimum duration of two hours per week for eight weeks provided by a registered health practitioner including but not limited to a Psychologist, Social Worker or Nurse. The duration of MP programs generally ranges from eight to 12 weeks with parents attending a group workshop for two to two-and-a-half hours each week. This systematic review will select studies where there is a consistency in the variables such as program duration, timing, frequency, intensity and the qualifications of the program facilitator. It could include parenting programs that draw upon MBSR, MCT, MCBT, DBT or ACT. The focus will be on interventions that combine mindfulness and parenting.

5.3.3 Comparator. The MP programs will be compared with the control group of standard care as usual.

5.3.4 Types of outcomes. This review will include studies that report on outcomes for children, adolescents and parents which are measured with validated instruments. The primary outcomes will be the wellbeing in addition to the intensity of symptoms associated with internalising disorders (depression, anxiety, stress) and externalising disorders (conduct disorders) of the children, adolescents and parents. Secondary outcomes include emotional regulation, quality of the parent-child relationship, resilience and mindfulness of the children, adolescents and parents. These outcomes could be measured on validated tools with known psychometric properties such as Depression, Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1995), Resilience Scale (Wagnild & Young, 1993), Emotional Regulation of Self and Others (EROS) (Niven, Totterdell, Stride, & Holman, 2011), Langer's Mindfulness Scale (LMS) (Pirson, Langer, Bodner, & Zilcha-Mano, 2012) and other relevant scales. Time points of measurements such as pre, post and follow-up are also relevant to the durability of the outcomes.

5.3.5 Types of studies. This review will consider both experimental and epidemiological study designs including randomised controlled trials, non-randomised controlled trials, quasi-experimental, before and after studies, prospective and retrospective cohort studies, case control studies and analytical cross-sectional studies for inclusion. In the absence of randomised controlled trials, this study will consider quasi-experimental, observational and descriptive study designs. It will also consider descriptive epidemiological study designs including case series, individual case reports and descriptive cross-sectional studies.

5.4 Search Strategy

The search strategy aims to find published and unpublished studies from 1997 to November 2014. The term *Mindful Parenting* started to appear in the literature from

1997, with Myla and Jon Kabat-Zinn's (1997) publication on the topic. A three-step search strategy will be utilised in this review. An initial search of PubMed, PsycINFO, EMBASE, Scopus, Psychology and Behavioural Sciences Collection, CINAHL and Cochrane Library will be undertaken followed by an analysis of the text words contained in the title, abstract and index terms used to describe the articles.

A second search using all identified keywords and index terms will then be undertaken across all included databases. Thirdly, the reference list of all identified reports and articles will be searched for additional studies. Studies published in English will be considered for inclusion in this review. In the absence of high-quality published studies, the search for unpublished studies will only focus on searching ProQuest Dissertations and Theses Database.

Initial keywords to be used will be *mindful* and *parenting*. Key words associated with "mindful" include mindfulness, Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT), Mindfulness Based Cognitive Behavior Therapy (MCBT), Dialectical Behavior Therapy (DBT) or Acceptance Commitment Therapy (ACT). Key words associated with "parenting" include, parent, parent-child relationship, father, mother, parental, maternal, paternal, perinatal antenatal. The search for studies with different sub-groups of children will include key words preschoolers, adolescents, Indigenous, migrant and African American children.

5.6 Assessment of Methodological Quality

Papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardised critical appraisal instruments from the Joanna Briggs Institute Meta-Analysis of Statistics

Assessment and Review Instrument (JBI MAStARI) (Appendix I). Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer.

5.7 Data Collection

The authors will extract and analyze the data from the studies that meet the inclusion criteria. Data will be extracted from papers included in the review using the standardised data extraction tool from JBI MAStARI appraisal tool (Appendix C). The data extracted will include specific details about the interventions, populations, study methods in addition to the outcomes of significance to the review question and specific objectives.

5.8 Data Synthesis

Quantitative data will, where possible be pooled with statistical meta-analysis using JBI-MAStARI. All results will be subject to double data entry. Effect sizes expressed as odds ratio (for categorical data) and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated for analysis. Odds ratio will be analyzed for RCTs and relative risks will be calculated for cohort case series. Means and standard deviations will be analyzed for continuous scales items. Standard error will be analyzed for older studies.

Heterogeneity will be assessed statistically using the standard Chi-square homogeneity significance test and also explored using subgroup analyses based on the different study designs included in this review. Where statistical pooling is not possible, the findings will be presented in narrative form including tables and figures to aid in data presentation if appropriate. Finally, enough papers will be required to support the line of inquiry. Given the large developmental differences between the ages of

0 to 18, a sub-group analysis will be conducted according to the following age groups: 0 to 18 months; 2 to 3 years; 3 to 5 years; 6 to 11 years; and 12 to 18 years; if there are sufficient studies. Similarly, a subgroup analysis will be conducted for Indigenous children, migrant children, African American children in addition to children diagnosed with internalising and externalising disorders if sufficient studies are found.

Conflict of interest

There are no conflicts of interest.

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Chapter 6 Statement of Authorship for Published Paper

Title of Paper	The effectiveness of mindful parenting programs in promoting parents' and children's wellbeing: A systematic review.
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Principal Author

Name of Principal Author (Candidate)	Kishani Townshend	
Contribution to the Paper	Chief investigator who planned the study, searched databases, analysed data, synthesised data and wrote the manuscript. Also, the corresponding author who addressed reviewers' feedback.	
Overall percentage (%)	85%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.	
Signature	Date	24/9/2018

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contribution is equal to 100% less the candidate's contribution.

Name of Co-Author	Professor Zoe	
Contribution to the Paper	Assisted with Joanna Briggs Institute (JBI) methodology.	
Signature		24/9/2018
Name of Co-Author	Dr Matthew Stephenson	
Contribution to the Paper	Reviewed manuscript and study selection with detailed	
Signature		24/9/2018
Name of Co-Author	Professor Komla	
Contribution to the Paper	Assisted with general systematic review methodology.	
Signature		24/9/2018

Chapter 6 Systematic Review for Study 1

Townshend, K., Jordan, Z., Stephenson, M., & Tsey, K. (2016). The effectiveness of mindful parenting programs in promoting parents' and children's wellbeing: A systematic review. *JBIS Database of Systematic Reviews and Implementation Reports*, 14(3), 139-180. doi: 10.11124/JBISRIR-2016-2314

6.1 Executive summary

Background

The rationale for undertaking this review was to investigate a potential cost-effective strategy to address the rising prevalence of child and adolescent mental health disorders. The central tenets of Mindful Parenting appear to be emotional awareness, emotional regulation, attention regulation, intentionality and non-judgmental acceptance.

Objectives

The primary objective of this review was to systematically evaluate the effectiveness of Mindful Parenting (MP) programs in promoting children's, adolescents' and parents' wellbeing, particularly in relation to the intensity of symptoms associated with internalising (depression, anxiety, stress) as well as externalising (conduct) disorders. The secondary objective was to evaluate how effective MP programs are in improving affect regulation, attention regulation, quality of the parent-child relationship, resilience and mindfulness of the children, adolescents and parents.

Inclusion criteria

Types of participants: Children aged between 0 to 18 years and their parents who have completed a MP program were the focus of this review.

Types of intervention(s): The MP programs included in this review had a minimum duration of one to two hours per week for six to eight weeks, delivered in a group format, by a

facilitator with appropriate training. It included parenting programs that drew upon Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT), Mindfulness Based Cognitive Behaviour Therapy (MCBT), Dialectical Behaviour Therapy (DBT) or Acceptance Commitment Therapy (ACT). The comparator was the control or waitlist conditions.

Types of studies: This review focused on randomised controlled trials evaluating the effectiveness of MP programs.

Types of outcomes: Primary outcomes were wellbeing or intensity of symptoms associated with internalising disorders (depression, anxiety, stress) as well as externalising disorders (conduct disorders) in children, adolescents and parents. Secondary outcomes were emotional regulation, quality of the parent-child relationship, resilience and mindfulness of the children, adolescents and parents.

Search strategy

Eight databases were searched for studies evaluating MP programs from 1997 to November 2014. A three-step search strategy was utilised to retrieve both published and unpublished studies written in English from PubMed, PsycINFO, EMBASE, Scopus, Psychological and Behavioural Sciences Collection, CINAHL, Cochrane Library in addition to ProQuest Dissertations and Theses databases. A logic grid was developed for each of the eight databases to identify the indexing terms and synonyms for the keywords *mindful* and *parenting*.

Methodological quality

Methodological limitations included small sample sizes leading to lack of statistical power, multiple testing leading to increased alpha errors in addition to information bias caused by a lack of blinding in the implementation and assessment phase.

Data collection

The data collection process entailed using the standardised data extraction form from JBI MAStARI to extract data from the selected studies.

Data synthesis

The heterogeneity of the samples, the measurement tools and outcomes measured precluded data synthesis through meta-analysis. Conclusions on intervention effects were based on comparisons of the overall statistical significance of the outcomes data.

Results

The search yielded 1232 articles, from which 7 randomised controlled trials met the inclusion criteria. The findings indicate MP programs may reduce parental stress, increase parents' emotional awareness of their 10 to 14-year-old children and reduce preschool children's symptoms associated with externalising disorders.

Conclusions

Currently there is insufficient evidence to conclude MP programs can improve parents' and children's wellbeing due the methodological quality of the few studies that met the inclusion criteria.

Implications for practice

Although there is currently insufficient evidence, Mindful parenting programs are increasingly used in a variety of contexts. It may not be appropriate for psychotic or severely traumatised individuals.

Implications for research

Future studies could make a significant contribution to the field by designing studies with sufficient sample sizes, adequate statistical power as well as blinding participants, facilitators and assessors.

Keywords: mindful parenting, mindfulness, depression, anxiety, conduct disorders, emotional regulation and attention regulation

6.2 Background

Mindfulness based interventions are increasingly being used to address the rising prevalence of child and youth mental health disorders. The primary mental health disorders during childhood tend to be internalising (anxiety, depression) and externalising (aggression, oppositional defiance) disorders (Bayer et al., 2012). Approximately 25% of Australian and international youth who present with these disorders, continue to be impacted by the poor outcomes of unemployment, underemployment and social isolation into adulthood (Anderson, 1994; Egger & Angold, 2006; M. G. Sawyer et al., 2000). Internalising disorders refer to disorders associated with depression, anxiety and somatic symptoms (American Psychiatric Association [APA], 2013). Externalising disorders are characterised by impulsive, disruptive conduct and substance use symptoms. The annual cost of mental health disorders to the Australian community is approximately \$20 billion per annum (Australian Bureau of Statistics [ABS], 2011). Raising parents' awareness about the early detection of mental illness could be one cost-effective strategy to address the delayed diagnosis of mental health disorders. Mindful Parenting has been defined as the ability to pay attention to your child and your parenting in a particular way, that is intentional, non-judgmental whilst being in the here and now (M. Kabat-Zinn & Kabat-Zinn, 1997; Langer &

Moldoveanu, 2000). This review aims to investigate the effectiveness of MP programs in alleviating symptoms associated with internalising and externalising disorders.

The Western concept of mindfulness is qualitatively different from its apparent Eastern roots. The definition of mindfulness as a psychological construct appears to have changed over the centuries, as it traversed across cultures. Although the modern Western definition of mindfulness is stated to be of Buddhist origin, Wallace (2012) notices there is no basis for this claim. The traditional Buddhist definitions of mindfulness as retention, recollection, or memory is a common thread that intertwines through Theravadan, Zen and Indo-Tibetan Buddhism, all of which trace this meaning back to Buddha's own recordings in Pali and Sanskrit (Wallace, 2012). It refers to the memory of the moment with consideration for the ethics or values underpinning the eight-fold path. The English term mindfulness is a translation of the Pali, Sanskrit and Japanese terms, *sati*, *smRti* and *nen* (Digital Dictionaries of South Asia, 2007; Monier-Williams, 2006; Yoshida & Nakamura, 1999). *Sati* means memory in English (Digital Dictionaries of South Asia, 2007; Monier-Williams, 2006; Yoshida & Nakamura, 1999). In contrast to this unified cluster of Buddhist definitions, modern clinical psychology defines mindfulness as a non-judgmental, present-centered awareness in which whatever arises to attention is acceptable as it is (Wallace, 2012). Such attention requires no remembrance, recollection, recognition, naming, it is free from ideas, ideals and prejudices (Wallace, 2012). The essence of the modern mindfulness appears to be nothing more than bare attention.

Attention appears to be the key active ingredient within modern mindfulness interventions that is attributed to promoting positive change. However, the modern definitions of mindfulness vary according to different authors and their views on which aspects of attention is responsible for stimulating change. For instance, J. Kabat-Zinn (2003) defines mindfulness as “the awareness that emerges through paying attention on purpose, in

the present moment and non-judgmentally to the unfolding of experience moment by moment” (p.145). According to J. Kabat-Zinn (2003), it is the ability to focus on the moment, without judgment and running on automatic pilot that facilitates change. Langer’s (2009) definition of mindfulness emphasises *attention to variability* as an important contributor to promoting change. Attention to variability is the ability to be aware of moment to moment changes in one’s emotions, thoughts and surroundings (Langer & Moldoveanu, 2000). Regardless of the aspects of attention that promotes change, there appears to be a consensus that mindfulness improves wellbeing. A comprehensive meta-analysis found Mindfulness Based Therapy is an effective treatment for a variety of psychological disorders, especially for reducing anxiety, depression and stress (J. Kabat-Zinn, 2003). The key active ingredient of mindfulness is thought to be the improved self-observation that promotes better coping skills (Fjorback et al., 2011; Khoury et al., 2013). Mindfulness interventions have often been referred to as the third wave of cognitive behavioral therapies. The traditional Cognitive Behavior Therapy tends to focus on creating psychological change, whereas mindfulness interventions tend to focus on being aware of negative emotions and one’s ability to process them (Harnett & Dawe, 2012; Sawyer-Cohen & Semple, 2009). Hence, it appears that paying attention without judging or challenging one’s negative thinking can improve one’s ability to regulate emotions, focus attention and react with greater flexibility to events.

The integration of mindfulness with parenting started to appear in the Western literature around 1997, when Jon and Myla Kabat-Zinn coined the term *Mindful Parenting* in their book, *Everyday Blessings: The inner work of mindful parenting* (M. Kabat-Zinn & Kabat-Zinn, 1997). Jon Kabat-Zinn developed a manual for a MP program. However, over the last 18 years, primary studies on MP programs using other manuals have steadily increased. The theoretical rationale that underpins other MP programs tends to be drawn

from two broad approaches of mindfulness which have been integrated into psychotherapy, namely mindfulness based and mindfulness oriented. Mindfulness based psychotherapy includes Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT) and Mindfulness Based Cognitive Behavior Therapy (MCBT) (Sawyer-Cohen & Semple, 2009). Mindfulness-oriented models include Acceptance Commitment Therapy (ACT) and Dialectical Behavior Therapy (DBT) (Khoury et al., 2013; Linehan, 1993a). Whilst there are different versions of MP programs, the content of these programs is similar as the central focus is on integrating mindfulness with parenting.

Mindful parenting is a meta-concept that is a higher level of awareness parents have about their internal states, how they think and feel about their thoughts (Coatsworth, Duncan, Greenberg, & Nix, 2010). It goes beyond the simple expression of emotion to being aware of and reacting to parenting emotions (Gottman & DeClaire, 1997). Interestingly both Gottman and DeClaire (1997) as well as M. Kabat-Zinn and Kabat-Zinn (1997) started writing about similar concepts of parenting emotions in 1997. It involves both intrapersonal and interpersonal processes of parenting. The intrapersonal processes assist parents to change the relationship with their internal states, namely thoughts, feelings, attributions, attitudes and values (Coatsworth et al., 2010). The interpersonal processes enable empathic responding, perspective taking, emotional awareness and interpersonal closeness (Coatsworth et al., 2010). Although various theorists propose different models of Mindful Parenting, the central tenet of Mindful Parenting is the integration of mindfulness with parenting. According to one model, there are 5 dimensions of Mindful Parenting. Namely: -

1. Listening with full attention involves training parents to listen to their children with focused attention

2. Non-judgmental acceptance of self and child emphasises training parents to become aware of judgments and adopt a non-judgmental acceptance of traits, behaviours of self and their youth.
3. Emotional awareness of self and child involves building parent's capacity to become aware of emotions within themselves and their youth.
4. Self-regulation in the parenting relationship requires becoming less reactive and calmly selecting behaviours in accordance with parenting values.
5. Compassion for self and child involves helping parents develop a genuine empathic concern for their child and themselves as parents.

The Interpersonal Mindfulness In Parenting Scale (IM-P) measures the 5 dimensions of Mindful Parenting (Duncan, 2007). The development of this psychometric assessment is a substantial contribution to this field as it helps researchers to investigate which dimensions of Mindful Parenting are most effective in facilitating positive change.

Emotional awareness, emotional regulation and attention regulation appear to be central tenets of Mindful Parenting. Although emotion coaching (Gottman & DeClaire, 1997) is not specifically claimed to be a Mindful Parenting technique it upholds the central tenets of Mindful Parenting. The 5 steps of emotion coaching (Gottman & DeClaire, 1997) are:-

1. Becoming aware of a child's emotion, particularly when it is at a lower intensity.
2. View a child's emotion as an opportunity for intimacy and teaching.
3. Communicate the understanding and acceptance of the emotion.
4. Help the child to use words to describe how they feel.
5. If necessary, assist them with problem solving (while setting limits).

Mindfulness based Strengthening Families Program (MSFP) has been used to prevent alcoholism and substance abuse amongst adolescents (Coatsworth et al., 2015). The *Tuning*

Into Kids (TIK) uses Gottman's emotion coaching technique to reduce parental stress amongst parents of preschoolers from the general community and preschoolers diagnosed with autism. The mechanism of mindfulness also referred to as re-perceiving is the fundamental ability to reduce automatic response patterns and the ability to distance themselves from negative affect (Shapiro et al., 2006). These programs provide new insights into how to be responsive to children's needs. Currently there is no evidence that mindfulness has an impact on the child's brain development. However, there is a wealth of evidence demonstrating how neglect impairs the hippocampus and brain development in children.

Mindful parenting has the potential to offer service providers with additional resources, namely parents in the early detection of mental health disorders. Unlike vaccination campaigns for physical health conditions such as polio, parents are often not involved in the prevention or early detection of a child's mental health disorders. One of the most significant mediators in promoting wellbeing within infant and youth mental health services are programs that focus on parenting and the quality of the parent-child relationship (Queensland Children's Health Hospital and Children and Youth Mental Health Service (CYMHS), 2014). A wealth of evidence now demonstrates the effectiveness of parenting programs in addressing children's emotional and behavioral problems. Some of these programs include the *Incredible Years*, *Stepping Stones Triple P*, *Signposts for Building Better Behavior*, Research Units in Pediatric Psychopharmacology Parent Training (RUPP), *Sing and Grow Music Therapy*, Mindfulness Training, *Parent-Child Interaction Therapy*, the *Autism Spectrum Conditions - Enhancing Nurture and Development* (ASCEND) program, Parent Training for Smaller Groups and Shorter Schedules, video modelling and Parent Management Training (PMT) (McIntyre, 2013). However there is also a significant group of parents where the standard parent training is not effective in addressing parental anger or

capacity for self-regulation (Sanders et al., 2004). Furthermore, various authors have advocated for the development of additional components to parent programs to consolidate treatment gains as the effects do not appear to be long lasting. The MP programs offer a range of techniques to break automatic patterns, also referred to as *automaticity* of negative emotions, thoughts and behavior that traditional behavioral based parent-training alone do not impact (Dumas, 2005). The focus seems to be on interpersonal rather than intra-psychic, where parents are encouraged to ‘slow down’, enhance their emotional states and respond with more compassion to their children. Hence, reviewing the evidence on MP programs can contribute to the broader debate on the role and effectiveness of these programs in the timely diagnosis of mental health conditions.

Parental mental health plays a significant role in promoting their children’s mental health. Evidence shows that 23% of Australian children live with a parent that has a mental illness (Queensland Children’s Health Hospital and Children and Youth Mental Health Service (CYMHS), 2014). These children are identified as a vulnerable, high-risk population due to predisposed mental health concerns and the stressors associated through living with parents diagnosed with a mental health disorder (Queensland Children’s Health Hospital and Children and Youth Mental Health Service (CYMHS), 2014). The stressors may include the social, emotional, environmental and financial stressors. The etiology of mental health disorders appears to be bidirectional, where parents and children influence each other’s thinking and behavior (Long, Gurka, & Blackman, 2008). Parental mental illness, poor quality parenting, substance abuse and disrupted family life are all involved in the development of childhood conduct disorders (Hogan, Halpenny, & Greene, 2002). Poor parenting has been found to be one of the most important precursors to the early onset of conduct disorders (Ogders et al., 2008). Inadequate parenting is characterised by ineffective parenting skills such as punitive, inconsistent discipline, low levels of parental supervision

and low levels of involvement (Furlong et al., 2013). In addition, children's behavioral difficulties contribute to the development of parental mental illness. The cyclical nature associated with the development of mental illness means that any form of early intervention needs to address parental mental health and parenting skills.

Studies evaluating MP programs generally tend to be group-based programs and a few studies focus on programs delivered through the one-to-one format. Group programs are qualitatively different from the individual sessions as the group dynamics play a key role in the therapeutic process. Results also show that parents in the individual therapy session appear to have better outcomes. The majority of the studies evaluating MP programs tend to be single case experimental designs (Singh et al., 2007; Singh, Lancioni, et al., 2010; van de Weijer-Bergsma et al., 2012). The settings tend to be mostly home-based with parents attending one to two-and-a-half hours per week for six to twelve weeks. There are also a few randomised controlled trials (RCTs) (Dawe & Harnett, 2007; Duncan et al., 2009b) using small sample sizes. These studies are mainly conducted in America, Australia or Europe. While all the participants are parents, the target group of parents tends to vary from pregnant mothers, parents of children presenting with autism, parents of children diagnosed with conduct disorders and parents of children from 10-to-14 years of age, to parents on a methadone program with preschoolers. Both experimental and descriptive studies indicate that MP programs can improve the parent-child relationship, parenting skills and the child's wellbeing with regard to social and emotional competence (Bögels et al., 2010). The results from these primary studies indicate some consistency of positive effects.

Whilst a preliminary search conducted in April 2014, found no completed systematic reviews or review protocols in the major bibliographical databases, a later search found a similar review protocol (Macvean et al., 2012) which was written in 2012 and published in September 2014. The databases that were searched in April 2014 included the Joanna Briggs

Institute Database of Systematic Reviews and Implementation Reports, PubMed, CINAHL, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects (DARE), EMBASE, PsycINFO and PROSPERO, the international database of prospectively registered systematic reviews in health as well as social care. The similar protocol states the systematic review was planned to be completed by the end of January 2013. However, no completed systematic review has been published on the topic by the authors to date. This protocol was not found on PROSPERO. Similarities between the studies are that both protocols are evaluating the effectiveness of Mindful Parenting interventions on children's outcomes. Although the title of Macvean et al.'s (2012) protocol states the review is focusing on the psychosocial outcomes for children, the protocol specifies it will also be evaluating the parental psychosocial outcomes such as depression, anxiety, stress, family functioning and adverse effects.

The main differences between the two protocols are that the primary outcomes of Macvean et al.'s (2012) protocol are the psychosocial outcomes for the children. In contrast, the primary outcomes of this systematic review are both parents' and children's outcomes related to internalising and externalising disorders. Another difference between the protocols is that Macvean et al. (2012) excludes discrete studies where parents present with clinical diagnosis such as mental illness or substance dependency. The current review included studies where parents had a clinical diagnosis. Another major difference between the studies is that whereas the Macvean et al. (2012) protocol excludes perinatal studies where children's outcomes had not been measured, this review includes perinatal studies that have and have not measured children's outcomes. The Macvean et al. (2012) protocol focuses on brief, group-based interventions typically less than 20 sessions. The inclusion criteria for this review is slightly different as it focuses on group-based MP programs with a minimum duration of one to two hours per week for six to eight weeks, delivered in a group format, by

a facilitator with appropriate training. The secondary outcomes for the current study were emotional regulation, quality of the parent-child relationship, mindfulness and resilience. The secondary outcomes for the Macvean et al. (2012) protocol were the parental psychosocial outcomes. So, whilst there are similarities between the two protocols, there are many differences in the inclusion criteria. Both systematic reviews can complement each other to contribute to collecting the best available evidence on MP programs. Both can be used collaboratively to work with parents, children and service providers to promote the timely diagnosis of children's mental health disorders.

Several systematic reviews have been completed on group-based parenting programs. However there appears to be no completed reviews on MP programs. A recent systematic review on the effectiveness of mindfulness practices on parents and professionals caring for children with developmental delays found mindful practices improved care providers experience and supported them providing a better standard of care to the recipients (Hwang & Kearney, 2014). The proliferation of mindfulness-based interventions targeting children and families tend to have conceptual and methodological limitations. Firstly, there appears to be no consistent model of Mindful Parenting. Secondly the studies vary in content, dose and theoretical underpinnings. A recent review found no significant relationship between class hours for a Mindfulness Based Stress Reduction program and the effect sizes for psychological distress. In fact, there was no evidence to show reduced hours were less effective than standard hours in reducing psychological distress (Carmody & Baer, 2009). Finally, the limited use of psychometrically sound measures of mindfulness as it relates to parents and children, leads to difficulties in articulating and measuring the active agent responsible for positive change.

This systematic review aims to select studies with similar theoretical rationale content, dose and validated scales in order to investigate whether MP programs are effective

in promoting wellbeing. The definitions of both wellbeing and mindfulness are just as controversial as its measurement. This study draws upon the Western definition of mindfulness as the ability to be attentive to the present (J. Kabat-Zinn, 2003; M. Kabat-Zinn & Kabat-Zinn, 1997). The non-judgmental attentional process of focusing on the clarity of thinking, flexibility of thinking and being present in the moment without running on automatic pilot. Dodge, Daly, Huyton and Sanders (2012) define wellbeing as the state of equilibrium or balance that can be affected by life events or challenges. Given the scarcity of studies with validated wellbeing measures, this review also measured wellbeing in terms of the reduction in the intensity of symptoms associated with internalising and externalising disorders. This review can add to the broader debate on whether MP programs could be added to the repertoire of tools used in the prevention and early intervention of mental illness. This systematic review was conducted in accordance with the protocol (Townshend, Jordan, Peters, & Tsey, 2014) registered on PROSPERO (www.crd.york.ac.uk/PROSPERO) with the registration number CRD42014015164.

6.3 Objectives

The primary objective of this review was to systematically evaluate the effectiveness of MP programs in promoting children's, adolescents' and parents' wellbeing, particularly in relation to the intensity of symptoms associated with internalising (depression, anxiety, stress) as well as externalising (conduct) disorders. The secondary objective was to evaluate how effective MP programs are in improving emotional regulation, quality of the parent-child relationship, resilience in addition to mindfulness of the children, adolescents and parents. The comparator was the control or waitlist conditions. The populations of interest in this study were children aged between 0 to 18 years and their parents who have completed a MP program.

6.4 Inclusion criteria

6.4.1 Types of participants. This review considered studies that included children aged 0 to 18 years old, whose parents have completed a MP program. The participants were the children or adolescents and their parents. Most countries across the world consider a child to be an adult when they become 18 years old. This study considered an individual younger than 18 years old as a child. The inclusion criteria encompassed children with or without a mental health diagnosis and those from culturally diverse, adopted or fostered backgrounds.

6.4.2 Types of intervention(s). A minor amendment was made to the inclusion criteria regarding the types of interventions specified in the protocol, as it was too restrictive and would have excluded majority of the studies in the field. The intervention duration and facilitator qualifications were expanded to include MP programs with a minimum duration of one hour per week over a minimum of six weeks, delivered by a facilitator with appropriate training to maintain treatment fidelity. The duration of MP programs for the included studies ranged from six to 12 weeks with parents attending a group workshop for one to two-and-a-half hours each week. The review selected studies with a consistency in the variables such as program duration, timing, frequency, intensity and the facilitator training to maintain treatment fidelity. It included parenting programs that drew upon MBSR, MBCT, MCBT, DBT or ACT. The focus was on interventions that combined mindfulness and parenting.

6.4.3 Comparator. The MP programs were compared with the control group of standard care or usual care.

6.4.4 Types of outcomes. This review included studies that reported on outcomes for children, adolescents and parents that were measured with validated instruments. The primary outcomes were wellbeing in addition to the intensity of symptoms associated with internalising disorders (depression, anxiety, stress) as well as externalising disorders (conduct disorders) of the children, adolescents and parents. Secondary outcomes included emotional regulation, quality of the parent-child relationship, resilience and mindfulness of the children, adolescents and parents. These outcomes were measured on validated tools with known psychometric properties such as the Depression, Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1995) and other relevant scales. Time points of measurements such as pre, post and follow-up were also relevant to the durability of the outcomes.

6.4.5 Types of studies. The primary study design of interest for this review was RCTs. In the absence of RCTs, other study designs such as quasi-experimental, observational and descriptive study designs would be considered. As RCTs which met the inclusion criteria with sufficient methodological quality were identified, this review did not include other study designs.

6.4.6 Search strategy. A three-step search strategy was utilised to find published and unpublished studies written in English from 1997 to November 2014. The term “Mindful Parenting” started to appear in the literature from 1997, with Myla and Jon Kabat-Zinn’s publication on the topic (M. Kabat-Zinn & Kabat-Zinn, 1997). Eight databases were searched for the keywords “mindful” and “parenting” from April to November 2014. The databases that were searched included PubMed, PsycINFO, EMBASE, Scopus, Psychology and Behavioural Sciences Collection, CINAHL, Cochrane Library in addition to ProQuest Dissertations and Theses database. The initial search for keywords in the first eight databases

was followed by an analysis of the text words contained in the title, abstract and index terms used to describe the articles. A second search using all identified keywords and index terms was then undertaken across all included databases. Thirdly, the reference list of all identified reports and articles were searched for additional studies. As specified in the protocol, the search for grey literature focused on searching ProQuest Dissertations and Theses Database, as there was an absence of high-quality published studies.

A logic grid was developed for each of the eight databases to articulate the synonyms and indexing terms associated with the initial keywords of “mindful” and “parenting.” Key words associated with “mindful” included mindfulness, Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT), Mindfulness Based Cognitive Behavior Therapy (MCBT), Dialectical Behavior Therapy (DBT) or Acceptance Commitment Therapy (ACT). Some key words associated with “parenting” included, parent, parent-child relationship, father, mother, parental, maternal, paternal, perinatal, prenatal and antenatal. Complete search strategies for each database, including all search terms are provided in Appendix C Tables 6.10 to 6.18. All selected articles were reviewed to determine if they met the inclusion criteria.

6.4.7 Assessment of methodological quality. Papers selected for retrieval were assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardised critical appraisal instruments from the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MASARI) (Appendix C). Any disagreements that arose between the reviewers were resolved through discussion or with a third reviewer. The primary reviewer allocated a final critical appraisal rating for each study after considering the assessments provided by the primary and secondary reviewers. A rating of 5/10 or above on the JBI Critical Appraisal Checklist (Appendix C) was considered

to be the cut off to be included into the review. Studies were considered to be of weak methodological quality if they scored 5/10 or 6/10, moderate methodological quality if they scored 7/10 and strong methodological quality if they scored 8/10 or above.

6.4.8 Data collection. The data collection process entailed using the standardised data extraction form from JBI MAStARI (Appendix III) to extract data from the selected studies. The first author extracted and analysed the data from the studies that met the inclusion criteria and were of sufficient methodological quality. The extracted data included specific details about the interventions, populations, study methods in addition to the outcomes of significance to the review question and specific objectives. Authors of the selected articles were not contacted to obtain additional data, as this was not required for data synthesis. Data items were sought for the list of variables specified in the PICO. No assumptions or simplifications were made to the predefined variables. The principle summary measures that were extracted included means (M), standard deviations (SD), standard errors (SE), between group mean differences, effect sizes (Cohen's d , Cohen's f^2) and statistics from general linear models together with respective p-values.

6.4.9 Data synthesis. The selected studies were initially assessed for methodological and conceptual similarities. Since the age groups, outcome measures, presenting conditions and sample characteristics varied widely in the selected studies, a meta-analysis was rendered inappropriate due to the heterogeneity of the studies. Hence a narrative summary was presented. To account for confounding factors that age, mental illness, cultural diversity and adoption may have on outcomes, the protocol planned to conduct sub-group analyses. The protocol aimed to conduct sub-group analyses according to Erikson's age brackets for psychosocial development, to address the large developmental differences between the ages of 0 to 18. Erikson's psychosocial developmental stages are infancy (0 to 18 months), early

childhood (2 to 3 years), preschool (3 to 5 years), school age (6 to 11 years) and adolescence (12 to 18 years) (Erikson & Erikson, 1998). Insufficient papers were found to conduct subgroup analysis according to Erikson's age groups, ethnic diversity (Indigenous, migrant or African American), adopted or fostered children and internalising disorders. Sufficient studies were found to conduct subgroup analyses for externalising disorders amongst children with autism and preschool children. The studies were analysed according to four sub-groups- 1) mothers and 10 to 14-year-olds from a community sample 2) parents of children with autism, 3) parents of preschool children. These categories are clinically more meaningful as they combine studies with similar characteristics of age, diagnoses, treatments and co-morbidities.

Methods used for handling data and combining results of studies, included using consistent measures for measuring primary and secondary outcomes. As statistical pooling was not possible, the findings were presented in narrative form including tables and figures to aid in data presentation if appropriate. Means and standard deviations were analyzed for continuous scale items. All results were subjected to double data entry. Standard errors were converted to standard deviations when necessary. Between-group Cohen's d s were calculated from mean values post intervention and at follow-up compared to the control group without any intervention. The commonly accepted criteria for effect sizes is small effect ($d = 0.20$), moderate effect ($d = 0.50$) and strong effect ($d = 0.80$) (Cohen, 1988). The p -values were calculated for the Cohen's d s by using independent t -tests.

For Tables 6.2 to 6.5, the differences between the intervention and control groups were calculated by comparing post-program Cohen's d s for the two conditions and follow-up Cohen's d s for the two conditions. So, these between group differences do not consider baseline differences. For that, Cohen's d would need to have been calculated on the average differences and their standard deviations between pre and post program. However, some

studies did not report standard deviations of the differences, pre-program means or post-program means. For some studies and some outcome measures, the baseline differences were quite substantial, which would need to be considered. All between group differences were calculated by subtracting the control group Cohen's d s from the intervention group Cohen's d s. So, the sign and size of the Cohen's d reflects the between group difference.

In addition, Cohen's f^2 was presented as the effect measure for the study by Felver, Tipsord, Morris, Racer, and Dishion (2014) as it includes an adjustment for differences in values at baseline. Cohen's f^2 of sizes 0.02, 0.15, and 0.35 are termed small, medium and large, respectively (Cohen, 1988). Other statistics based on results from multivariate analysis were presented as appropriate. For instance, SLOPE and group by time interaction analyzed intervention effects over the entire time of follow-up.

6.5 Results

6.5.1 Description of studies. A total of 1232 potentially relevant articles were retrieved from searching the eight databases. Endnote removed 601 duplicates and another 569 duplicates were manually removed. After duplicates were removed, 62 studies remained (Figure 6.1). Of those remaining, 24 articles were excluded after titles and abstract screening. From the 38 articles that advanced to the full article review, 24 did not meet the inclusion criteria. Of the 14 articles assessed for methodological quality, seven articles were excluded with reasons (Appendix C Chapter 6, Table 6.9), leaving 7 studies included in this review. All selected studies evaluated the impact of group-based MP programs on parents' or children's outcomes.

Table 6.1 describes the characteristics of studies included in this review. It highlights the variation of participant groups, programs, measurement times and the use of different outcome measures. The studies were conducted in Australia or the United States of America.

All studies used a modified intention to treat (ITT) analysis and did not blind their facilitators or assessors. Even though the programs had different names, all the programs integrated mindfulness with parenting either by specifically drawing on Kabat-Zinn's MBSR (Studies 1, 2, 3 and 6) (Coatsworth et al., 2010; Coatsworth et al., 2015; Felver et al., 2014; Neece, 2012) or Gottman's work on emotional awareness (Studies 4, 5 and 7) (K. R. Wilson, Havighurst, & Harley, 2012). When the selected studies were categorised according to clinical significance, age groups and types of participants, four sub-groups emerged. These subgroups were:-

1. Mothers and 10 to 14-year-olds from a community sample,
2. Parents of children with autism,
3. Parents of preschool children.

Results for the predefined primary and secondary outcomes for these 4 subgroups are reported in Tables 6.2 to 6.5. A post hoc decision was made to summarise findings on Attention Regulation and Maternal Emotional Regulation as it may be of clinical significance, in understanding both internalising and externalising disorders.

6.5.2 Methodological quality. Table 6.2 summaries the Critical Appraisal ratings for the included studies. The ratings ranged from 5/10 (low) to 7/10 (moderate) methodological quality of the studies. So, the strength of the evidence from these studies could be considered low to moderate. Whilst all studies did randomly allocate participants to treatment and control groups, none of the studies blinded their participants, facilitators, or assessors. Randomisation aims to address confounding bias. Many of the selected studies conducted tests to check if randomisation was successful. However, some groups in the included studies did not appear to be comparable at entry even after randomisation.

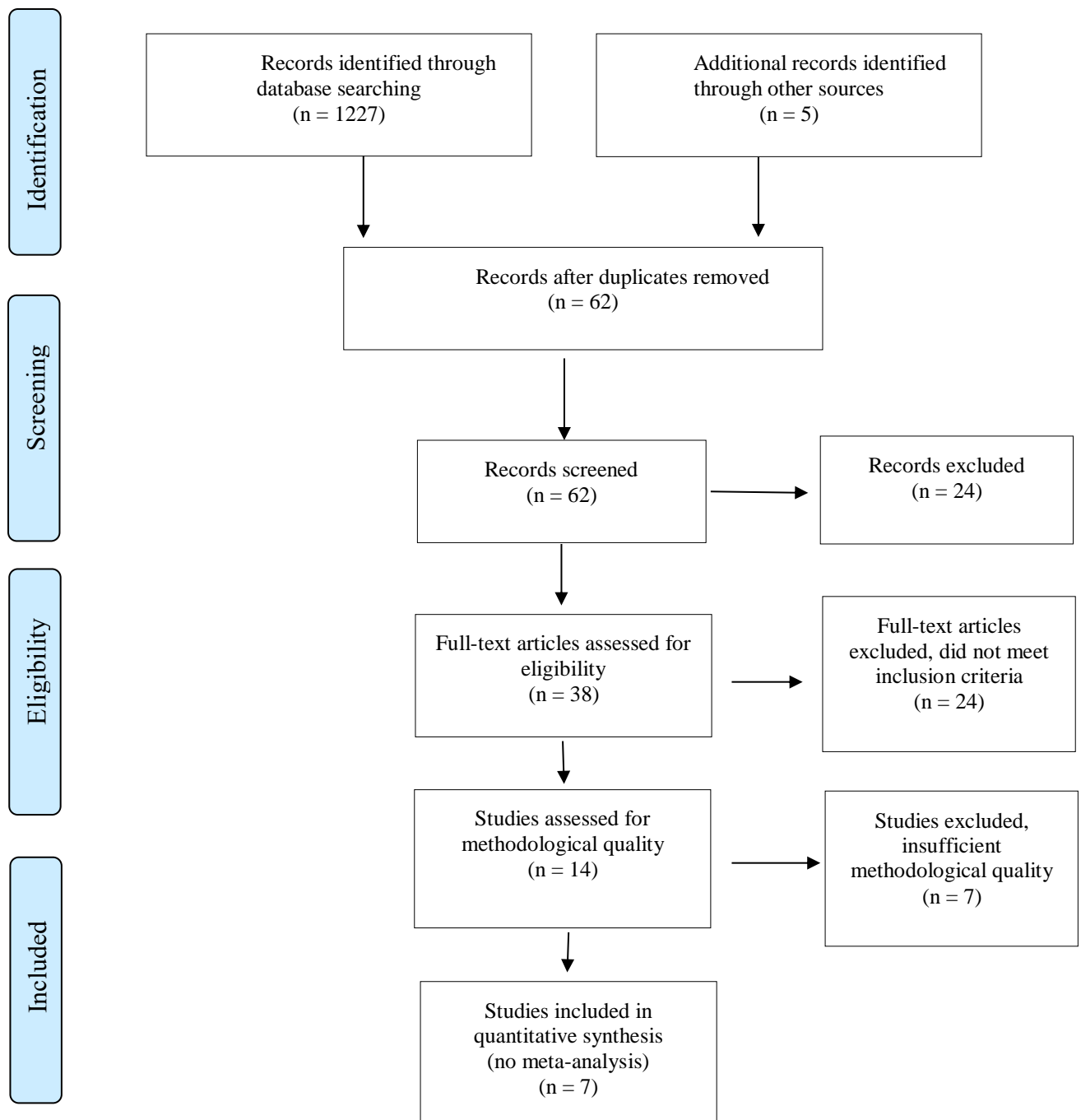


Figure 6.1. PRISMA (Moher, Liberati, Tetzlaff, & Altman, 2009) Flow Diagram.

Table 6.1

Characteristics of Included Studies

	Authors	Country	N	Design	Participant Type	Age of youth	Program	Control	Outcome Measures	Timing	Blinding	ITT Analysis
1	Coatsworth et al. (2015)	USA	432	3-armed RCT	Grade 6 & 7 students and their parents from the general population	10-14 year-olds	1. MSFP 2 hours per week for 7 weeks	2. SFP 2hr session for 7 weeks 3. Home-study control	1. IM-P 2. PYRQ	T1 - baseline T2 - post (week 7) T3 - 1 year	Open*	Modified ITT**
2	Coatsworth et al. (2010)	USA	65	3-armed RCT	Grade 5 & 6 students and their mothers from the general population	10-14 year-olds	1. MSFP 2 hours per week for 7 weeks	2. SFP (n=23) 2hr session for 7 weeks 3. Waitlist Control (n=17)	1. IM-P 2. PYRQ	T1 - baseline T2 - post (week7)	Open	Modified ITT**
3	Havighurst et al. (2013)	Australia	54	2-armed RCT	Parents of children with externalising behavior difficulties	4 to 5.11 years	1. TIK (n=31) 2 hours per week for 6 weeks	2. Waitlist Control (n=23) waitlist control offered the program after follow-up data collection	Parent Outcomes 1. DERS Child Outcomes 1. EBCI	T1 - baseline T2 - post (week 6) T3 - 6 months	Open	Modified ITT***
4	Havighurst et al. (2010)	Australia	216	2-armed cluster RCT	Parent & preschool children from community sample	3 to 5 years	1. TIK (n=106) 2 hours per week for 6 weeks.	2. Waitlist Control (n=110)	Parent Outcomes 1. DERS Child Outcomes 1. ECBI	T1 - baseline T2 - post (week 6) T3 - 6 months	Open	ITT using last available data and Modified ITT***

Notes:

* **Open** = participants, researchers, outcome assessors were all non-blinded; ** **Modified ITT** = ITT but with reduced sample size of 50 based on multiple imputation of missing values;

*****Modified ITT** =ITT with reduced sample size due follow up loss

Program: MSFP -Mindfulness-Enhanced Strengthening Families Program; MBSR – Mindfulness Based Stress Reduction, MBPT-Mindfulness Based Parent Training, TIK - Tuning Into Kids

Control: SFP- Strengthening Families Program (SFP)

Outcome Measures: **IM-P** Interpersonal mindfulness in parenting, (Duncan 2007); **PYRQ** - Parent-youth relationship quality (combination of scales);

DERS – Parent Reported Emotion Awareness and Regulation (Gratz & Roemer, 2004),

ECBI- The Eyberg Child Behaviour Inventory 6 (ECBI, & Pincus 1999) – Behaviour.

Detailed results are only reported for outcomes that are relevant to the primary and secondary outcomes measured by psychometrically validated scales as specified in the protocol.

Table 6.1 (continued)

Characteristics of Included Studies

Notes:

* **Open** = participants, researchers, outcome assessors were all non-blinded; ** **Modified ITT** = ITT but with reduced sample size of 50 based on multiple imputation of missing values;

	Authors	Country	N	Study Design	Participants	Age of Youth	Program	Comparison	Outcomes	Timing	Blinding	ITT Analysis
5	Neece (2012)	USA	46	2-armed RCT	Parents of children with developmental delays (DD)	2.5 to 5 years	1. MAPS (n = 21) 2 hours per week for 8 weeks + 1 day long meditation retreat MBSR module March 2012	2. Waitlist Control (n=25) waitlist control offered the program in June 2012	Parent Outcomes 1. PSI-SF Child Outcomes 2. CBCL	T1 - baseline T2 - post (week 8)	Open	Modified ITT***
6	Wilson et al. (2012)	Australia	128	2-armed cluster RCT	Parents of young children in the general population	4 to 5.11 years	1. TIK (n=62) 2 hours per week for 6 weeks + 2 follow-up booster sessions	2. Waitlist Control (n= 66) waitlist control offered the program after T2 (7 months post program)	1. DERS 2. ECBI	T1 - baseline T2 - 7 months	Open	Modified ITT*** assumed
7	Felver et al. (2014)	USA	41	2-armed RCT	Parent-child dyad, Children aged 9 to 12 years from normative community sample	9 to 12 years	1. MBSR (n=24) 2 hours per week for 7 weeks	2. Waitlist Control (n=23)	1. ANT 2. Conflict Monitoring 3. Orienting 4. Alerting	T1 - baseline T2 - post (week 7)	Open	Modified ITT***

*****Modified ITT** =ITT with reduced sample size due follow up loss**Program:** **MAPS**, Mindful Awareness for Parenting Stress (Neece, 2013) based on Mindfulness Based Stress Reduction (MBSR) by Kabat – Zinn (1990);**MFSR**, Mindful Families Stress Reduction (Felver & Tipsord, 2011) adapted from MBSR by Kabat-Zinn (1990);**TIK**, Tuning Into Kids (Havighurst & Harley, 2007).**Outcomes:** **ANT**, Attention regulation (Fan et al.,2002); **Conflict Monitoring, Orienting, Alerting;** **CBCL**, Child Behaviour Checklist (Achenbach,2000) (1.5 - 5-year-oldchilditems);**DERS**, Difficulty in Emotional Regulation Scale (Gratz & Roemer,2004); **ECBI**, The Eyberg Child Behaviour Inventory (Eyberg&Pincus,1999) - Behaviour;**PSI-SF**, Parenting Stress Index Short Form 3ed. (Abidin,1995) 36 items.

Detailed results are only reported for outcomes that are relevant to the primary and secondary outcomes measured by psychometrically validated scales as specified in the protocol.

Table 6.2

Summary of Critical Appraisal

	Authors	Q1 Random Assignment of Groups	Q2 Participants Blinded*	Q3 Allocator Blinded	Q4 ITT**	Q5 Assessor Blinded	Q6 Comparable groups at entry	Q7 Identical Treatment	Q8 Outcomes measured same way	Q9 Outcomes measured reliable way	Q10 Appropriate statistical analysis	Total
1	Coatsworth et al. (2015)	Y	N	U	Y	N	U	Y	Y	Y	U	5/10
2	Coatsworth et al. (2010)	Y	N	N	Y	N	U	Y	Y	Y	U	5/10
3	Felver et al. (2014)	Y	N	N	Y	N	N	Y	Y	Y	Y	6/10
4	Havighurst et al. (2013)	Y	N	U	Y	N	U	Y	Y	Y	Y	6/10
5	Havighurst et al. (2010)	Y	N	Y	Y	N	U	Y	Y	Y	Y	7/10
6	Neece (2013)	Y	N	N	Y	N	U	Y	Y	Y	Y	6/10
7	Wilson et al. (2012)	Y	N	U	Y	N	U	Y	Y	Y	Y	6/10

Notes:

- Q1 - Was the assignment to treatment groups truly random?
 Q2 - Were participants blinded to treatment allocation?
 Q3 - Was allocation to treatment groups concealed from the allocator?
 Q4 - Were the outcomes of people who withdrew described and included in the analysis?
 Q5 - Were those assessing outcomes blind to the treatment allocation?
 Q6 - Were the control and treatment groups comparable at entry?
 Q7 - Were groups treated identically other than for the named interventions?
 Q8 - Were outcomes measured in the same way for all groups?
 Q9 - Were outcomes measured in a reliable way?
 Q10 - Was appropriate statistical analysis used?

*Blinding refers to comparison between mindfulness intervention and home study or waiting list control; **ITT = modified ITT based on analysis of participants with respective complete data

One reason for this may be the cluster randomisation where certain preschools were allocated to the intervention group or the waitlist control group. For instance, the study by Havighurst et al. (2010) found more sole parents in the intervention group (n=17), than the waitlist (n=6) even after randomisation. Implications of this are that other confounding factors may be responsible for the intervention effect. Havighurst et al. (2010) took these differences into account in their analysis by adjusting for the differences in marital status between groups. Similarly, although Havighurst et al. (2013) randomly allocated children attending two behaviour clinics to either the intervention or waitlist control groups, the sample characteristics show that the children whose parents were in the intervention group had significantly greater verbal ability at Time 1 compared with the children in the waitlist control condition. Havighurst et al. (2013) accounted for these differences by co-varying verbal ability in their analyses. Strengths of these studies include outcomes being measured in a reliable and identical manner. The identical treatment of both groups other than the named intervention was another strength of these selected studies.

Table 6.3 describes the methodological strengths and weaknesses of the studies included in this review. Major limitations of the selected studies included small sample sizes, selection bias, information bias and confounding bias. The majority of the included studies had small sample sizes and no sample size calculations which can lead to potentially low statistical power to detect the impact of the intervention. Selection bias was another limitation which resulted from participants being selected from a particular geographical area or loss to follow-up not being described. None of the selected studies blinded the participants. This may lead to information bias, because even though some participant groups were not aware there were two groups (intervention and control), the outcome measures were self-assessed by the participants.

Table 6.3

Strengths and Weaknesses of Included Studies

Authors	N	Design	Strengths	Weaknesses
1 Coatsworth et al. (2015)	432	3 armed RCT	1) By comparison large sample size; however might have been reduced to 50 2) Participants from rural and urban areas in Pennsylvania with varied ethnical backgrounds 3) Use of IM-P scale 4) Model clearly articulates 5 dimensions of Mindful Parenting 5) Hypothesis testing 6) Implementation fidelity	1) Major - No sample size calculation and hence potentially low statistical power; 2) No adjustment for multiple testing; no control of alpha and beta errors 3) Major - Missing data – imputed missing values – reducing data set to 50; sample size in analysis unclear; no comparison of results to un-imputed data 4) Confounding bias: Randomised study but success of randomisation cannot be assessed as data is not given; analysis adjusted for some characteristics – reasoning unclear 5) Major - Information bias: Self-assessment of outcome characteristics; study is not blinded i.e. the comparison between mindfulness intervention and home study control group is from an open study 6) Selection bias: Loss to follow-up is not described
2 Coatsworth et al. (2010)	65	3 armed RCT	1) Hypothesis testing 2) Inclusion of fathers	1) Major – Small sample size; no sample size calculation and hence potentially low statistical power; 2) No adjustment for multiple testing; no control of alpha and beta errors 3) Missing data – imputed missing values; no comparison of results to un-imputed data 4) Confounding: Urn-randomisation of matched pairs (triplets?); matched on 5 characteristics; procedure not removed from researchers; success of randomisation cannot be assessed as data is not given 5) Major - Information bias: Self-assessment of outcome characteristics; study is not blinded i.e. the comparison between mindfulness intervention and waiting list control is from an open study 6) Major - Selection bias: participants from rural towns in Pennsylvania only; loss to follow-up is not described in detail

Table 6.3

Strengths and Weaknesses of Included Studies (continued)

Authors	N	Design	Strengths	Weaknesses
3 Havighurst et al. (2013)	54	2 armed RCT	1) Teacher and external observer assessment in addition to parental assessment could reduce information bias as they could be blinded	<p>1) Major – Small sample size; no sample size calculation and hence potentially low statistical power;</p> <p>2) No adjustment for multiple testing; no control of alpha and beta errors;</p> <p>3) Study showed one-sided p-values which additionally inflated the overall alpha error</p> <p>4) Major – Confounding: Randomisation may have been unsuccessful; large differences in pediatric treatment between Control and Intervention groups (81% to 52%);</p> <p>5) Success of randomisation for other characteristics cannot be assessed – data not presented</p> <p>6) Randomisation took place before exclusion criteria were applied – a flaw in the design which may explain baseline differences between groups</p> <p>7) Major - Information bias: Self-assessment of outcome characteristics by parents; study is not blinded i.e. the comparison between mindfulness intervention and waiting list control is from an open study – also true for teacher and observer assessment</p> <p>8) Major - Selection bias: Participants from two hospitals in one metropolitan center in Australia; Loss to follow-up: parents 28% at post and 24% at 6 months; teachers 22% at post and 30% at 6 months; no sensitivity analysis was conducted</p>

Table 6.3

Strengths and Weaknesses of Included Studies (continued)

Authors	N	Design	Strengths	Weaknesses
4 Havighurst et al. (2010)	216	2-armed cluster RCT	<ol style="list-style-type: none"> 1) By comparison, medium sized study 2) Recruitment from 61 schools in Melbourne 3) Analysis took cluster design into account 4) ITT analysis 5) Random allocation via computerised random number allocation 	<ol style="list-style-type: none"> 1) Major – no sample size calculation and hence potentially low statistical power; 2) No adjustment for multiple testing; no control of alpha and beta errors 3) Confounding: Success of randomisation cannot be assessed as data not presented; would however be important because of cluster design 4) Major - Information bias: Self-assessment of outcome characteristics by parents; study is not blinded i.e. the comparison between mindfulness intervention and waiting list control is from an open study – also true for teacher and observer assessment 5) Selection bias: All participants are from one metropolitan center in Australia; 6) Loss to follow-up: 20% and 17% post-intervention and follow-up for intervention group and 13% and 7% respectively for control group; no sensitivity analysis was conducted
5 Neece (2013)	46	2 armed RCT	<ol style="list-style-type: none"> 1) Hypothesis testing 2) Innovative approach to treating comorbid behavior problems 3) Random allocation – number drawn from a box 	<ol style="list-style-type: none"> 1) Major – Small sample size; no sample size calculation and hence potentially low statistical power; 2) No adjustment for multiple testing; no control of alpha and beta errors; 3) Data were altered: “outliers” were set to 3SD; no estimations of variability (SD or SE) were given in manuscript 4) Major – Confounding: Randomisation may have been unsuccessful; large differences marital status (81% versus 64%) and family income (57.1% versus 36%); 5) No adjustment for confounding during data analysis 6) Major - Information bias: Self-assessment of outcome characteristics by parents; study is not blinded i.e. the comparison between mindfulness intervention and waiting list control is from an open study 7) Major - Selection bias: Initially 5 of 51 parents drop out of study; differential loss of data in control group: 16 of 25 (64%) report child behaviors compared to 19 of 21 (90%) in intervention group

Table 6.3

Strengths and Weaknesses of Included Studies (continued)

Authors	N	Design	Strengths	Weaknesses
6 Wilson et al. (2012)	128	2-armed cluster RCT	1) By comparison medium sized study 2) All 28 local government area pre- schools in the city of Knox participated 3) Analysis took cluster design into account	1) Major - No sample size calculation and hence potentially low statistical power; 2) No adjustment for multiple testing; no control of alpha and beta errors 3) Confounding Bias: Success of randomisation cannot be assessed as data was not presented. However, this would be important because of cluster design 4) Major - Information bias: Self-assessment of outcome characteristics by parents; study is not blinded i.e. the comparison between mindfulness intervention and waiting list control is from an open study 5) Selection bias: The study recruited participants from higher socioeconomic strata of society
7 Felver et al. (2014)	41	2 armed RCT	1) Hypothesis testing 2) Treatment fidelity 3) Breathing, meditation & yoga component	1) Major – Small sample size; no sample size calculation and hence potentially low statistical power 2) Confounding: Randomised study but success of randomisation cannot be assessed as data is not given; note that non-significant results are not indicative because of lack of statistical power; randomisation did not work for two of the three outcome measures, however statistical analysis took these baseline differences into account 3) Information bias: study not blinded; however, outcome assessment was removed from participants 4) Selection bias: participants from one medium sized town in Oregon

Table 6.4

Results for Mothers and 10 to 14-year-old Community Sample

	Author	Sample size (n)	Between group comparison: Mindfulness intervention versus control			
			Effect size: Cohen's d or Cohen's f ²			
			Post intervention		Follow-up	
		Effect size	Significant results; p-value	Effect size	Significant results; p-value	
1	Coatsworth et al. (2015)	N = 432; MSFP (n = 154); SFP (n=160) Control (n = 118)			1-year follow-up	
	IM-P		5 items/4 items for youth		5 items/4 items for youth	
	Mother		d range: -0.05 to 0.17	ns**	d range: 0.01 to 0.26*	Emotional awareness of youth d = 0.26; p<0.05
	Youth on mother		d range: -0.11 to 0.12	Ns	d range: 0.03 to 0.25	Listening with full attention: d = 0.25; p<0.05 Compassion/acceptance for youth: d = 0.23; p<0.05
	Father		d range: -0.10 to 0.28	Emotional awareness of youth d = 0.28; p<0.05	d range: 0.15 to 0.51	Emotional awareness of youth d = 0.51; p<0.001 Compassion/acceptance for youth: d = 0.25; p<0.05 Compassion/acceptance for self: d = 0.37; p<0.001
	Youth on father		d range: -0.19 to 0.17	ns	d range: -0.03 to 0.34	Emotional awareness of youth d = 0.34; p<0.05
	Parent-Youth Relationship quality		4 items		4 items	
	Mother		d range: -0.06 to 0.18	ns	d range: -0.17 to 0.26	Family involvement d=0.26; p<0.05
	Youth on mother		d range: -0.01 to 0.11	ns	d range: 0.02 to 0.28	Approach to emotions d=0.28; p<0.01
	Father		d range: 0.02 to 0.32	Family involvement d = 0.32; p<0.05	d range: 0.00 to 0.27	Support/understanding d=0.27; p<0.05
	Youth on father		d range: 0.07 to 0.15	ns	d range: -0.10 to 0.27	Approach to emotions d=0.27; p<0.05

Table 6.4

Results for Mothers and 10 to 14-year-old Community Sample (continued)

	Author	Sample size (n)	Between group comparison: Mindfulness intervention versus control			
			Effect size: Cohen's d or Cohen's f ²			
			Post intervention		Follow-up	
		Effect size	Significant results; p-value	Effect size	Significant results; p-value	
2	Coatsworth et al. (2010)	N = 65; n = 50 in analysis; MSFP (n = 25); SFP (n = 23); Control (n = 17)			NA	
	IM-P		7 items/ 3 items for youth			
	Mother		d range: 0.15 to 0.76	Mindful parenting d = 0.66; p < 0.05 Rules communication d = 0.76; p < 0.01		
	Youth on mother		d range: -0.04 to 0.36	ns		
	Parent-Youth Relationship quality		4 items			
	Mother		d range: 0.18 to 0.32	ns		
	Youth on mother		d range: -0.36 to 0.30	ns		
3	Felver et al. (2014)	N = 47; n = 41 in analysis; MBSR (n = 22) Control (n = 19)			NA	
	Attention Regulation		3 items			
	Conflict monitoring		f ² = -0.16	p < 0.01		
	Orienting		f ² = -0.09	p = 0.01		
	Alerting		f ² = 0.10	ns		

Notes: **MFSR**, Mindful Families Stress Reduction; **MSFP**, Mindfulness Based Strengthening Families Program; **SFP**, Strengthening Families Program.

*Sample size for groups in analysis not reported; **ns = not significant; ***NA = not available

6.5.3 Findings of the review. Table 6.4 summaries studies on parents and 10 to 14-year-olds from a community sample. The MP program appears to have significantly improved emotional awareness of fathers, mothers and youth. One study found fathers experienced significant increases in the emotional awareness of their youth ($d = 0.28$, $p < 0.05$) (small effect) directly after the intervention (Coatsworth et al., 2015). At one year follow up, both fathers ($d = 0.51$, $p < 0.001$) and mothers ($d = 0.26$, $p < 0.05$) reported significant improvement in their emotional awareness of their youth (Coatsworth et al., 2015). The youth also agreed that their fathers had improved emotional awareness of them ($d = 0.34$, $p < 0.05$) (small effect). At one year follow up, the fathers reported a significant increase in their compassion/acceptance of their youth ($d = 0.25$, $p < 0.05$) (small effect) and compassion/acceptance for self ($d = 0.37$, $p < 0.001$) (small effect) (Coatsworth et al., 2015). Another study by Coatsworth et al. (2010) found the MP program increased mother's mindful parenting by a moderately significant effect ($d = 0.76$, $p < 0.01$) (Coatsworth et al., 2010). So, MP programs appear to significantly improve parents' emotional awareness of their children.

There is also tentative evidence to indicate the Mindful Family Stress Reduction (MFSR) intervention appears to improve children's attentional processes (Felver et al., 2014). Table 6.4 shows that MFSR significantly decreased children's conflict monitoring with a medium effect size ($f^2 = -0.16$, $p < 0.01$) (Felver et al., 2014). There was also a significant improvement on orienting ($f^2 = -0.09$, $p = 0.01$; small effect) and no significant impact on alerting ($f^2 = 0.10$, not significant) (Felver et al., 2014). This study used the f^2 reported by the Felver et al. (2014) study rather than calculating Cohen's d because f^2 allowed adjustment for baseline values, which were quite different for the intervention and control groups. The three domains underpinning attention regulation include conflict monitoring, orienting and alerting (Felver et al., 2014). Conflict monitoring is similar to attentional self-regulation that is the intentional processing of certain information while deliberately excluding other information.

Results from Neece (2012) in Table 6.5 found Mindful Parenting significantly reduces parental stress (moderate effect) at post intervention ($d = 0.70$, $p < 0.05$) amongst parents with autistic children and children's symptoms associated with conduct disorders. The Child Behavior Check List (CBCL) uses the Diagnostic Statistical Manual (DSM-V) oriented scale to assess conduct disorders. The 5 items of the CBCL DSM oriented scale for conduct disorders include affective problems, anxiety problems, pervasive developmental problems, attention deficit / hyperactivity problems and oppositional defiant problems. Amongst the 5 items on the CBCL DSM scale, the MP program appears to have significantly reduced one item namely attention deficit/hyperactivity problems (strong effect) ($d = 0.85$, $p < 0.05$) at post intervention (Neece, 2012). Similarly, Havighurst et al. (2013) found *Tuning in to Kids* (TIK) significantly reduced behavior intensity and behavior problems over the follow up from baseline to 6 months. These findings are tentative as it is only summarising the findings of 2 studies.

Table 6.5

Results for Parents / Mothers of Children with Autism

	Author	Sample size (n)	Between group comparison: Mindfulness intervention versus control Effect size: Cohen's d and slope of growth curve models between groups			
			Post intervention		Follow-up	
			Effect size	Significant results; p-value	Effect size	Significant results; p-value
1	Neece (2012)	N=46 in analysis; MAPS (n = 21) Waiting list control (n = 25)			NA	
	PSI-SF (parental)		d = 0.70	p < 0.05		
	CBCL (youth)					
	Syndrome scales		7 items d range: -0.31 to 0.71	ns		
	Broadband and total scores		3 items d range: -0.13 to 0.45	ns		
	DSM-oriented scales		5 items d range: -0.20 to 0.85	Attention deficit / Hyperactivity problems d = 0.85; p < 0.05		
2	Havighurst et al. (2013)	N = 54; "Tune into kids" (n = 31) pediatric waitlist control (n = 23); in analysis: N = 23 vs 16 post N = 24 vs 17 6-months			6 months follow-up	
	DERS (parental)		d = -0.17 ^s	ns	d = 0.12 slope = -0.005	ns p = 0.448
	ECBI (parental rated child outcomes)					
	Behavior intensity		d = -0.60	ns	d = -0.003 slope = -2.03	ns p = 0.208
	Behavior problem		d = -0.45	ns	d = -0.07 slope = -1.00	ns p = 0.098

Notes: **ns** = not significant; **NA** = not available; ^sBetween group Cohen's ds were calculated for Havighurst et al. 2013 based on post and follow-up means and weighted averaged standard deviations; **CBCL**, Child Behaviour Checklist (Achenbach, 2000) (1.5 to 5-year-old child items); **DERS**, Difficulty in Emotional Regulation Scale (Gratz & Roemer, 2004);

ECBI, The Eyberg Child Behaviour Inventory (Eyberg & Pincus, 1999) 56-Behaviour; **MAPS**, Mindful Awareness for Parenting Stress (Neece, 2014);

PSI-SF, Parenting Stress Index Short Form 3ed (Abidin, 1995) - 36 items.

Table 6.6

Parents of Preschool Children

Author	Sample size (n)	Between group comparison: Mindfulness intervention versus control Effect size: Cohen's d and group x time interaction from general linear modelling			
		Post intervention		Follow-up	
		Effect size	Significant results; p-value	Effect size	Significant results; p-value
1	Havinghurst et al. (2010) N = 216; TIK (n = 106) waiting list controls (n = 110) N = 78 vs 93 DERS; N = 79 vs 94 ECBI			6 months follow-up	
Emotion Regulation					
	DERS	d = -0.10 ^s	ns	d = -0.41 Group x time interaction: F=10.52	p = 0.008 p = <0.002
	Emotion dismissing	d = -0.81	p<0.001	d = -0.79 Group x time interaction: F=52.83	p < 0.001 p < 0.001
	Emotion coaching	d = 0.75	p<0.001	d = 0.63 Group x time interaction: F=12.97	p < 0.001 p < 0.001
	Empathy/connection	d = 1.02	p<0.001	d = 0.93 Group x time interaction: F=24.44	p < 0.001 p < 0.001
ECBI (parental rated child outcomes)					
	Behavior intensity	d = -0.40	p=0.009	d =-0.34 Group x time interaction: F=11.14	p = 0.027 p < 0.001
	Behavior problem	NA		NA	

Table 6.6

Parents of Preschool Children (continued)

Author	Sample size (n)	Between group comparison: Mindfulness intervention versus control			
		Effect size: Cohen’s d and group x time interaction from general linear modelling			
		Post intervention		Follow-up	
		Effect size	Significant results; p-value	Effect size	Significant results; p-value
2	Wilson et al 2012	N = 128; TIK (n = 62) waiting list controls (n = 66); varying sample sizes in analyses NA		7 months follow-up	
Emotion Regulation					
DERS					
Emotion dismissing		NA		d = -0.66	p < 0.001
				Group x time interaction: F=17.58	p < 0.001
Emotion coaching		NA		d = 0.073	ns
				Group x time interaction: F=0.12	p = 0.733
Empathy/connection		NA			
ECBI (parental rated child outcomes)					
Behavior intensity		NA		d = -0.32	ns
				Group x time interaction: F = 2.80	p = 0.097
Behavior problem		NA		d = -0.48	p = 0.007
				Group x time interaction: F = 2.68	p = 0.104

Notes:

* Sample size for groups in analysis not reported; **ns = not significant; ***NA = not available; [§]Between group Cohen’s ds were calculated for Havighurst et al. 2010 and Wilson et al. 2012 based on post and follow-up means and weighted averaged standard deviations;

Table 6.6 summarises findings on parents of preschool children from the general community. Two studies (Havighurst, Wilson, Harley, Prior, & Kehoe, 2010; K. R. Wilson et al., 2012) found parents of preschool children from a community sample reported conflicting results on whether TIK significantly improved their child's behavior intensity at 6 months follow up. The TIK program targets parents' emotional awareness, regulation and communication with their child. Results from Maternal Emotional Scale Questionnaire (MESQ) were not reported as it was not identified in the predefined primary and secondary outcomes. Emotional regulation was a predefined secondary outcome. Table 6.6 describes the emotion regulation outcome as measured by the Difficulties in Emotional Regulation Scale (DERS) which is a 36 item self-reported questionnaire measuring various aspects of emotional awareness and regulation (Havighurst et al., 2010). Parents in the intervention group reported moderately significant decreases in emotionally dismissive behaviors and beliefs ($d = -0.79$, $p < 0.001$), moderately significant increases in emotion coaching ($d = 0.63$, $p < 0.001$) and significant improvements in empathy ($d = 0.93$, $p < 0.001$) (strong effect) at 6 months follow up (Havighurst et al., 2010). Similarly a study by K. R. Wilson et al. (2012) found that parents reported moderately significant reductions in emotionally dismissing behaviors and beliefs ($d = -0.66$, $p < 0.001$). However unlike the Havighurst et al. (2010) study, K. R. Wilson et al. (2012) found no significant improvement in emotion coaching ($d = 0.073$, not significant). With regard to children's behavior there were conflicting results. K. R. Wilson et al. (2012) found significant reductions in problem behavior ($d = -0.48$, $p = 0.007$) (small effect), but no significant improvements in behavior intensity ($d = -0.32$, not significant). In contrast, Havighurst et al. (2010) did find significant improvements in behavior intensity ($d = -0.34$, $p = 0.027$) but no significant reductions in problem behavior. So, the main findings from the subgroup of parents with preschool children are that MP programs significantly

improves parents' emotionally dismissive behavior. There were conflicting findings with regard to children's behavior.

6.6 Discussion

This systematic review aimed to synthesise the small body of literature on mindful parenting. Given the methodological quality of the included studies, it is difficult to draw definitive conclusions about the effectiveness of MP programs. The tentative findings indicate MP programs may reduce parental stress and reduce symptoms associated with attention deficit and hyperactivity in their preschoolers diagnosed with autism spectrum disorder. Chronic stress impairs wellbeing, health and the ability to learn (Juster, McEwen, & Lupien, 2010). Mindful parenting also appears to improve parents' emotional awareness of children aged 10-14 years, particularly fathers' emotional awareness of their youth. This is a strength of this study as it encourages fathers to be emotionally aware of their youth. With regard to emotional regulation, parents reported improvements in emotional awareness of their youth, emotion coaching in addition to reductions in emotionally dismissive behaviors and beliefs. The MP programs appear to improve the behavior intensity of preschoolers from the general community. Finally, the program did not significantly improve pregnant women's symptoms associated with depression, anxiety stress and mindfulness. Most of the findings from the included studies demonstrated small to moderate effects according to different measures of significance (Cohen's d , f^2 and F). Hence the findings presented in this review are intended to guide future hypotheses rather than declare definitive conclusions about intervention effects.

6.6.1 Methodological limitations. The interpretations of the findings need to be considered in light of key limitations. The three main limitations of this review include the lack of transparency of the critical appraisal tool, the methodological quality of the

included studies and the lack of clarity on which aspects of mindfulness facilitate change. The JBI MASTARI Critical Appraisal Checklist did not have a data dictionary that clearly articulated what types of statistical analysis were considered to be appropriate or what constituted strong, moderate or weak evidence. It was the primary reviewer's responsibility to define the rating for strong, moderate and weak evidence. Other critical appraisal tools such as the Canadian Quality Assessment Tool For Quantitative Studies by the Effective Public Health Practice Project clearly defines how to rate the evidence and has a data dictionary (Armijo-Olivo, Stiles, Hagen, Biondo, & Cummings, 2012). Nevertheless, nine out of the ten questions in the JBI MASTARI Critical Appraisal Checklist are useful. The addition of a data dictionary to clarify appropriate statistical analysis and strength of evidence could enhance the transparency and consistency of this tool. It is evident from an analysis of the study characteristics that the quality of the study designs tends to be weak. Mindful Parenting research appears to be plagued by a range of methodological limitations such as inadequate research design, small sample sizes, lack of statistical power to detect treatment effects in addition to lack of blinding in the implementation and assessment.

A major limitation with all of the included studies was the small sample sizes and limited power. Small sample sizes increase Type 1 error, compromises the ability to make meaningful conclusions and reduces external validity of treatment effects. From the 10 included studies, 9 studies had insufficient sample sizes, hence no power to demonstrate a statistically significant intervention effect. According to Cohen's *d*, to demonstrate a moderate effect, each condition needs to comprise of a sample size of 240 participants which leads to a total sample size of 480. Secondly all the studies were conducted in developed countries with mainly middle-class Caucasian families. It is unclear if these findings can be generalised to diverse populations in developing countries. So even though

the studies may report a significant outcome, the study quality influences the interpretation of the results.

Table 6.7

JBI Levels of Evidence for Effectiveness

Level of Evidence	Study Design
Level 1	Level 1 - Experimental Designs
Level 1.a	Systematic review of randomised controlled trials (RCTs)
Level 1.b	Systematic review of RCTs and other study designs
Level 1.c	RCT
Level 1.d	Pseudo – RCTs
Level 2	Level 2 - Quasi-experimental Designs
Level 2.a	Systematic review of quasi-experimental studies
Level 2.b.	Systematic review of quasi-experimental and other lower study designs
Level 2.c	Quasi-experimental prospectively controlled study
Level 2.d	Pre-test - post-test or historic/retrospective control group study
Level 3	Level 3 - Observational: Analytic Designs
Level 3.a	Systematic review of comparable cohort studies
Level 3.b	Systematic review of comparable cohort and other lower study designs
Level 3.c	Cohort study with control group
Level 3.d	Case-controlled study
Level 3.e	Observational study without a control group
Level 4	Level 4 - Observational - Descriptive Studies
Level 4.a	Systematic review of descriptive studies
Level 4.b	Cross-sectional study
Level 4.c	Case series
Level 4.d	Case study
Level 5	Level 5 - Expert Opinion and Bench Research
Level 5.a	Level 5.a Systematic review of expert opinion
Level 5.b	Level 5.b Expert consensus
Level 5.c	Level 5.c Bench research/single expert opinion

Table 6.8

Application of JBI Grades of Evidence to the Mindful Parenting programs

JBI Grade	Explanation for JBI Grade of Evidence
Grade B	<p>According to the JBI Grade of evidence, there is currently a ‘weak’ recommendation for the use of Mindful Parenting Programs for the following reasons:</p> <ol style="list-style-type: none"> (1) Although desirable effects appear to outweigh undesirable effects, it is not clear; (2) The evidence supporting its use is not of high quality; (3) There is a benefit, no impact or minimal impact on resource use and; (4) Values, preferences and the patient experience have been taken into account.
Feasibility	<ul style="list-style-type: none"> • It has the potential to be cost effective in the prevention or early detection of depression and anxiety. However, this systematic review did not conduct a cost-benefit analysis. Furthermore, there is also a lack of longitudinal prevention and early intervention studies on Mindful Parenting programs. • Resource constraints include lack of funding and time restrictions on parents to attend group-based training. • Facilitators trained in Mindfulness Based Stress Reduction (MBSR) and Mindful Parenting could provide consistency in program content as well as competence.
Appropriateness	<ul style="list-style-type: none"> • It is culturally acceptable across a diversity of cultures, Eastern, First Nations and more recently Western individuals. • The critical factor is the individual’s interest and motivation to practice the techniques. • It is transferable to the majority of the population and a variety of circumstances. It may not be appropriate for psychotic or highly traumatised individuals.
Meaningfulness	<ul style="list-style-type: none"> • Findings indicate it is associated with positive experiences. No negative experiences have been reported in the studies.
Effectiveness	<ul style="list-style-type: none"> • The preliminary findings indicate it has a beneficial effect, is safe and has no harm associated with the practice. However, there is a need for rigorous Randomised Control Trials to verify the effects.

Future studies with larger sample sizes that are guided by accurate power analyses could reduce the potential threat of Type 1 error and increase the generalizability of the findings. Another limitation is that none of the studies blinded assessors or facilitators during the implementation stage. Information bias may arise from not blinding the participants, facilitators or assessors. Some studies attempted to address the information bias by blinding the participants. Some studies attempted to address selection bias and confounding bias by randomly allocating participants to the treatment and control conditions via the assignment of computer-generated numbers. Failure to blind the participants can lead to information bias with participants over estimating treatment effects or under reporting symptoms.

It was not possible to conduct a meta-analysis due to the heterogeneity of the studies and the failure of some studies to report summary statistics. Some of the included studies did not report standard deviations, pre-program means and post-program means. These studies did not follow American Psychological Association's (APA) guidelines for reporting summary statistics. The main aim of RCTs is to compare group differences in order to infer conclusions about causation. The field of Mindful Parenting would benefit immensely from future studies that report between group means, standard deviations, pre-program means, post-program means, effect sizes and other findings according to APA guidelines.

6.6.2 Challenges of mindfulness. Some of the challenges of mindfulness include the lack of clarity about which aspects of mindfulness are responsible for facilitating positive health benefits. Different scholars propose different mechanisms of mindfulness, are responsible for promoting behaviour change. Some of these mechanisms include re-perceiving, attention to variability, intentionality, breath awareness and non-judgmental

awareness of the present (Shapiro et al., 2006). *Re-perceiving* is thought to be one mechanism of mindfulness (Shapiro et al., 2006). Re-perceiving is the fundamental ability to reduce automatic response patterns and intensity of strong emotions. Overcoming highly conditioned responses and cognitive biases require insight and practice. This could be challenging for parents who lack insight or the motivation to practice the new techniques in emotional self-regulation. A commitment to maintaining a warm, affectionate relationship with a discipline not to react requires consistent daily effort (Duncan et al., 2009a). Mindfulness training alone may not be powerful enough to consistently reduce levels of distress (Guardino, Dunkel, Bower, Lu, & Smalley, 2014). A physical component to mindfulness such as yoga, breath awareness and other techniques may strengthen behaviour change. Another challenge of mindfulness is that different Mindful Parenting models are practiced from the purely psychological techniques to those that include breath awareness, yoga and video feedback. Despite the limitations of this systematic review, it highlights an intervention that could ameliorate significant mental health problems and family violence. It holds the potential to be an innovative intervention that provides parents with an opportunity to exercise choice over responses rather than engaging in automatic, habitual reactions. A strength of this review is that it aimed to synthesise the current evidence on Mindful Parenting and encourage more rigorous research in the future.

6.7 Conclusions

This systematic review aimed to synthesise the current evidence on the effectiveness of MP programs. A comprehensive search of 8 databases retrieved 1232 articles, from which 10 studies met the inclusion criteria. Currently there is insufficient evidence to conclude that, MP programs can improve children's and parents' wellbeing. The findings indicate MP programs may reduce parental stress, increase parents' emotional

awareness of their children and reduce children's symptoms associated with externalising disorders. However, these findings are tentative due to the major limitations with the selected studies, namely the small sample sizes, limited power and lack of methodological rigor. Future studies could make a substantial contribution to the field, if methodologically rigorous study designs with sufficient sample sizes tested the effectiveness of a MP program for internalising and externalising disorders. The lack of transparency of the critical appraisal tool was a limitation of this systematic review. Finally, future research which aims to clarify the mechanisms of mindfulness responsible for facilitating change has the potential to provide an innovative, cost effective strategy to address the rising rates of child and youth mental health disorders and family violence. Focusing on one's breath or the present moment does not magically alleviate emotional pain. A challenge that has beguiled scholars for over 2500 years is the quest to clearly describe the mechanisms and phenomenology of mindfulness.

6.7.1 Implications for practice. According to JBI Grades of Recommendation, the current evidence on MP programs would receive a Grade B.2. That is the strength of the evidence is considered to be weak, as the evidence supporting its use is not of high quality. Even though the strength of the evidence is weak, the feasibility, appropriateness, meaningfulness and effectiveness (FAME) scale indicates that more rigorous research designs are warranted to clarify its effectiveness. The program appears to be cost-effective and utilises an untapped resource that is the parents. With adequate training, parents could be engaged in the timely detection of internalising and externalising disorders.

Although there is no conclusive evidence for the recommendation of MP programs, these programs are growing in popularity amongst a variety of contexts and cultures. It appears to be having a positive, beneficial impact in raising the emotional awareness of both parents and their children. The cognitive requirements of these programs would make

them unlikely to be effective amongst parents with florid psychosis or severe trauma. The selected studies in this review did not report on side effects and the programs appear to be cost effective. Hence MP programs appear to be an appropriate psycho-education tool for parents in the general community that are interested in reducing their own stress levels and increasing the emotional awareness of their children.

6.7.2 Implications for research. Future Mindful Parenting research would benefit from designing more methodologically rigorous studies that blind the random allocation, implementation and assessment of both experimental conditions. Using a critical appraisal checklist could assist with designing a robust study. Conducting a power analysis could justify the recruitment of sufficient sample sizes to detect intervention effects. Effect size estimates provide important information about treatment effects particularly when small sample sizes reduce the power to detect statistically significant effects. Articulating clear hypotheses and implementing a consistent model of Mindful Parenting could assist with articulating and testing which aspects of attention/ mindfulness promote change. Reporting results according to APA guidelines could enable meta-analysis of future studies. The use of psychometrically validated tools to measure aspects of attention responsible for facilitating change, is essential in understanding the rich tapestry of mindfulness. Investigations on Mindful Parenting should not just focus on the psychological measures of mindfulness but would also benefit from measuring biomarkers of stress, brain development and physical health. It is important for future studies to demonstrate the effectiveness of MP programs for both clinical and general samples from diverse backgrounds, particularly for internalising as well as externalising disorders.

Conflict of interest

There are no conflicts of interest.

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Chapter 7 Statement of Authorship for Published Paper

Principal Author

Title of Paper	A preliminary study investigating the effectiveness of the Caring for Body and Mind in Pregnancy (CBMP) in reducing perinatal depression, anxiety and stress.	
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Name of Principal Author (Candidate)	Kishani Townshend	
Contribution to the Paper	Chief investigator who planned the study, wrote the ethics accessed data, analysed data and wrote manuscript. Also, the corresponding author to address reviewers' feedback.	
Overall percentage (%)	85%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.	
Signature	Date	24/9/2018

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contribution is equal to 100% less the candidate's contribution.

Name of Co-Author	Associate Professor Nerina _____	
Contribution to the Paper	Assisted with data analysis. study design and reviewing	
Signature	_____	30/9/2018
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Name of Co-Author	Dr Helen O'Grady _____	
Contribution to the Paper	Collected data, delivered program and reviewed manuscript.	
Signature	_____	30/9/2018

Chapter 7 Study 2

Caring for Body and Mind in Pregnancy (CBMP)

Townshend, K., Caltabiano, N. J., Powrie, R., & O'Grady, H. (2018). A preliminary study investigating the effectiveness of the Caring for Body and Mind in Pregnancy (CBMP) in reducing perinatal depression, anxiety and stress. *Journal of Child and Family Studies*, 27(5), 1556–1566. doi: 10.1007/s10826-017-0978-z

7.1 Abstract

Prenatal mental illness is a significant public health issue with intergenerational consequences. *Caring for Body and Mind in Pregnancy* (CBMP) is an Australian, eight-week mindful parenting program. The primary aim of this study was to investigate the effectiveness of CBMP in reducing pregnant women's levels of depression, anxiety, perinatal depression, perinatal anxiety and stress. The sample consisted of 109 pregnant women at-risk for perinatal depression and anxiety. The mean age of the sample was 33.52 years (SD = 4.90), ranging from 21 to 45 years. A within group, pre-post research design was used to examine whether CBMP improves participants' scores on outcome measures. Wilcoxon Signed Rank test results indicated that CBMP significantly reduced depression, anxiety, perinatal depression, perinatal anxiety and general stress scores, while significantly increasing self-compassion and mindfulness with moderate to strong effect sizes. The double mediation hypothesis was supported with self-compassion $t(71) = -2.23$, $p < .03$, $b_2 = -.1.96$, $SE = .88$, $95\% CI = -3.71, -.20$, having a stronger influence in reducing perinatal depression than mindfulness $t(71) = -2.68$, $p < .01$, $b_3 = -.07$, $SE = .03$, $95\% CI = -.13, -.02$. Further research, using a randomised controlled design with appropriate control conditions, is needed to establish the effectiveness of CBMP in reducing psychological distress amongst pregnant women at risk for depression, anxiety and stress.

Keywords: Mindful parenting, perinatal depression, perinatal anxiety, stress, self-compassion, mindfulness

7.2 Introduction

Depression is the most common perinatal mental health condition across the world in both developing and developed countries (Shidhaye & Giri, 2014). One in six new Australian mothers are affected by perinatal depression and anxiety (beyondblue, 2011). A long-term intergenerational approach to the diagnosis, treatment and raising community awareness can potentially reduce the prevalence of perinatal mental illness.

Perinatal mental illness is often under-diagnosed and untreated (beyondblue, 2011). Failure to treat perinatal depression and anxiety is a significant public health concern (Shidhaye & Giri, 2014). Adverse consequences for women include the impact on the mother-infant attachment, parenting capacity and earning capacity, in addition to the future mental health of the child and the family (PricewaterhouseCoopers (PwC), 2014). Poor prenatal mental health has also been associated with antenatal depression, stress, pre-eclampsia, preterm labour, low birth weight, shorter gestational age as well as admission to neonatal care unit (Matvienko-Sikar, Lee, Murphy, & Murphy, 2016). The need to provide specialised perinatal mental health services is widely acknowledged.

Mindful parenting (MP) programs have been specifically designed for parents with children at different developmental stages and in different health conditions. For example, MP programs have been developed for parents with children in the perinatal period, for toddlers, for adolescents and for children with autism spectrum disorder (ASD) (Townshend, Jordan, Stephenson & Tsey, 2016). Mindful parenting has been defined as the ability to pay attention to your child and your parenting in a particular way, that is intentional, non-judgmental whilst being in the here and now (M. Kabat-Zinn & Kabat-Zinn, 1997). The defining feature of MP programs is the focus on mindfulness in the context of parenting, reflective functioning and Attachment Theory. MP programs are often based on either Mindfulness Based Cognitive Therapy (MBCT) (Segal et al., 2002) or Mindfulness Based Stress Reduction (MBSR) (J. Kabat-Zinn, 1990) and

sometimes include components from the Circle of Security (COS) program by Powell, Cooper, Hoffman, and Marvin (2014).

Recent systematic reviews of prenatal mindfulness based programs (MBPs) have reported considerable variability in their results (Hall, Beattie, Lau, East, & Biro, 2016; Lever Taylor, Cavanagh, & Strauss, 2016; Matvienko-Sikar et al., 2016; Shi & MacBeth, 2017). The variability in these findings appears to be due to the substantial heterogeneity in sample types, methodology and interventions. Currently there is insufficient evidence from high quality research on which to base recommendations about the effectiveness of prenatal MBPs (Hall et al., 2016). The most contentious limitation with prenatal mindfulness research is the diversity of interventions classified under the label prenatal MBPs. A major issue in these studies is the deviation from traditional MBCT or MBSR programs (Hall et al., 2016). MBCT has been recommended as an evidenced-based, relapse prevention program for depression by the National Institute of Clinical Excellence (NICE) guidelines in the United Kingdom (NICE, 2016). MBCT has been found to significantly improve symptoms of depression and anxiety for at-risk or clinical populations with a previous diagnosis of depression but not in healthy pregnant women (Lever Taylor et al., 2016; Matvienko-Sikar et al., 2016). Whilst Lever Taylor et al. (2016) found MBP significantly reduced stress, Matvienko-Sikar et al. (2016) found that it did not reduce general stress, but only stress specific to pregnancy. Thus, it would be useful to clarify whether prenatal MBPs can reduce depression, anxiety and general stress in pregnant women at risk for these conditions.

The primary aim of the current study was to examine whether Caring for Mind and Body in Pregnancy (CBMP) could significantly reduce depression, anxiety and general stress in women at risk for these conditions. CBMP is an eight-week mindfulness-based parenting program based on MBCT and modified for pregnancy with implicit teachings on Attachment Theory, reflective functioning and transition to motherhood through class discussions. The second aim was to assess the similarities between the outcome measures. To accurately interpret outcomes, it is mandatory

to assess the similarities among scales to clarify whether reliable outcome measures have been used (Spiliotopoulou, 2009; Tavakol & Dennick, 2011). The third aim was to investigate whether self-compassion and mindfulness are mediators in reducing perinatal depression. Thus, the first hypothesis was that CBMP would significantly reduce the level of depression, anxiety, perinatal depression, perinatal anxiety and stress in pregnant women at risk for these conditions. The second hypothesis was that the distress outcome measures would be positively correlated with each other in addition to negatively correlated with mindfulness and self-compassion measures. The third hypothesis was that self-compassion and mindfulness would mediate reductions in perinatal depression.

7.3 Method

7.3.1 Participants. The sample consisted of 109 participants from a seven-year pre-existing Australian hospital dataset. Mean age of the sample was 33.52 years ($SD = 4.90$), with participants' age ranging from 21 to 45 years. With regard to participants' educational qualifications, four (5.8%) had completed Year 10 or less qualifications, six (8.7%) had completed Year 12, 13 (18.8%) had completed a TAFE qualification, 26 (37.7%) had completed a Bachelor's degree, 18 (26.1%) had completed a Postgraduate degree and two (2.9%) had completed a doctoral degree. The majority of the sample was Anglo-Saxon Australians ($n = 29, 46.8\%$). Seventeen participants (27.4%) were from non-English speaking backgrounds and one participant (1.6%) was from an Aboriginal or Torres Strait Islander (ATSI) background. The inclusion criteria to join the CBMP program were that participants needed to (1) be pregnant women up to 30 weeks gestation, (2) booked into the antenatal care at a private or public birthing hospital, (3) have reported at least one previous episode of depression and/or scored above the clinical cut-off on depression measures at a routine pre-screening or (4) have risk factors for perinatal depression and anxiety. Antenatal care provides regular check-ups with the mid-wife or obstetrician during the

pregnancy. Participants were excluded if they (1) were not pregnant or were over 30 weeks gestation, (2) were not booked into antenatal care (3) were healthy or had no previous episodes of depression (4) were not at risk for perinatal depression or anxiety or (5) could not attend weekly classes. At risk was operationalised as at least one previous episode of depression and/or scores above the clinical cut-off on depression measures at a routine pre-screening. Perinatal depression was measured with the *Edinburgh Postnatal Depression Scale* (EPDS) by J. L. Cox, Holden, and Sagovsky (1987). All participants who met the inclusion criteria were included in the study.

7.3.2 Procedure. Participants' data were included in the current study if they had completed measures before and after the eight-week CBMP program from 2010 to 2016. A Low and Negligible (LNR) ethics approval (HREC/16/WCHN/21) was provided by an Australian maternity hospital to access the seven-year de-identified dataset. The pre-existing dataset used a convenience sampling method to recruit volunteer participants. The same three facilitators were responsible for the recruitment process and program delivery for the participants included in the study. During the screening phase, a history of previous and current episodes was assessed through a pre-class interview with a facilitator who was a mental health clinician.

CBMP was delivered in a comfortable heritage cottage located within the hospital grounds on a weeknight for eight consecutive weeks. Participants were provided food and beverages during the class break. For women who had attended the program for both their first and second pregnancy, only the data from their first CBMP program were included in the study to eliminate practice effects.

Table 7.1

Program Content in Caring for Body Mind in Pregnancy

	MBCT Title	CBMP Title	Session Aim	CBMP Additions	Homework
Session 1	Automatic Pilot	Same	<ul style="list-style-type: none"> To raise awareness about automatic thoughts and habits. 	Body-Baby Scan	Practice Body-Baby scan for six days and one routine activity practised mindfully each day. Aim for 30 minutes daily practice.
Session 2	Dealing With Barriers	Same	<ul style="list-style-type: none"> To bring awareness to the body, moving from "doing mode" to "being mode." 	Metaphors <ul style="list-style-type: none"> <i>Thought Train</i> <i>Body As A Bridge To Your Baby</i> 	Practice Body-Baby scan for six days, pleasant events calendar each day and choose a new routine activity. Aim for 30 minutes daily practice.
Session 3	Mindfulness of Breath.	Gathering the Scattered Mind	<ul style="list-style-type: none"> To use the breath and body to come back to the present moment. To practise the three-minute breathing space. 	Mindful movement adapted to pregnancy based on examples from <i>'Mindful Motherhood: Practical tools for staying sane during pregnancy and your child's first year (Vieten, 2009)</i> .	Practice guided sitting meditation (breath, body, sounds and thoughts). Alternate with mindful movement for six days, three-minute breathing space three times per day and unpleasant events calendar. Aim for 30 minutes daily practice.
Session 4	Staying Present	Recognising Aversion	<ul style="list-style-type: none"> To deepen exploration of typical reactions to aversion and attachment. 	Self-compassion presentation and brief practice.	Complete the self-compassion questionnaire, " <i>How do I care for myself?</i> " from Mindful Self-Compassion Program (Neff & Germer, 2013). Practice guided sitting meditation for six days, three-minute breathing space regularly as well as at times of unpleasant feelings. Complete a mid-course check in questionnaire. Aim for 30 minutes daily practice.
Session 5	Allowing / Letting Be	Same	<ul style="list-style-type: none"> To relate differently to unpleasant experiences, allowing them to be as they are without judging. 		Practice guided sitting meditation alternating with sitting in silence for six days. Practice three-minute breathing space three times per day and whenever unpleasant experience arises. Aim for 30 minutes daily practice.

Abbreviations: Mindfulness Based Cognitive Therapy (MBCT); *Caring for Body and Mind in Pregnancy* (CBMP)

Table 7.1 (continued)

*Program Content in Caring for Body Mind in Pregnancy*Abbreviations: Mindfulness Based Cognitive Therapy (MBCT); *Caring for Body and Mind in Pregnancy* (CBMP)

	MBCT Title	CBMP Title	Session Aim	CBMP Additions	Homework
Session 6	Thoughts are Not Facts	Same	<ul style="list-style-type: none"> To learn to relate to thoughts so as not to identify with them. 	<i>Shark Music</i> video	Select own practice for the week from existing meditations or mindful movement to practice for six days. Practice three-minute breathing space regularly and whenever unpleasant experiences arise, with use of metaphors for watching thoughts. Start to develop a relapse prevention plan through the " <i>Working wisely with unhappiness and depression</i> " worksheet. Aim for 30 minutes daily practice.
Session 7	How Can I Best Care for Myself?	Same	<ul style="list-style-type: none"> To notice early signs of low mood, stress and anxiety To manage fatigue and demands during this life transition 	PANDA video on perinatal mental health. Presentation on perinatal depression and anxiety.	Decide on a practice which will be your daily practice into the future and practice six days. Practice three-minute breathing space regularly and with unpleasant experiences adding in an action step. Make a relapse prevention plan involving ways others can assist to detect early warning signs. Write a letter to self with guidance about what to do when there are signs of relapse. Aim for 30 minutes daily practice.
Session 8	Using What Has Been Learnt To Deal With Emotions	Same	<ul style="list-style-type: none"> To link new learning to daily life and life with a baby. To find reasons to continue the practices. To identify values and priorities. To identify what is important for you and your baby. 		End of course resources and suggestions for further reading:- 1) ' <i>Mindful Motherhood: Practical tools for staying sane during pregnancy and your child's first year</i> ' (Vieten, 2009), 2) ' <i>Everyday blessings: The inner work of mindful parenting</i> ' (M. Kabat-Zinn & Kabat-Zinn, 1997), 3) ' <i>Buddhism for mothers</i> ' (Naphali, 2003) 4) Aim for 30 minutes daily practice.
Retreat Day	Usually after week 5 or 6	Same	<ul style="list-style-type: none"> To deepen meditation practice in a group setting 		

7.3.3 Design. A within group, pre-post research design was used to examine whether CBMP improved the participants' depression, anxiety, perinatal anxiety and stress. The two conditions were pre- and post-CBMP. This repeated-measures design included time as the independent variable. The primary outcome was depression. The secondary outcomes were anxiety, perinatal depression, perinatal anxiety and stress. Self-compassion and mindfulness were examined as mediating variables for perinatal depression.

7.3.4 Intervention. CBMP was based on MBCT, Attachment Theory, reflective functioning and transition to motherhood. It followed the eight-week MBCT manual with eight additional components (see Table 7.1). CBMP also explicitly taught self-compassion, whereas with MBCT, self-compassion is a product of mindfulness practices. Although MBCT prescribes 40 minutes of home practice, CBMP prescribed 30-minutes of home practice to encourage busy pregnant women to establish a daily routine. A recent systematic review on MBCT and MBSR (Parsons et al., 2017) found a small but significant association between 30-minutes of home practice and positive outcomes.

7.3.5 Measures. Participants' demographic information collected at baseline included, age, relationship status, educational level and occupational status. Other information collected at baseline included both physical and mental health history, obstetric history, support during pregnancy, prior trauma and history of suicidal thoughts. The participants completed six standardised psychometric measures. Table 7.2 illustrates their internal consistencies.

Edinburgh Postnatal Depression Scale (EPDS), is a 10- item, four-point Likert scale screening for perinatal depression (J. L. Cox et al., 1987). It asks respondents to rate the extent to which each item applied to them over the past week (Cox et al., 1987). If the

total score is 10 or above, respondents are encouraged to speak to a health professional (Cox et al., 1987). EPDS has been found to have high reliability (Cronbach's alpha = 0.87) and validity measured as sensitivity (86%), specificity (78%) and positive predictive value (73%) (J. L. Cox et al., 1987). Its psychometric properties have been tested extensively across different countries (Zumbo & Chan, 2014).

Depression, Anxiety & Stress Scale (DASS-21) is a 21-item, four-point Likert scale measuring symptom severity from 0 to 3 over the past week (Lovibond & Lovibond, 1995). Psychometric properties indicate DASS-21 is a reliable, valid scale with a three-factor dimensionality of depression, anxiety and stress (Mahmoud, Staten, Hall, & Lennie, 2012). The three subscales have sound internal consistencies for depression (.94), anxiety (.87) and stress (.91) (Anthony, Bieling, Cox, Enns, & Swinson, 1998). It has moderate to high levels of concurrent validity with other measures of depression and anxiety (Anthony et al., 1998). The depression subscale within DASS-21 has been found to be moderately correlated with depression measures such as the Beck's Depression Inventory (BDI: 0.79) and the anxiety measure State Trait Anxiety Inventory (STAI-T: 0.71). It appears to be a useful instrument for distinguishing between depression and anxiety.

The *Perinatal Anxiety Screening Scale (PASS)* is a 31-item, four-point Likert scale measuring self-reported perinatal anxiety (Somerville et al., 2014). PASS is composed of four factors with sound internal consistency as outlined by their respective Cronbach's alphas (1) acute anxiety and adjustment (0.9), (2) general worry and specific fears (0.89), (3) perfectionism, control and trauma (0.86) and (4) social anxiety (0.87) (Somerville et al., 2014). PASS has adequate test-retest reliability (0.74) (Somerville et al., 2014). PASS also has high convergent validity as it was significantly correlated with other measures of depression and anxiety such as BDI (0.81) and EPDS (0.82) (Somerville et al., 2014). Thus, the PASS appears to be clinically relevant to the study sample. Although perinatal

stress is also important for birth outcomes and maternal health, the pre-existing dataset had not collected this data. General stress was measured according to DASS-21, stress subscale.

Self-Compassion Scale (SCS) is a 26-item, five-point Likert scale measuring self-compassion (Neff, 2003a). Neff found a single higher order factor with six factors, namely self-kindness, common humanity, mindfulness, self-judgment, isolation and over-identification. More recent literature promotes the use of two factors, namely self-criticism and self-compassion as opposed to a single factor of self-compassion (López et al., 2015). Strong internal consistencies have been demonstrated for the total SCS score and both factors, with Cronbach's alpha coefficients of 0.86, 0.86 and 0.90, respectively (López et al., 2015). With regard to construct validity, the negative factor was moderately to strongly correlated with measures of negative affect (Centre of Epidemiologic Studies Depression Scale (CES-D: 0.52) and rumination (Rumination Reflection Questionnaire-Rumination subscale (RRQ-Rumin: 0.65) (López et al., 2015).

Mindful Awareness and Attention Scale (MAAS) is a 15-item, six-point scale measuring trait mindfulness. Both exploratory and confirmatory factor analysis have confirmed the 15 items are a single one factor (Brown & Ryan, 2003). MAAS is reported to have sound internal reliability (Cronbach's $\alpha \geq .82$) and 4 week test-re-test reliability (interclass $r = .81$) (Brown & Ryan, 2003). However the construct validity of MAAS has been challenged as researchers claim it is more of a measure of mindlessness, automatic pilot or automatic inattentiveness (Van Dam, Earleywine & Borders, 2010). During the study period, data on the MAAS were collected during 2010 to 2011 and replaced by the FFMQ during 2012 to 2016 because the FFMQ is considered to be a more valid and reliable measure of mindfulness.

Five Facet Mindfulness Questionnaire (FFMQ) is a 39-item, five-point self-report measure of trait mindfulness (Baer et al., 2008). The main distinction between the MAAS and the FFMQ is that the MAAS measures one factor of mindfulness, whereas the FFMQ measures five factors of mindfulness. FFMQ is a multifaceted, five-factor construct measuring a trait-like tendency to be mindful in daily life. FFMQ has been found to have sound reliability with Cronbach's alpha for the five subscales as observing (.78), describing (.88), acting with awareness (.84), non-judging of inner experience (.86) and non-reactivity to inner experience (.83) (Gu et al., 2016). With regard to convergent validity FFMQ had small negatively significant correlations with BDI (Gu et al., 2016).

7.3.6 Data analyses. Descriptive statistics were used to analyse the before and after group means (M), standard deviations (SD), standard errors (SE) and medians (Mdn). Data were assessed for normality using Kolmogorov-Smirnov (K-S) test, Lilliefors corrected K-S test, Shapiro-Wilk test and the graphical assessment of normality. Given that the sample violated one of the assumptions underpinning the use of t-tests, that is the assumption of random sampling, this study used non-parametric tests, namely Wilcoxon Signed Rank Tests and Spearman's correlations. Wilcoxon Signed-rank test was used to compare the pre and post program scores. Spearman's correlational analysis was used to analyse the similarity between the different scales. PROCESS (v2.16.3) Model 6 was used for the double mediation analysis. As this study analysed a pre-existing hospital dataset, a prior power analysis could not be conducted before data collection. However G-Power (3.1.9.2); (Faul et al., 2009) was used to conduct a post hoc power analysis before data analysis for $\alpha = .05$, sample size = 109 and effect size $d_z = .8$. The results from G-Power indicated this study has strong power as indicated by $(1-\beta) = 1.0$.

Table 7.2

Cronbach's Alpha for all Scales administered in this Study

	Cronbach's alpha	Number of items	M	SD	N (%)
Total DASS-21	.94	21	20.46	12.76	63 (61.8)
Depression DASS-21	.90	7	5.94	4.81	63 (61.8)
Anxiety DASS-21	.84	7	5.03	4.25	63 (61.8)
Stress DASS-21	.85	7	9.49	5.01	63 (61.8)
MAAS	.88	15	57.36	11.51	28 (27.5)
Total Self-Compassion Scale (SCS)	.94	26	66.78	17.50	73 (71.6)
Self-kindness (SCS)	.78	5	12.84	4.08	87 (100)
Common Humanity (SCS)	.75	4	10.80	3.14	87 (100)
Mindfulness (SCS)	.76	4	11.13	3.03	87 (100)
Self-Judgement (SCS)	.84	5	13.25	4.25	87 (100)
Isolation	.81	4	10.99	3.83	87 (100)
Over-identification	.76	4	9.21	3.12	87 (100)
EPDS	.84	10	11.41	6.48	87 (100)
PASS	.95	30	29.00	17.40	23 (26.4)
FFMQ Total	.91	39	115.20	19.23	59 (67.8)
Observe	.76	8	22.73	5.26	59 (67.8)
Describe	.93	8	26.32	7.13	59 (67.8)
Act with Awareness	.92	8	24.54	6.52	59 (67.8)
Non-judge	.91	8	25.24	6.84	59 (67.8)
Non-react	.78	7	16.37	4.31	59 (67.8)

Abbreviations: *Depression Anxiety and Stress Scale (DASS 21)* (Lovibond & Lovibond, 1995); *Mindfulness Awareness and Attention Scale (MAAS)* (Brown & Ryan, 2003); *Self-Compassion Scale (SCS)* (Neff, 2003a); *Edinburgh Postnatal Depression Scale (EPDS)*, (J. L. Cox et al., 1987), *Perinatal Anxiety Screening Scale (PASS)* (Somerville et al., 2014) and *Five Facet Mindfulness (FFMQ)* (Baer et al., 2008)

Mann-Whitney U test was used to compare differences between wellbeing and different age groups. According to Levinson (1990), the stages of adulthood are early adulthood (17-22), entering the adult world (22-28), transition (28-33), settling down (33-40) mid-life transition (40-45), entering middle adulthood (45-50) and late adulthood. Levinson's age ranges were used to categorise the sample into five age groups, 17 to 21, 22 to 28, 29 to 33, 34 to 40 and 41 to 45. G*Power (3.1.9.2) analysis for a strong effect ($f = 0.4$), $\alpha = 0.05$ for the five groups indicated each age group needs a sample size of $n \geq 25$ (Faul et al., 2009). Only two age groups namely Group 3 (29 to 33) and Group 4 (34 to 40) had a sample size over 25. Even though it was not possible to compare all age groups, it was considered appropriate to compare Groups 3 and 4 due to the demographic trend of older maternal age in high income countries (McMahon et al., 2011).

7.4 Results

All participants included in the study had completed the pre and post rating scales. However, some of these participants' demographic data were missing as the intake form had been changed during the data collection period. The sample of pregnant women in the study consisted of mainly married Anglo-Saxon Australians whose highest level of education was a Bachelor's degree. The majority of the sample had no previous children (66.7%). Approximately 25% of the sample had one previous child, 7.3 % of the sample had two previous children and one participant had three previous children. Prior miscarriages were experienced by 4.7% of the sample. Most of the sample (93.7%) indicated they had social support for the current pregnancy. Over half of the sample of pregnant women (50%) reported experiencing previous trauma in their life. Approximately, one third of the sample (35.8%) reported a previous history of suicidal thoughts or self-harm. With regard to physical health, 26.04% of the sample reported

experiencing physical health conditions. A large portion of the sample (90.52%) reported experiencing mental health conditions as shown in Table 7.3.

Mann-Whitney test indicated no significant differences between the two age groups Group 3 (29 to 33) and Group 4 (34 to 40) for psychological distress. No significant difference was found between Group 3 (Mdn = 37.08) and Group 4 (Mdn = 35.07) for psychological distress as measured by EPDS ($U = 592.5$, $p = .68$, $r = -.05$). Similarly no significant difference was found between Group 3 (Mdn = 34.24) and Group 4 (Mdn = 37.53) for self-compassion ($U = 569.0$, $p = .50$, $r = -.08$) or mindfulness scores for Group 3 (Mdn = 23.37) and Group 4 (Mdn = 29.63), FFMQ ($U = 256.5$, $p = .14$, $r = -.21$). Table 7.4 shows there was a significant difference between the before and after CBMP for all scores except mindfulness as measured by MAAS. These results suggest that CBMP significantly reduces symptoms of postnatal depression, perinatal anxiety, depression, anxiety and general stress, while improving mindfulness and self-compassion scores. CBMP did not significantly improve mindfulness as measured by MAAS. Table 7.5 highlights Spearman's correlations analysing the relationships between all the scales used in the study. Scales measuring distress were significantly positively correlated with each other. Self-compassion and mindfulness (as measured with the FFMQ) were significantly positively correlated. Both mindfulness and self-compassion were negatively correlated with scales measuring distress. There was hardly any relationship between self-compassion (SCS) and mindfulness as measured by MAAS. The correlation between PASS (2014-2016) and the DASS 21(2010-2014) or FFMQ (2012 -2016) and MAAS (2010 - 2011) could not be calculated, as the scales were not administered at the same time.

Regression analysis was used to investigate the double mediation hypothesis that self-compassion and mindfulness reduce perinatal depression. Results indicate pre-program perinatal depression scores were significantly influenced by post-program self-

compassion $t(73) = -2.90, p < .01, R^2 = .10, a1 = -.03, SE = .01, 95\% CI = -.05, -.02$.

Likewise, post-program mindfulness was significantly influenced by post-program self-compassion $t(72) = 8.35, p < .001, b1 = 22.24, SE = 2.66, 95\% CI = 16.93, 27.55$ and pre-program perinatal depression scores $t(72) = -2.74, p < .01, R^2 = .59 (a2 = -.74, SE = .27, 95\% CI = -1.27, -.20)$. The model highlighted in Figure 7.1 support the double mediation hypothesis that self-compassion $t(71) = -2.23, p < .03, b2 = -.196, SE = .88, 95\% CI = -3.71, -.20$, had a significantly stronger influence in reducing perinatal depression scores than mindfulness $t(71) = -2.68, p < .01, b3 = -.07, SE = .03, 95\% CI = -.13, -.02$ and pre-program perinatal depression scores $t(71) = 6.15, p < .001, R^2 = .65, c2 = .41, SE = .07, 95\% CI = .28, .54$. After controlling for these two mediators, pre-program perinatal depression had less influence on post-program perinatal depression $t(73) = 7.85, p < .001, R^2 = .46, c1 = .58, SE = .07, 95\% CI = .43, .73$. Self-compassion and mindfulness accounted for 65% of the variance compared to pre-program perinatal depression of 46%. The indirect effect was tested using a bootstrap estimation approach with 5000 samples (A. F. Hayes, 2009).

Table 7.3

Common Mental Health Diagnoses amongst the Pregnant Women

Mental Health Conditions	Frequency	Percent (%)
Total N	95	100
Mental health conditions	86	90.52
Depression	18	18.95
Anxiety	17	17.89
Depression & anxiety	22	23.16
Depression & other mental health diagnosis	5	6.8
Depression & personality disorder	1	1.05
Depression, anxiety & other mental health diagnosis	9	9.47
Postnatal depression	8	8.24
Postnatal psychosis	1	1.05
Bipolar	1	1.05
Panic attacks	1	1.05

Table 7.4

Non-Parametric Wilcoxon Signed Rank Test Results for Pre-and Post-CBMP

Measures	Pre M(SD) Median Range	Post M(SD) Median Range	Predicted range	N	Z	p	r
DASS Total 2010-2014	39.80 (23.17) Median = 36 Range = 6-98	30.59 (21.48) Median = 24 Range = 0-118	0-126	71	-3.39	.00**	-.40
Depression (DASS-21) 2010-2014	11.34 (9.34) Median = 8 Range = 0-36	8.23 (8.61) Median = 4 Range = 0-40	0-42	71	-3.12	.00**	-.37
Anxiety (DASS-21) 2010-2014	9.99(8.41) Median = 6 Range = 0-32	8.49 (8.08) Median = 6 Range = 0-42	0-42	71	-1.94	.05	-.23
Stress (DASS-21) 2010-2014	18.32(8.38) Median = 16 Range = 1-41	13.90 (7.85) Median = 12 Range = 0-36	0-42	71	-3.73	.00**	-.44
Postnatal Depression EPDS 2010-2016	11.38 (6.10) Median = 11 Range = 0-28	8.02 (5.53) Median = 7 Range = 0-27	0-30	109	-5.83	.00**	-.56
Perinatal Anxiety (PASS)	33.95(20.33) Median = 28.5 Range = 7-86	27.13(17.88) Median = 24.5 Range = 7-73	0-93	38	-3.16	.00**	-.51
Self- Compassion (SCS) 2010-2016	2.62(.65) Median = 2.60 Range = 3.60	3.08(.63) Median = 3 Range = 3.00	1-5	109	-6.40	.00**	-.61
Mindfulness (MAAS) 2010-2011	57.26(11.34) Median = 59 Range = 29-74	57.35(9.85) Median = 57 Range = 37-80	15-90	34	-.10	.92	-.03
Mindfulness FFMQ 2012-2016	113.51(22.38) Median = 117 Range = 45-151	130.05(21.23) Median = 133 Range = 72-172	39-195	75	-6.51	.00**	-.75

Depression, Anxiety and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995); *Edinburgh Postnatal Depression Scale (EPDS)*, (J. L. Cox et al., 1987); *Perinatal Anxiety Screening Scale (PASS)* (Somerville et al., 2014); *Self-Compassion Scale (SCS)* (Neff, 2003a) , *Mindfulness Awareness and Attention Scale (MAAS)* (Brown & Ryan, 2003); *Five Facet Mindfulness*

Table 7.5

Spearman's Correlation for Parametric and Non-Parametric Measures with 2-Tailed Probabilities

	EPDS	DASS-21 Total	Stress DASS-21	Anxiety DASS-21	Depression DASS-21	Perinatal Anxiety PASS	Self- Compassion SCS	Mindfulness MAAS	Mindfulness FFMQ
Postnatal Depression EPDS	1	.84**	.71**	.68**	.85**	.88**	-.38**	-.28	-.53
Total DASS-21		1	.91**	.86**	.90**	b	-.31**	-.43*	-.49**
Stress DASS-21			1	.69**	.75**	b	-.37	-.47**	-.56**
Anxiety DASS-21				1	.68**	b	-.09	-.24	-.26
Depression DASS-21					1	b	-.34**	-.44**	-.50**
Perinatal Anxiety (PASS)						1	-.46**	b	-.64**
Self-Compassion SCS							1	.23	.71**
Mindfulness (MAAS)								1	b
Mindfulness (FFMQ)									1

** = Correlation is significant at the 0.01 level (2-tailed); * = Correlation is significant at the 0.05 level (2-tailed);

b = Correlations cannot be computed because at least one of the variables is constant.

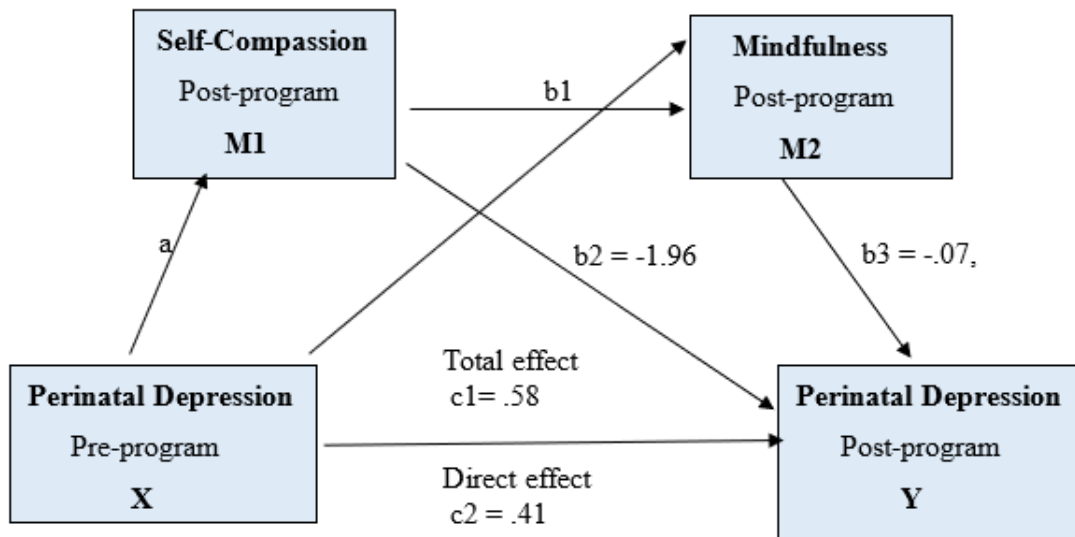


Figure 7.2. Self-compassion and mindfulness as mediators in reducing perinatal depression.

Table 7.6

Total, direct and indirect effects of double mediation

	Effect	Boot SE	Boot LLCI	Boot ULCI
Total Effect	.580	.074	.433	.727
Direct Effect (X-Y)	.409	.066	.276	.541
Total Indirect Effect	.173	.058	.074	.313
Indirect 1 (X-M1-Y)	.063	.033	.016	.153
Indirect 2 (X-M1-M2-Y)	.055	.031	.009	.134
Indirect 3 (X-M2-Y)	.055	.029	.009	.125

7.5 Discussion

This study examined the effectiveness of CBMP in reducing depression, anxiety, perinatal depression, perinatal anxiety and stress in a sample of pregnant women at risk for the depression and anxiety. The primary hypothesis was supported with the results showing CBMP significantly reduced perinatal depression, perinatal anxiety as well as general levels of depression, anxiety and stress in a sample of pregnant women at risk for perinatal depression or anxiety. The second hypothesis was partially supported with results showing significant correlations amongst the scales except for MAAS. The correlational analyses assisted in confirming that reliable outcome measures were used in the current study. As there were significant associations among the rating scales, mediation analysis was conducted. Finally, the third hypothesis was supported as self-compassion and mindfulness were found to be mediators in reducing perinatal depression. The results showed self-compassion was a stronger mediator than mindfulness in reducing perinatal depression. This study presents suggestive evidence that CBMP may reduce perinatal depression, perinatal anxiety and stress amongst at-risk pregnant women with a previous history of trauma, self-harm and mental health issues.

The present results resonate with outcomes from previous studies on samples of pregnant women at risk of perinatal depression or anxiety. It provides some clarity in understanding conflicting results from recent systematic reviews (Hall et al., 2016; Lever Taylor et al., 2016; Matvienko-Sikar et al., 2016; Shi & MacBeth, 2017). CBMP results are consistent with pre-post findings from Lever Taylor et al. (2016), Matvienko-Sikar et al. (2016) as well as Shi and MacBeth (2017) who found that prenatal MBPs significantly reduced perinatal depression as well as anxiety amongst at-risk pregnant women. The pre-post results from Lever Taylor et al. (2016) and Matvienko-Sikar et al. (2016) were conflicting as Lever Taylor et al. (2016) found prenatal MBCT reduced stress, whereas

Matvienko-Sikar et al. (2016) found it reduced pregnancy related stress, but not general stress. The current study provides suggestive evidence that CBMP, which is based on MBCT, may reduce general stress amongst at risk pregnant women.

The results indicate self-compassion was a stronger mediator than mindfulness in reducing perinatal depression. Consistent with previous perinatal MBP findings (Lever Taylor et al., 2016; Matvienko-Sikar et al., 2016), CBMP was found to increase mindfulness as measured by FFMQ and self-compassion. Both mindfulness and self-compassion have been identified in the literature as mechanisms of self-change (Matvienko-Sikar et al., 2016). However, these mediators do not increase wellbeing for certain samples. MBPs do not appear to increase wellbeing for general pregnant populations (Byrne, Hauck, Fisher, Bayes, & Schutze, 2014) or for women with previous mood concerns (Vieten & Astin, 2008). There was also a tendency for studies to focus on antenatal rather than postnatal and healthy rather than at risk or clinical populations (Matvienko-Sikar et al., 2016). Greater self-compassion has been found to predict lower levels of depression and anxiety (Neff & Gerrmer, 2013). Thus, it appears at-risk antenatal groups benefit more from the prenatal MBPs through increases in self-compassion and mindfulness compared to the healthy samples.

Maternal psychological wellbeing has been associated with gestational age (Dunkel Schetter & Tanner, 2012) and maternal age (McMahon et al., 2011). An established demographic trend in high-income countries is older maternal age at first birth (McMahon et al., 2011). Older mothers report lower symptoms of depression and anxiety during pregnancy over their younger counterparts (McMahon et al., 2011). Contrary to McMahon et al. (2011), this study found no significant differences between maternal age and wellbeing. However, this association is complex, as women conceiving through artificial

reproductive therapy experience more anxiety and more intense emotional attachment to the fetus (McMahon et al., 2011).

7.5.1 Limitations and strengths. Repeated measures research design uses each participant as their own control to test whether the new program is efficacious (Coolican & Kelly, 2014). However, a major limitation of this study was the lack of an independent control group. Other limitations included missing data, high attrition rates, lack of longer follow-up and changing two measures during the data collection period. Missing data is a common limitation associated with using an existing dataset (Boslaugh, 2007). The current study had a substantial amount of missing data. The inability to conduct a subgroup analysis between gestational age and maternal wellbeing due to missing data was another study limitation. Follow-up data from 6, 12 and 24-weeks post birth could not be used due to high attrition rates after childbirth. Consequently, only the scores for the baseline and directly after the eight-week program were included in this study.

While the replacement of the two scales during the seven-year data collection period resulted in limitations, it also improved the quality of the data collection. Scale changes restricted correlational analysis between the two mindfulness scales (MAAS and FFMQ) as well as the distress scales (DASS 21 and PASS) because participants did not complete all four scales at the same time. The results indicate the two mindfulness scales appear to be capturing different traits. The scale changes did not impact the questionnaire completion rates. However, attrition rates significantly increased after the baby's birth. DASS-21 was replaced by PASS as it was considered to be more clinically useful and specific to the prenatal sample. MAAS was replaced by FFMQ as FFMQ was later discovered (Van Dam et al., 2010) to be a more valid, reliable measure of mindfulness. The extended window of data collection introduced changes in hospital practices such as a new

intake form. The same three facilitators selected the participants and delivered the program in the same pairs over the seven years. The continuity in delivery would have minimised variations on intervention delivery, participation outcomes and recruitment.

Other sources of bias arose from the dual role of the facilitators and the self-selection of participants. The use of facilitators for data collection, increases measurement, selection and interviewer biases (Bowling, 2005). Moreover, self-selected participants are more motivated compared to randomly selected participants (Walsh, Kiesler, Sproull, & Hesse, 1992). The use of a non-random sample limits the generalizability of the findings to the overall population (Walsh et al., 1992). So, this study's findings can only be generalised to the specific group, namely the at-risk pregnant, Anglo-Saxon, Australian women.

A conceptual strength of CBMP is that it combines evidence-based interventions and theories such as MBCT, Attachment Theory and reflective functioning. The unique theoretical combination of CBMP appears to have a clinical benefit in reducing symptoms in an at-risk sample of pregnant women. The advantage in this antenatal focus is that it has the potential to prevent relapse in the mother and promote secure mother-child attachment. Mindfulness appears to enhance reflective functioning as the processes are interrelated.

Other strengths include the study's high statistical power, moderate to strong effect sizes with 30 minutes home practice and the use of an existing dataset. The strength of using a pre-existing dataset is that it provides a wealth of clinically specific information without the cost, time and complications associated with data collection (Boslaugh, 2007). Consistent with Parsons et al. (2017), this study found 30 minutes home practice was also associated with significant reductions in psychological distress. Reduced home practice have previously been attributed to non-significant outcomes due to insufficient time and exposure to acquire the mindfulness skills (Carmody & Baer, 2008). Even though the

participants had a history of mental illness, suicidal thoughts and trauma, there were significant improvements in their mental health, mindfulness and self-compassion. The only outcome with a low effect size was mindfulness as measured with the MAAS. Potential explanations for this discrepancy is that either CBMP did not improve mindfulness or as indicated by Van Dam et al. (2010), MAAS is a measure of mindlessness.

Given the methodological limitations, the research implications from this study are to undertake rigorous RCTs to verify the effectiveness of CBMP with an active control condition (Gotink et al., 2015). A truly random sample could be selected from probability sampling such as systematic random sampling. Future studies can make a substantial contribution to the field if they could verify the clinical benefit of this theoretical combination on mothers' reflective functioning, attachment, blood pressure, cytokines and infants' heart rate variability (Squires & Bricker, 2009). Implementing Consolidated Standards of Reporting Trials (CONSORT) guidelines (Schulz, Altman, & Moher, 2010) can minimise limitations with future study designs. The study design can be improved by including mixed methods, with qualitative interviews used to increase our understanding of how mothers change their thinking to reduce their own and their child's psychological distress.

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Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical Approval: All procedures performed in this study involving humans were in accordance with the ethical standards of the Women and Children's Health Network (WCHN) at which the study was conducted. A Low and Negligible (LNR) ethics approval (HREC/16/WCHN/21) was granted to conduct this study by WCHN.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

Author Contributions

KT: designed the current study, conducted all the data analysis and wrote the manuscript.

NC: supervised KT with the data analysis and writing process. RP: supervised KT with ethics approval and editing final manuscript. RP and HO: delivered the 8-week program and collected the data for the seven years. All authors provided feedback on the manuscript.

Chapter 8 Statement of Authorship for Published Paper

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Principal Author

Name of Principal Author (Candidate)	Kishani Townshend	
Contribution to the Paper	Chief investigator who planned the study, wrote the ethics application, accessed data, analyzed data and wrote manuscript. Also, the corresponding author to address reviewers' feedback.	
Overall percentage (%)	85%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.	
Signature	Date	18/4/2019

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contribution is equal to 100% less the candidate's contribution.

Name of Co-Author	Associate Professor Nerina	
Contribution to the Paper	Assisted with data analysis, study design and reviewing	
Signature		18/4/2019

Chapter 8 Study 3 Part 1

A Conceptual and Methodological Exploration of the Cognitive Processes

Associated With Mindful Parenting: Reflections on Translating

Theory to Practice

Townshend, K. & Caltabiano, N. J. (2019). A conceptual and methodological exploration of the cognitive processes associated with mindful parenting: Reflections on translating theory to practice. *Contemporary Perspectives In Family Research* (in press).

8.1 Synopsis

The results from Study 3 are presented in two parts, Chapters 8 and 9. Chapter 8 focuses on the cognitive change processes. Chapter 9 investigates the somatic, affective and social learning processes. The method section is the same for both chapters.

8.2 Abstract

At the nexus of mindfulness and parenting lies the fusion of two influential yet contradictory epistemologies, the Eastern contemplative practices with the Western parenting research. Mindful parenting is a parenting style that has grown in popularity in recent times to support parents during pregnancy, birth and beyond. The current study is the third stage of a mixed methods study on mindful parenting. The first stage of the study design conducted a systematic review of mindful parenting. The second stage summarised the change processes identified in the systematic review. **Purpose:** The aim of this pilot study is to clarify four clinicians' perceptions of cognitive change processes associated with mindful parenting, particularly how theory is translated to practice. **Methodology:** Interpretative Phenomenological Analysis (IPA) was used to analyse semi-structured interviews. **Findings:** The six higher-order change processes were conceptualised as an anchor.

Cognitive processes included intention, attention, attitude and reflective functioning.

Limitations: Given its methodological limitations, the next phase is to survey a large sample of clinicians and parents to verify the model. **Originality:** This paper makes an important contribution to the development of a more comprehensive theoretical model of mindful parenting. **Keywords:** Mindful parenting, cognitive change processes, Interpretative Phenomenological Analysis, reflective functioning

8.3 Introduction

Currently, a comprehensive theoretical model of mindful parenting is yet to be proposed. The disjointed contribution to theory development stems from different Mindful Parenting (MP) programs and scales (Bögels, Helleman, van Deursen, Römer, & van der Meulen, 2014; de Bruin, Blom, Smit, van Steensel, & Bögels, 2015; Duncan et al., 2009a). These fragments were synthesised into one of the first visual, conceptual models of mindful parenting (Townshend, 2016). Mindful parenting is defined as the ability to pay attention to your child and your parenting in a particular way that is intentional, non-judgmental whilst being present-focused (M. Kabat-Zinn & Kabat-Zinn, 1997). However, much of the mindfulness literature is infused with abstract, esoteric constructs inaccessible to many parents.

Another challenge in understanding the nature of mindful parenting has been the methodology used to identify how it functions. Western positivist approaches have predominantly been used to understand the non-dual, non-conceptual, paradoxical nature of mindfulness (Shapiro, 2009). More recently, phenomenology and hermeneutics have been applied to illuminate mindfulness (Sikh & Spence, 2016). Interpretative Phenomenological Analysis (IPA) offers a hermeneutic framework to understand the ontology and phenomenology of mindful parenting. According to Heidegger (1952), *dasein* which refers to *being there* is the *hermeneutics of facticity* (Zang, 2006). *Dasein*

leads to all understanding, the greatest of this possibility is self-understanding, inextricably linked to being in the world (Sikh & Spence, 2016). Similarly, mindful parenting aims to increase self-understanding and reduce reactivity in the parent–child context. A closer investigation of the methodological limitations may contribute to clarifying the precise introspective processes targeted by Mindful Parenting (MP) programs.

The stage model for the development of behavioural interventions consists of six stages (Onken et al., 2014). Applying the stage model to MP programs, it appears MP programs are still in Stage 0 (basic science) and Stage 1 (intervention generation, adaptation and pilot studies). Some effectiveness studies have been performed, which is Stage IV. However, similar to all mindfulness based programs (MBPs) (Crane et al., 2017), the precise mechanism targeted by MP programs to alleviate distress and facilitate flourishing is still unclear.

Several scholars have explored how mindful parenting functions to promote wellbeing by bringing moment-to-moment awareness to the parent–child relationship. Shapiro, Carlson, Astin, and Freedman (2006) advanced the mindfulness field by proposing that Intention, Attention and Attitude (IAA) promoted present-centred awareness. Different terminology has also been used to describe mechanisms or processes of change. This paper will use the terms *mechanisms* and *processes* interchangeably. In fact, Shapiro et al. (2006) does use the terms interchangeably. Shapiro et al. (2006) state: “Intention attention and attitude are not separate processes or stages – they are interwoven aspects of a single cyclic process and occur simultaneously (See Figure 1). Mindfulness is this moment to moment process” (p. 375). Regardless of the differences in terminology, Shapiro et al. (2006) commenced the identification of important change processes, which can eventually be transposed to identify change processes underpinning the mindful parenting construct. However,

mindfulness is a distinct construct to mindful parenting as the latter focuses on parent–child transactions.

8.3.1 Theoretical model, mechanisms and mediators. The investigation into the mechanisms and mediators of MP programs is still in its infancy. Two key research groups that have contributed to the development of a theoretical model of mindful parenting have been Duncan et al. (2009a) together with Bögels et al. (2010). Duncan et al. (2009a) developed the first mindful parenting scale known as Interpersonal Mindfulness in Parenting (IM-P), which is a 31-item 5-factor scale. The five hypothesised subscales corresponding to the five dimensions of mindful parenting proposed were as follows: (1) Listening with full attention refers to listening to your child with focused attention and awareness of experiences in the present moment (five items). (2) Emotional awareness of self and child refers to a parents' ability to be aware of emotions within themselves as well as in their child (six items). (3) Self-regulation in the parenting relationship refers to parents becoming less reactive to their child's behaviour and adopting a style of more calmly selecting a parenting style without immediately reacting (six items). (4) Non-judgmental acceptance of self and child refers to the need for parents to become more aware of the (unconscious) expectations they often have of their child's behaviour and to gradually learn to adopt a more non-judgmental acceptance of the traits and behaviours of themselves and their child (seven items). (5) Compassion for self and child refers to developing a genuine stance of caring and compassion for their child as well as for themselves as parents (seven items) (Duncan et al., 2009a). Duncan et al. (2009a) proposed that these five practices related to parenting, parental wellbeing, parent–child affection and child-rearing practices will lead to improved symptom reduction and child wellbeing.

Similarly, Bögels et al. (2010) hypothesised Mindful Parenting may use six change mechanisms to improve parenting: (1) reducing parent's stress reduces parental reactivity; (2) reducing parental preoccupation resulting from parental and/or child psychopathology, (3) improving parental executive functioning in impulsive parents; (4) breaking the cycle of intergenerational transmission of dysfunctional parenting schemas and habits; (5) increasing self-nourishing behaviour; and (6) improving marital functioning and co-parenting. Hence, the field is yet to develop a more comprehensive theoretical model of mindful parenting.

Subsequent investigation by de Bruin et al. (2014) led to the development of the Dutch IM-P, a 29-item 6-factor scale. The main difference between the original IM-P by Duncan et al. (2009a) and the Dutch version by de Bruin et al. (2014) was the separation of the factors for self and child. The Dutch IM-P separated the compassion and emotional awareness into different factors for self as well as the child instead of combining it into one factor (de Bruin et al., 2014). The 6-factor structure was replicated in three studies. The first study was on a general population sample of mothers of adolescents ($n = 866$). The second study was on a general population of mothers of adolescents ($n = 99$). The third study was on mothers with adolescents with Type 1 diabetes mellitus. Overall, these three studies indicate the Dutch version of the IM-P has valid and reliable psychometric properties.

Recent findings add to the emerging body of evidence that indicate MP programs are *associated with* direct improvement of parent's psychopathology and indirect improvement of children's psychopathology (Bögels et al., 2014; Meppelink, de Bruin, Wanders-Mulder, Vennik, & Bögels, 2016; Potharst, Aktar, Rexwinkel, Rigterink, & Bögels, 2017). Mindfulness was considered the predictor of these outcomes (Meppelink et al., 2016; Potharst et al., 2017). Since these studies are repeated measures study designs and not Randomised Control Trials (RCTs), it is not possible to infer causation or direct and indirect mediating effects.

A pre-post study by Bögels et al. (2014) found that an 8-week, 3-hours per week mindful parenting course based on Mindfulness Based Stress Reduction (MBSR) by J. Kabat-Zinn (1990) in addition to Mindfulness Based Cognitive Therapy (MBCT) by Segal, Williams and Teasdale (2002; 2012) reduced parents' and children's internalising as well as externalising symptoms. Improvements were also found in parenting stress, parenting and co-parenting, but not marital functioning (Bögels et al., 2014). The MP program called *Mindful with Your Baby* was an 8-week, 2-hours per week mindful parenting program (Bögels et al., 2014), based on MBSR (J. Kabat-Zinn, 1990) and MBCT (Segal et al., 2002; 2012). It is an adaptation of the MP program by Bögels et al. (2014) for mothers and their baby (0 to 18 months). The pre-post study of 44 mother–baby dyads by Potharst et al. (2017) found parental stress and affection only improved in the first and second follow-ups, respectively (small to medium effects). The first follow-up was eight weeks after the program and the second was one year after. Furthermore, maternal attention and rejection did not change. The infants seemed to benefit from the MP program with an increase in positive affect. The mean maternal psychopathology scores at pre-test scores were at clinical levels for internalising scale and at a subclinical level for total anxious/depressed subscale and attention subscale, whereas the post-test and follow-up scores were in the normal range (Potharst et al., 2017). The mechanism of change was hypothesised to be mindfulness (Gu, Strauss, Bond, & Cavanagh, 2015; Meppelink et al., 2016; Potharst et al., 2017). The joint attention between the mother and infant was also hypothesised to assist the self-regulatory ability of the infant that develops in the relationship with the mother (Potharst et al., 2017).

Meppelink et al. (2016) conducted a repeated measures study on the MP program by Bögels et al. (2014), which was 8 weeks in duration for 3 hours per week and at least 1 hour of meditation practice per day. Only the parents ($n = 70$) attended the MP program since their children had been referred to the mental health clinic. The average age of their children

was 8.3 years of age. The results show significant improvements in both the parent's and children's psychopathology, which included internalising and externalising symptoms (Meppelink et al., 2016). Increases in parents' general mindful awareness were associated with reductions in parental psychopathology, whereas improvements in mindful parenting were associated with improvements in child psychopathology (Meppelink et al., 2016).

8.3.2 Intentionality. The construct of intentionality lies at the convergence between the philosophy of mind and the philosophy of language. Toward the end of the 19th century, Franz Brentano introduced this term from medieval scholastic origin to contemporary philosophy (Huemer, 2015). It originates from the Latin word *intentio*, derived from *intendere*, which means being directed toward a goal (Huemer, 2015). The term intentionality refers to act, to respond with intention, with purpose (Huemer, 2015). A mindful parent is by definition one that is intentional rather than reactionary (M. Kabat-Zinn & Kabat-Zinn, 1997). A mindful parent is able to control own emotions, to view the world through the child's eye to calmly respond to creating self-efficiency (M. Kabat-Zinn & Kabat-Zinn, 1997). The child learns to regulate own emotions, by watching the parent model self-control.

8.3.3 Reflective functioning. Intersubjective relatedness is the subjective "state sharing" with another, where the parent is mentally present to relate to the infant (Stern, 1985, p. 211). Reflective functioning, which is the operationalisation of mentalization, is conceptually similar to intersubjective relatedness. Mentalization is defined as a metacognitive, reflexive, interpersonal process that promotes understanding of emotions and mental states so one can anticipate another's actions (Fonagy & Target, 1998). Being mentally present is unpacked as being mindful and focused on the present (Brown & Ryan, 2003). It does not entail running on automatic pilot or being preoccupied with the

past or the future (Brown & Ryan, 2003). Stern (1985) highlighted through case studies that patterns of mal-attunement, such as mis-attunement, selective attunement and non-attunement, result in the development of psychopathology in the child (Stern, 1985). Similarly, Winnicott (1960a) argued that mal-attunement leads to the development of the *false self*. Authentic attunement validates a child's inner experience, allowing the child to internalise a sense of acceptance (J. A. Sawyer, 2007). *Over attunement* or psychic hovering is experienced by the child as being intrusive (Stern, 1985). A mindful parent respects the changing needs of the child, the "natural oscillating rhythms of the child's need for connection" (Siegel & Hartzell, 2003, p. 68). Therefore, reflective functioning influences the styles of attunement.

Different terminology within the mindfulness literature aids in capturing the subtle nuances of mindful parenting. *Re-perceiving* or *decentring* is the process of shifting perspective (Shapiro et al., 2006). Attention to variability is defined as the active process of making novel distinction about objects in one's awareness (Langer, 2009). Attunement entails focusing attention on the mind of another, which enables two people to *'feel felt'* (Siegel, 2007). Explicitly identifying the various processes identified in the literature can extend our understanding and promote psychometric measurements of these processes.

The primary aim of this paper is to clarify what exactly is meant by clinicians delivering MP programs. More specifically it aims to clarify clinicians' perceptions of cognitive change processes associated with mindful parenting. Understanding how the theory is translated to practice can contribute to the development of a more comprehensive theoretical model of mindful parenting. Mindfulness literature is often infused with abstract constructs, such as intentionality and reflective functioning. The rationale for interviewing clinicians was to understand practical examples of how

mindful parenting works. This study is also influenced by recommendations of Crane et al. (2017) to identify the mechanisms targeted by MBP. Crane et al. (2017) argue that for future research to be meaningful, there is a need to establish a systematic approach to core research questions as well as a need to use established protocols, agreed definitions and manuals. This study also follows recommendations by both the WHO (2013) and National Mental Health Commission (NMHC) (2014), which highlight the need to improve the mental health research in family-focused early interventions. To the authors' knowledge, this study is one of the first to interview clinicians using MP programs to understand how theory is translated to practice. Clinicians were interviewed for their valuable insights into their own behaviour, how their participants are motivated to change and their own extensive mindfulness practice.

8.4 Method

The aim of this pilot study was to understand how the abstract theory of cognitive change processes associated with mindful parenting is translated to practice. The current study is part of a mixed methods study on mindful parenting. The first stage was a quantitative systematic review (Townshend et al., 2016) that investigated the effectiveness of Mindful Parenting (MP) programs. The second stage synthesised the change processes identified in the systematic review (Townshend, 2016). The third stage encompassed this study.

IPA was considered the most suitable methodology to address the research question for this study for several reasons. Firstly, Brocki and Wearden (2006) recommended IPA as a useful methodology for theory development, transferability and understanding processes operating within models as opposed to outcomes. Secondly, given IPA's theoretical roots in psychology, IPA has been specifically designed to understand illness and health promotion from the participants' perspective.

Phenomenological psychology, emerging from Husserl's philosophy, can broadly be described as being concerned with an individual's perception, their '*lived experience*' as opposed to producing an objective statement of a particular phenomenon (J.A. Smith, 1996). In fact J.A. Smith (1999) has previously used IPA to analyse transition to motherhood. Thus, IPA lends itself to theory development because it can expose the ontological and phenomenological aspects of mindful parenting.

8.4.1 Participants. The participants included four female Australian clinicians using MP programs. The clinicians were interviewed via Skype since it was a more cost-effective data collection strategy because they lived in different States across Australia. To protect the participants' privacy, this paper uses the pseudonyms Anna, Bella, Cara and Diana. For the past seven years, Bella and Diana have been facilitators of the *Caring for Body and Mind in Pregnancy* (CBMP) program, which has adapted MBCT to the perinatal context. Anna and Cara are facilitators of a mindful parenting course called COS-M, which has combined MBSR and *Circle of Security* (COS) for the past 3 years. The participants were aged from 35 to 65. Apart from Cara, the clinicians had at least one child of their own. Another similarity was that all participants had a personal meditation practice, where they have been practicing meditation for over two decades. All participants were trained mental health clinicians in fields including psychiatry and psychotherapy, with experience delivering mindfulness training to parents. The sample size was determined by the constraints of the study, commitment to in-depth analysis, reporting and richness of individual cases. A distinct characteristic of IPA is its commitment to a detailed interpretative account of the cases. Recently, J.A. Smith and Osborn (2008) recommended a sample size of three for students conducting IPA for the first time. The smaller sample size allowed for a richer depth of analysis in the similarities and differences.

Anna is a psychotherapist trained in Body-Oriented psychotherapy, Psychodynamic psychotherapy, Self-Psychology, Attachment Theory and trauma. She has over 30 years of experience working as a psychotherapist, 13 years of experience with MBSR and 3 years of experience with COS-M. Bella is a psychiatrist, with extensive experience in early intervention from conception to postpartum infant mental health. Bella has over 20 years of experience treating parents presenting with a raft of issues, including attachment, trauma, deprivation as well as disorders of feeding and state regulation. These include extreme difficulties with mis-attunement, sleeping, settling and emotional regulation. Cara is a psychotherapist with 7 years of experience running a private practice in a rural area. Cara is an experienced meditator with over 20 years of experience. She had also lived in Sri Lanka during 20 years of civil war whilst learning meditation. For the past 16 years, Diana has been counselling women presenting with depression, anxiety and perinatal mental health issues. Diana also holds a Doctor of Philosophy degree.

8.4.2 Procedure. Purposive sampling was used to select participants who were experienced facilitators of MP programs. Ethics approval was granted to interview only the clinicians, not the parents. A Low and Negligible (LNR) ethics application was approved by the Human Research Ethics Committee (HREC) at an Australian university (H-2017-080) and a maternity hospital (HREC/16/WCHN/21). The first author accessed the contact details of the participants through the professional networks for mindfulness programs in Australia. All four potential participants that were contacted via email agreed to participate in the study. The interview questions 1 to 10 in Table 8.1 were emailed to the participants a week before the interview. Question 11 was asked at the end of the interview, to clarify whether they agreed with the current theory in the field. The interviews were conducted via Skype while the participants were in their homes or private

office. All the interviews were recorded on an audio recorder and transcribed in full. This study followed guidelines by J.A. Smith, Flowers, and Larkin (2009) as well as by Yin (2013) on how to conduct case study research. The semi-structured interviews aimed to capture the richness and complexity of the facilitators' *meaning making* about the program they delivered and the way it changes their participants. To maintain consistency with data collection, the same questions were asked of all participants about their background, experience, role, program content, group dynamics and change processes.

8.4.3 Program content. The program content used by the facilitators combined two powerful epistemologies, the Eastern contemplative practice with the Western Cognitive Therapy and Attachment Theory. The facilitators delivered two different MP programs, namely the CBMP and the COS-M. CBMP is strongly based on MBCT, whereas COS-M is based on MBSR and COS. All three programs, MBSR, MBCT and COS, emphasise the importance of being with painful emotions to understand their unmet need rather than pushing them away. However, the similarities between MBSR and MBCT are that these focus on the individual and do not explicitly discuss attachment or parenting. The facilitators in this study adapted MBSR and MBCT to add a parenting component from COS to explicitly raise awareness about attachment as well as methods to help a child regulate emotions and attention.

Table 8.1

A List of the Interview Questions

Questions	
1)	How long have you been working as a mental health professional?
2)	What does your role entail?
3)	How did you become interested in Mindful Parenting?
4)	What is Mindful Parenting?
5)	What is the theoretical basis of Mindful Parenting?
6 a)	How is the course structured?
b)	How many hours of training do they attend each week?
c)	What is the course content?
d)	What is done in the classes? Is it a combination of information provision, self-reflection and group therapy?
f)	What aspects of the group dynamics promote insight/behaviour change?
7)	What are the crucial elements/the active ingredients of this program that promote behaviour change?
8)	What psychological processes do you think facilitate behaviour change?
9)	Share with us some examples of how it has changed your participants' thinking, feelings, behaviour and parenting.
10 a)	Have you observed any examples of how it may have influenced the participants' children?
b)	Have you noticed any differences in the birthing process, birth weight and on the child as they grow?
11)	Some of the change processes identified in the Mindful Parenting literature could be grouped under 5 headings: -
a)	Intention (Intentionality, Re-perceiving, Listening)
b)	Attitude (Non-judgmental acceptance, compassion)
c)	Attention (Attention to variability, attention regulation)
d)	Emotion (attunement, emotional awareness, emotional regulation)
e)	Attachment (secure attachment)

Both facilitators of the COS-M program consider it a MP program. Interestingly, the clinicians delivering CBMP had differing views on whether it was a MP program. Bella believed CBMP is a MP program as illustrated by this eloquently poignant quotation, “I mean she’s gestating a mother, as much as she’s gestating a baby.” In contrast, Diana emphasised CBMP is mindfulness during pregnancy. This study considers CBMP to be a MP program since it incorporates parenting, attachment, pregnancy care, perinatal depression and shark music, which the original MBCT program does not include. The original MBCT program does not cover attachment or parenting.

The duration of both programs are two hours per week for eight weeks. Both programs included a one-day retreat in Week 5. Both programs draw upon the principles of MBSR and COS. MBSR techniques used by both programs include the body scan, breathing space, observing thoughts, replacing fear with curiosity and sitting meditation. Both courses refer to practice conducted at home as *home-based practice* rather than *homework*. All facilitators emphasised participating parents were not *forced* to do *homework* they are encouraged to *practice* at a consistent time each day that suits their schedule. While COS-M encourages 40 minutes of sitting meditation for home-based practice, CBMP encourages participants to practice for shorter periods until they can sit for longer periods of 30 minutes. Both COS-M and the CBMP draw upon COS principles, such as attachment, *shark music* and relating to their child. Shark music refers to a video from the COS program that raises parents' awareness about perception and fear. In accordance with Bowlby's definition, the parent's formula for a secure attachment is, "Always be bigger, stronger, wiser and kind...where ever possible follow up my child's need.....Whenever necessary, take charge" (Marvin et al., 2002, p. 109). Caregivers learn to understand the aim is to acquire ways to repair disruptions rather expecting to always have smooth interactions.

8.4.4 Data analysis. The data were analysed in four stages as recommended by IPA (J.A. Smith & Osborn, 2008). The transcripts were organised into a table as demonstrated in Table 9.1, with the first column containing the raw interview data, the second column containing explanatory notes and the third column containing the themes (Eatough & Smith, 2006). During the first stage, the first author read the transcript several times and then made explanatory notes in the second column with quotations that appeared significant. The second stage involved listing specific themes in the third column by revisiting the transcript, to transform initial notes to themes, drawing upon psychological

concepts. The third stage required additional reductions of the data to appropriately cluster the preliminary themes. J.A. Smith and Osborn (2003) encouraged the researchers to “imagine a magnet with some of the themes pulling others in and helping to make sense of them” (p. 71). The final outcome of the iterative process was a table with each theme corresponding to subthemes with a brief illustrative data extract. The second author conducted an independent audit to track the raw data to the end table.

8.5 Results

Data analysis revealed six higher-order themes. The themes and their interrelationships are illustrated in Figure 8.1. Reflective functioning emerged as a higher-order process that influenced all other processes. The rich descriptive insights on cognitive change processes highlighted the breadth and complexity of mindful parenting. Table 8.2 provides examples of how the transcripts were analysed to produce explanatory notes, then themes. It also outlines the methodological limitations from the perspectives of quantitative and qualitative methodologies. Figure 8.1 aims to provide a comprehensive, cohesive theoretical model of mindful parenting. Figure 8.2 provides a separate conceptual map of cognitive processes. To simplify the abstract concepts, Figure 8.2 offers more substantive illustrative explanations of the qualitative findings from the study.

Table 8.2

Data Analysis Steps and Methodological Limitations

Clinicians	Transcript	Explanatory Notes	Themes	Methodological Limitations
Bella	<i>for a parent to be mindful, it goes across those different domains, intention, intentionality. So ... a mother or father has to understand that a baby has their own intentionality...[which] allows them to read their babies' intentions, motivations and that's part of being a reflective parent.....be able to think that your child has a separate mind with their own wishes and intentionality.... People have written about mirror neurons of course ... those researchers that have intentionality at the core of that (p. 16).</i>	The ability to recognise that a child has a separate mind, intentions	Reflective functioning Intention	Quantitative Internal & external validity Qualitative External validity
Bella	<i>one's capacity to be mindful would also lead to a parent's capacity to develop reflective functioning or higher reflective functioning. And in turn it has a direct relationship to the development of secure attachment so, when the baby appears, the real baby comes out, not the idealised baby....they will begin to form and develop that secure relationship with the baby. (p.15).</i>	Reflective functioning linked to secure attachment	Reflective functioning	As above
Bella	<i>Um well... I think it assists all those categories...reflective functioning contributes to all those things I think (p. 17).</i>	Reflective functioning contributes to all other change processes	Reflective functioning	As above
Anna	<i>Change processes are not equal (p. 35).</i>	Disagreed with the theory that all change processes are equal	Higher-order processes	As above
Cara	<i>And it's usually supporting them observing their child and being able to work out what is the need here. The need might be "Give me some space." The need might me protect me, organise my feeling (p. 32).</i>	Techniques to develop reflective functioning	Reflective functioning	As above

Table 8.2 (continued)

Data Analysis Steps and Methodological Limitations

Clinicians	Transcript	Explanatory Notes	Themes	Methodological Limitations
Cara	<i>Mindfulness is training attention, cultivation of awareness and extending that awareness to everyday life in order to live with more ease, with oneself and relationship to the world (p. 4).</i>	Awareness training	Attention	Quantitative Internal & external validity Qualitative External validity
Cara	<i>It's having new awareness. So, I think the mindfulness practice part of it helps cement that in. Um and its very important for self-regulation (p. 4).</i>	A major component of mindfulness and COS is awareness	Attention	As above
Anna	<i>Most parents said any contact with their children was depleting and draining, not nourishing.... Through MBSR techniques some people got more awareness about themselves, about spending time in attention, giving their kids more good attention rather than sort of being dismissive, being on their phones, their iPads (p. 3).</i>	Types of attention, Depleting or nourishing	Attention	As above
Bella	<i>You'll often see parents do that, don't you? Baby is upset they'll move their attention to an object or to something to help them regulate emotions so....joint attention also helps the infant know that the parent is thinking about their mind.....That also is a process in building attachment relationships, joint attention (p. 17).</i>	Joint attention has not previously been mentioned in theory	Attention	As above

Table 8.2 (continued)

Data Analysis Steps and Methodological Limitations

Clinicians	Transcript	Explanatory Notes	Themes	Methodological Limitations
Cara	<i>non-blaming attitude... non-fixing, ... Being able to start over, not having to be perfect, no such thing as perfect parenting (p. 34).</i>	No perfect parenting	Attitude	Quantitative Internal & external validity Qualitative External validity
Cara	<i>Always be bigger, stronger, wiser and kind (p. 46).</i>		Attitude	
Bella	<i>the primary focus of pregnancy is to prepare for becoming a parent, not just talking about mothers, but fathers, particularly under a whole lot of psychobiological processes, that occur in pregnancy that inevitably lead a woman to reflect on her... I mean she's gestating a mother, as much as she's gestating a baby (p. 4).</i>	Mothers, fathers, kindness used to change attitudes or re-perceive	Attitude	As above
Diana	<i>what is the matter with me? You know I am a nurse I should be able to ...Why did I let them do that to me? You know I should have been able to speak up for myself...so she said this train of thought had started and she said that train would end up down the road as 'I don't deserve to be a mother' but what happened is that she noticed that thinking early on and she said that this other softer, kinder voice came in, ... her tone of voice actually changed... she said, 'You've just had a baby, you've just had a baby', you know, she was able to bring that kindness and self-compassion to stop that negative train of thought in that really testing situation (p. 43).</i>	self-compassion	Attitude	As above

8.5.1 Reflective functioning. Reflective functioning was identified by all facilitators as being the core capacity that facilitates change. Bella explicitly articulates this, when she emphasises reflective functioning is the “*core capacity to develop in parents.*” Bella continues to make meaning by stating, “*mindfulness and mentalisation are conceptual cousins.... reflective functioning is the operationalisation of mentalisation.*” Developing parents’ capacity to be mindful also develops their reflective functioning, which is the strongest predictor of secure attachment according to Bella. Reflective functioning increases a parent’s ability to mentalise, to understand their own mind and their baby’s mind (Bella). The reason for placing reflective functioning as the strongest predictor is that Bella explicitly stated it contributes to all change processes on the model. Anna alluded to not all change processes as being equal.

While the other three facilitators did not explicitly name this higher-order process as reflective functioning, they all stressed the importance of reflecting on one’s behaviour and their child’s needs. Frustrated parents would make comments such as “*I want to kill this kid*” (Anna). The aim of the program was to help parents “*understand their behaviour,*” to develop their reflective capacity, perspective and inhibition (Anna). Similarly, Cara highlights change occurs when parents practice observing the child, asking “*what is their need?*” by tuning into themselves, noticing feelings and body awareness to act with more self-control (Cara). Diana spoke about noticing the “*energy of depression,*” the “*racing mind,*” “*notice what your mind is doing,*” “*notice the overwhelm,*” and “*notice the secondary judgement.*” Another term for secondary judgment is *double dukka*. *Dukka* refers to suffering in the Sri Lankan language, Sinhala (Moscrop & Mendis, 1987). Double dukka refers to additional suffering caused by judging oneself and ruminating over mistakes.

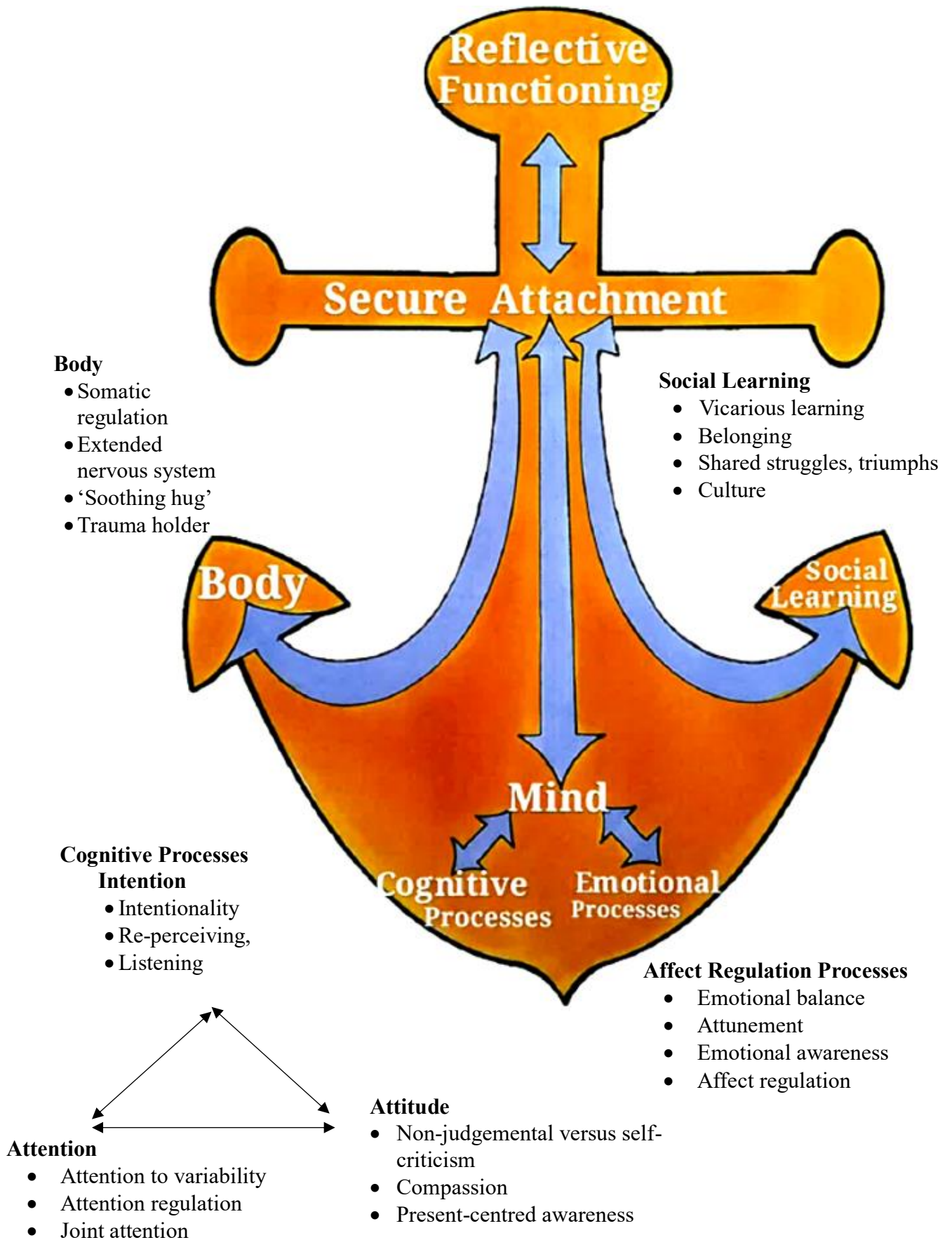


Figure 8.1. Anchor – A theoretical model of Mindful Parenting.

8.5.2 Intention. To succinctly describe the nature of the mind, change processes were divided into cognitive and emotional processes as illustrated in Figure 8.1. Cognitive processes encapsulate Shapiro et al.'s (2006) IAA triangle. Intention is operationalised through processes such as intentionality, *re-perceiving* and listening. The subtheme *intentionality* recurred through the four interviews with the facilitators reiterating the intention of their program was to help parents become more aware of their intentions, “*mind habits,*” emotions and their child’s needs (Anna; Bella; Cara; Diana). Bella identifies reflective functioning as a core characteristic of mindful parenting, when she states,

for a parent to be mindful, it goes across those different domains, intention, intentionality. So ... a mother or father has to understand that a baby has their own intentionality...[which] allows them to read their babies intentions, motivations and that’s part of being a reflective parent.....be able to think that your child has a separate mind with their own wishes and intentionality.... People have written about mirror neurons of course ... those researchers that have intentionality at the core of that.

Recognising the child has its own mind and intentions helps a parent to respond to their child’s needs. When a parent can model self-control, the child will learn to regulate their own emotions.

A key element of intentionality is knowing what the role of a parent entails. Bella highlights, “*What type of relationship do you want with your child that is same or different as you have with your mother?*” Cara states,

Sometimes I feel like some parents think that they give birth to a child and it’s like some kind of pot plant. You know those kind that you just water now and then.....never needs fertilising, it will do well in a closet...So you got this pot plant,

just every now and then, you just give it some water and feed it, it's gonna raise itself. So, this is opposite of that. It's like "No you actually have a job."

Intentionality is a purposeful mental state that involves a commitment to complete an action or actions in the future. It entails planning, forethought and acknowledgment that a parent's role is to respond to a child's needs.

Re-perceiving or decentring is the ability to shift perspective, to entertain multiple perspectives. Anna highlights *re-perceiving* with an example where a parent changed her perception of her three-year-old daughter as "a torturer," "bossy controlling tyrant" to a child with needs. The mother gradually began "to see her little girl as someone little that needed her" (Anna). Anna initially described a mother who "felt tyrannised by their child" and "wanted to flee the room and flat like she often did" (Anna). She viewed her daughter as a torturer because she used to rage and bounce off walls:

The kid would be screaming and raging and bouncing, like bouncing off couches onto the floor. And within a couple of weeks of her looking at the kid, the kid was sitting able to say, 'Mummy I'm not bouncing now. I'm just sitting up.' ...the kid knew what the mom wanted her to be able to do and was able to do it. Quite spontaneously, much more cooperative, ...and the kid actually wanted to participate in helping mummy make the food right?... before this, she was scared of the kid doing that because she was scared of the kid getting a knife and attacking her. Just a fantasy, a projection right? (Anna).

Bella identified the importance of re-perceiving, by stating, "*Being able to shift perspective and entertain multiple perspectives around yourself and your child is part of good mentalizing.*" Mindfulness assists with shifting perspective "*both from the driven doing to present state awareness*" (Bella). To acknowledge this is only one dimension of

the child. To notice the subtle nuances of the child's intentions to understand their perspective.

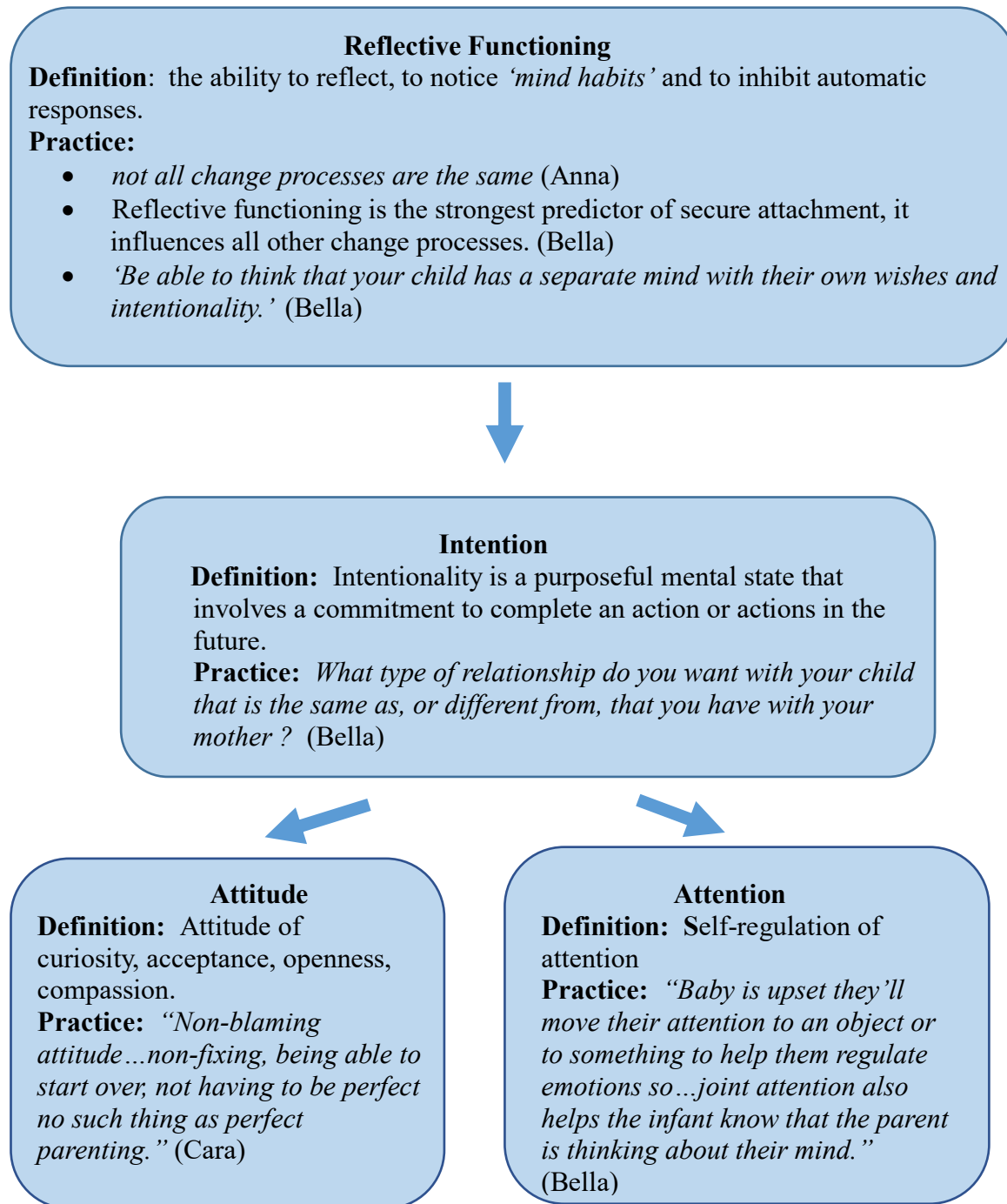


Figure 8.2. Clinicians' practical examples of the theoretical concepts.

8.5.3 Attention. Mindfulness offers a tool to train one's attention. Cara eloquently highlighted this, when she stipulated, "*Mindfulness is training attention, cultivation of awareness and extending that awareness to everyday life in order to live with more ease, with oneself and relationship to the world.*" A major component of COS is awareness, "*having new awareness.... Mindfulness part helps to cement awareness training, self-regulation*" (Cara). However, it goes beyond attention; the child is yearning for a connection. Children are often dysregulated, when the parent cannot observe the child's need for a connection. The intentional attention happens organically, when the parent delights in their child.

A recurring theme amongst the four facilitators is paying attention to the type of attention that is given to children and themselves. This differentiation resembles Langer's (2009) "*attention to variability,*" which is the ability to notice novel differences in one's environment, emotional landscape. Anna refers to the different types of attention, whether it is "*nourishing or depleting. Most parents said any contact with their children was depleting and draining, not nourishing.*" Through MBSR techniques, some of this shifted, "*people got more awareness about themselves, about spending time in attention, giving their kids more good attention rather than sort of being dismissive, being on their phones, their iPads...*" (Anna). Diana speaks about paying attention to the "*energy of depression,*" behaviour activation and motivation. When depressed, individuals usually lose motivation, "*to get out of bed in the morning...to go for a walk...find yourself withdrawing from going out with your friends or not making an effort..., your bills pile up.... if you are able to acknowledge and honour the fact your energy is depressed and ...get yourself to do little bit of what you usually do.* (Diana)

Diana goes on to explain how the participants swept the kitchen floor rather than sweep the whole house. So, the intensity of the depression lessens when one becomes aware of energy of depression and reduce tasks to smaller portions.

Joint attention is a new theme that has emerged from these interviews. Maintaining joint attention from infancy encourages children and parents to explore, to emotionally regulate and to settle.

You'll often see parents do that, don't you? Baby is upset they'll move their attention to an object or to something to help them regulate emotions so....joint attention also helps the infant know that the parent is thinking about their mind.....That also is a process in building attachment relationships, joint attention. (Bella)

These capacities are “*good building blocks for good infant mental health*” (Bella). Hence, maintaining joint attention not only helps children to focus, it assists with secure attachment, emotional regulation and learning.

Skilfully learning what our minds do evolves us as human beings. All the participants in one way or another highlighted the importance of noticing the nature of the mind. Anna referred to it as the “*perception problem.*” Diana utilised terms such as “*mind resistance*” and “*automatic pilot.*” Bella emphasised,

what mindfulness teaches us, is all of our experience is temporary, thoughts and feelings come and go. Moods are like the weather.... if we acknowledge that,...we're less reactive to things, [that]...could be disturbing or unpleasant.

The facilitators used various metaphors to illustrate the temporary nature of thoughts and feelings, such as “*leaves on a stream,*” “*clouds,*” “*train of thought,*” “*monkey mind*” and “*white rabbit*” (Bella; Diana). Thoughts and feelings float like leaves on a stream, like clouds, the train of thoughts, that predicts the ultimate destination. Metaphors are introduced to the parents early in the course as a helpful tool in watching thoughts. Parents are told

these metaphors may be helpful or they may wish to have their own metaphors. One of the parents developed her own metaphor, that of the white rabbit. Whilst the metaphor of the monkey mind is a frequently used Buddhist metaphor to illustrate the nature of the mind, a new metaphor, namely the white rabbit, emerged from the interview. The white rabbit from Alice in Wonderland is used to exemplify the “*crazy, interrupting, distracting thoughts of the white rabbit ...pops in and darts out of holes and looks around and darts around*” (Bella; Diana). When the depression was triggered, she likened her emotions to the white rabbit: “*disappearing down the deep, dark holewhat happened after the class, through the class she could watch the rabbit go down but she didn’t have to do down with it*” (Diana). The white rabbit not only captured the essence of the distracting mind, but also helped to dissolve the distressing emotions.

8.5.4 Attitude. The attitude of respectful inquiry resonates through all the interviews. It is not just attending to our attention, it is *how* we attend, non-judgmentally, with compassion, with respect. Two active ingredients that facilitate change are non-judgmental acceptance and compassion. Anna speaks about parents starting the course with feelings of rage, contempt and dismissiveness. Gradually through the course, parents learn a new way of paying attention non-judgmentally, with compassion. This enables them to accept self-responsibility and self-agency (Anna). Likewise, Bella highlights there is “*no right or wrong*”, “*we don’t ever tell people to stop doing anything.*” The aim is to model non-judgmental attitude by being a mentor using respectful inquiry rather than enforcing instructions. The non-judgmental attitude with balance and equanimity helps parents deal with uncertainty (Bella). Cara also emphasises the non-judgmental attitude when she states, “*non-blaming attitude... non-fixing, ... Being able to start over, not having to be perfect, no such thing as perfect parenting*” (Cara).

Curiosity appears to reduce fear. She goes on further to state, *“Always be bigger, stronger, wiser and kind”* (Cara). Bella’s eloquently poignant quotation, *“I mean she’s gestating a mother; as much as she’s gestating a baby”* illustrates re-perceiving. Kindness appears to be crucial in changing attitudes or re-perceiving.

While the study was on mindful parenting, the majority of the findings were on mothers/motherhood. The highlighted sections in Table 8.2 illustrated how mindful parenting is relevant to mothers and fathers. With the shifting dynamics of familial relations in contemporary times, further research is needed on fatherhood. A recent study (Schuppan, Roberts, & Powrie, 2019) explored at-risk fathers’ perceptions of paternal perinatal mental health.

Self-compassion helped them reduce the power of the *“inner critic,” “the judgement of being a failure”* (Diana). Diana shares an example of a mother who had a terrible birthing experience, where her placenta was stuck inside her. She was subjected to long periods of *“very painful, invasive procedures”* (Diana). The mother was a nurse, with a traumatic childhood. When all this was happening, she was saying to herself,

“What is the matter with me? You know I am a nurse I should be able to ... Why did I let them do that to me? You know I should have been able to speak up for myself” ... so she said this train of thought had started and she said that train would end up down the road as “I don’t deserve to be a mother” but what happened is that she noticed that thinking early on and she said that this other softer, kinder voice came in, ... her tone of voice actually changed... she said, “You’ve just had a baby, you’ve just had a baby”, you know, she was able to bring that kindness and self-compassion to stop that negative train of thought in that really testing situation. (Diana)

This example highlights how a change in attitude led to a softer, kinder voice that stopped the train of negative thoughts. Self-compassion and non-judgmental acceptance appear to help with reducing the harsh judgment of the inner critic.

8.6 Discussion

The key purpose of this study was to clarify clinicians' perceptions of cognitive change processes associated with mindful parenting. The findings indicate reflective functioning, secure attachment, cognitive, somatic, affective and social learning processes are important change processes that facilitate positive outcomes. It is hardly surprising the findings were largely consistent with previous research on mindful parenting. The hypothesised cognitive processes are reiterated by the clinicians, who have been trained in mindfulness. This study's methodological approach is suitable for theory development according to Brocki and Wearden (2006).

Although most of the findings are consistent with previous research on mindful parenting, the current findings highlighted important differences between theory and practice. Firstly, the main difference was the opinion that reflective functioning emerged as a superordinate process that influenced all other change processes. Secondly, cross-cultural differences in mindful parenting were not raised by clinicians or theory. Hence, the present study highlights differences between the theory and practice of mindful parenting. It also contributes to the development of a more comprehensive theory of mindful parenting.

The close textual analysis of the transcripts resonates with the more formal theories of mindfulness, parenting and phenomenology. This study contributes to the current literature by presenting the emergent themes as a new theoretical model of mindful parenting illustrated as an anchor (Figure 8.1). The higher-order theme labelled mind encompasses both cognitive and emotional processes. Cognitive processes incorporated

reflective functioning, intention, attention and attitude. Double hermeneutic or dual interpretation process (J.A. Smith & Osborn, 2008) was used to make meaning from the participants' *meaning-making*.

Reflective functioning emerged as the primary change process that facilitated mindful parenting. This finding reinforces previous research on parenting and psychopathology (Fonagy et al.1995; Slade, 2002). According to Fonagy and Target (1998) mentalization is operationalised as reflective functioning. Mentalization has been identified as a parent's core capacity to prevent psychopathology in their child from early childhood (Fonagy et al.1998b). Slade (2002) categorised reflective functioning as both a cognitive and emotional process. It is related to intersubjective relatedness, which is facilitated by the "ability to hold the present moment with awareness and attention" (J.A. Sawyer, 2007). Mindfulness and mentalization have been considered two conceptual cousins. Both cognitive processes focus on an individual's understanding, perspective taking and monitoring attention. Both are emotional processes because they refer to the capacity to hold, regulate, contain and fully experience the emotion without being overwhelmed or shutting down (Slade, 2002). However, the distinction between these conceptual cousins are somewhat blurry. It may be a distinction without a difference.

Trauma appears to impair reflective functioning in some traumatised mothers (Slade, 2002). Fonagy and Bateman (2006) developed techniques to increase the reflective functioning in patients with Borderline Personality Disorder (BPD). Arietta (Slade, 2002) drew upon the mentalization work of Fonagy (1998b) to develop a program that increased the reflective functioning of young at-risk mothers. The relationship histories of these young mothers were characterised by attachment disruption and trauma, which disrupted reflective functioning (Slade, 2002). Mothers

who had high reflective functioning, regardless of whether they were traumatised, had babies who were securely attached, whereas traumatised mothers with low reflective functioning invariably had insecure children (Fonagy et al., 1995). The inability of a mother to hold their child's experiences in their mind contributes significantly to the child's elevated stress levels and fragmented attentional processes (Slade, 2002). The clinical utility of understanding the protective factors that differentiate traumatised mothers that have high reflective functioning from those with impaired reflective functioning can have resounding benefit in preventing psychopathology in both the mother and child.

Parental reflective functioning plays a significant role in the intergenerational transmission of attachment. A mother's secure attachment with her own mother has been found to promote her own increased peripheral oxytocin responses and activation of dopamine-associated reward processing brain regions when she interacts with her infant (Strathearn, Fonagy, Amico, & Montague, 2009). A pregnant mother's prenatal attachment while she is pregnant has also been found to predict secure postnatal attachment (Kim et al., 2014). "At the earliest stages the infant and the maternal care belong to each other and cannot be disentangled (i.e. 'there is no such thing as an infant')" (Winnicott, 1960b, p. 587). Bella's statement "*not just gestating a baby, she is gestating a mother*" concurs with attachment theorists, such as Winnicott (1960b), as well as contemporary neurobiological evidence. It also highlights the important role health services play in developing parental skills, particularly with parents who have been deprived and traumatised.

8.6.1 Intention, attention and attitude (IAA). Examining the analytical observations already highlighted through a theoretical lens confirms Shapiro et al.'s (2006) IAA model. All four facilitators emphasised the importance of intention, attention and attitude. Bella's

view reflects the other facilitators' insights on intentionality. A "*mindful parent*" or a "*reflective parent*" understands "*a baby has a separate mind with their own wishes and intentionality*" to respond to a child's needs (Bella, p. 19). Bella makes meaning of this by linking intentionality to mirror neurons. Contemporary research has demonstrated the simultaneous firing of mirror neurons is linked to intentionality (Rizzolatti & Sinigaglia, 2007). However, traumatised parents viewed their child as a "*torturer...a bossy controlling tyrant.*" The aim of the program was to shift their perspective. Re-perceiving was identified as a fundamental change process promoted by the program to help parents accept multiple perspectives. Hence, intentionality and attunement, that is "*feeling felt,*" appear to be inextricably linked.

Attending to the nature of the mind, the mind habits were identified as being crucial skills to evolve as human beings. Cara's insights on mindfulness as the training of attention confirms the views of both ancient and contemporary scholars (Wallace, 2014). Two different states of mind are the "*being*" and the "*driven doing*" mind (J. Kabat-Zinn, 1994). Similarly Segal et al. (2012) refer to the doing state of mind as the '*driven doing mind*'. Maintaining joint attention was a new theme that emerged from these interviews. Joint attention between a parent and a child was identified as being a key process to facilitate learning, secure attachment and emotional regulation. Metaphors were used by all the facilitators to notice the nature of the mind. The temporary nature of thoughts was illustrated by metaphors such as "*white rabbit leaves,*" "*on a stream thought train*" and "*thoughts as clouds.*" White rabbit emerged as a new metaphor to describe the nature of the mind. A fundamental attitude highlighted in the interviews was 'how' attention is focused, that is with respect, non-judgmental acceptance and compassion. As shown by previous research (Germer & Neff, 2013), self-compassion assisted with changing feelings of rage, contempt

and dismissiveness to kindness. Self-compassion assisted with changing the voice of the “*inner critic*” to become the “*inner coach*.”

Normative expectations regarding parental behaviour in the 21st century infer parents *should* take care of their children and parents should be attentive. The historical background of mindful parenting began when M. Kabat-Zinn and Kabat-Zinn (1997) applied mindfulness to parenting. Much of the literature on mindful parenting is from the Western cultural background. Limited literature (Nanamoli & Bodhi, 1995) also describes Buddha as a parent, 2,600 years ago from an Eastern culture. Both the parents and clinicians referred to in this study were from Caucasian, middle-class Australian background. The clinicians did not raise the cultural influences on parenting.

Although mindful parenting may share some of the normative expectations of parenting, it also has distinct features that differentiate it from other parenting styles. A defining feature of mindful parenting, which distinguishes it from other parenting styles, is the practice of meditation for at least 30 minutes per day. While the clinicians emphasised, parents are not *forced* to engage in meditation practice, it seems to be an essential practice to facilitate intrapersonal and interpersonal mindfulness. There also appears to be an ambiguity between the non-judgmental attitude prescribed by mindfulness practice and clinicians’ evaluations of their patients. Discerning awareness better describes the purpose of a non-judgmental attitude. Although clinicians will have clinical evaluations of their patients, mindfulness practice trains them to engage in respectful inquiry rather than critical judgment. The emphasis on respectful inquiry, curiosity and compassion *invites* parents to reflect on their practice, rather than dictating parents should perform certain actions. Self-care and reflecting on how a parent’s own parenting affected their relationship with their child is part of the respectful inquiry.

There are no explicit gendered expectations of mindfulness. The examples highlighted by the clinicians explain the actual practice of being a mindful parent. The concept applies to both genders, which includes mothers, fathers, grandparents and carers. However, the implicit gender bias associated with the caring burden led to clinicians giving more examples of mothers than fathers. Women still carry 70% more parenting responsibilities than men in the 21st century (Craig, 2006). Hence, more mothers attended the MP programs than fathers. Finally, MP programs are increasingly used in a variety of contexts, from perinatal mental health to the prevention of child abuse.

The methodological limitations differ according to whether the study is evaluated against quantitative or qualitative criteria. According to quantitative methodology, this study lacks both internal and external validity. The absence of external validity relates to the inability to generalise the findings to a wider population. The potential researcher bias contributes to the lack of internal validity. In contrast, confidence in qualitative research is often evaluated against three criteria, namely reliability, validity and transferability (Leung, 2015). This study appears to meet the criteria for reliability and internal validity, but not transferability according to criteria evaluating qualitative studies. Reliability or dependability is concerned with whether the author's interpretation matches the participants' quotations. Internal validity or credibility checks whether the methodology matches the research question. Transferability or external validity is concerned with whether the results can be generalised. This study appears to be reliable since the participants were given a copy of their transcripts to verify whether they agreed with the content. Meticulous consideration was given to ensure the interpretation of the direct quotations resonates with the participants' narratives. With regard to internal validity, a qualitative research methodology was used, which is more suitable for research questions pertaining to "*how things are experienced*" and "*how things change.*" However,

transferability was a major limitation of the study. Given that a purposeful sample of only four participants were interviewed, the findings cannot be generalised. “A fundamental tenet of phenomenology is to make knowledge claims only for givens that can be intuited by consciousness. Consequently it is never speculative” (Giorgi, 2008). Therefore, before these findings can be transferred to other contexts, future studies need to objectively measure whether reflective functioning influences other change processes.

The limitations of this study are the lack of external validity, internal validity and potential sources of bias from the researcher’s preconceptions. J.A. Smith, Flowers, and Larkin (2009) encourage IPA researchers to reflect on *theoretical transferability* rather than *empirical generalizability*. The participants were selected since they were Australian clinicians of MP programs. This purposeful sample of only four participants may have amplified this bias. Clinicians in other countries may have different insights on what facilitates change. Secondly, the researcher’s preconceptions may have influenced the interviews. To avoid this, the primary author repeatedly reflected on her own preconceptions, to ensure they did not influence the participants’ answers. A semi-structured interview with the same questions was asked of all four participants to reduce potential sources of bias and suggestiveness.

The programs used by the facilitators, namely COS, MBSR and CBMP need to be further evaluated through RCTs within the mindful parenting context. Although the COS program has been widely used for 50 years in promoting secure attachment, no randomised controlled trials have been conducted and only a few previous studies have demonstrated its effectiveness (Hoffman, Marvin, Cooper, & Powell, 2006; Mercer, 2014; Zeanah, Berlin, & Boris, 2011). Nevertheless, COS is linked to considerable research on Attachment Theory and use of video feedback to promote caregiver reflection, which concurs with emerging best practices (Zeanah et al., 2011). Similarly,

further research is needed on the application of MBSR and MBCT to parenting (Townshend et al., 2016). Critics of mindfulness state the mechanism of action is probably not related to specific factors of mindfulness theory, but rather, general factors, such as manualised approach, active supportive therapists, a focus on patients' sense of agency and management of life situations (Mulder, 2015). To clarify whether this is so, further quantitative research is needed.

This study has several conceptual and methodological strengths. A conceptual strength is that it proposed a new theoretical model of mindful parenting that synthesised previous research on mindfulness, parenting and psychopathology. It is one of the first studies to comprehensively encapsulate the mind, body, attachment and social learning into a gestalt of mindful parenting. Ethics was only granted to interview the clinicians, not the parents. Interviewing experts in the field of mindful parenting, provided valuable insights by experienced meditators trained in introspection.

William James insisted that introspection needs to be incorporated into the scientific study of the mind (Wallace, 2014). However, Wallace (2014) has argued that contemporary cognitive scientists have not yet devised sophisticated means for examining mental events. These observations have usually been left to paid volunteers, usually undergraduate students who have no professional training in observing or reporting mental processes (Wallace, 2014). Hence, a methodological strength of this study is that it interviewed experts trained in observing the nature of the mind. Nevertheless, it is important to note that contemporary understanding of evidence views expert opinion to be on the lowest level of the evidence hierarchy (Joanna Briggs Institute (JBI), 2018). Another methodological strength was the use of IPA, which provided a detailed, inductive approach originating from phenomenology and hermeneutic inquiry in understanding the subjective felt world of the clinician.

Phenomenology is not only an important research methodology but also is crucial for understanding the nature of consciousness. The researcher was able to go beyond the descriptions of physical arousal to a detailed picture of their *felt world* of mindful parenting as embedded in the narratives of their *lifeworld*.

The anchor has potential clinical implications if it is verified by quantitative studies with psychometric and physiological measures. A larger, more diverse ethnic, sociocultural sample (Roy Malis, Meyer, & Gross, 2017) could address the lack of transferability and potential biases. A multicentre, longitudinal study with multiple instructors, control groups and blinded researchers (Roy Malis et al., 2017) could mitigate the aforementioned biases.

8.7 Conclusion

The primary aim of this study was to explore clinicians' perceptions of cognitive change processes associated with mindful parenting. The data analysis revealed six higher-order themes, which confirmed previous research on both parenting and mindfulness. The core contribution of this study was the preliminary development of a more comprehensive theoretical model of mindful parenting. Reflective functioning emerged as a superordinate change process that influenced the other processes, such as attachment, mind, body and social learning. For both parents and policy makers, it highlights the importance of fulfilling the individual and societal responsibilities in *gestating a parent*. Future research that tests the model with psychometric measures could confirm whether reflective functioning mediated through attachment influences mind, body and social learning.

"I thought that when I was little that I was wanting my mother's attention all the time, but really what I was wanting was connection." (Cara)

Chapter 9: Study 3 Part 2

The Extended Nervous System: Affect Regulation, Somatic and Social

Change Mechanisms Associated With Mindful Parenting

9.1 Abstract

Background: A theoretical model of mindful parenting has the potential to succinctly summarise its various change processes. The primary aim of this study was to investigate some of the change processes associated with mindful parenting, namely, the affect regulation, somatic and social change processes. A secondary aim was to verify whether clinical insights are consistent with the change processes identified in a systematic review of mindful parenting. **Method:** Interpretative Phenomenological Analysis (IPA) was used to analyse semi-structured interviews with four Australian clinicians delivering Mindful Parenting (MP) programs. The clinicians had extensive personal meditation practice. This qualitative study is part of a mixed methods study, which commenced with a quantitative systematic review. **Results:** Six higher-order themes identified as change processes included reflective functioning, attachment, cognitive, affective, somatic and social change processes. **Conclusion:** The anchor is a new theoretical model summarising the change processes associated with mindful parenting. The mother portrayed as the *extended nervous system* for the infant is a neologism that also has not been previously mentioned in the literature. Given the limitations with the small sample and potential bias with interpretation, the anchor is a starting point to developing a theoretical model of mindful parenting. Future research with larger sample sizes and objective measures is needed to confirm whether the anchor is a reasonable summary of the change processes.

Keywords: change mechanisms, processes, affect regulation, somatic, social, mindful parenting

9.2 Introduction

Despite the escalating mental health expenditure, the rates of mental illness continue to rise in Australia. Expenditure on mental health services has recently surpassed \$8.5 billion a year (Australian Institute of Health and Welfare [AIHW], 2016). Yet, the system is still under pressure. Mindful parenting is a set of parenting skills broadly defined as the ability to pay attention to your child and your parenting in a particular way that is intentional, non-judgmental while being present-focused (M. Kabat-Zinn & Kabat-Zinn, 1997). It is one of the many parenting programs currently being used as an early intervention tool. Understanding how Mindful Parenting (MP) programs are associated with changing parents' behaviour is crucial in clarifying whether these programs are effective in reducing psychological distress.

Depression affects parenting, children's health and psychological functioning (England & Sim, 2009). The term *lost child* or *invisible child* is often used to describe the child of a parent with depression (Cowling, 1999). These children are considered *lost*, since much of the mental health treatments tend to focus on the parents and ignore the child. It is estimated that over a million children in Australia, approximately 23% of children under the age of 18 years, live with a parent with mental illness (Maybery, Reupert, Patrick, Goodyear, & Crase, 2009). At least 15 million children are estimated to live in households with parents who have major or severe depression in the United States of America (National Research Council (US) and Institute of Medicine (US) Committee on Depression, 2009). A cohort study of 86,957 parents in the United Kingdom found that by the time children reach 12 years of age, 39% of mothers and 21% of fathers had experienced depression as parents (Dave, Petersen, Sherr, & Nazareth, 2010). Children of parents with depression have been found to have a higher risk of developing affective illnesses, psychiatric problems (Beardslee, Versage, &

Gladstone, 1998) and medical problems (Weissman et al., 2006) later in adulthood compared with children who did not have a parent with a mental illness. Although the association between maternal depression and children's mental health is well established, further evidence is needed on how to assist these families.

9.2.1 Attachment. Extensive research has consistently confirmed the quality of a child's primary attachment relationships is the key determinant of a child's socioemotional development (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Cassidy & Shaver, 2008; Sroufe, 2005). Attachment is defined as "a strong disposition to seek proximity to and contact with a specific figure and to do so in certain situations, notably when frightened, tired or ill" (Bowlby, 1969, p. 37). The contemporary definition of attachment refers to the infant's or young child's emotional connection to an adult caregiver, an attachment figure as inferred from the child's tendency to selectively seek that adult when experiencing distress (Zeanah et al., 2011). The distinction between social engagement and attachment is that the child intentionally seeks the adult when distressed.

Four distinct patterns of attachment have been identified as secure, avoidant, ambivalent and disorganised (Ainsworth et al., 1978; Main & Hesse, 1992). Secure attachment reflects a relationship in which the caregiver provides protection, *a haven of safety* for the infant's emotional regulation when distressed (Bowlby, 1969, p. 303) as well as support for the child's exploration from a *secure base* (Bowlby, 1988). Avoidant attachment is associated with caregiving responses that do not fully meet the child's safe haven needs, with an overemphasis on encouraging exploration (Ainsworth et al., 1978). Ambivalent attachment is associated with unpredictable caregiver availability and/or inadequate support for secure base needs and reluctance to support autonomous exploration by the child (Ainsworth et al., 1978). Disorganised attachment

occurs when the child experiences the caregiver as frightened or frightening (Main & Hesse, 1990; Main & Hesse, 1992). When infants expect the caregiver to provide safety, but instead experience danger, the infants were observed as being confused or frightened as regards their caregiver (Main & Hesse, 1992). Psychopathology is strongly associated with disorganised attachment, leading to adverse emotional and behavioural outcomes for the children (Fearon, Bakermans-Kranenburg, van Ijzendoorn, Lapsley, & Roisman, 2010; Solomon & George, 2011). Acknowledging these different patterns of attachment can assist parents in promoting secure attachment with their children.

Cortisol and oxytocin responses have been implicated in the quality of caregiving (Apter-Levy et al., 2013; Feldman, Gordon, Influx, Gutbir, & Ebstein, 2013). While breastfeeding, secure mothers were observed to have strong decreases in cortisol, the stress hormone (Krause et al., 2016). Oxytocin plays a crucial role in maternal bonding behaviour during pregnancy and postpartum period (Feldman, Weller, Zagoory-Sharon, & Levine, 2007). These maternal bonding behaviours include the gaze, '*motherese*' vocalisations, positive affect, affectionate touch, attachment-related thoughts and frequent checking of the infant (Feldman et al., 2007). Lower levels of salivary oxytocin have also been found in not just the depressed mother, but her family, including the children and their father (Apter-Levy et al., 2013). These children also had lower empathy and social engagement (Apter-Levy et al., 2013). The implications of these findings are that insecure or traumatised mothers are more likely to have higher levels of cortisol and lower levels of oxytocin, which can be transferred to their infant.

The primary aim of this study was to examine the change processes associated with mindful parenting. The secondary aim was to verify whether clinical insights are consistent with the change processes identified in a systematic review of mindful

parenting. Change processes that promote general mindfulness include intention, *attention* and *attitude* (Shapiro et al., 2006). This paper uses the terms mechanisms and processes interchangeably. In fact, Shapiro et al. (2006, p. 375) also use these terms interchangeably, as illustrated by the quotation, '*Intention, attention and attitude are not separate processes or stages*' (p. 375). Five core skills that facilitate mindful parenting are: (a) listening with full attention when interacting with their children; (b) non-judgmental acceptance of self and child; (c) emotional awareness of self and child; (d) self-regulation in the parenting relationship; and (e) compassion for self and child (Duncan et al., 2009a). Change mechanisms that specifically promote mindful parenting have been identified as attachment, emotional awareness, intentionality, compassion and kindness (Bögels & Restifo, 2014). A systematic review on mindful parenting summarised possible change mechanisms identified in literature as intention, attitude, attention, affect regulation and attachment (Townshend, 2016; Townshend et al., 2016). The substantive research question driving this study was, *what are the change processes associated with Mindful Parenting?*

9.3 Methods

Whilst all qualitative methodologies allow for a degree of epistemological flexibility, Interpretative Phenomenological Analysis (IPA) was the most appropriate methodology to answer this study's research question. IPA is a useful methodology for theory development, transferability and understanding processes operating within models (Brocki & Wearden, 2006). Its theoretical roots in psychology lends itself to understanding the clinicians' perspective or lived experience from a phenomenological sense. Experts in the field were interviewed for their insights from extensive meditation practice and wealth of experience observing how parents change through attending the Mindful Parenting (MP) programs. J.A. Smith and Osborn (2008) recommended a sample size of three for students

performing IPA for the first time. Following recommendations by J.A. Smith and Osborn (2008), this study recruited a purposive sample of four clinicians delivering MP programs.

Figure 9.1 illustrates the mixed methods research design, which led to this qualitative interview study. The first stage of this study was a systematic review that investigated the effectiveness of MP programs. The second stage summarised the numerous change processes identified in the systematic review into five categories, namely Intention, Attention, Attitude, Affection Regulation and Attachment (IAAAA). The third stage is this qualitative study, which aimed to verify whether the clinical insights on the change process associated with mindful parenting are consistent with those identified in the literature.

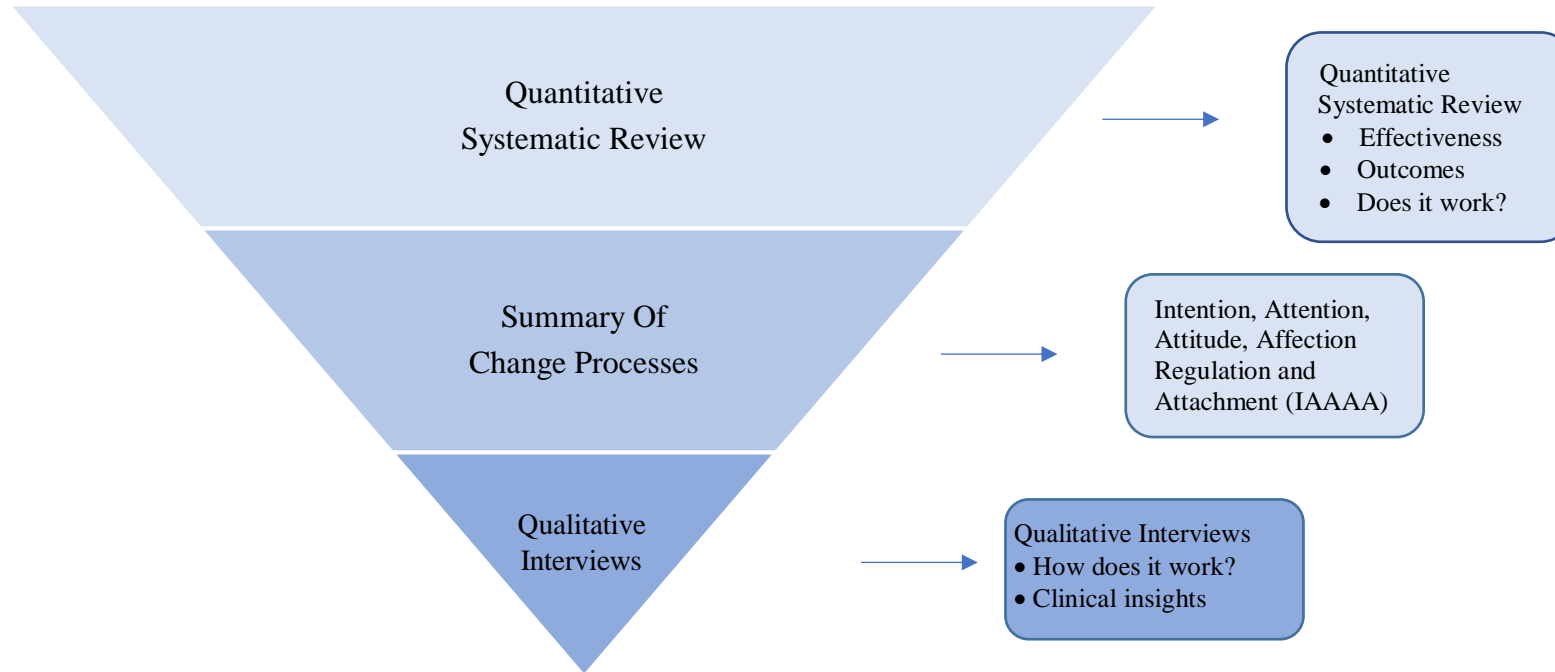


Figure 9.1. Mixed methods study design investigating the change processes associated with mindful parenting.

9.3.1 Procedure. A purposive sample of four was used since MP programs are not widely used in Australia. It was difficult to recruit facilitators because few clinicians deliver this program in Australia. The clinicians were accredited by the peak training body for mindfulness teachers in Australasia, the Mindful Training in Australia and New Zealand (MTI ANZ). Only clinicians could be interviewed under ethics approval, not the parents. Ethics approval was granted by the Human Research Ethics Committee (HREC) at an Australian university (H-2017-080) and maternity hospital (HREC/16/WCHN/21) for a Low and Negligible (LNR) ethics application. Ethics approval was required from the maternity hospital to interview their clinicians. Since the research was part of a PhD project, ethics approval was also sought from the university to interview clinicians outside the hospital. Contact details of potential participants were accessed through the professional networks for mindfulness programs in Australia.

All four participants who were emailed by the first author agreed to be interviewed. The interview questions 1 to 10 outlined in Table 8.1 were emailed to the participants a week before the interview. Question 11 was not emailed to the participants prior to the interview to prevent influencing the participants' responses. All participants signed the consent forms. The semi-structured interviews were conducted according to guidelines provided by Yin (2013) and J.A. Smith et al. (2009). The interviews occurred via Skype while the participants were in their homes or private office.

An audio recorder was used to tape the interviews, which were later transcribed in full. The duration of each interview was approximately 60 minutes. All participants were asked the same questions to gain consistency with information gathering about their background, experience, role, program content, group dynamics and change processes.

9.3.2 Participants. Four Australian, female clinicians delivering MP programs were interviewed once via Skype. The age of the participants ranged from 35 to 65 years. The clinicians were accredited by MTI ANZ. The clinicians maintained regular personal meditation practice, attendance at yearly retreats, regular peer support and supervision. Ideally, the researchers would also interview the parents. However, ethics approval was not granted to interview the parents. This paper used the pseudonyms Anna, Bella, Cara and Diana to protect the privacy of the participants. The participants lived in different Australian locations. Skype was used to interview the participants as it was the most cost-effective data collection strategy. Anna and Cara delivered a combination of the Mindfulness Based Stress Reduction (MBSR) and Circle of Security (COS) referred to as COS-M. Bella and Diana delivered the *Caring for Body and Mind in Pregnancy* (CBMP) program, which is an adaptation of Mindfulness Based Cognitive Therapy (MBCT) to the perinatal context. All clinicians had at least one child of their own, except for Cara. The participants were mental health clinicians and accredited mindfulness facilitators with extensive personal meditation practice of over two decades.

Anna was a psychotherapist with over 30 years of experience working as a psychotherapist, 13 years of experience delivering MBSR and 3 years of experience delivering COS. Her training was in Body-Oriented psychotherapy, Psychodynamic psychotherapy, Self-Psychology, Attachment Theory and trauma. Bella was a perinatal psychiatrist with over 20 years of experience treating parents presenting with a range of issues, including persistent difficulties with trauma, attachment, settling and emotional regulation. She had over 8 years of experience delivering MBCT and CBMP. She was experienced in early intervention from conception to postpartum infant mental health. Cara was a psychotherapist with 7 years of counselling experience and 3 years of delivering the COS-M program. She was an experienced meditator with over 20 years of experience living

in Sri Lanka during the civil war. Diana holds a Doctor of Philosophy degree. Diana had 7 years of experience delivering the CBMP program as well as 16 years of experience counselling women presenting with depression, anxiety and perinatal mental health issues.

9.3.3 Program. Two distinct MP programs were delivered by the participants in this study. Bella and Diana delivered the CBMP, whereas Anna and Cara delivered COS-M. The similarities between the programs are that both entwined two divergent epistemologies, the Eastern contemplative practice with the Western Cognitive Therapy and Attachment Theory. CBMP is strongly based on MBCT, while COS-M is based on MBSR. Both programs were two hours per week in duration for eight weeks. A one-day retreat in Week 5 was included in both programs. The principles of MBSR and COS were utilised by both programs. This included attachment, *shark music*, relating to their child and MBSR techniques. Shark music refers to a video from the COS program that raise parents' awareness about perception and fear. Both courses used MBSR techniques, such as the body scan, breathing space, observing thoughts, replacing fear with curiosity and sitting meditation. Similarly, both courses used the term *home-based practice* rather than *homework* for practice conducted at home. However, the required duration of home-based practice varied. COS-M encouraged 40 minutes of sitting meditation, whereas CBMP encouraged shorter periods until participants were able to sit for longer periods of 30 minutes. An emphasis by all clinicians was that parents were not *forced* to do *homework*, instead they were encouraged to *practice* at a consistent time each day that suited their schedule.

9.3.4 Data analysis. IPA was utilised to analyse the data in four stages as recommended by J.A. Smith and colleagues (Eatough & Smith, 2006; J.A. Smith & Osborn, 2008). During the first stage, the transcripts were read several times and organised into a table. The raw data were in the first column, the explanatory notes were in the second column and the themes in

the third column. The first author read the transcript several times during the first stage, then made explanatory notes in the second column with quotations that appeared significant. With each reading, the researcher became more responsive, becoming more *wrapped up* in the data. During the second stage, the initial notes were transformed into themes in the third column by linking them to psychological constructs where possible. The preliminary themes were then further reduced to higher-order themes with subtheme clusters during the third stage of data analysis. The final product was a table with each higher-order theme, the related subthemes and a brief illustrative data extract for each theme (Eatough & Smith, 2006). To preserve the integrity of the participants' voice, caution was exercised to ensure the researcher's interpretations accurately reflected the participant's own words. The second author conducted an independent audit and tracked the raw data to the final table. The writing process continued the data analysis by organising the interplay between the researcher's interpretation and the participants' words into an overarching *gestalt*. Table 2 illustrates how the data were analysed to maintain technical rigor.

9.3.4.1 Reflexivity. Reflexivity is an important part of all qualitative research studies. To maintain the methodological rigor and reliability, the clinicians were given a copy of their transcripts to verify whether they agree with the content. The second author also conducted an independent audit to track the raw data to the final table. To the authors' knowledge, the findings are reliable because the reiterative process checked whether the clinician's raw data accurately reflected the researcher's interpretation. The authors' role and background also had the potential to influence data collection, data analysis, the way questions were asked, interpretation of results and how this was managed. The first author's experience working as a psychologist with families from diverse cultures could have influenced both the data collection and analysis, particularly designing the interview questions on understanding how

parents change. The second author's extensive experience with psychological research and parenting influenced data collection and analysis to ensure methodological rigor. All attempts were made to minimise potential bias by being as transparent as possible and reflecting on the authors' potential biases.

Table 9.1

Example of how the Transcripts Were Analysed to Produce Explanatory Notes and Then Themes

	Transcript	Explanatory Notes	Themes
Diana	<i>So, I think it's really hard to know beforehand. All you can do is explain to people exactly what the class involves, and you know let them know that some people have found that it isn't helpful um. You know, that their anxiety can go sky high um, well, what we would tend to do if it happened in class, is get people to stop doing that meditation and get them to maybe focus on something outside of their body um like an object or sound or something like that rather than focus on their breath or their body which is often the trauma holder. (p. 32)</i>	Focus attention outside the body like an object or sound rather than their breathing or their body, which is often the trauma holder	Body Body as a trauma holder
Diana	<i>And always like recently we had someone who was um, you know persisting with the body scan with a very high trauma background. And um but really ...what we got her doing is we got her to stop doing that, but she found that the mindful movement um, didn't aah, she didn't get overwhelmed in that and actually it kind of deescalated things for her. So, um you know you can work with them... I think you have to be very careful and you know respond to each individual. And I mean sometimes you know we might say no to someone joining the class because you know their vulnerability. (p. 32)</i>	Mindful movement more helpful than body scan for participants with a trauma background Role modelling self-care Some participants are not allowed to join because of their vulnerability	Body
Diana	<i>Yeah so it varies... what some people report is that um they have noticed that if they are more present with the baby, say when breastfeeding something like that baby seems to be...you know the feeding process seems to go perhaps better for the baby. she noticed that when she was sort of doing the breathing space or just a mindful breathing, so she was not shallow breathing. And she noticed her baby's breathing came in rhythm with hers as well. (p. 45)</i>	Being present, mindful breathing influenced the baby	Breath, body

Table 9.1 (continued)

Example of how the Transcripts Were Analysed to Produce Explanatory Notes and Then Themes

	Transcript	Explanatory Notes	Themes
Interviewer	<i>Tel me about the three minutes breathing space. What does it entail?</i>		
Bella	<p><i>Well that's the ... That's the meditation short practice, that's introduced in uh, class three. Uh and it's a three-minute check in, I guess with your internal state. So, it, it's asking the question, what's going on right now, in my thoughts, feelings and bodily sensation. And it's asking that question also with no judgment and with acceptance. Um, then this is a short, uh focus on the breaths of bringing the attention to breath again, um allowing the breath to open up to how it feels in the body and the third part of it. So, this is generally one minute each.</i></p> <p><i>The third part is bringing your attention focus into the whole of the body with the breath. So, they say it's shaped like an hour glass, it starts wide with your attention, narrow down and then widens out again. (p. 10–11)</i></p>	Three-minute breathing space likened to an hour glass	Attention, breath and body
Cara	<i>The training is in Melbourne and is called Somatic Experiencing and it's a trauma resolution mode. You know, trauma can be attachment, it can be car accidents, it can be emotional abuse, it could be physical abuse, sexual abuse. And it, it really is basically using mindfulness in the body to help regulate people so that those patterns that keep people acting over and over again in the same way, it just, it just unravels. It's really beautiful. Very effective and direct. (p. 30)</i>	Using mindfulness in the body to regulate unhelpful patterns.	Body

9.4 Results

Six higher-order themes emerged from the data analysis. Figure 9.2 summarises the themes identified in the transcripts. This paper focuses on how somatic, emotional and social learning processes facilitate mindful parenting.

9.4.1 Somatic mechanisms. All the clinicians highlighted body awareness as a critical change process. The body scan is a frequently used mindfulness technique, used to increase breath awareness and identify stressors and feelings in the body. The importance of whole-body awareness is a recurring theme. Anna commenced her clinical training in body-oriented psychotherapy. Anna trained parents to read their child's body language and posture. She trained parents to look at their child's eyes to identify their child's needs. Diana described how mindful breathing improves breastfeeding. Bella spoke about a mother with severe depression who was unable to take her medication for restless legs during pregnancy. This mother had experienced interrupted sleep and ongoing aggravation:

She was ... responding to the restless legs with a whole lot of judging thoughts about, I shouldn't have this, and my father had it and I didn't like my father...the thoughts went around in [a] ...ruminating frustrating way. ...as soon as she recognised that, that was the process, she had this aha moment and she was able to drop the judgement that having this unpleasant experience in her body. It became much, much easier for her to tolerate the actual physical experience... she was able to sleep better.

Recognising the habits of the mind was a process the mind frequently engaged in, resulting in the reduction of the physical symptoms.

The association between trauma, neglect and the physiology of the developing brain emerges in all the interviews (Anna, Bella, Cara). Diana described the body as being the "trauma holder." Likewise, Cara described how the "body keeps score," mentioning Bessel

van der Kolk's book and Peter Levine's work on *Somatic Experiencing*. Bella highlighted how memories of sexual assault often arise during childbirth. Cara illustrated the importance of a "soothing hug" and physical contact as being essential for healthy development. Neglect and the lack of social contact also impair healthy development. To highlight this, Cara provided the example of the "Romanian babies all lined up." At the end of the Cold War in 1989, images of Romanian orphans lined up in cots caught international media attention. These children were subjected to cold, hunger, sexual abuse, physical abuse and lack of care (S. L. Wilson, 2003).

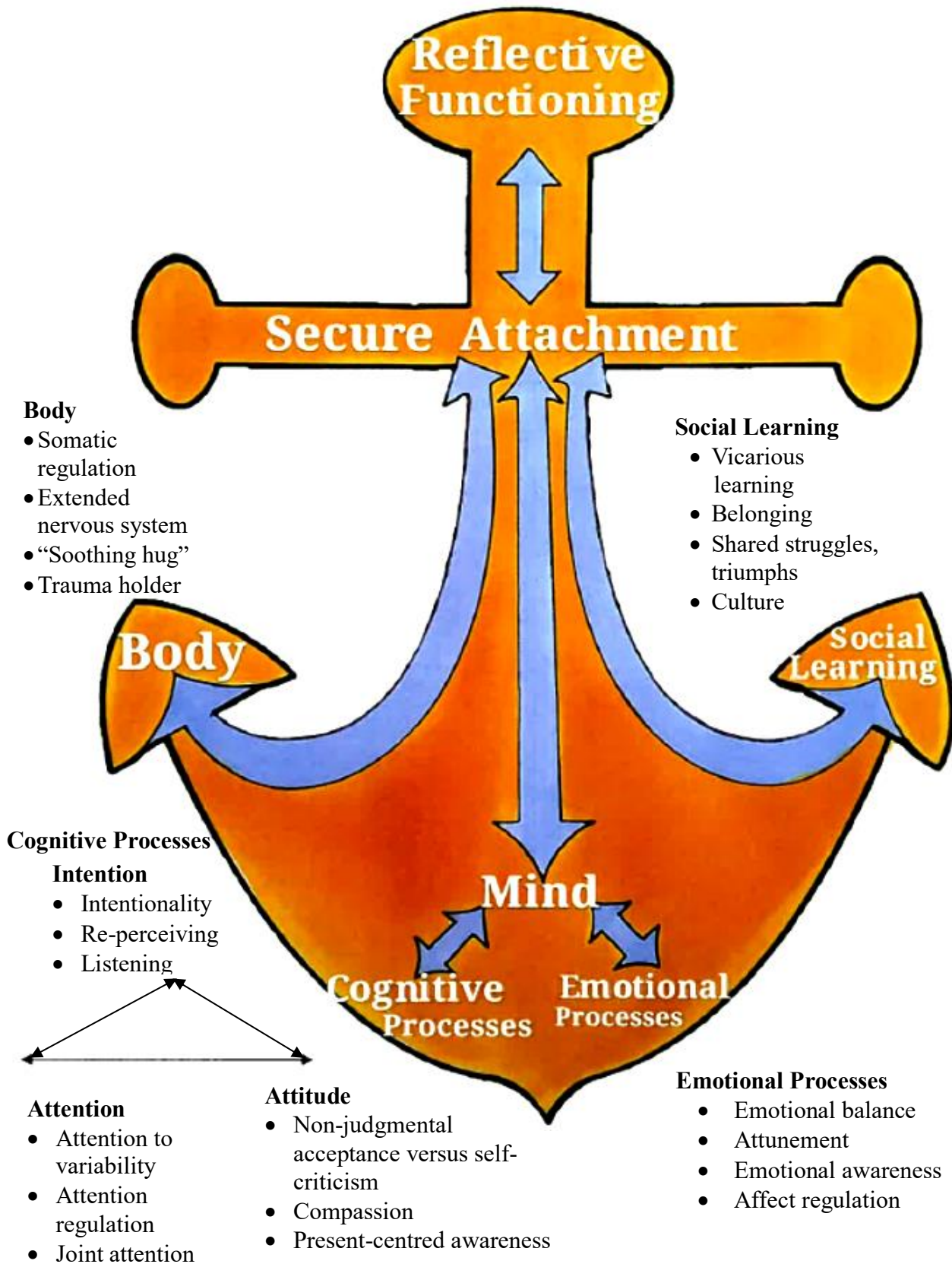


Figure 9.2. Anchor: A theoretical model of Mindful Parenting.

The significant language and psychosomatic delays among these orphans later in life have been attributed to the lack of stimulation, physical contact and malnutrition (S. L. Wilson, 2003). Hence, it appears that much more than food is needed for healthy development.

The clinicians illustrated how children and parents are particularly affected by the body holding the trauma. The toddler bouncing off walls gradually learned to self-soothe as the mother started looking at her child's face, particularly her eyes when she was raging. The parent's restless legs and the labouring mother's trauma during childbirth highlight how it is equally important for parents to work through physical trauma during the mindfulness program. Table 9.1 illustrates how clinicians assist parents to acknowledge and release the trauma. Parents with a trauma background often find it difficult to meditate, so the clinicians encouraged them to use mindful movement or focus their attention outside the body on an outside sound or object.

9.4.2 Affect regulation mechanisms

9.4.2.1 Attachment. Affect regulation mechanisms included secure attachment, emotional balance, attunement, emotional awareness and emotional regulation. All clinicians emphasised the importance of attachment. Bella explicitly emphasised that reflective functioning promotes secure attachment. The others outlined how they explained attachment to the parents. Cara outlines that from the outset parents are provided information on "*What is attachment.... how it affects healthy outcomes?*" Likewise, Anna states "*We provide theory, support and a method to explore and transform attachment styles.*" A conceptual map of the attachment, abandonment, developmental needs and how "*attachment patterns are generated by your parents*" (Anna) were provided to the parents in a non-pathologising way. "*Aversion, attachment and ignorance are predictors of mental illness*" (Bella). This

perceptive observation by Bella, leads her to comment that the “*being state of mind*” promotes secure attachment. By drawing on the work of Jon Kabat-Zinn and Mark Williams, Bella articulated,

It's all about the being mode of mind. I mean being present and aware to your baby...that is the sort of fundamental building block to developing a secure, attuned relationship with your baby. It's not about doing things to your babies. It's about being with your baby.

Thus, the “*being*” state of mind facilitates secure attachment.

Cara stated the “*facilitator provides secure attachment,*” “*a safe haven,*” and “*secure base*” for the parents to return each week. She uses an example of a little boy that returns each week to the teacher, even if he has not done his homework, because she does not shame or have any expectations:

You know, think of ourselves as children, right? Eight years old and going to class, I didn't do the assignment. But I still want to go to class. Because she loves me. You know and because I love being there. she'll help me and she's not gonna shame me. Like how many of us have had that experience?

Hence, a secure attachment with a significant attachment figure, who does not shame or reject, offers the emotional safety for children and parents to learn with confidence.

Many parents are reluctant to bring their parenting problems into the public arena. Anna stated this is a “*perception problem.*” Furthermore, parents with avoidant attachment styles are more difficult to engage. Cara described a couple where the mother was motivated, the father had an avoidant attachment style but “*both of them love[d] their kid.*” The mother was “*volatile with her child over nothing,*” she admitted “*I erupt...it's really [over] nothing.*” The father was “*overly calm...little bit flat.*” The father would “*just sit there with his arms folded.*” The clinician provided more space and time for the father to engage. As the

sessions progressed, “*When he started to open up, it got better for her [his partner] too.*”

Thus, the reluctance some parents have with trusting the facilitator and the group is overcome by addressing their needs.

9.4.2.2 Emotional awareness. Increasing emotional awareness, emotional regulation and attunement were recurring themes interwoven through the four interviews. According to Anna “*emotion [is] a part of all those things*” that are group processes, mindfulness training and attachment education. However, she reiterates, “*emotion isn’t a change process. It’s the terrain of change processes... [you] can’t put emotion into the program.*” This comment highlights a critical point, *How do people transform?* Contrary to Anna, the other clinicians inferred emotion is a change process, that increasing emotional awareness facilitates change. Cara stated parents are encouraged to gain more awareness of their emotions by asking questions such as “*What are emotions? What is their relationship to emotions?*” Bella showed the Perinatal Anxiety and Depression Australia (PANDA) video to raise awareness about postnatal depression. Diana encouraged parents to notice the intensity and energy of depression. Self-awareness of emotions aids in gaining mastery over differentiating between different emotions, such as fear, shame, curiosity, joy and delight. Bella highlighted the temporary nature of emotions with the comment “*moods are like weather.*” Becoming aware of the temporary nature of emotions and thoughts helped parents to be less reactive.

Mindfulness offers a phenomenological methodology for parents to explore their feelings, to understand their child’s feelings and to help their child *be* with overwhelming pain (Anna). It offers parents a phenomenological exploration to experiment with feelings. “*...like MBSR, again respectful of people’s psychological defences, ...putting them in the driver’s seat about how they unpack and unfold*” (Anna). Both COS and MBSR are incredibly demanding of parents to look deep inside and be the best people they can be. Placing the parents in the driver’s seat to explore themselves is empowering. Similarly, Bella

reported, *“This is grist for the mill, this is all part of the process of experiential learning and knowing themselves a bit better, that sort of explorer. Being an explorer of their own subjective experiment.”* Therefore, mindfulness as a phenomenological methodology enables the user to become an explorer of emotions, to not just be with the pain, but to process it and grow from it.

9.4.2.3 Attunement. Three of the four clinicians also highlighted the importance of attunement in focusing on the mind of another so both *“feel felt”* and *“feel seen”* (Anna; Cara). Both Anna and Cara emphasise, *“feeling felt”* facilitates the connection between the parent and child. Bella inferred attunement through use of terms such as *“mirror neurons”* and *“reflective functioning.”* All clinicians raised issues associated with parents who have experienced trauma. Traumatized parents appear to have difficulty tuning into their child’s feeling so that the child *“feels felt”* or connected. Anna states,

I find a lot of these parents who have had trauma don’t look at their kids in the face. Don’t actually see what is going on, so the kids feel unfelt. They feel not known, not inquired of...So I really invited him to start really catching her gaze whenever he could and just... That very important part of the COS program is delighting in the child.

Cara describes a mother’s epiphany, *“Wow, so... I’m actually supposed to be tuning into them and filling their needs.”* When the parents start recognising the child’s needs by looking at the child’s face, a didactic shift occurs where both the parent and child start reinforcing nurturing behaviour.

9.4.2.4 Affect regulation. Mindfulness offers tools to assist with affect regulation, affect differentiation, containment and inhibition. Common issues beguiling parents include

difficulties with state regulation, such as sleeping, settling, mis-attunement and not responding appropriately or sensitively (Bella). Anna believes mindfulness provides more support to regulate emotions than COS. Cara makes a perceptive observation that “*A child doesn’t have a strong enough nervous system to actually have self-control and they need the extended nervous system of the parent to help regulate their nervous system over and over and over again.*” Thus, the parent is the extended nervous system for the child until the child can self-regulate.

“*Emotional fireworks*” as referred to by Cara are the volatile eruptions of rage. Anna refers to this rage as the “*powerful limbic rage.*” Both Cara and Anna highlight these volatile eruptions are easily triggered in parents with traumatic backgrounds. These symptoms resemble triggers for Post-Traumatic Stress Disorder. “*It’s very hard to respond and be with the child [when you are] melting yourself*” (Cara). Containment is the ability to inhibit habitual responses, the powerful limbic rage (Anna). The aim of inhibition is affect regulation, affect differentiation, to get to know your child and not to “*blast them*” (Anna). Parents gradually learn to contain their distress by learning to *respond* rather than *react* and recognising the shark music as their underlying fears.

When parents learn emotional regulation, it models this key skill to their children. Both Diana and Bella described a case study of a four-year-old boy with autism. The mother had attended the program for her second child. When the mother used to sneak off to do meditation practice, the little boy used to follow, sit and learn the three-minute breathing space. One day, the family had been shopping and running errands. When they returned to the car, they were all “*overloaded*” and “*shaken.*” Before the father started the car, the four-year-old boy makes the sound of a meditation bell and tells the parents, “*Now I think we should all take a breathing space. ...They actually all did the breathing space together, which was three minutes and she said it really calmed everyone down*” (Diana). This example

illustrates the ease with which intergenerational transference of positive emotional regulation can occur.

9.4.2.5 Social learning. Social learning was another higher-order theme that emerged from the interviews. All the clinicians highlighted the usefulness of social learning and positive peer pressure. Sharing struggles, triumphs and solutions appear to promote the gaining of insight and behaviour change. The mothers “*suddenly don’t feel alone,*” they “*loved being in a group of other pregnant women*” (Diana). All the clinicians were adamant this was “*not group therapy,*” it was an adult learning class. The distinguishing feature between group therapy and adult learning appears to be that participants were not encouraged to talk at length about their concerns. The aim of the class was to teach specific skills. It facilitated vicarious learning by providing a safe, warm, supportive environment (Bella). The sharing of experiences provided group validation, which transformed their thinking. The relationship with the teacher and the group was central to practicing new behaviour (Anna). The group dynamics appear to promote respectful inquiry in a secure space (Diana). The clinicians seem to skilfully nurture the “*birth of the group*” and the ongoing group dynamics to model emotional regulation. Group processes are also relevant outside mindful parenting groups. Culture is a social learning process that influences parenting even outside of a mindful parenting group. As such, culture is a subtheme within social learning. The group dynamics appear to be akin to the “*extended nervous system,*” a connection that supports parents to alleviate their distress.

9.5 Discussion

The aim of this study was to investigate the change processes associated with mindful parenting. The themes that emerged from the transcripts indicated reflective functioning, attachment, mind, body and social learning were important change processes associated with

mindful parenting. These findings support previous research on mindfulness, parenting and phenomenology. The new theoretical model proposed by this study has the potential to expand our epistemological understanding of mindful parenting (Figure 9.1). This chapter focused on analysing the somatic, affective and social learning processes targeted by MP programs.

If another researcher's analysis dramatically changed the findings, then it would be part of the theory development process. The anchor stems from a mixed method study, which synthesised findings from a systematic review, then interviewed clinicians to verify how the theory translates to practice. If the model changed after another researcher's analysis, then it would be another credible account, not the only credible account. The final model will emerge after it has been verified by a large sample of both clinicians and parents.

The model can inform future research into the development of a more comprehensive model of mindful parenting. The anchor is simply a visual summary of change processes associated with mindful parenting. The concept can be verified by surveying a large sample of clinicians and parents through an online survey. During the initial stages of theory development, the draft model can change as the data are analysed through an iterative process. Clinicians may choose to believe the final model that has been verified by a larger sample of both parents and clinicians. Ideally, the model would be verified by biomarkers as well as psychometric measures.

This preliminary study investigated processes *associated with* mindful parenting. A Randomised Control Trial (RCT) is needed to infer processes *promoting* mindful parenting. The processes summarised in the anchor may be both processes associated with and processes promoting mindful parenting. However, given the study design is not designed to infer causation, it can only suggest possible associations, from the interview data. These findings require further statistical investigation to verify association (Pearson's correlation) and

causation (RCTs).

Some MP programs have the parent and child attending the group program. Group validation is an essential part of learning to be a mindful parent as the parents learn the actual behaviours of mindful parenting in direct relation to one's child as they observe the facilitator role modelling interactions. Behaviour is more likely to be reinforced when the group validates the behaviour and parents feel like they belong. Hence, group validation and belonging are related conceptual categories.

9.5.1 Somatic mechanisms. Whole body awareness was a recurring theme in the interviews, which reinforces recent neurobiological evidence on the *embodied mind* (Varela, Thompson, & Rosch, 2017). Embodied mind refers to mindful awareness not discretely residing in the mind but residing within every cell of the body and within society (Varela et al., 2017). All clinicians taught certain techniques to increase parents' awareness of somatic regulation. These techniques included the body scan, the baby-body scan, "soothing hug," looking at the child's body language and looking at the child's eyes. Terms such as the mother being the "extended nervous system" for the infant to regulate distressing emotions through touch, smell and voice illustrated the important role the parent plays in somatic regulation. These findings confirm the work of Bessel van der Kolk (2014) and Peter Levine (2010) on how trauma compromises the executive functioning (prefrontal cortex), emotional regulation (limbic system), attention regulation (thalamus) and speech (Broca's area). The thalamus is a gatekeeper of information that has been found to be central to concentration, attention and new learning (van der Kolk, 2014). Hence, traditional talk therapies are less effective than body-based therapies, such as yoga, martial arts and singing, in releasing the physiological trauma.

According to Levine (2010), traumatised individuals cannot resolve the emotional trauma until the physiological trauma has been released. This appears to be particularly

relevant to the children described in this study's interviews. A recurring theme in the interviews was the body being the "*trauma holder*." Telling the child to control their behaviour is akin to telling embers not to explode into flames. Cooling the embers before they ignite, with a soothing voice, eye contact and providing the child with connection they yearn for were some strategies identified in the interviews. The parent being the "*extended nervous system*" for the children as they learn to regulate their emotions has not been previously reported in the literature. Tools to help the children reference their body, notice the changes in their body, particularly to find ways their body experiences power and mastery, have been found to be useful (Levine, 2010). The golden route to resolving trauma is to help them experience body sensations and experiences in the body that overcome helplessness (Levine, 2010). Previous research (Slade, Grienenberger, et al., 2005) indicates that "the child comes to know his body through the hands of his mother" (p. 78). The recent neurobiological evidence also shows children come to know their body through the hands and biomarkers of their mothers.

9.5.2 Affect regulation mechanisms

9.5.2.1 Attachment. Attachment was a recurring theme in the interviews, which resonates with the contemporary parenting research. The importance of secure attachment to psychological health has been reiterated from A. Freud (1949), Bowlby (1969) to Bögels and Restifo (2014). Parental reflective functioning plays a significant role in the intergenerational transmission of attachment (Fonagy et al., 1995; Slade, Sadler, et al., 2005). This compassionate, nurturing interaction with the caregiver helps the child regulate own affect responses to self-soothe, allowing the child and ultimately the adult to anticipate future affect experiences without fear of being overwhelmed or rejected. Neurobiological studies now confirm the intergenerational transmission of attachment (Strathearn et al., 2009). A mother's

secure attachment with her own mother has been found to promote her own increased peripheral oxytocin responses and activation of dopamine-associated reward processing brain regions, when she interacts with her infant (Strathearn et al., 2009). An eloquently poignant neologism, which emerged from the interviews, portrayed the mother as an “*extended nervous system*.” This neologism has not previously been reported in the literature. It highlights the mother’s responsibility in soothing her child.

9.5.2.2 Emotional awareness. Mindful parenting appears to provide a phenomenological methodology for parents to understand their own and their child’s emotions without overreacting or exploding with *emotional fireworks*. Raising emotional awareness, emotional regulation and *attunement* were recurring themes for promoting positive behaviour change across the interviews, particularly the clinicians’ insights that traumatised parents had difficulties with tuning into their children’s distress and understanding their needs. Mindfulness has been found to be necessary for affective attunement between mothers and infants (Slade, 2002). In fact, even before the child is born, prenatal mindfulness influenced postnatal attachment (J. A. Sawyer, 2007; Slade & Cohen, 1996). Two of the clinicians also gave examples of the intergenerational transmission of emotional regulation, where a four-year-old autistic child used the three-minute breathing space to help the parents calm down.

Clinicians’ comments such as “*emotional fireworks*,” and treating the child like a “*pot plant*” illustrate traumatised mothers’ inability to read their babies’ needs. *Mis-attunement* refers to responding inappropriately to infant cues and misreading infant needs (Stern, 1985). By learning to contain their own distress, parents learn to delight in their child. Siegel’s (2007) use of the term *attunement* links the work of early phenomenologists, such as Husserl (1971), Heidegger (1952) and Sartre (1956), with contemporary neurobiological evidence.

Neurophenomenology uses both mindfulness and phenomenology to examine how brain dynamics relate to conscious experience (Varela et al., 2017). Phenomenologists explore the emotional landscape, the existential quest to understand “*being*” and to “*feel felt*.” Recent neurobiological evidence shows when one “*feels felt*,” it activates mirror neurons (Winerman, 2005). Hence mindfulness goes beyond attention training, it involves a fulfilling of a child’s need for connection.

Phenomenology explores existentialism as an epistemological and ontological journey to understand the nature of being, consciousness, identity and emotions. The parents learn mindfulness skills to differentiate between the “*being mode*” and the “*doing mode*.” Parents learn ‘to be’ with their child, “*to delight in their child*.” Being is the most universal yet emptiest of concepts, used by many from contemplative traditions to phenomenologists. According to Heidegger’s (1952) *Being and Time*, being refers to being in the world, a state of consciousness that encompasses an underlying fundamental relationship with the world. This state is similar to Segal et al.’s (2002) present-centred awareness, the *being mode* used in mindfulness practice. Heidegger’s (1952) construct of ‘*being*’ also resembles the contemporary construct of the ‘embodied mind’ by Varela et al. (2017).

9.5.2.3 Social learning. Social learning was another higher-order theme illuminated by the interpretative analysis. The contribution of the group to changing the individual’s thinking was highlighted by all clinicians. These observations support research on role modelling and the importance of social context in skill development (Bandura, 1977; Connolly, 2017). Cara emphasised the mother being the “*extended nervous system*” to help the child soothe their distress. The moments of connectedness when a parent is attuned to the child make the child feel understood and accepted (Siegel & Hartzell, 2003). Likewise, the group becomes the “*extended nervous system*” to help parents regulate their own emotions.

Limitations with this study include concerns with transferability of findings and

potential biases. Since only a purposive sample of four participants were interviewed, the findings cannot be generalised. Potential sources of bias could have influenced the data analysis process, even though caution was exercised to ensure the researcher's interpretation reflected the participants' voices. Contextual issues, such as the Skype environment, may have been blunt in capturing subtle nuances that a face-to-face interview could have captured. This study does not account for cultural differences with clinicians from other countries, which could potentially influence how individuals change in other parts of the world. Culture influences social learning within this model of mindful parenting. However, all the clinicians and their participants were mostly Anglo-Saxon Australians from educated, middle-class backgrounds. Hence, a limitation of this study was that it was unable to explore how cultural differences influence mindful parenting.

The scientific merits of this study include its rationale, conceptualisation, methodology, validity and reliability. To maintain the methodological rigor and reliability, the clinicians were given a copy of their transcripts to verify whether they agree with the content. The second author also conducted an independent audit to track the raw data to the final table. To the authors' knowledge, the findings are reliable since the reiterative process checked that the raw data accurately reflected the researcher's interpretation. The findings also appear to be valid as the methodology matches the research question. A qualitative research methodology is more suitable for research questions concerning "*how things are experienced*" and "*how things change*" (Brocki & Wearden, 2006). A strength of this study is the conceptualisation of a new theoretical model of mindful parenting. With regard to a *gestalt* of mindful parenting, the clinicians' insights and different change processes were synthesised into a meaningful whole to be illustrated as the anchor. The clinicians' phenomenological accounts are consistent with the change processes identified in the

systematic review. Additional change processes that emerged from the interviews include social learning.

The anchor is frequently used by mindfulness practitioners (Batchelor, 2018; Goldstein, 2016; Hanson & Mendius, 2009) as a metaphor '*to ground*', '*to come home*' to one's breath and body. Another shape could have been used to summarise the processes. The first stage of developing the theoretical model was to summarise the change processes identified in the systematic review. This resulted in Figure 3.1, which was published in Townshend (2016). The second stage of developing the theoretical model entailed interviewing clinicians delivering MP programs. These clinicians highlighted that not all change processes were equally associated with mindful parenting. Reflective functioning was identified as having a stronger influence on developing mindfulness. Hence, the processes were organised according to the strength of their association with mindful parenting and similarity with other change processes. Therefore, the cognitive processes were grouped together, affective processes were clustered together, and body referred to somatic processes. There may be other processes that have not yet been identified. The anchor is simply a mnemonic device, a visual summary of the change processes that have been currently associated with mindful parenting.

The results of this qualitative study need to be interpreted with caution since only Australian facilitators were interviewed. The concept of secure attachment appears to be universal. However, further research is needed to clarify how cultural differences influence secure attachment and the overarching change processes embodied in the anchor. The clarification of these qualitative findings with quantitative studies has the potential to make a significant contribution to the field of mindful parenting. A longitudinal, large scale, multicentre study with vulnerable parents from diverse backgrounds that complete both psychometric assessments of change processes and physiological measures can confirm

whether reflective functioning influences all other change processes, including biomarkers such as cortisol, oxytocin and dopamine (Roy Malis et al., 2017). It will take a significant investment to move from a small qualitative study to a large scale longitudinal multicentre study. A more reasonable step could be a single centre RCT to verify if reflective functioning influences affect regulation, attention regulation and mindful parenting. It could also clarify the impact of these change processes on the children's developmental outcomes. Providing opportunities for research and mental health screening for all pregnant women can have far-reaching intergenerational benefits. The key clinical implication from this study is the concept of promoting reflective functioning in traumatised or vulnerable parents and policy makers.

9.6 Conclusion

This preliminary study investigated the change processes that promote mindful parenting by interviewing four Australian clinicians of MP programs. The findings revealed six higher-order change processes, namely, reflective functioning, secure attachment, somatic regulation, social learning, cognitive processes and emotional processes. The strengths of this study include its rationale, methodology and conceptualisation of a new theoretical model. Its shortcomings include the lack of transferability and potential bias. The model is worthy of further study since it may improve the capacity to evaluate the effectiveness of MP programs. The nuanced, detailed insights from the clinicians confirmed the prevailing discourses and empirical findings on parenting, phenomenology and mindfulness. To conclude, this study conceptualised a new theoretical model embodied as the anchor to navigate the complexities of mindful parenting. For both parents and policy makers, it highlights the importance of individual and societal responsibilities in supporting parents to be the “*extended nervous system*” for their infant. The anchor has the potential to expand our understanding of how thinking, feeling and parenting can change to nurture the lost child.

Chapter 10 Statement of Authorship for Published Paper

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Principal Author

Name of Principal Author (Candidate)	Kishani Townshend	
Contribution to the Paper	Chief investigator who planned the study, wrote the ethics application, accessed data, analysed data and wrote manuscript. Also, the corresponding author to address reviewers' feedback.	
Overall percentage (%)	85%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.	
Signature	Date	18/4/2019

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contribution is equal to 100% less the candidate's contribution.

Name of Co-Author	Associate Professor Nerina	
Contribution to the Paper	Assisted with data analysis, study design and reviewing	
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Chapter 10 Study 4

Self-Compassion and Mindfulness: Modelling Change Processes

Associated with the Reduction of Perinatal Depression

Townshend, K. & Caltabiano, N. J. (2019). Self-Compassion and Mindfulness: Modelling Change Processes Associated with the Reduction of Perinatal Depression. *Journal of Child and Family Studies* (in press).

10.1 Abstract

Objectives: During pregnancy, different mindfulness skills may reduce a mother's depressive symptoms. This study investigated factors within the Self-Compassion Scale (SCS) and Five Facet Mindfulness Scale (FFMQ) that were significantly associated with the reduction of perinatal depression. **Methods:** The sample consisted of 77 pregnant women at risk of developing perinatal depression. Regression analysis, confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) were used to analyse factors associated with reductions in perinatal depression. **Results:** The CFA showed self-compassion scale had 6 factors and mindfulness scale had 5 factors. The regression analysis confirmed previous findings that self-compassion and mindfulness were significant change processes associated with the reduction of perinatal depression as measured by the Edinburgh Postnatal Depression Scale (EPDS). Model 1 (Pre-EPDS → Pre-SCS → Post-FFMQ → Post EPDS) fit the data with commendable goodness-of-fit indices ($\chi^2 = 6.37$, $df = 5$, $p = .27$, CFI = .98, TLI = .97, RMSEA = .06, LO 90 = .00, HI 90 = .16, PCLOSE = .38, GFI = .97, AGFI = .92, Bollen-Stine Bootstrap $p = 1.00$). A novel finding from the present study suggests self-kindness from SCS in addition to observing and acting with awareness from FFMQ were associated with significant reductions in perinatal depression. The reverse model (Pre-EPDS → Pre-FFMQ → Post-SCS → Post-EPDS) failed to fit the data.

Conclusions: These findings indicate targeted skill development in self-kindness, observing and acting with awareness may have clinical utility for pregnant women at risk of developing perinatal depression. Future research with larger sample sizes, a control group and at least 3 measurement points is necessary to verify these findings.

Keywords: perinatal depression, change processes, mindfulness, self-compassion, regression analysis, structural equation modelling

10.2 Introduction

Therapeutic change processes attract heated debate when inferences of mediation are appropriated. The controversy is fueled by competing statistical assumptions for testing mediation, such as Baron and Kenny's (1986) causal method or A. F. Hayes' (2013) approach. The limited perinatal research on change processes is partly due to the practical difficulties in engaging pregnant women. Additionally, the stringent study design prescribed by Baron and Kenny (1986) to test mediators, often halts theory building (A. F. Hayes, 2013). Significant reductions in perinatal depression have been associated with the change processes, self-compassion and mindfulness (Felder, Lemon, Shea, Kripke, & Dimidjian, 2016; Townshend, Caltabiano, Powrie, & O'Grady, 2018). Self-compassion has been defined as the ability to care for "oneself in the face of hardship or perceived inadequacy" (Neff, Kirkpatrick & Rude, 2007, p. 140). A consistent, widely used definition of mindfulness is the simultaneous cultivation of three mechanisms namely intention, attention and attitude (Carmody, Baer, Lykins, & Olendzki, 2009; J. Kabat-Zinn, 1994; Shapiro, Carlson, Astin & Freedman, 2006). However, it is still unclear which skills within the change processes of self-compassion and mindfulness are associated with the reduction of perinatal depression.

Depressive symptoms during pregnancy are risk factors for postnatal depression and adverse child outcomes (Glover, 2014). Perinatal depression is defined as a nonpsychotic

depressive episode of mild to major severity, which occurs during pregnancy or within the first year post-partum (Gelaye, Rondon, Araya, & Williams, 2016). It is one of the major contributors of pregnancy-related morbidity and mortality (Gelaye et al., 2016). The prevalence of perinatal depression ranges from 7 to 15% in high-income countries and 19 to 25% in low to middle-income countries (LAMICs) (Gelaye et al., 2016). The risk factors for perinatal depression include intimate partner violence, somatic symptoms, lack of social support, unintended pregnancy, high rates of depression relapse during pregnancy, economic disadvantage in addition to previous trauma, loss and stress (Gelaye et al., 2016; Muzik & Borovska, 2010). Self-compassion and mindfulness skills particularly acting with awareness, non-judging of experience, observing and describing have found to be protective correlates of perinatal depression (Pereira et al., 2016). Self-compassion is often an explicit component of perinatal mindfulness therapy, perhaps to assist pregnant women acknowledge the demanding expectations placed on them by others and themselves.

A compassionate attitude toward oneself and others is a core mindfulness component. Using Neff's (2003a) scale as a measure of self-compassion, perinatal research (Felder et al., 2016) has found lower levels of self-compassion is associated with higher levels of depression, anxiety and negative self-narratives (e.g. self-critical, over-identified with negative emotions). Self-compassion appears to reduce psychological distress by providing a *more balanced approach* to navigating painful feelings rather than suppressing or exaggerating them (Neff, 2007). According to Neff et al.'s (2007) theory, a core skill of self-compassion is to recognise the flawed nature of the human condition so the self can be seen clearly, without the need to criticise others or inflate the self.

The difficulty in defining core components of mindfulness is largely due to the diversity of mindfulness definitions, programs and scales. Van Dam et al. (2018) vehemently criticises the rigor of mindfulness research for its overreliance on *unreliable* self-report

measures, extrapolations of neuroscientific structures to explain mindfulness mechanisms and the lack of active control groups which question the effectiveness of mindfulness programs. However studies such as that by Williams, Dalgleish, Karl, and Kuyken (2014) do improve the rigor of mindfulness research by analysing the factor structure of the *Five Facet Mindfulness Questionnaire* (FFMQ) (Baer et al., 2008) and the *Self-Compassion Scale* (SCS) (Neff, 2003a). The five facets of mindfulness are *describe, observe, non-judge, non-react* and *act with awareness* (Baer et al., 2008). The SCS encompasses 6 factors, namely *self-kindness, common humanity, mindfulness, self-judgment, isolation* and *over-identification* (Neff, 2003a). Williams et al. (2014) conclude the factor structure of SCS falls below acceptable criteria for measuring self-compassion.

These findings indicate SCS is better suited to measuring the 6 hypothesised facets rather than a single overarching construct of self-compassion (Williams et al., 2014). Furthermore, FFMQ was found to be a superior measure of mindfulness without including the observing subscale amongst the general or clinical samples, whereas including observing subscale was a superior measure amongst meditators (Williams et al., 2014). One explanation is that observing may have different meanings for meditators than non-meditators (Williams et al., 2014). Further research is also needed to examine the intervening variables of SCS and FFMQ within perinatal samples at risk of developing perinatal depression.

Despite the development of computerised modelling techniques to analyse intervening variables, psychological research is still wedded to Baron and Kenny's (1986) mediation analysis (A. F. Hayes, 2013). Using the term *mediator* is argued to be a misappropriation of the term if the study design does not meet Baron and Kenny's (1986) or Judd and Kenny's (1981a, 1981b) causal steps. Baron and Kenny's (1986) assumptions stipulated that for a variable to be considered a mediator there is a) full mediation not partial mediation; b) pre-post control study design with at least two measurement points and c) participants are

randomised to a control or intervention group. To infer temporality or temporal precedence, randomisation and study design features are required to rule out competing models (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). However there is a growing body of literature that challenges Baron and Kenny's (1986) logic (Zhao, Lynch, & Chen, 2010). A comparison of 14 different tests of intervening variables found the Baron and Kenny (1986) method had the least statistical power and greatest Type 1 error (MacKinnon et al., 2002). MacKinnon et al. (2002) used the term *intervening variable* to refer to the entire set of 14 approaches, whereas the term *mediator* was only used if it satisfied Baron and Kenny's (1986) assumptions. MacKinnon et al. (2002) found the product of coefficient methods generally had Type 1 error rates below .05 and adequate power to detect small, medium and large effects for sample sizes of 1000, 100 and 50 respectively.

Many research projects have been stalled or rejected for publication as the data does not conform to Baron and Kenny's (1986) assumptions (Zhao et al., 2010). Interestingly, only observational studies and no RCTs have been conducted to infer the detrimental effects of smoking on lung cancer (Kovesdy & Kalantar-Zadeh, 2012). An area of heated debate in psychotherapy process literature is the inference of causality rather than correlation when underpowered, inadequate study designs do not meet Baron and Kenny's (1986) assumptions for mediation. However, temporal precedence can also be established with observational methods (Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996; Feeley, DeRubeis, & Gelfand, 1999; Gaston, Marmar, Gallagher, & Thompson, 1991). An observational design using A. F. Hayes' (2009) regression analysis can infer mediation with a smaller sample size and without an independent control group. Participants act as their control in repeated measures designs.

One limitation with the current literature is the scarcity of studies focused on verifying which of the 11 factors within the SCS and FFMQ scales have the strongest correlations with the reductions of perinatal depression. Identifying a few specific skills to

commence mindfulness training may be less overwhelming for pregnant women at risk of developing perinatal depression. The Holistic Approach To Pregnancy and first Postpartum Year (HAPPY) study found acting with awareness and non-judging during pregnancy, predicted mother's depressive symptoms later in pregnancy (Nyklíček, Truijens, Spek, & Pop, 2018). Nyklíček et al. (2018) used the 12 item, *Three Facet Mindfulness Questionnaire* (TFMQ-SF) (Truijens, Nyklíček, van Son, & Pop, 2015) which does not have the observing subscale (Truijens et al., 2015). Even fewer studies have used structural equation modelling (SEM) to identify mindfulness skills within SCS and FFMQ scales that reduce perinatal depression. The use of SEM or any other test statistic cannot infer temporality or association. The crucial issue is whether the study design rules out reverse causality or correlation. Zhao et al. (2010) argued the "SEM approach is superior to Baron and Kenny's" (p.205) as SEM tests all variables at once, which also reduces error variance. SEM adds value to understanding which factors in the two scales are strongly correlated with the reduction of perinatal depression.

10.3 Current Study

The primary aim of this study was to identify skills or factors within the SCS and FFMQ scales which are strongly correlated with reductions of perinatal depression. This study used the term *change process* to describe intervening variables. The term *mediator* was reserved for change processes that met either Baron and Kenny's (1986) or A. F. Hayes' (2013) assumptions for mediation. The sample consisted of pregnant women at risk of developing perinatal depression. The literature on self-compassion is consistent with Beck's (1967) assertion that depression (DeRubeis, Tang, & Beck, 2001) is anger turned inwards. Consequently, the self-kindness subscale within SCS may have a stronger association with the reduction of perinatal depression. As found by Nyklíček et al. (2018), this study aims to verify whether acting with awareness and non-judging are associated with reductions in

perinatal depression. The current study hypothesised self-kindness, acting with awareness and non-judging would be significantly correlated with reductions in perinatal depression.

10.4 Method

10.4.1 Participants. The sample consisted of 77 self-selected, mostly partnered pregnant women from mainly an Australian, educated background and a history of mental illness. The sample was extracted from a five-year pre-existing Australian maternity hospital dataset. The mean age of the participants was 33.47 years ($SD = 4.84$), with participants' age ranging from 21 to 45 years. Anglo Australians ($n = 30, 39\%$) made up the majority of the sample. European Australians ($n = 17, 22.1\%$) were the next largest ethnicity. Sixteen participants (20.8%) were from non-European backgrounds such as Asian, African and South American. With regard to education, the majority of the sample ($n = 29, 37.7\%$) had completed a Bachelor's degree, 18 participants (23.4%) had completed postgraduate qualifications and two participants (2.6%) had completed a doctoral degree. Four participants (5.2%) had completed Year 10 or less qualifications, six participants (7.8%) had completed Year 12 and 12 participants (15.6%) had completed a TAFE qualification.

Most of the participants had a partner with 46 participants (59.7%) being married, 19 participants (24.7%) living in de facto relationships and two participants being engaged (2.6%). Finally, one participant (1.3%) was separated and three participants (3.9%) were single. The majority of the sample also had a pre-existing mental health condition ($n = 67, 87\%$), had experienced trauma ($n = 39, 50.6\%$), but had social support ($n = 66, 85.7\%$). A history of suicidal thoughts was experienced by 23 participants (29.9%) whereas 47 participants (61%) had not experienced a history of suicidal thoughts.

To be included in the current study, participants had completed the pre and post program measures, along with meeting the following inclusion criteria: (1) pregnant up to 30 weeks gestation, (2) received antenatal care at a private or public birthing hospital, (3) reported at least one previous episode of depression and/or scored above the clinical cut-off on depression measures at a routine pre-screening, (4) demonstrated risk factors for perinatal depression and anxiety and 5) first time attendees of the *Caring for Body and Mind in Pregnancy* (CBMP). Antenatal care consisted of regular monitoring by the mid-wife or obstetrician during pregnancy.

10.4.2 Procedure. A repeated measures design was employed by this study to analyze a pre-existing five-year dataset. There was no independent control group as the study is based on a five-year de-identified maternity hospital dataset from 2012 to 2016. Low and Negligible (LNR) ethics approval (HREC/16/WCHN/21) was granted to access the dataset. Participants' data were included in the current study if they had completed measures before and after the eight-week CBMP program from 2012 to 2016. A convenience sampling method had been used to recruit volunteer participants for the pre-existing dataset. Over the five-year period, the selection of participants and program delivery were conducted by the same three facilitators. The selection phase included a pre-class interview by a mental health clinician who was also a facilitator to assess whether participants had a history of mental illness, either previous and/or current episodes.

10.4.3 Design. Although the pre-existing dataset collected data at 6 different time points over 5 years, the high attrition rates after birth of the infant led this study to only use pre and post program scores. A repeated-measures design was used to examine the correlational effects of self-compassion and mindfulness in reducing perinatal depression. The primary outcome measure was perinatal depression. The exogenous variable was the

perinatal depression scores *before* the CBMP program as measured by the *Edinburgh Postnatal Depression Scale* (EPDS). The endogenous variable was the perinatal depression scores *after* the CBMP program. The change processes were pre and post program scores for self-compassion and mindfulness. Two alternative models tested reverse association with Model 2 and 3. The three models tested were: -

Model 1: Pre-EPDS → Pre-SCS → Post-FFMQ → Post-EPDS

Model 2: Pre-EPDS → Pre-FFMQ → Post-SCS → Post EPDS

Model 3: Pre-EPDS → Post EPDS → Post-SCS → Post-FFMQ

10.4.4 Intervention. The program content for CBMP followed the 8-week Mindfulness Based Cognitive Therapy (MBCT) with 8 additions. More specifically CBMP was based on MBCT, transition to motherhood, Attachment Theory and reflective functioning. Self-compassion was explicitly taught in CBMP, whereas MBCT assumes self-compassion is an outcome of mindfulness practice. To encourage busy pregnant women to establish a daily routine, CBMP prescribed 30-minutes of home practice, whereas MBCT prescribes 40-minutes of home practice. A small but significant association has been found between 30-minutes of home practice and positive outcomes for MBCT and MBSR (Parsons et al., 2017). Townshend et al. (2018) outlines a more detailed account of the CBMP course content. Thus, the duration of daily practice varies between MBCT and CBMP.

10.4.5 Measures. Demographic information collected at baseline included participants' age, relationship status, educational level, occupational status, physical health history, mental health history and obstetric history. Other information included history of suicidal thoughts, prior trauma and social support during pregnancy. Participants' data on three standardised psychometric measures were also analysed.

The *Edinburgh Postnatal Depression Scale* (EPDS) was used to measure perinatal depression. From a mental health perspective, the perinatal period is usually defined as encompassing pregnancy through to the end of the first year postpartum (Austin, 2004). EPDS is a 10-item, four-point Likert screening tool for perinatal depression (J. L. Cox et al., 1987). Respondents were asked to rate the extent to which each item applied to them over the past week (J. L. Cox et al., 1987). If their total score was 10 or above, respondents were encouraged to speak to a health professional (J. L. Cox et al., 1987). Psychometric properties indicate EPDS has high reliability (Cronbach's alpha = 0.87), high validity measured as sensitivity (86%), specificity (78%) and positive predictive value (73%) (J. L. Cox et al., 1987). A Cronbach's alpha of .72 was obtained for the EPDS with this study sample.

The *Self-Compassion Scale* (SCS) was used to measure self-compassion. SCS is a 26-item, five-point Likert measure of self-compassion (Neff, 2003a). SCS is underpinned by six factors namely, *self-kindness*, *common humanity*, *mindfulness*, *self-judgment*, *isolation* and *over-identification* (Neff, 2003a). For instance *self-kindness* refers to the tendency to extend kindness and understanding toward oneself when experiencing emotional pain (López et al., 2015). SCS has shown sound reliability and construct validity (López et al., 2015). It has been found to have a strong internal consistency for the total SCS scores (0.86), negative factor (0.86) and positive factor (0.90) (López et al., 2015). The SCS has shown significant negative correlations with depression and anxiety scales (Neff, 2003b). For this study, SCS had a high internal consistency ($\alpha = .94$), with subscales ranging from .73 to .87. The Cronbach alphas for the subscales were *self-kindness* ($\alpha = .73$), *self-judgement* ($\alpha = .87$), *common humanity* ($\alpha = .71$), *isolation* ($\alpha = .86$), *mindfulness* ($\alpha = .79$) and *over-identification* ($\alpha = .79$).

The *Five Facet Mindfulness Questionnaire* (FFMQ) was used to measure mindfulness. It is a 39-item, five-point Likert scale measuring a five-factor construct of trait

mindfulness (Baer et al., 2012). FFMQ has been found to have sound convergent validity with the BDI (Gu et al., 2016). The five factors have been found to have strong reliability, namely observing (.78), describing (.88), acting with awareness (.84), non-judging of inner experience (.86) and non-reactivity to inner experience (.83) (Gu et al., 2016). For this study FFMQ had a high internal consistency of $\alpha = .89$. The Cronbach alphas for the subscales were *observe* ($\alpha = .75$), *describe* ($\alpha = .93$), *act with awareness* ($\alpha = .77$), *non-judge* ($\alpha = .91$) and *non-react* ($\alpha = .83$).

10.4.6 Data analysis. Three data analysis techniques that were used included regression analysis, Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA). Firstly, regression analysis using PROCESS (v2.163), *Model 6* examined if self-compassion and mindfulness satisfied A. F. Hayes' (2013) assumptions for mediation. Secondly, CFA tested the internal consistency and factors for SCS and FFMQ scales. Thirdly, EFA tested the previously outlined Models 1, 2 and 3, which explored factors within the two scales correlated with reductions in perinatal depression. Both PROCESS (v2.163) and AMOS (Version 25) were used to Model 1. The more detailed model testing with CFA and EFA was conducted with AMOS (Version 25) (Arbuckle, 2017).

Data analysis entailed analyzing missing response patterns through SPSS (Version 25). Some of the demographic data were missing for 7 participants. Little's Missing Completely At Random (MCAR) test showed the data was missing completely at random $\chi^2 = 5.61$, $df = 9$, $p = .78$. No missing responses were found for the other variables used in the structural equation modelling (SEM). The data consisted of pre and post program scores for EPDS (four-point Likert scale), SCS (five-point Likert scale) and FFMQ (6-point Likert scale). Secondly, AMOS (Version 25) (Arbuckle, 2017) was used to assess the data for normality, linearity, skewness and kurtosis. Examining the Mahalanobis distance on data

from 79 participants produced two outliers. The influence of potential outliers was examined by running the analysis with and without the two outliers. Removing the outliers from the subsequent analysis, left a sample size of 77 participants. The assessment of normality using Kolmogorov-Smirnov test with Lilliefors significance level and the Shapiro-Wilk test in SPSS (version 25) indicated the sample was normally distributed for all scores except for post program EPDS. The data was normally distributed as the skewness and kurtosis did not respectively exceed 2 and 7. A graphical examination of the data also produced a normal distribution. However, given that post EPDS scores violated the assumptions of multivariate normality, non-parametric tests were used.

Linearity was assessed through the analysis of scatterplots which showed a linear relationship between the independent variable (Pre-EPDS) and dependent variable (Post-EPDS). Linearity and multi-collinearity issues affect how the relationship between independent and dependent variable are interpreted (Cunningham, 2008). As there was only one independent variable, multi-collinearity was not an issue.

This study used non-parametric tests, namely Wilcoxon Signed Rank Tests, Spearman's correlations and Bollen-Stine Bootstrap p as the sample violated assumptions of random sampling and normality. The sample was self-selected. Post-EPDS scores violated assumptions of normality. Descriptive statistics were used to analyze the before and after group means (M), standard deviations (SD), standard errors (SE) and medians (Mdn). Pre and post program scores were compared through Wilcoxon Signed-rank test. The similarity between the different scales were analyzed through Spearman's correlations. AMOS (Version 25) (Arbuckle, 2017) was used for the double mediation analysis. A priori power analysis could not be conducted as this study used a pre-existing dataset. The post-hoc power analysis using G-Power (3.1.9.2) (Faul et al., 2009) showed for a strong effect size $d_z = 0.8$, $\alpha = .05$ and sample size = 77. This study has a moderate power as indicated by $(1-\beta) = 0.78$.

Schreiber et al. (2006) define SEM as ‘*like*’ a combination of EFA, CFA and multiple regression. The estimation method Bollen-Stine Bootstrap p does not require normally distributed data (Cunningham, 2008). Bootstrapping can also be used to compensate for the small sample size. Item parceling by forming a composite score is recommended when using scales less than a seven-point Likert scale (Cunningham, 2008). Thus, the rationale for using Bollen-Stine Bootstrap p with item parceling was to accommodate for the non-parametric data based on scales with less than seven Likert points.

10.4.6.1 Goodness of fit analysis. Various goodness-of-fit indices were used to assess the hypothesised model. If the majority of the indexes indicate a good fit, then there is a probability of a good fit. The following fit indices were chi-square (χ^2), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Goodness-of-Fit-Index (GFI), Adjusted GFI (AGFI), Standardised Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA). For continuous data the standard applied to determine a good fit is indicated by ratio of χ^2 to $df \leq 2$ or 3 , $p > 0.05$. $TLI > 0.95$, $CFI > 0.95$, $GFI > 0.95$, $AGFI > 0.95$, $SRMR < 0.08$, $RMSEA = 0$ (perfect fit), $RMSEA < 0.06$ (Hu, Bentler, & Kano, 1992).

10.4.6.2 Direct and indirect effects. The direct effect of baseline EPDS scores were not predictive of post-EPDS scores (standardised coefficient $\beta = .23$, $p = .24$). As hypothesised, self-compassion and mindfulness had a significant indirect effect on post-EPDS score. The results show *self-kindness*, *acting with awareness* and *observing* had significant indirect effect in reducing perinatal depression (standardised indirect coefficient $\beta = 1.19$, $p < .05$). Table 10.4 illustrates the total mindfulness score FFMQ ($R^2 = .91$) accounted for most of the variability in the reduction of perinatal depression. Other change processes that accounted for variability in perinatal depression included *acting with*

awareness ($R^2 = .33$), *observing* ($R^2 = .26$) and *self-kindness* ($R^2 = .01$). The total self-compassion score accounted for 27% of variability in perinatal depression.

10.6 Results

Wilcoxon Signed Ranked test results found significant differences between the pre and post program scores for perinatal depression, self-compassion and mindfulness as illustrated in Table 10.1. Results from the mediation analysis using PROCESS (V2.162) indicated that pre-program self-compassion and post-program mindfulness significantly reduced perinatal depression. The mediation analysis in Figure 10.1 which used pre-program self-compassion ($t(73) = -3.14$, $p = .00$, $a1 = -2.01$, $SE = .11$, $95\% CI = -.06, -.01$) and post-program mindfulness ($t(73) = 7.09$, $p = .00$, $a2 = 19.55$, $SE = 2.76$, $95\% CI = 14.06, 25.05$) showed significant reductions in pre-program perinatal depression ($t(72) = -3.49$, $p = .00$, $b1 = -.09, -.13, -.05$, $R^2 = .66$; $t(72) = 5.17$, $p = .00$, $c = .34$, $SE = .06$, $95\% CI = .21, .46$). The total, direct and indirect effects for double mediation in Figure 10.1 is illustrated in Table 10.2. The indirect effect was tested using a bootstrap estimation approach with 10,000 samples (A. F. Hayes, 2009). Self-compassion and mindfulness accounted for 66% of the variance compared to pre-program perinatal depression of 41%.

Data analysis began with establishing the reliability of the underlying constructs of the structural model. The internal consistency of the change processes was verified by using CFA. The results show SCS had six factors (Appendix D Figure 10.4) and FFMQ had five factors (Appendix D Figure 10.5). However, both scales failed to fit the data. Spearman's correlations between the three scales yield significant positive correlation between mindfulness (FFMQ) and self-compassion (SCS) $r_s = .71$ $p < .001$. It also highlighted a significant negative correlation between perinatal depression (EPDS) and mindfulness

(FFMQ) $r_s = -.51$ $p < .001$ as well as perinatal depression (EPDS) and self-compassion (SCS) $r_s = -.45$, $p < .001$ 2-tail.

Schreiber et al. (2006) recommends the iterative process of modifying constraints to improve model fit if the changes in the final model do not deviate from the initial theoretical model (p.335). The initial model is represented in Figure 10.6, using AMOS (Version 72) did not fit the data ($\chi^2 = 574.75$, $df = 64$, $p = .00$, CFI = .00, TLI = -0.25, RMSEA = .32, LO 90 = .30, HI 90 = .35, GFI = .69, AGFI = .56). The validity of the final structural model is dependent on the underlying constructs. Given that both scales failed to separately fit the data as shown in Figures 10.4 and 10.5, the scale items were systematically removed to improve model fit. The iterative process of simplifying the initial model led to a theoretically coherent model (Figure 10.2) that fit the data ($\chi^2 = 6.37$, $df = 5$, $p = .27$, CFI = .98, TLI = .97, RMSEA = .06, LO 90 = .00, HI 90 = .16, PCLOSE = .38, GFI = .97, AGFI = .92, Bollen-Stine Bootstrap $p = 1.00$). The model shows *self-kindness* is correlated with developing *observing* and *acting with awareness* skills to reduce perinatal depression.

The first alternative model (Appendix D Figure 10.3) did not fit the data ($\chi^2 = 9.12$, $df = 5$, $p = .16$, CFI = .85, TLI = .70, RMSEA = .10, LO 90 = .00, HI 90 = .16, PCLOSE = .18, AGFI = .81, GFI = .94, Bollen-Stine Bootstrap $p = .90$). The second alternative model (Figure 10.7) fit the data, ($\chi^2 = 12.12$, $df = 5$, $p = .03$, CFI = .92, TLI = .70, RMSEA = .14, LO 90 = .00, HI 90 = .16, PCLOSE = .07, GFI = .94, AGFI = .81, Bollen-Stine Bootstrap $p = .90$). The hypothesised models are graphically represented in Figures 10.1 to 10.7.

Table 10.1

Non-Parametric Wilcoxon Signed Rank Test Results Pre- and Post-Program Scores

Measures	Pre M(SD) Median Range	Post M(SD) Median Range	Predicted Range	N	Z	p	r
Perinatal Depression (EPDS)	10.89 (5.99) Median = 11 Range = 0 - 28	7.39 (5.04) Median = 6.00 Range = 0-27	0-30	77	-5.78	.00**	-0.61
Self-Compassion (SCS)	2.56 (.62) Median = 2.60 Range = 1.00 - 3.90	3.14 (.64) Median = 3.10 Range = 1.60 – 4.60	1-5	77	-6.04	.00**	-0.69
Mindfulness (FFMQ)	113.14 (21.80) Median = 116 Range = 45-151	129.61 (20.60) Median = 133.00 Range = 72 – 165	39-195	77	-6.56	.00**	-0.75

** significant differences at 0.01 level

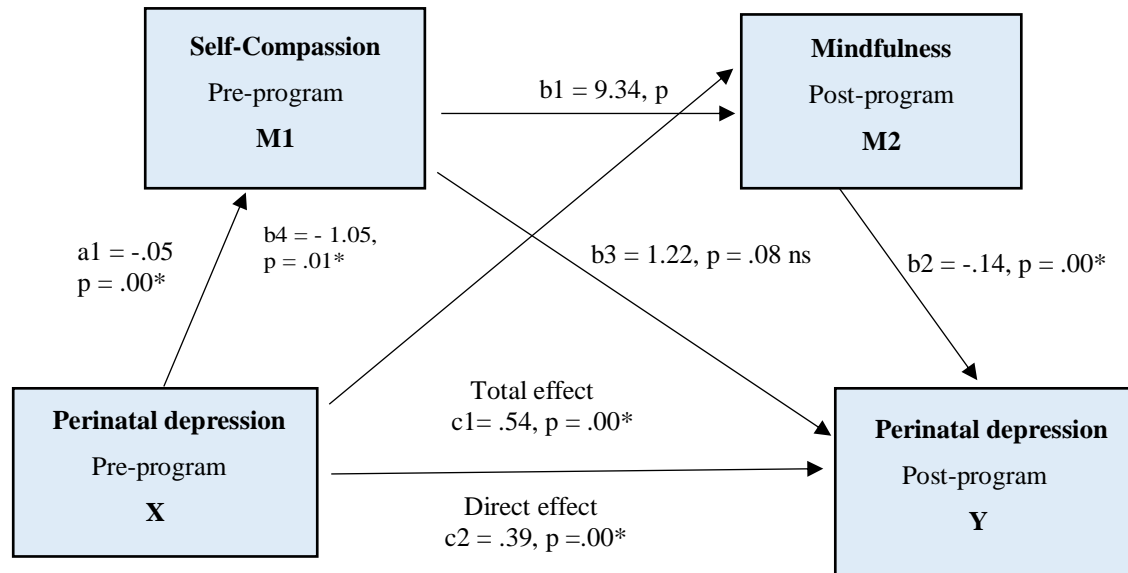
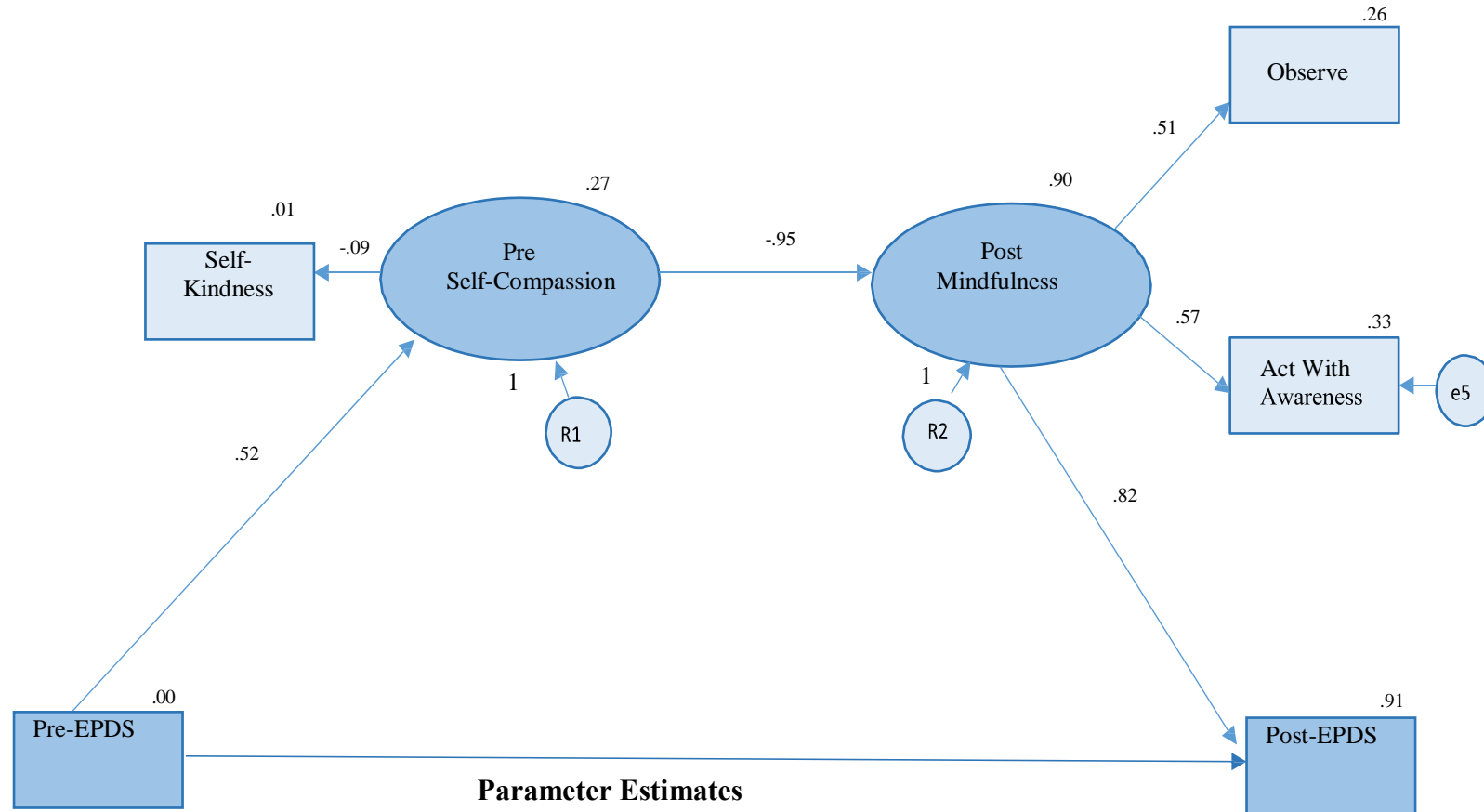


Figure 10.1. Self-compassion and mindfulness as mediators in reducing perinatal depression.

Table 10.2

Total, Direct and Indirect Effects of Double Mediation

	Effect	Boot SE	Boot LLCI	Boot ULCI
Total effect	.54	.08	.39	.69
Direct effect (X-Y)	.39	.07	.25	.53
Total indirect effect	.15	.07	.01	.31
Indirect 1 (X-M1-Y)	-.06	.03	.02	.16
Indirect 2 (X-M1-M2-Y)	.06	.03	.01	.15
Indirect 3(X-M2-Y)	.14	.06	.04	.27



Parameter Estimates

Chi square = 6.37, df = 5, p = .27 Bollen-Stine p = 1.00
 CFI = .98, AGFI = .91, GFI = .97,
 RMSEA = .06, LO 90 = .00, HI 90 = .16, PCLOSE = .38,
 TLI = .97

Figure 10.2. Exploratory factor analysis for self-compassion and mindfulness associated with the reduction of perinatal depression.

Table 10.3

Results from Structural Equation Model Figure 10.2

Model	Standardised β	Un-standardised B	Standard Error (SE)	p
Direct Effect				
Pre EPDS \rightarrow Post EPDS	.23	.19	.16	.24 ns
Pre EPDS \rightarrow Pre SCS	.52	.10	.04	.02 ns
Pre SCS \rightarrow Post FFMQ	-.95*	-2.60*	.73	.00*
Post FFMQ \rightarrow Post EPDS	-.82*	-1.30*	.52	.01*
Indirect Effect				
Pre EPDS \rightarrow SCS \rightarrow FFMQ \rightarrow Post EPDS	.41	.34		
Pre SCS \rightarrow Self-Kindness (SCS)	.00	.00		
Post FFMQ \rightarrow Acting With Awareness (FFMQ)	.00	.00		
Post FFMQ \rightarrow Observing (FFMQ)	.00	.00		
Total Effect	-.61	-3.27		

Table 10.4

Squared Multiple Correlation (R^2)

Measures	R^2
Pre-EPDS	.00
Self-Compassion (SCS)	.27
Mindfulness (FFMQ)	.90
Post-EPDS	.91
Self-Kindness (SCS)	.01
Acting With Awareness (FFMQ)	.33
Observing (FFMQ)	.26

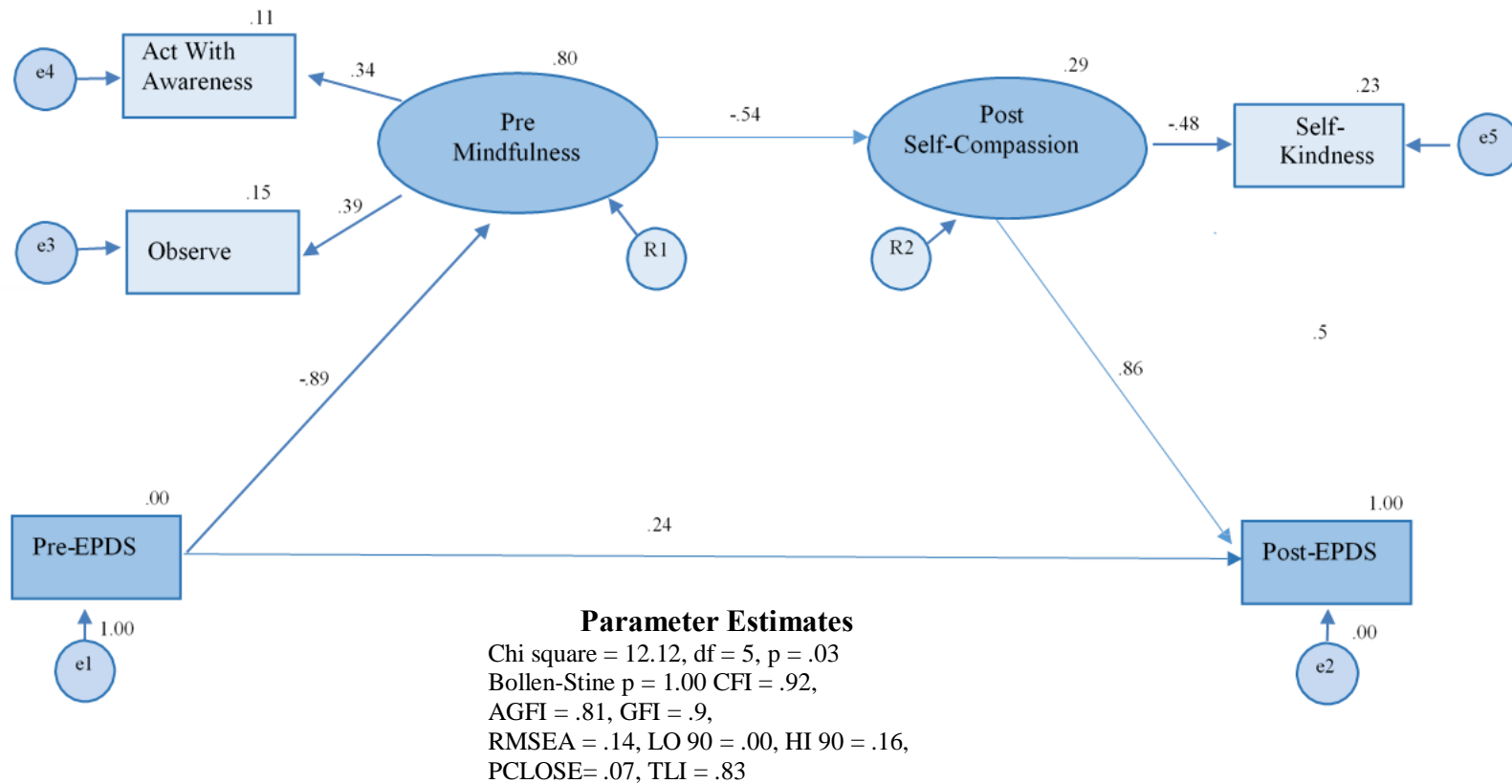


Figure 10.4. Reverse model of pre-mindfulness and post self-compassion associated with the reduction of perinatal depression.

10.7 Discussion

The results partially supported the primary hypothesis that the cultivation of self-kindness and acting with awareness significantly reduced perinatal depression. Rather than non-judging, this study found observing was associated with the gestating mother's depressive symptoms. A theoretical significance of this study is that it supported Nyklíček et al.'s (2018) findings that acting with awareness is significantly associated with the reduction of perinatal depression. Interpreting the regression analysis according to the mediation theory stipulated by A. F. Hayes (2013), it appears self-compassion and mindfulness are 'mediators' in significantly reducing perinatal depression. The CFA and EFA provided a closer analysis of the scale items. There were 6 factors in SCS and 5 factors in FFMQ. The CFA for both scales did not yield a good fitting model. This reaffirmed the assertion by Williams et al. (2014) that both SCS and FFMQ may need to be amended to improve their validity across different samples.

Cunningham (2008), Kline (2005) and Schreiber et al. (2006) prescribed an iterative process of simplifying a model to improve model fit as long as it is consistent with the initial theoretical model. As the CFA for both SCS and FFMQ did not yield adequate fit indices, the iterative process of eliminating scale factors, delivered a model with excellent fit indices. Model 1 produced excellent fit indices (Pre-EPDS → Pre-SCS → Post-FFMQ → Post-EPDS). However, the first alternative (Model 2) which tested the reverse associations failed to fit the data (Pre-EPDS → Pre-FFMQ → Post-SCS → Post EPDS) as illustrated in Figure 10.3. Although the second alternative model (Model 3) in Figure 10.7 fit the data, it reinforced that self-compassion may precede mindfulness (Pre-EPDS → Post EPDS → Post-SCS → Post-FFMQ). The failure of the reverse model may rule out reverse association.

However, no inferences about temporality is made as the current study did not have a control group or at least three measurement points.

The structure and goodness-of-fit of the final model (Figure 10.5) supports the current mindfulness theory. The model highlighted three mindfulness skills or change processes associated with reducing perinatal depression. A strength of the current study was that it identified three specific skills that can have clinical utility in reducing perinatal depression. Another strength is that it extends our conceptual understanding of specific skills associated with change processes.

The present study's results support previous perinatal research (Felder et al., 2016; Nyklíček et al., 2018; Pereira et al., 2016) but not research with different samples such as college students (Bergen-Cico & Cheon, 2014). Nyklíček et al. (2018) found acting with awareness and non-judging were associated with less depressive symptoms at 22 and 32 weeks. Non-judging was also associated with infant's normal birthweight (Nyklíček et al., 2018). The TFMQ-SF (Truijens et al., 2015) used in the study by Nyklíček et al. (2018) does not have the observing subscale. Strengths of Nyklíček et al.'s (2018) study was the longitudinal design with a large sample, at least three measurement points and objective measures such as birthweight. The current study also supports findings by Pereira et al. (2016) that self-compassion and mindfulness are associated with reduction in perinatal depression symptoms. Perhaps one reason why observing was found to be significantly associated with the reduction of perinatal depression is that observing (Williams et al., 2014) was found to be a distinguishing feature of meditators, but not non-meditators.

There are several notable differences between the present study and non-perinatal research. Firstly, a strength of Bergen-Cico and Cheon's (2014) study was that it was designed to test temporality, whereas the current study was not. Secondly, it used a non-

clinical sample of college students, measured mindfulness with a different scale namely KIMS (Baer, Smith & Allen, 2004) and focused on trait anxiety as the outcome variable. In contrast, the current study used a clinical sample, measured mindfulness with FFMQ and focused on perinatal depression as the primary outcome variable. Bergen-Cico and Cheon (2014) concluded the meta-cognitive skills of mindfulness *precede* self-compassion. Consequently, different change processes may be operating for different disorders.

The differences in outcomes between the current study and previous findings (Baer, Lykins, & Peters, 2012; Bergen-Cico & Cheon, 2014; Van Dam, Sheppard, Forsyth, & Earleywine, 2011) may be due to the type of samples (clinical versus non-clinical), the type of dependent variables measured (psychological distress, anxiety, perinatal depression versus wellbeing), the different instruments used to measure mindfulness (MAAS, KIMS, FFMQ) and different study designs. The current study used a cross-sectional design similar to Van Dam et al. (2011) and Baer et al. (2012). Bergen-Cico and Cheon (2014) used a longitudinal design with three measurement points which satisfies Baron and Kenny's (1986) assumptions. Van Dam et al. (2011) used Multiple Analysis of Variance (MANOVA). Baer et al. (2012) used two hierarchical regression analyses. Baer et al. (2012) found the two mediators simultaneously mediated the improvements in wellbeing. Implications from the current findings are that self-kindness, observing and acting with awareness is associated with reductions in perinatal depression.

Schreiber et al. (2006) recommended 10 criteria to evaluate studies using structural equation modelling. The current study met nine of the 10 criteria prescribed by Schreiber et al. (2006). Firstly it satisfied Schreiber et al.'s (2006) six non-technical criteria. Secondly as recommended by Schreiber et al. (2006) it addressed the four technical issues of sample size, normality, software program and Goodness of Fit Indices. Model 1 demonstrated excellent

fit statistics. However, the findings require further analysis with different datasets and samples to verify its accuracy.

10.7.1 Limitations and Future Directions. SEM requires large sample sizes in order to obtain reasonable stability in parameter estimates (Kline, 2005). More powerful computer modelling techniques have made it possible to use bootstrapping to compensate for smaller sample sizes (Kline, 2005; Krebsbach, 2014; Mallinckrodt, Abraham, Wei, & Russell, 2006). However there is no consensus for, “sample size, there is no exact rule for the number of participants needed” (Schreiber et al., 2006, p. 326). Kline (2005) recommended an optimal ratio of participants to parameters as 20:1, while simultaneously acknowledging 10:1 is more realistic and sample sizes less than 5:1 results in unstable estimates (Cunningham, 2008; Kline, 2005). For the current study there are 7 regressions, 4 variances and no co-variances. So, 11 parameter estimates resulting in a minimum of 55 participants and an optimal sample of 210. Although this study met the minimum sample size requirement, a larger sample would have been ideal.

Bootstrap resampling was used to compensate for the small sample size and lack of random sampling as recommended by Cunningham (2008). To compensate for the small sample size, 2000 bootstrapped resamples were drawn from the full dataset of 77 cases. A request of 95% confidence interval was used to override the AMOS 25 default that provides 90% confidence intervals. Bias-corrected option was also selected as recommended by AMOS 25 when using Bollen-Stine Bootstrap *p*. Simulation research has found bias-corrected bootstrapping is a far more valid and powerful method for testing the effects of intervening variables than the casual steps approach (Baron & Kenny, 1986) and the Sobel (1982) test (Fritz & MacKinnon, 2007; Williams & MacKinnon, 2008). Secondly the interpretation of the results did not infer temporality or appropriate the term mediator if

assumptions by A. F. Hayes (2013) or Baron and Kenny (1986) were not met. Due to the lack of random sampling (Walsh et al., 1992), the results cannot be generalised outside a predominantly educated, partnered Anglo-Australian perinatal sample with pre-existing mental health concerns or past trauma.

A methodological strength of this study was the use of regression analysis and SEM to analyse factors within SCS and FFMQ. The finding that self-kindness was associated with reductions in psychological distress resonates with teachings of contemplative scholars (Goldstein, 2016; Nhat Hanh, 2012). For centuries self-compassion (Goldstein, 2016; Nhat Hanh, 2012) has been attributed to a curative learning process, where one acknowledges and learns from mistakes rather than ruminate in a stew of self-recrimination, self-criticism and self-doubt. The clinical significance of these findings is the suggestive evidence that three mindfulness skills, namely self-kindness, observing and acting with awareness can be cultivated to reduce symptoms of perinatal depression. From a clinical perspective the participants in the study had a history of mental illness, suicidal thoughts and trauma. Yet their perinatal depression, mindfulness and self-compassion significantly improved. Promoting pregnant women's own mental health prior to giving birth can have positive implications for both mother and child.

Future research can contribute to the field by re-analysing Models 1, 2 and 3 with perinatal samples and other different samples. Conducting rigorous longitudinal RCTs with larger sample sizes and at least three measurement points has the potential to examine the temporal order of mediators. Using objective outcome measures rather than only self-report measures can assist with verifying the construct validity and the clinical utility of self-compassion and mindfulness. Objective measures include epigenetic changes, blood pressure, cortisol, cytokines and heart rate variability (Squires & Bricker, 2009; Yehuda et al., 2016). A consistent specific definition of mindfulness together with valid, reliable measures

can also improve research rigor (Van Dam et al., 2018). A more coordinated effort by mindfulness researchers to follow the CONSORT guidelines (Schulz et al., 2010) is needed to improve the quality of research. The mediating effects of various sub-scales within SCS and moderating effects of pre-existing mental illness also warrant further investigation. A research agenda which promotes objective exploration of the clinical utility rather than program promotion can have the potential to significantly reduce the prevalence of perinatal depression.

To conclude, this study investigated the factors within self-compassion and mindfulness scales associated with the reduction of perinatal depression. Given this study's limitations, caution is recommended when generalising the results. The hypothesised theoretical model was confirmed by the sample data. The findings indicate that the cultivation of self-kindness, observing and acting with awareness are associated with reductions in perinatal depression. Self-compassion and mindfulness are complex, meta-cognitive constructs. Increasing awareness of one's own thought processes and internalising self-compassion requires continual practice in a fast-paced, critical society.

Author Contributions KT designed the study, wrote the ethics application, analysed the data and wrote the manuscript. NC assisted with the study design, supervised the data analysis and edited the final manuscript.

Compliance with Ethical Standards

Conflict of Interest The authors have no conflict of interests related to this publication.

Ethics Statement Ethical approval was granted by the Women and Children's Health Network (HREC/16/WCHN/21). All procedures which involved human participants were in accordance with the ethical standards of Helsinki declaration and its later amendments. This study also complied with the ethical standards of the institutional and national research committees. No animals were used in this study. Informed consent was obtained from all participants when the data was collected.

Chapter 11 Discussion

“It is no measure of health to be well-adjusted in a profoundly sick society.”

Jiddu Krishnamurti (cited in Lyons-Weiler, 2016, p. V).

11.1 Synopsis

This closing chapter investigates the overall significance of the four studies, the problems encountered and the future research directions. It examines how the findings contribute to the current body of mindfulness literature in terms of the clinical, methodological and theoretical significance. It also analyses the clinical, heuristic and policy implications of the research. The dissertation ends with a summary of recommendations synthesising relevant evidence in the field.

11.2 Introduction

The four studies within this dissertation contributed to the overarching aim of critically analyzing how mindful parenting evolves emotions to promote affect regulation. Study 1 was a systematic review, which synthesised the current literature on the effectiveness of mindful parenting (MP) programs in promoting children’s and parents’ wellbeing. Study 2, a repeated measures study, evaluated the effectiveness of a new Australian MP program called *Caring for Body and Mind in Pregnancy* (CBMP) in reducing perinatal depression, anxiety and general stress. Study 3 utilised Interpretative Phenomenological Analysis (IPA) to examine the change mechanisms or processes associated with mindful parenting. Study 4 examined which factors within the change processes of self-compassion and mindfulness were strongly associated with the reduction of perinatal depression.

11.3 Summary of Findings

The overall conclusion from the four studies highlighted that there is insufficient clinical and heuristic evidence to conclusively establish that mindful parenting can significantly promote affect regulation. The lack of empirical evidence does not necessarily indicate an intervention is ineffective in promoting affect regulation. The recurring conclusion from the four studies is that mindful parenting is still in its infancy, requiring objective measures, as well as more rigorous and adequately powered Randomised Control Studies (RCTs). The systematic review yielded insufficient evidence to provide robust conclusions that MP programs significantly improved the wellbeing of children and parents. However, the findings from the other three studies provided suggestive evidence that MP programs promote affect regulation. This was predominantly because the results from the RCTs in Study 1 could not be synthesised owing to the substantial heterogeneity in interventions, methodology and sample types.

A strength of a systematic review is that it includes only studies that meet the inclusion criteria, even if excluded studies seem relevant. For instance, the systematic review excluded the study by Dykens, Fisher, Taylor, Lambert, and Miodrag (2014) since it was the only intervention in the selected studies where the facilitators were trained peers. Appendix C Table 6.9 on *Excluded Studies* (p. 289) outlined why the study by Dykens et al. (2014) was excluded. Similarly, the study by Neece (2014) was excluded from the systematic review because it was not specifically an MP program, but an MBSR program. Neece (2014) evaluated MBSR for parents with children diagnosed with a developmental delay.

All hypotheses from Study 2 were supported, except for mindfulness as measured by the *Mindfulness Awareness and Attention Scale* (MAAS). As

hypothesised the results from Study 2 supported the primary hypothesis that CBMP significantly reduced perinatal depression, anxiety and general stress in a sample of vulnerable pregnant women at risk of developing a mental illness. It also supported the secondary hypothesis that CBMP significantly improved self-compassion and mindfulness as measured by the *Five Facet Mindfulness Questionnaire* (FFMQ). Mindfulness as measured by MAAS did not significantly improve or negatively correlate with measures of depression, anxiety, or stress. Van Dam et al. (2010) found MAAS is a measure of mindlessness. It is unclear whether the opposite of mindlessness is mindfulness. However, the results show mindfulness as measured by FFMQ significantly improved.

The findings from Study 3, namely the *anchor*, has the potential to contribute to the broader mindfulness literature as it provides a coherent conceptual framework to synthesise and analyze the change processes. The interviews with the mindfulness facilitators revealed six higher-order change mechanisms/processes. These change mechanisms illustrated as an anchor were reflective functioning, secure attachment in addition to cognitive, somatic, emotional and social processes. The anchor represents a theory of change, which stemmed from the findings of the systematic review (Study 1) and interviews (Study 3). Reflective functioning emerged as a higher-order change mechanism that influenced all other processes. The interviews revealed neologisms such as '*gestating a mother*' and the depiction of the mother as an '*extended nervous system*' that have not been previously mentioned in the mindfulness literature. These eloquently describe the parents' and community's role in the child–parent dyad. Finally, findings from Study 4 highlight three factors or skills associated with the reduction of perinatal depression, namely, *self-kindness*, *observing* and *acting with awareness*. Therefore, the findings

provide suggestive evidence to support two of the three quantitative studies in this dissertation.

To critically analyze the findings from the four studies within the broader mindfulness research, the aforementioned results were compared with those of the current research in the field. There were several similarities and differences between the systematic review conducted in this dissertation (Townshend et al., 2016) and others in the field. Many recent systematic reviews in the field of prenatal MBPs (Dhillon, Sparkes, & Duarte, 2017; Hall et al., 2016; Lever Taylor et al., 2016; Matvienko-Sikar et al., 2016; Shi & MacBeth, 2017) found no definitive support for mindfulness interventions. More specifically, although there was a significant improvement in the mindfulness variable, RCTs found no significant difference between the mindfulness and control groups for depression, anxiety and perceived stress during pregnancy (Dhillon et al., 2017). However, pre-post studies (Dhillon et al., 2017) found significant improvements in anxiety, depression and perceived stress in favor of the mindfulness group compared with the control group.

Unlike Townshend et al.'s (2016) study, Dhillon et al. (2017) synthesised the effect sizes through a meta-analysis. Nevertheless, Dhillon et al. (2017) do acknowledge there was considerable heterogeneity in the interventions. This was the primary reason Study 1 did not conduct a meta-analysis. Dhillon et al. (2017) acknowledges the results of the control group may also have been confounded as 30% of the control group took prenatal yoga classes, which may have influenced the anxiety reductions in the control group (Dhillon et al., 2017). Additionally, the reading material given to the control group may have indirectly reduced anxiety as a result of individuals gaining more knowledge regarding their pregnancy. Kinser and Robins (2013) found that the control group participants made more significant changes than expected due to social support, group

discussion and participation in other activities that promoted positive behavior change. In short, individuals may improve on their own with or without the intervention.

A recurring finding in the recent systematic reviews by Townshend et al. (2016) and others on prenatal Mindfulness Based Programs (MBPs) is the variability in the findings and mindfulness interventions. Divergent results from these systematic reviews may be because of the substantial heterogeneity in interventions, methodology and sample types. The most controversial limitation with MP programs is the diversity of interventions classified as MP programs or perinatal MBPs, which inevitably conflates program fidelity. The current systematic reviews on prenatal MBPs and MP programs argue there is a lack of evidence from rigorous RCTs to verify the effectiveness of MP programs (Dhillon et al., 2017; Hall et al., 2016; Lever Taylor et al., 2016; Matvienko-Sikar et al., 2016; Shi & MacBeth, 2017). These conclusions highlight the contemporary preference for RCTs over other forms of evidence, such as SECDs. The epistemological debate over the past 2,500 years indicates evidence from RCTs are not the only form of evidence that can inform clinical, heuristic and policy implications. The recommendations made by this dissertation are based on a synthesis of current evidence relevant to the field.

11.4 Limitations

11.4.1 Self-report measures. The four studies have several limitations that undermine the significance of their results. A major limitation with all four studies is the reliance on self-report measures. Sources of potential bias and threats to validity are introduced by self-report measures (Bowling, 2005; Van Dam et al., 2018). However, introspective subjective accounts are essential when exploring the nature of the mind. As (Wallace, 2014) argues, subjective accounts, particularly those of experienced meditators, are vital to the bidirectional investigation of the mind and mindfulness. Study 3 analyzed

the observations of mindfulness teachers who were experienced meditators. Future studies that include standardised, observable measures, such as the quality of the mother–child relationship and father–child relationship, in addition to parental self-reports, are more likely to provide a more comprehensive picture of affect regulation. Therefore, these contradictory epistemologies need to be delicately balanced to understand the healing qualities of pure awareness that unfolds moment by moment.

11.4.2 Methodological differences on what qualifies as evidence. Another limitation is that all four studies are susceptible to being criticised for methodological differences on what qualifies as evidence. The vigorous debate on what constitutes evidence has been unabated for over 2,500 years. This dissertation has no intention of resolving these contentious methodological differences of opinion. The JBI Meta-Analysis of Statistics Assessment and Review Instrument (JBI MASTARI) does provide useful guidelines for assessing group design studies but none for evaluating Single-Case Experimental Designs (SCED). In fact, SCEDs are not listed in the JBI Hierarchy of Evidence in Figure 4.1 (p. 77) or Figure 6.7 (p. 154). The JBI hierarchy of evidence may need to include SCEDs as highlighted in Appendix Table 11.1. The rationale for including SCEDs in Level 1e is that some researchers (Rizvi & Nock, 2008) consider it an experimental design rather than quasi-experimental. Although SCEDs are not used as frequently as randomised clinical trials (RCTs), it can also offer the “same level of experimental rigor” (Rizvi & Nock, 2008, p. 499). Rizvi and Nock (2008) state that SCEDs provide efficient, cost-effective alternatives to RCTs. Furthermore, SCEDs are considered to offer significant advantages in terms of internal and external validity (Rizvi & Nock, 2008). One advantage is that SCEDs allow careful examination of both between-subject and within-subject factors (Rizvi & Nock, 2008). Rather than requiring a large sample size, SCEDs may only require one participant to demonstrate the causal effect of an

intervention (Rizvi & Nock, 2008). Another strength is that SCEDs may offer an easy, efficient alternative to demonstrate the causal effect of an intervention. Hence, the JBI hierarchy of evidence may need to provide guidelines on how to evaluate SCEDs.

The inclusion criteria for the systematic review specified only group based RCTs would be evaluated. Single-subject experimental designs were excluded since they did not meet the inclusion criteria. Results from SCEDs indicate MP programs were effective for parents and their children with autism (Singh et al., 2006), developmental disabilities (Singh et al., 2007), as well as ADHD (Singh, Singh, et al., 2010). Singh et al. (2006; 2007) also found that after parents completed MP training, their children showed a decrease in aggression, noncompliance and self-injury, according to maternal real-time data collection and increased positive social interactions, as rated by professionals during interactions with siblings. The mothers also reported positive effects, such as increased satisfaction in their interactions with their child and increased happiness with parenting (Singh et al., 2006; 2007). Furthermore, a crossover study by Singh, Singh, et al. (2010) administered a 12-session MP program for mothers, then provided the children with mindfulness training. Findings indicate children's compliance was enhanced when the mothers attended the MP program (Singh, Singh, et al., 2010). In addition, children's compliance increased even more when the children received the mindfulness training (Singh, Singh, et al., 2010). Subsequently, these effects were maintained during follow-up (Singh, Singh, et al., 2010). Despite these positive results, Study 1 focused on evaluating group-based RCTs, as specified by the inclusion criteria, not single-subject designs.

While SCED is a viable complementary methodology to the predominant group design, its methodological challenges have precluded its widespread acceptance (J. D. Smith, 2012). Some such challenges are the need for further guidelines on the evaluation of assessment, sampling techniques and data analysis methods (J. D. Smith, 2012). Once

guidelines for evaluating SECDs have been clarified, future systematic reviews on mindful parenting could also include RCTs, quasi-experimental and SECDs to clarify causality.

11.4.3 No consistent definition of MP programs. There is no consistent definition of mindful parenting. Some programs include *both meditation practice* and *mindfulness skills*, while others only use mindfulness skills. To capture all relevant studies, the search strategy combined parenting with MBSR, MBCT, MCBT, DBT and ACT. The results did not yield any studies with MP programs that used DBT or ACT.

The rationale for including DBT and ACT was that most parents find it difficult to meditate either owing to time pressures or mental health conditions. Mindfulness skills from the Soto Zen tradition is used by DBT (Linehan & Read, 2013). A small section on mindfulness as cognitive skills based on Relational Frame Theory is used by ACT (S. C. Hayes & Strosahl, 2005). Both ACT and DBT focus on mindfulness *skills* and do not use mindfulness *practices* based on meditation. Previous studies have used DBT with mothers diagnosed with Borderline Personality Disorder to improve affect regulation and secure mother–infant attachment by developing mothers’ reflective functioning (Fonagy, Gergeley, Jurist, & Target, 2002; Swenson & Choi-Kain, 2015; A. Williams & Apter, 2017; Zalewski, Stepp, Whalen, & Scott, 2015). When a mother has not mastered regulating her own emotions, settling an infant is often unmanageable (A. Williams & Apter, 2017). A core skill of DBT is using attentive awareness in the present moment, without judgment, as a preliminary step for self-regulation. Most individuals with Borderline Personality Disorder find it difficult to regulate their emotions or to meditate.

The clinicians in Study 3 also confirmed that reflective functioning and mindfulness are similar skills that have been used to improve secure attachment between the mother and infant. Including DBT in our search did expand our knowledge of how to

increase reflective functioning in parents. There may be a need to develop a MP program based on MBSR or MBCT with explicit instructions on reflective functioning for parents. A future systematic review on mindful parenting may consider excluding DBT and ACT.

The inclusion criteria for the systematic review did not exclude MP programs that did not use meditation practice. Myla Kabat-Zinn, a co-founder of the term mindful parenting, has acknowledged that she does not meditate, but uses mindfulness skills on a daily basis (M. Kabat-Zinn & Kabat-Zinn, 1997). To improve program fidelity, it may be necessary to emphasise the defining features of a MP program, as a parenting program based on either MBSR or MBCT with at least 30 minutes of daily meditation practice in addition to the development of mindfulness skills, reflective functioning and secure attachment. A future systematic review on mindful parenting could define the inclusion criteria to only focus on MP programs based on MBCT or MBSR, which use at least 30 minutes of daily meditation practice.

11.4.4 Selection bias. Study 2 was plagued by the usual limitations with selection bias and program fidelity, due to its use of the retrospective dataset. The selection bias in Study 2 stems from using self-selected participants. Another source of selection bias was the use of facilitators with dual roles for facilitation and data collection. The sample that was selected did differ from those not selected. The participants who were selected met the inclusion criteria for being at risk of developing perinatal depression as specified on p. 161. Moreover, these participants were only selected for the study if they had completed both pre- and post-program measures. Compared with randomly selected participants, self-selected participants are more motivated to change (Walsh et al., 1992). Given the retrospective study design, no fidelity data were available for analysis. The same three facilitators delivered the program over the seven years. The program content was outlined on p. 160 and p. 161. These limitations do undermine the confidence in the results.

11.4.5 Facilitator effects. The facilitator effect influences participant outcomes in MBPs (Crane et al., 2017). All the facilitators were accredited by the peak training body for mindfulness teachers in Australasia, the Mindful Training in Australia and New Zealand (MTI ANZ). The facilitators were also clinicians, with extensive personal meditation practice, maintained through daily meditation practice, attendance at yearly retreats, regular peer support and supervision. The facilitators' training contributes to maintaining program fidelity.

11.4.6 Imprecise measures. The validity of the conclusions is also threatened by imprecise measures. Study 2 used MAAS as a measure of mindfulness for part of the data collection period, until it was replaced by FFMQ. The only hypotheses that were not supported in Study 2 were those associated with MAAS. As previously stated, MAAS has been critiqued by Van Dam et al. (2010) as a measure of mindlessness rather than mindfulness. The danger in using imprecise measures is that it threatens construct validity, which results in misleading extrapolations. The Eastern perspective of mindfulness acknowledges that mindfulness is an interdependent construct that embraces both the intrapersonal and interpersonal. Currently, there is only one mindful parenting measure (Duncan, 2007) for parents of adolescents, which acknowledges both the intrapersonal and interpersonal.

11.4.7 Method bias. A common methodological limitation that threatens the validity of conclusions about the relationships between measures is method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It is widely recognised to have a systematic and random component. A main source of systematic measurement error is method variance that may arise from different sources. Method variance refers to variance

attributable to the measurement method rather than to the construct of interest (Bagozzi & Yi, 1991; Podsakoff et al., 2003). Method refers to measurement at different levels of abstraction, such as item content, scale type, response format and general context (Fiske, 1982, pp. 81–84). Method effects refer to “response biases such as halo effects, social desirability, acquiescence, leniency effects, or yea- and nay-saying” (Bagozzi & Yi, 1991, p. 426). D. T. Campbell and Fiske (1959) argued that systematic error variance, regardless of its source, can have serious confounding influence on empirical results, yielding potentially misleading conclusions.

Selecting appropriate procedural and statistical remedies may assist with effectively controlling for method bias in all four studies. Best practice for eliminating method bias begins with questionnaire and item design. This includes implementing procedural remedies, such as eliminating item ambiguity, demand characteristics and social desirability (Podsakoff et al., 2003). Additional procedural and statistical remedies to control for method bias includes considering four key questions: (a) Can the predictor and criterion variables be obtained from different sources? (b) Can the predictor and criterion variables be measured in different contexts? (c) Can the source of the method bias be identified? and (d) Can the method bias be validly measured? Applying the findings of Podsakoff et al. (2003) to the four studies, it is clear the sources of method bias are the inability to obtain predictor and criterion variables from different sources, to separate the measurement context and to identify the source of method bias.

Guaranteeing response anonymity was one procedural remedy that was implemented in all four studies to reduce the impact of not being able to collect predictor and criterion variables from different sources. As recommended, a single common method factor approach (Cell 3A, Table 5 in Podsakoff et al. (2003)) was used to statistically control for method biases in Study 2. Multiple method factor approach (Cell 4A Table 5 in

Podsakoff et al. (2003) was used to control method bias in Study 4. Multiple sources of method bias were controlled at one time with error variances for each item and factor during the structural equation modelling. However, both single and multiple factor approaches still ignore the influence of method and trait interactions (Podsakoff et al., 2003). Future research needs to collect predictor and criterion variables from different sources to minimise method bias. The SECDs by Singh et al. (2006; 2007; 2010) demonstrate how predictor and criterion variables can be collected from different sources to minimise method bias.

11.4.8 General factors. Mindful parenting based on MBCT for the perinatal period appears to be a promising new program that is cost-effective on face value for vulnerable parents at risk of relapsing or developing depression, anxiety, or stress conditions. This leads to question whether there are specific effects of mindfulness that improve mood or whether *any* structured group can yield similar results. Mulder (2015) argues that *general factors*, such as a manualised approach, active supportive therapists, a focus on patients' sense of agency and managing life's challenges, may be more important than specific factors related to mindfulness. Given that further research is needed on the change mechanism, it is not yet possible to refute Mudler's (2015) claims. Although these common factors do contribute to positive outcomes, there are specific aspects of mindfulness practice that are likely to be helpful. Some of these change mechanisms include attention training, attunement, nonreactivity, self-compassion, ethics, curiosity, insight and reflective functioning. Whilst these mechanisms are inherent in many psychotherapies, mindfulness practice provides deliberate attention and compassion training. Mindfulness is considered to be a way of training the mind rather than a psychotherapy. Through meditation, mindfulness practice results in focused attention, nonreactivity, present-centred awareness and self-compassion.

11.4.9 Lack of generalizability. Another limitation all four studies share is a lack of generalizability or external validity. Generalizability would be possible if a probability sampling strategy was used to select participants. Clearly, this was not possible with the given at-risk sample. Similarly, with regard to internal validity, the four studies cannot conclusively demonstrate mindful parenting *causes* treatment effects since there was no random assignment. There was a lack of rigorous RCTs in Study 1 to establish any definitive conclusions, except that further research is warranted. Studies 2 and 4 provided suggestive evidence that self-compassion as well as mindfulness may act as change processes. Study 3 was exploratory in nature, so further quantitative research is required before the anchor can be generalised. The positive findings could have other explanations. For example, mindful parenting may improve the couple's relationship, which may improve their mood or positive interactions with their children (Parent, McKee, Mahon, & Foreh, 2016). Another explanation is that problematic behavior from a child may impact a parent's ability to parent more mindfully (Parent et al., 2016). The methodological limitations with the current research preclude clear conclusions about the effective processes by which mindful parenting facilitates wellbeing in children and parents.

Data analyses is also limited to bivariate correlations (Parent et al., 2016). Simultaneous delivery of parent- and youth-focused mindfulness interventions impede inferences about which intervention that drives the observed effect. Small sample sizes have resulted in low power, precluding an examination of change mechanisms. For instance, most studies have sample sizes of less than 80, with many having less than 20. The use of non-probability samples limits the generalizability of findings to the broader population. For example, parents of children with neurodevelopmental disabilities are a distinct subgroup of the population of parents that are likely not representative of this entire population but rather is driven by study location and access. Finally, prior studies

have a sole focus on direct effects to the exclusion of indirect effects (Parent et al., 2016). Indirect effects may be that parents use less automatic, maladaptive, reactive patterns, which reduce hostile, coercive parenting while increasing positive patterns, such as warmth and clear communication, which improve children's wellbeing (Bögels & Restifo, 2014; Dumas, 2005; Duncan et al., 2009a). Clarification of these indirect mechanisms can broaden our knowledge on how to improve family wellbeing, prevent psychopathology and inform effective public health policies.

11.5 Strengths

Despite the limitations with the research on mindful parenting, this emerging field has opened new lines of inquiry on how to assist parents to become more mindful. Study 1 set the scene by synthesising the current evidence. Studies 2 and 4 provided actual examples of the difficulties with mindfulness research. Study 3 explored the possible change mechanisms in mindful parenting. Study 4 provided a granulated analysis of the factors with self-compassion and mindfulness associated with the reduction of perinatal depression.

11.5.1 Methodological significance. Bridging the epistemological gap between the quantitative and qualitative methodologies was another strength of this dissertation. Rather than engaging with the paradox, it is possible to generate a deeper understanding of both world views (Sikh & Spence, 2016). The findings fused empirical with phenomenological, objective with subjective, Eastern with Western. The qualitative interviews explored how and why MP programs worked. The quantitative analysis aimed to examine the effectiveness of MP programs. By bridging these divergent epistemologies, this dissertation was able to elucidate the non-dualistic, non-conceptual nature of mindful parenting.

Quantitative research establishes rigor through precision, reliability and validity of the method (Badger, 2000). Yet, rigor in qualitative research requires the clear articulation and congruence of ontology, epistemology, methodology and method (Sikh & Spence, 2016). The IPA methodology is congruent with the ontological nature of mindful parenting. To comprehend the non-conceptual, non-dualistic nature of mindful parenting, Study 3 investigated affect regulation with the hermeneutic circle. The non-dualistic Eastern mindfulness philosophy does have some congruence with Heidegger's (1952, 1996) beliefs on *being* in addition to Gadamer's (1996) views of historicity, prejudice and fusion of horizons. Sikh and Spence (2016) explain the principles as follows: (1) fusion of horizons (Gadamer, 1996); (2) being in a hermeneutic circle (Heidegger, 1952, 1996); (3) understanding as intrinsic to awareness (Krishnamurti, 1993; Nhat Hanh, 2009); and (4) regular meditation practice (Nhat Hanh, 2012) or unconditional observation (Krishnamurti, 1994). The hermeneutic circle evolves understanding through writing, reflecting, meditating, rereading and rewriting to provide a decision trail to evaluate the validity of the findings (Sikh & Spence, 2016). Hence, ongoing meditation practice fuels insights, which contributes to a more comprehensive understanding of mindfulness.

Insights synthesise the intrapersonal and intersubjective understandings. "Evolving like an upwardly moving and expanding spiral, new insights become pre-existing horizons for the next and so forth" (Sikh & Spence, 2016, p. 6). The researcher engages with phenomena of interest by questioning prejudices or preunderstanding (Gadamer, 1996), which facilitates or limits further expansion of understanding (Spence, 2001). This continuous process of reading, thinking, writing, meditating, rereading and rewriting enables new insights to appear. The unfolding process fused horizons, creating an experiential understanding of mindful parenting. As thoughts rise and fall in awareness without judgment, it scaffolds "an enhanced state of awareness in which new insights

evolve” (Sikh & Spence, 2016, p. 6). The process of understanding through mindfulness is a simultaneous, bidirectional process that allows a deeper understanding of mindfulness and one’s own mind.

11.5.2 Theoretical significance. The anchor contributes to the current body of knowledge in the field by providing a theoretical framework to evaluate the change processes. Its theoretical significance lies in the development of a conceptual framework to synthesise the change processes of mindful parenting. Even with the proliferation of MP programs, the theoretical assumptions of mindful parenting are still blurry. The theoretical foundations of MP programs are usually based on MBSR or MBCT with other defining characteristics being reflective functioning, Attachment Theory and parenting styles. Study 1 (Townshend et al., 2016) highlighted the need for consistency in how programs are labelled MP programs.

Theoretical assumptions posit that mindful awareness during parenting interactions can allow parents to pause and shift awareness to respond to their child with intention in the moment, thus valuing the long-term parent–child relationship (Dumas, 2005; Duncan et al., 2009b). The distinction between mindful parenting and positive parenting practices is that mindful parenting sets the stage for improved capacity to use positive parenting practices through (1) awareness and present-centered attention during parenting interactions, (2) non-judgmental receptivity to their child’s behavior and (3) the ability to regulate their reactivity to their children’s behavior (Parent et al., 2016). From this perspective, a parent’s mindfulness triggers a complex cascade that encourages mindful parenting behaviors, which in turn increase positive parenting behaviors (i.e., warmth and positive reinforcement) and decrease negative parenting behaviors (i.e., harsh and

ineffective discipline) (Parent et al., 2016). Essentially, mindful parenting is distinct from positive parenting.

11.5.3 Program fidelity. A key to maintaining program fidelity is to clearly articulate the core theoretical assumptions, change mechanisms, structure, dose, delivery, facilitator training, facilitator meditation requirements and practice requirements to name a few (Crane et al., 2017). Otherwise, the scientific literature will inevitably “conflate studies of programs that may not be characteristic of the core structure, form, dose and delivery method of a particular MBP, but represent themselves as such, this confounds our ability to interpret the emerging scientific exploration of MBPs” (Crane et al., 2017, p. 997). Consistent with Crane et al.’s (2017) recommendations, Study 2 used a new program title to maintain program fidelity and distinguish CBMP from other prenatal MBCTs.

The distinction between mindfulness and its adaptation to a specific context is illustrated by the *warp* and *weft* metaphors used by Crane et al. (2017). The term *warp*, which is the fixed vertical thread when weaving, denotes the adherence to a particular MBP (Crane et al., 2017). The *warp* in many of the MP programs is the adherence to MBSR or MBCT. *Weft* is the traverse thread that differentiates each tapestry (Crane et al., 2017). It is used to refer to the adaptation or differentiation of a particular MBP to a specific context (Crane et al., 2017). The *weft* in MP programs is the different developmental stages or mental health condition, reflective functioning, attachment and parenting styles. An important recommendation highlighted by Crane et al. (2017) is using a new title for the adaptation if there is a divergence from the curriculum, structure or process. “It is critical that the curriculum employed and the particular MBP title match each other” (Crane et al., 2017, p. 994). The use of the new program title ensures different

adaptations of MBPs for different contexts are not labelling all as prenatal MBCT or MBSR.

11.5.4 Clinical significance. Evolving emotions to resolve distress is a fundamental feature of affect regulation. The overall conclusion from the four studies provides suggestive evidence, at best, that mindful parenting is clinically significant in promoting affect regulation. As previously stated, there is insufficient evidence from Study 1 to support its clinical significance for affect regulation. However, pre-post results from Study 2 indicate CBMP is clinically significant in reducing depression, anxiety and stress among a perinatal sample with a previous history of these conditions. The lived experience of the facilitators in Study 3 provides anecdotal evidence that mindful parenting does promote affect regulation in parents as well as children. Finally, Study 4 illustrates that assisting parents to develop self-compassion facilitates the development of mindfulness skills, such as *observing* and *acting with awareness*.

Self-compassion is exquisitely illustrated in a line from the poem *St Francis and the Sow* by Kinnell (2002) “[s]ometimes it is necessary to reteach a thing its loveliness... until it flowers from within, of self-blessing” (Goldstein, 2016, p. 160). From a clinical perspective, to flower self-blessing from within requires distinguishing guilt from remorse. Guilt reinforces negative self-judgment, whereas remorse is an act of honest self-judgment, “which is wise in its understanding of impermanence and selflessness” (Goldstein, 2016, p. 160). Criticism can be corrosive, festering doubt. The first type of doubt promotes inquiry, whereas the second type of doubt is a hindrance that paralyses action with indecision (Goldstein, 2016). Martel (2001) illustrates the paralysis of doubt by noticing, “To choose doubt as a philosophy of life is akin to choosing immobility as a means of transportation” (p. 21). Doubt, denial and self-criticism create a battlefield in the mind. Eventually, these deep ingrained patterns of self-doubt undermine self-worth.



Plate 11.1. Flowering of self-compassion.

Presented with permission of Onepixel (2018).

Further research is needed to clarify *which* MP programs are beneficial for *which* mental health conditions, *who* the target samples are, *why* it works, *what* is the program content and *when* is optimal time of delivery. Target samples may include healthy, clinical, at-risk, antenatal, or postnatal samples. From the 14 studies included in the systematic review by Dhillon et al. (2017), only three had samples with histories of depression. This supports Matvienko-Sikar et al.'s (2016) observation that further research is needed for clinical samples or those with histories of depression for both the prenatal and postnatal periods as well as effects on the child.

An alternative, non-pharmacological treatment is needed for patients who are treatment resistant or unable to tolerate medication. Depression carries the highest clinical burden across the world, with rates increasing more than 18% from 2005 to 2015 (WHO, 2017). It remains a disabling condition (Mulder, 2015). The fear of the stigma associated

with mental illness and the lack of support prevent many from accessing the treatment needed to live healthy, productive lives (WHO, 2017). Even with the current escalating use of antidepressants, the long-term outcomes for mood disorders have not improved (Mulder & Frampton, 2014). Furthermore, preterm delivery has been associated with increased stress and anxiety, whereas at-term delivery has been linked to decreased stress as well as decreased anxiety (Glynn, Schetter, Hobel, & Sandman, 2008; Schetter & Tanner, 2012). Preterm births can also compromise infant neurodevelopment and child outcomes (Schetter & Tanner, 2012). The management of depression and anxiety during the perinatal period is crucial in preventing poor outcomes for both the mother as well as the child.

Mindfulness interventions, particularly MBCT, can provide an effective treatment alternative to antidepressants (Mulder, 2015). Program delivery through a group format reduces costs and the number of trained facilitators needed (Mulder, 2015). This makes it feasible to offer it as a choice for pregnant women who are at risk for perinatal depression and anxiety. MBPs can also develop skills that are important for pregnant women and new mothers (Hall et al., 2016). The seven attitudinal factors covered in mindfulness based interventions are non-judging, patience, beginner's mind, trust, non-striving, acceptance and letting go (Kabat-Zinn, 1990). Mindfulness skills train attention to increase stress tolerance and reduce reactivity (Kabat-Zinn, 1990). Rather than avoiding painful emotions, it encourages the acceptance of one's thoughts, emotions and body sensations. These are all important skills to cultivate optimal parenting.

Behavior change is inherently difficult. The failed efforts of the weight-loss industry attest to the difficulty in maintaining behavior change (Gudzune et al., 2015). Perls (1969) observed almost 50 years ago:

awareness per se – by and of itself – can be curative. Because with full awareness you become aware of this organismic self-regulation, you can let the organism take over without interfering, without interrupting; we can rely on the wisdom of the organism. (p. 17)

Contemporary scholars, such as Wallace (2014) and Ekman (2003), provide a deeper understanding of how to promote affect regulation by increasing one's introspective metacognitive awareness to recognise the *spark* of the emotion, before the *flame* of the behavior. Ekman and Cordaro (2011) describe emotion as “discrete, automatic responses to universally shared, culture-specific and individual-specific events”(p. 364). Perhaps, overeating, binge drinking and violence are often perpetuated by a shared, emotive *group think*. Hence, increasing awareness of the subconscious cues and default responses, may be one part of implementing desired behavior change.

11.6 Clinical Implications

The recommendations made by this dissertation are based on a synthesis of current evidence relevant to the field. Given the multiple methodological limitations with the four studies, each study merely provides suggestive evidence. The findings from each study are not intended to be used as definitive instructions on what readers ought to do based on that study. No single study can be used to inform clinical, policy, or practice implications. Systematic review methodology aims to review evidence-based research to inform treatment. The recommendations are merely suggestions based on the synthesis of current evidence in the field.

The clinical implications from the four studies are to exercise caution in overstating the clinical benefits of mindful parenting until sufficient evidence is established. The evidence from Study 2, Study 3 and Study 4 is promising in that it highlights the clinical

benefits in affect regulation and potential explanation on how it may occur. This resonates with the cumulative evidence delineating the positive benefits of mindful parenting (Bögels & Restifo, 2014; de Bruin et al., 2015; Parent et al., 2016; Turpyn & Chaplin, 2016; van der Oord et al., 2012; Veringa et al., 2016). Recent epigenetic studies Yehuda et al. (2013) provide further clinical evidence on how trauma and psychotherapy alter epigenetic states.

Mindfulness research could improve its rigor by using objective measures such as epigenetic measures. Yehuda et al. (2013) show the epigenetic states of glucocorticoid related *NR3C1* and *FKBP51* genes were changed by psychotherapy for war veterans with Post-Traumatic Stress Disorder. These preliminary findings indicate that psychotherapy, which constitutes a form of positive environmental regulation, may reverse certain trauma-associated epigenetic states. Rachel Yehuda (2017) refers to these strategies as “weapons of mass construction” (p.1). In fact, Yehuda (2017) does not view the ability of our genes to change due to perplexing circumstances as a negative consequence. The gift of adaptation thereby can be viewed as a curse or potential blessing. Yehuda et al. (2016) has demonstrated an association between preconception parental trauma and epigenetic alterations evident in both the exposed parent as well as the offspring. These findings provide potential insights into how severe psychophysiological trauma can have intergenerational effects (Yehuda et al., 2016). A strategy to avoid feeling stuck with wearing our grandparents’ trauma genes is to improve our psychological health by making meaningful changes. Recent epigenetic evidence is hopeful rather than fatalistic, since effective psychotherapy, exposure therapy and other environmental influences may be able to reverse some of the epigenetic effects of trauma.

The clinical utility emphasised in Study 3 adds value to the broader literature on how mindful parenting influences affect regulation. The example of the four-year-old boy

with autism in Study 3 who redirects the parents to take a 3-minute breathing space after a flustered day illustrates the benefits of mindful parenting practices. Similarly, Parent et al. (2016) found that higher levels of parent's dispositional mindfulness was indirectly related to lower levels of youth internalising and externalising problems through higher levels of mindful parenting and lower levels of negative parenting practices. The results were based on 615 parents (55% female) and one of their 3-to-17-year-old children (Parent et al., 2016). These findings were consistent across three developmental stages, young childhood (3–7 years; $n = 210$), middle childhood (8–12 years; $n = 200$) and adolescence (13–17 years; $n = 205$). “Replication of these findings across families with children at different developmental stages appears to support the generalizability of the model” (Parent et al., 2016, p. 1). It appears dispositional mindfulness may be useful in helping parents to help their children. This awareness could also be a valuable early intervention tool, which helps parents to spot the signs of depression or other mental illness.

Previous studies (Beck, 1967; Goodman et al., 2011) have found parents' negativity was linked to risk taking in their adolescents. However, Turpyn and Chaplin (2016) found expressions of negative or positive emotions alone did not influence adolescents' sexual behavior or drug use. Turpyn and Chaplin (2016) speculate that it may be more important for a parent to be emotionally attuned to their child than to be either positive or negative in their interactions. Mindful parents may be more attuned and emotionally congruent in their interactions, thereby parenting in a less reactive way. These preliminary studies indicate that teaching more mindful, responsive parenting while reducing harsh, punitive parenting may indirectly reduce risks, such as depression, anxiety, acting out and drug use, during adolescence (Parent et al., 2016). Most parents are genuinely motivated to provide warmth, structure, rules and consequences. Consequently, mindful parenting may provide parents with skills to reduce reactivity in unexpected moments.

11.7 Heuristic Implications

The foremost heuristic implication resonating across the four studies is the need to improve the quality of research in this embryonic field of mindful parenting. The quasi-experimental study design underpinning Study 2 can be valuable during the early stages of inquiry about the effectiveness of a new intervention. Now that Study 2 has provided proof of concept, the next step would be an RCT. Compared with other programs targeting perinatal women, CBMP (Cohen's $r = .51$) has a moderate effect size in reducing perinatal anxiety, compared with MBCP ($d = 0.81$), MAPS ($d = 0.77$) and Mindful Motherhood ($d = 0.85$) (Duncan & Bardacke, 2010; Guardino et al., 2014; Vieten & Astin, 2008). More specifically, a pre-post study of MBCP ($n = 27$) had a significantly large effect size, (Cohen's $d = 0.81$, $p < 0.0001$) on reducing anxiety as measured by PAS (Duncan & Bardacke, 2010). The RCT of MAPS ($n = 47$) had a large effect size (Cohen's $d = 0.77$, $p < 0.05$) on anxiety as measured by (PSA) (Guardino et al., 2014). A randomised controlled waitlist trial ($n = 31$) of Mindful Motherhood also had a significant large effect size (Cohen's $d = 0.85$, $p < 0.04$) on reducing anxiety as measured by STAI (Vieten & Astin, 2008). MBCP, as evaluated in a pilot study ($n = 27$), seems to be potentially effective considering the significant large effect size in the decrease in pregnancy-related anxiety (Cohen's $d = 0.81$), the increase in non-reactivity (Cohen's $d = 0.85$) and increase in positive affect (Cohen's $d = 0.40$) found among pregnant women who participated in the MBCP program (Veringa et al., 2016). The other programs were targeting a general perinatal sample. Thus, CBMP still had a moderate effect even though the sample was at risk of developing perinatal depression.

Rigorous, adequately powered RCTs are required to confirm the effectiveness of cultivating mindfulness in parents during pregnancy and during other developmental stages of the child. It would be advantageous to explore whether the benefits reported by

pregnant women directly after a MP program are sustained during the first postnatal year, which is an important time for developing secure attachment (Dhillon et al., 2017).

Upstream interventions can be cost-effective due to the far-reaching intergenerational implications on the mental health of the child and the parent (Cohen, 2010). Mindful parenting early in life may have the potential to prevent intergenerational transmission of poor parenting and trauma.

The discovery of mirror neurons over 20 years ago has much to reveal about the development of empathy and attunement as revealed by a facilitator in Study 3. The associative hypothesis stipulates mirror neurons originate from learning processes similar to Pavlovian conditioning where observation and execution occur relatively close together in time (Heyes, 2010). Research demonstrating that the mirror neurons of musicians and dancers are different to other individuals lends support to this associative hypothesis (Calvo-Merino, Grezes, Glaser, Passingham, & Haggard, 2006; D'Ausilio, Altenmuller, Olivetti, & Lotze, 2006). Kim et al. (2014) compared two forms of mother–infant mirroring, namely *direct mirroring* and *intention mirroring* with 50 mothers. Direct mirroring refers to the mother's imitation of the infant's facial, gestural, or vocal behavior (Kim et al., 2014). Intention mirroring refers to mother's ostensive verbalisation of the infant's internal state (Kim et al., 2014). During the third trimester of pregnancy, Kim et al. (2014) classified mothers as secure or insecure/dismissing through the Adult Attachment Interview. Although direct mirroring did not distinguish between secure and insecure mothers 7-months postpartum, secure mothers were observed to engage in intention mirroring twice as frequently as insecure/dismissing mothers (Kim et al., 2014). The connectivity of mirror neurons in traumatised and securely attached children requires further investigation. The ability to look into another's eyes to feel their pain, to reflect, to identify with another, all require associative learning.

11.8 Policy Implications

The overall conclusion from this dissertation reinforces that the early caregiving an individual receives is the cornerstone of mental health from the cradle to grave. Children of parents from lower socioeconomic and disadvantaged communities are particularly at risk for poorer physical and mental health. However, the prominent paradigms of contemporary society do not question the conative intelligence of policymakers and the populace that elect them. Conative intelligence (Wallace, 2016), as previously mentioned in Chapter 2, Section 6.4, is the ability to discern whether an action is beneficial or harmful to self and others. Millennials, also known as Generation Y, are those born between 1980 and the mid-1990s (Barr & Malik, 2016). Unprecedented inequality between generations has resulted from a combination of globalisation, rising house prices, debt and joblessness, which is depressing the incomes of youth across the developed world (Barr & Malik, 2016). Young adults used to earn more than the national average 30 years ago in Britain (Barr & Malik, 2016). At present, they earn 20% below their average compatriots (Barr & Malik, 2016). Contrary to the fundamental premise of mindful parenting and conative intelligence, future generations (Barr & Malik, 2016) are increasingly disadvantaged by the actions of previous generations.

Despite the use of psychotherapy and antidepressants, the increasing prevalence of adolescent depression has not halted (G. R. Cox et al., 2012). Novel treatment models are building collective resilience by addressing social inequity, protecting social support initiatives and engaging adolescents in the mitigation of climate change (Norris et al., 2008). Actively talking about the psychological impact of climate change and social inequities during psychotherapy is part of the *Training for Awareness Resilience and Action* model of prevention and treatment of adolescent depression (Henje Blom et al., 2016). It aims to support adolescents as they develop committed action and new social

norms to address their concerns (Henje Blom et al., 2016). Acknowledging contextual factors contributing to adolescent depression, such as affordable housing, employment and climate change, is vital in addressing their concerns.

There are substantial gaps in our understanding of how parenting can prevent the development of psychopathologies, particularly conduct disorder, narcissism and sociopathy. From a clinical perspective, many child psychopathologies tend to be traced back to problematic parenting practices (Belsky & Jaffee, 2006). Resilience research over the past 50 years indicates that some children bounce back in the face of adversity if they have a mentor or can find meaning from the adversity (Masten, 2001; Werner, 2012; Werner & Smith, 1982; Werner & Smith, 1992). A systems perspective, which draws on the evidence from Marmot's (2015) work and Adverse Childhood Events (ACE) studies (Aschbacher, Saron, Gilbert, Arenander, & Epel, 2014; Felitti et al., 1998), demonstrates a *sick system creates sick parents*. The classic symptoms of inadequate parenting regardless of etiology is the dismissal of a child's needs, which may lead to neglect and abuse.

11.9 Recommendations

This section synthesises the recommendations from the four studies. It then outlines the system redesign recommendations stipulated in the relevant literature. Just as the parent is the extended nervous system for the infant, growing evidence (Felitti et al., 1998; Marmot, 2017) indicates the community is the health system for the family.

11.9.1 Summary of recommendations. A key recommendation resonating through the four studies is the need to improve the quality of research within the field of mindful parenting. More specifically:

1. conduct rigorous RCTs with objective measures of change mechanisms (Studies 1 to 4).

2. develop Mindful Parenting scale/s that is/are appropriate for different developmental stages from the perinatal period to adulthood (Studies 1 and 2).
3. conduct quantitative studies to clarify the direct and indirect change mechanisms identified in the anchor (Study 3).
4. measure objective outcomes including biomarkers such as epigenetics, mirror neurons, cortisol and heart rate variability (Studies 1 to 4).
5. investigate whether mirror neurons promote secure attachment through intention mirroring (Study 3).
6. clarify the temporal order of the change mechanisms, self-compassion and mindfulness by conducting RCTs with at least 3 measurement points (Study 4).
7. improve program fidelity by using consistent labels for MP programs to describe components such as dose, delivery, duration, aims and format (Studies 1 and 2).
8. clarify *which* mental health conditions and *which* target samples are more likely to benefit from *which* mindfulness interventions. Further research is also needed on *when* the interventions are most effective, such as prenatal or postnatal periods and *how* affect regulation in children is promoted. The *what, which, when, why* and *how* of MP programs need further clarity.
9. develop more rigorous first person and third person investigations into the nature of the mind, emotion regulation and mindful parenting.
10. include single-case experimental designs in the *JBI Hierarchy of Evidence* (Study 1).

To conclude, this dissertation's contribution to the current body of knowledge is the recommendation to improve the measurement of mindful parenting, clarify the mediators and validate the change mechanisms.

11.9.2 Recommendations for system redesign. Implementing systems that create optimal health has the potential to transcend the spectacle of rhetoric and blame. There is an urgent need to establish policies that address inequality across the world. The evidence from the ACE studies (Aschbacher et al., 2014; Felitti et al., 1998) repeatedly illustrates how inequality is inherently linked to affect regulation. Marmot (2016) articulates six domains or conditions conducive to creating optimal health:

1. Give every child the best start in life.
2. Education and lifelong learning to achieve some control of one's life.
3. Employment and working conditions.
4. Every person should have a minimum income necessary for living a healthy life.
5. Healthy sustainable places in which to live and work.
6. Prevention, not just individual behaviour to consider 'causes of causes.'

Marmot's (2016) domains aim to address the "profoundly sick society" highlighted by Krishnamurti's poignant quotation (cited in Lyons-Weiler, 2016, p. V) at the beginning of this chapter.

Applying these domains from a mindful parenting perspective means starting with responsive prenatal care for the pregnant mother, father and family (Domain 1). As a facilitator in Study 3 stated, "*she's gestating a mother, as much as she's gestating a baby*" (Bella). Simple acts, such as engaging parents to read to their children from birth, can improve literacy and attention regulation. Meaningful employment can provide a sense of purpose and social connection. Several scales (Ryff & Keyes, 1995; Steger, Frazier, Kaler,

& Oishi, 2006) have been developed to measure the meaning of life, which demonstrates its importance to wellbeing. Disrupted social networks lead children to social isolation and hopelessness. Language education can establish prosocial norms. An eight-week psychoeducation program will not be as effective as providing stable housing, so that parents are not in protracted, financial distress, constantly moving because of rising rents.

Mindfulness provides strategies to address the impact of inequity on mental health. As previously highlighted, poverty and adverse childhood events have a debilitating impact on an individual's adult mental health (Marmot, 2015). Teaching children to maintain an inner stability that is not *troubled* by *favorable* or *unfavorable* events (Nanamoli & Bodhi, 1995) has the potential to limit the impact of poverty. Richard Thaler won the 2017 Nobel Prize for his work on behavioral economics. The psychological factors that influence decision-making include (1) who communicates the information; (2) what others are doing; (3) the available incentives (not necessarily financial); (4) any subconscious cues that are present; and (5) defaults or 'pre-set' options (Thaler & Sunstein, 2009). Increasing awareness of subconscious cues and the default response is a mindfulness strategy.

Building relationships and establishing routines are part of all parenting, mindful or otherwise. Consistent with Thaler and Sunstein (2009), Marmot (2015) recommends changing the default option to optimal conditions so that individuals have to opt out of behaving in a destructive way. Wording the communication to focus on the number of people behaving in a desired way has also been found to improve behavior change (Thaler & Sunstein, 2009). Finally, making a public commitment to behave in a desired way can also significantly increase behavior change (Thaler & Sunstein, 2009). The old modes of thinking invest in costly treatment once the mental health conditions have manifested. Redesigning the system with these changes can be a more effective early intervention.

The consumer culture has monetised the ancient art of mindfulness to McMindfulness (Nappi, 2017). Users now need to purchase the 8-week programs to be recognised as users or trainers of mindfulness. For program fidelity, this is useful. Critics claim mindfulness is a fad that will soon fade away (Swain, 2016). The valorisation of speed, greed and busyness may render quiet stillness redundant. For over 2,500 years, mindfulness meditation has been studied across cultures. Mindfulness encompasses much more than affect regulation or stress reduction. Given its longevity, it is likely to continue beyond the current hype if awareness is still considered valuable.

The practical implications from this dissertation are that not one program, policy or epistemology can be the panacea for the global challenges beguiling the human condition. A starting point may be to develop a mental health policy that encompasses a global, coordinated strategy to increase affordable housing, secure employment and environmental protection. Grounding policy decisions on ethics, being able to discern whether our behavior has a harmful or beneficial impact on others is more likely to improve wellbeing.

Two intrinsically linked solutions that have the potential to address inequality are the mind and overarching policy levers. The mind is the gateway whereby the socio-environmental factors influence mental and physical health (Marmot, 2016). Both Marmot (2016) and Wallace (2016) acknowledge the importance of the mind in giving a sense of control and agency over one's life. Jon and Myla Kabat-Zinn (1997) recount a tale, where King Arthur is on a quest to save his kingdom from drought. If he could find the answer to a fundamental question, his kingdom would be saved. The burning question was "What is it that all woman most desire?" (M. Kabat-Zinn & Kabat-Zinn, 2014, p. 51). The answer was sovereignty. In fact, sovereignty is the desire for every woman, man, child, race and species. If we can respect the power and prestige of every child, every living being, then our chances of flourishing, not just surviving, increases.

11.10 Conclusion

The overarching aim of the four studies encapsulated in this dissertation was to critically analyze how mindful parenting promotes affect regulation. Condensed together, these four studies suggest mindful parenting plays a key role in regulating affect. The overall conclusion resonating across the four studies is that more rigorous research with objective measures is needed to establish the effectiveness of mindful parenting for affect regulation. Although the systematic review was unable to provide conclusive evidence to establish the effectiveness of mindful parenting, the other three studies provide suggestive evidence that it may be beneficial to promote affect regulation in children as well as parents.

The quantitative and qualitative studies complement each other, allowing a deeper examination of the subtle nuances underpinning affect regulation. Introspective and objective epistemologies were both used toward attaining a rigorous critical analysis of how to evolve destructive emotions to serene states. The dualistic with the non-dualistic, the conceptual with the non-conceptual, gradually merged to expand our understanding of how to evolve emotions. To the author's knowledge, this dissertation conducted one of the first systematic reviews evaluating the effectiveness of programs. Another strength was the development of the *anchor*, a coherent framework that synthesises the change processes promoting mindful parenting. Some of the transformative processes underpinning the anchor rely on reflective functioning, the primordial secure attachment, attention regulation, affect regulation, somatic regulation and social learning.

Mindful parenting embraces a rich tapestry of theories and therapies. Some of its defining features appear to be based on mindfulness practices, Attachment Theory, trauma-informed therapy and reflective functioning. The quest to unravel the mechanisms of mindful parenting has the potential to improve the wellbeing of parents and children across

generations. Numerous MP programs, a multitude of meanings on what it involves and a confluence of epistemologies underpin its mechanisms.

Emotional literacy can provide a deeper understanding of the human condition. Having considered the driving forces in the evolution of emotions, it raises vital questions about whether humanity can adapt to the existential challenges it faces. A more nuanced examination of human emotions has the potential to transform our unfettered greed to contentment and self-absorbed anger to serenity. Transforming human consciousness from its destructive folly to an altruism that promotes pristine peace may inevitably be the enduring sustenance for evolving emotions across generations.

This internal world, this subjective stuff of the mind is
at the heart of what enables us to sense each other's pain,
to embrace each other at times of distress,
to revel in each other's joy,
to create meaning in the stories of our lives,
to find connection in each other's eyes. (Siegel, 2007, p. 3)

Appendix A: Ethics Approvals

WCHN Human Research Ethics Committee (1)

25th February 2016

Ms K Townshend
Translational Health
University of Adelaide & James Cook University
The Cairns Institute, Building D3
SMITHFIELD QLD 4870



Research Secretariat
Level 2, Samuel Way Building
72 King William Road
North Adelaide SA 5006
Tel 08 8161 6390
Tel 08 8161 6521
www.wch.sa.gov.au

Dear Ms Townshend

Re: Investigating The Effects Of Mindfulness Based Cognitive Therapy (MBCT) on pregnant women's depression, anxiety and wellbeing. HREC/16/WCHN/21. Ethics expiry date: 28/2/19

**Lead HREC for the above study for the following institutions/sites:
Women's & Children's Health Network**

The above Low and Negligible Risk application was considered by the WCHN Human Research Ethics Committee at its meeting on 24th February 2016. I am pleased to advise that your protocol has been granted full ethics approval and meets the requirements of the *National Statement on Ethical Conduct in Human Research*.

The Committee noted your letter of 21st February 2016 and considered that the conditions of 2.3.10 of the *National Statement on Ethical Conduct in Human Research* had been met and hence approved the waiver of consent to access case notes. This approval is on the proviso that the accessing of case notes at WCHN will be by a WCHN staff member.

Specifically, the following documents have been noted/approved:

Document	Version	Date
Letter		21 February 2016
Research Protocol	Version 1	10 February 2016
LNR Application AU/15/380428		

This letter constitutes advice on ethical consideration only. You must not commence this research project at a site until you have obtained separate research governance approval from the site concerned. A copy of this letter should be forwarded to all site investigators for submission to the relevant Research Governance Officer.

At the WCHN, or any other SA Health site, separate authorisation from the Chief Executive or delegate of that site must be obtained through a Site Specific Assessment (SSA) request. For information on this process at the WCHN, please contact the WCHN Research Governance Officer, Ms Camilla Liddy (telephone 8161 6688, email camilla.liddy@health.sa.gov.au).

I remind you approval is given subject to:

- immediate notification of any serious or unexpected adverse events to participants;
- immediate notification of any unforeseen events that might affect continued ethical acceptability of the project;
- submission of any proposed changes to the original protocol. Changes must be approved by the Committee before they are implemented;
- immediate advice, giving reasons, if the protocol is discontinued before its completion;
- submission of an annual report on the progress of the study, and a final report when it is completed to the WCHN Research Governance Officer. It is your responsibility to provide these reports, without reminder. The proforma for the report may be found on the WCHN Research Governance and Ethics website.



Approval is given for three years only. If the study is more prolonged than this, an extension request should be submitted unless there are significant modifications, in which case a new submission may be required. Please note the expiry date in the title above and include it in any future communications.

Yours sincerely

✓ TAMARA ZUTLEVICS (DR)
CHAIR
WCHN HUMAN RESEARCH ETHICS COMMITTEE

Cc: Dr R Powrie, Psychological Medicine, WCHN

WCHN Human Research Ethics Committee (2)

Women's
& Children's
Hospital

Research Secretariat

Level 2, Samuel Way Building
72 King William Road
North Adelaide SA 5006
Tel 08 8161 6390
Tel 08 8161 6521
www.wch.sa.gov.au

2nd May 2017

Ms K Townshend
Translational Health
University of Adelaide & The Cairns Institute
James Cook University
PO Box 6811
CAIRNS QLD 4870

Dear Ms Townshend

Re: Investigating The Effects Of Mindfulness Based Cognitive Therapy (MBCT) on pregnant women's depression, anxiety and wellbeing. HREC/16/WCHN/21. ETHICS EXPIRY: 28/2/19

Thank you for your email dated 20 March 2017. At its meeting on 26th April 2017, the WCHN Human Research Ethics Committee approved:

- the proposed amendment to include interviews with facilitators of mindfulness programmes
- the Participant Information Sheet (version 1 21/3/17)
- the Consent Form (version 1 21/3/17)

Approval is on the proviso that the interview questions are submitted for consideration before proceeding.

Yours sincerely

TAMARA ZUTLEVICS (DR)
CHAIR
WCHN HUMAN RESEARCH ETHICS COMMITTEE



Government
of South Australia

SA Health

University of Adelaide Human Research Ethics Committee (3)

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CRICOS Provider Number 00123M

17 May 2017

Associate Professor Z Jordan
School: Translational Health

Dear Associate Professor Jordan

ETHICS APPROVAL No: H-2017-080

PROJECT TITLE: How does change happen? An interpretative phenomenological analysis of mindful parenting facilitators' observations of change processes.

The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Health and Medical Sciences) and is deemed to meet the requirements of the *National Statement on Ethical Conduct in Human Research (2007)* involving no more than low risk for research participants. You are authorised to commence your research on **17 May 2017**.

Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled *Annual Report on Project Status* is to be used when reporting annual progress and project completion and can be downloaded at <http://www.adelaide.edu.au/research-services/oreci/human/reporting/>. Prior to expiry, ethics approval may be extended for a further period.

Participants in the study are to be given a copy of the Information Sheet and the signed Consent Form to retain. It is also a condition of approval that you **immediately report** anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol; and
- the project is discontinued before the expected date of completion.

Please refer to the following ethics approval document for any additional conditions that may apply to this project.

Yours sincerely,

Sabine Schreiber
Secretary, Human Research Ethics Committee
Office of Research Ethics, Compliance and Integrity

Appendix B: Consent, Information Forms

University of Adelaide Human Research Ethics Committee Consent Form



Human Research Ethics Committee (HREC)

CONSENT FORM

1. I have read the attached Information Sheet and agree to take part in the following research project:

Title:	Mindful Parenting
Ethics Approval Number:	HREC/16/WCHN/21

2. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent is given freely.
3. Although I understand the purpose of the research project it has also been explained that involvement may not be of any benefit to me.
4. I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.
5. I understand that I am free to withdraw from the project at any time.
6. I agree to the interview being audio/video recorded. Yes No
7. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

Participant to complete:

Name: _____ Signature: _____ Date: _____

Researcher/Witness to complete:

I have described the nature of the research to _____
(*print name of participant*)

and in my opinion she/he understood the explanation.

Signature: _____ Position: _____ Date: _____



Participant Information Sheet

HREC No:	HREC/16/WCHN/21
Project Title:	Mindful Parenting
Principal Investigator:	Kishani Townshend
Supervisor:	Associate Professor Caltabiano

***You are invited to participate in the
Mindful Parenting Study***

Background

This PhD study is investigating how mindfulness promotes parents' wellbeing. It is funded by a PhD scholarship from the University of Adelaide. The Women and Children's Health Network (WCHN), Cairns Institute and the University of Adelaide have assisted with organising this study.

Why have you been chosen?

You have been chosen because you are a facilitator of mindfulness programs to parents. You are invited to participate in the study. If you decide to participate in the study, you will be asked to provide your consent by signing a form.

What is involved if I participate in the study?

If you decide to participate in the study you will participate in one interview via Skype. The interview is anticipated to be approximately one hour or less. The interview questions will be emailed to you, at least one week before the interview.

Benefits: Benefits associated with mindfulness practice, include:

- Increased self-awareness, self-trust and self-acceptance.
- Heightened awareness of thinking patterns, intentions and communication patterns.
- Decreases in anxiety and depression.

Risks

There are no anticipated risks associated with participating in this study. If you experience any distressing feelings, please contact your **General Practitioner or Lifeline 131114**.

Confidentiality & Privacy

All responses to the interview are confidential. All information collected from participants will be coded to ensure privacy. Your responses will not be identified by name. Data will be securely stored in password protected files. Retention of data and forms will adhere to the policies of Women and Children's Health Network (WCHN) and University of Adelaide. Some of the data and results may be used for future research.

Limits to Confidentiality & Privacy:

If participants indicate they are experiencing thoughts of self-harm, they will be encouraged to consult their General Practitioner to gain a referral to see a Psychologist so they can access appropriate care.

**Participation:**

Your participation is completely voluntary. Not participating will not affect you in anyway.

Withdrawal:

You can withdraw from the study at any time without being required to state any reason. Withdrawal will not affect you in anyway.

Future Information

Future information such as publications from the project will be made available for those who wish to have it.

Further Information

Principal Investigator	Kishani Townshend	Telephone 0401012865 Email: kishani.townshend1@jcu.edu.au
Supervisor	Associate Professor Nerina Caltabiano	Telephone: 07 4232 1182 Email: Nerina.Caltabiano@jcu.edu.au

Complaints

This project has been reviewed and approved by the Women and Children's Health Network (WCHN). For concerns relating to the conduct of this project, please contact.

Patient Ethicist, Chair of HREC WCHN	Dr Tamara Zutlevics	Telephone: (08) 8161 6390 Email: tamara.zutlevics@sa.gov.au
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Appendix B: Study 3 Interview Questions

- 1) How long have you been working as a mental health professional?
- 2) What does your role entail?
- 3) How did you become interested in Mindful Parenting?
- 4) What is Mindful Parenting?
- 5) What is the theoretical basis of Mindful Parenting?
- 6) a) How is the course structured?
 - b) How many hours of training do they attend each week?
 - c) What is the course content?
 - d) What is done in the classes? Is it a combination of information provision, self-reflection & group therapy?
 - e) Do they have homework?
 - f) What aspects of the group dynamics promotes insight/ behaviour change?
- 7) What are the crucial elements / the active ingredients of this program that promote behaviour change?
- 8) What psychological processes do you think facilitates behaviour change?
- 9) Share with us some examples of how it has changed your participants thinking, feelings, behaviour and parenting?
- 10) Have you observed any examples of how it may have impacted on the participants' children?
 - a) Have you noticed any differences in the birthing process, birth weight and on the child as they grow?
- 11) Some of the change processes identified in the Mindful Parenting literature could be grouped under 5 headings: -
 - 1) Intention (Intentionality, Re-perceiving, Listening)
 - 2) Attitude (Non-judgmental acceptance, compassion)
 - 3) Attention (Attention to variability, attention regulation)
 - 4) Emotion (attunement, emotional awareness, emotional regulation)
 - 5) Attachment (secure attachment)

Appendix C: Chapter 5 and Chapter 6 Appendices

Appendix C: JBI MASTARI Appraisal Instrument

JBI Critical Appraisal Checklist for Randomised Control / Pseudo-randomised Trial

Reviewer ----- Date -----

Author ----- Year ----- Record Number -----

	Yes	No	Unclear	Not Applicable
1. Was the assignment to treatment groups truly random?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Were participants blinded to treatment allocation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Was allocation to treatment groups concealed from the allocator?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Were the outcomes of people who withdrew described and included in the analysis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Were those assessing outcomes blind to the treatment allocation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Were the control and treatment groups comparable at entry?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Were groups treated identically other than for the named interventions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Were outcomes measured in the same way for all groups?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Were outcomes measured in a reliable way?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Was appropriate statistical analysis used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall appraisal: Include Exclude Seek further info.

Comments (Including reason for exclusion)

Appendix C: Excluded StudiesAppendix C Table 6.9 *Excluded Studies*

	Authors	Reason For exclusion
1	Dawe and Harnett (2007)	It is not a group-based intervention Mindful Parenting Intervention.
2	Dykens, Fisher, Taylor, Lambert, and Miodrag (2014)	Only intervention in the selected studies where facilitators are trained peers.
3	Ferraioli and Harris (2013)	Active control condition used, namely Skills Based Parent Training (SBPT).
4	Gershby (2014)	One to one therapy. It is not a group training Mindful Parenting program
5	Guardino, Schetter, Bower, Lu, and Smalley (2014)	This antenatal class does not cover Mindful parenting. It is a stress reduction class that could be attended by the general public, pregnant or otherwise.
6	Iadarola (2011)	Control group is an active control condition, the Skills Based Parent Training. The inclusion criteria stated a waitlist control.
7	Woolhouse, Mecuri, Judd, and Brown (2014)	The content of this intervention is based on Mindfulness based Childbirth & parenting program, MBSR & MCBT. The content of the program draws upon Mindful parenting, use of mindful skills in motherhood, importance of the body in communicating with the child. However, the aim of the program was to reduce antenatal stress, anxiety and depression.

Appendix C: Summary of Search Strategies for Searching 8 Databases

- 1) PUBMED = 175
- 2) PsycINFO = 57
- 3) EMBASE = 266
- 4) SCOPUS = 336
- 5) CINAHL = 95
- 6) COCHRANE TRIAL REGISTER = 49
- 7) Psychology and Behavioural Sciences = 64
- 8) THESES AND DISSERTATIONS = 185
- 9) Additional Sources = 5

Total = $1227 + 5 = 1232$

10/11/14 Removed Duplicates Endnote = 601

Manual duplicate Removal = 569

Total articles from databases = $1227 - 601 - 569 = 57$

Total articles from abstracts and additional sources = $57 + 5 = 62$

12/11/14 Titles / abstract screening = $62 - 24 = 38$ full text articles assessed for eligibility

15/11/14 Critical appraisal summary of 38 articles

23 published articles – 10 excluded = 12 published articles

7 theses – 4 excluded = 3 unpublished

5 conference abstracts

3 can't get access to

1 cross sectional

17/11/14 Methodological quality assessment of 14 articles

$38 - 24 = 14$

30/11/14 Quantitative synthesis 7 studies

7 articles included in quantitative synthesis = $14 - 7 = 7$ articles

Appendix C: Detailed Search StrategiesAppendix C Table 6.10 *PUBMED*

Mindful	Parenting
Mindfulness [mh] OR Mindful* [tw] OR Dialectical Behaviour Therapy* [tw] OR Dialectical Behavior Therapy* [tw] OR Acceptance and Commitment Therapy [tw]	Parenting [mh] OR Child-rearing [mh:no exp] OR Child-rearing [tw] OR Childrearing [tw] OR Parent-child relations [mh] OR Parent* [tw] OR Father* [tw] OR Mother* [tw] OR Parental* [tw] OR Paternal* [tw] OR Maternal* [tw] OR Perinatal* [tw] OR Prenatal* [tw] OR Antenatal* [tw]

10/11/14

Mindful = 3859

Parenting = 800 629

Mindful Parenting = 175

Appendix C Table 6.11 *PsycINFO*

Mindful	Parenting
Mindfulness.sh OR Mindful*.mp OR Dialectical Behaviour Therapy.sh OR Dialectical Behavior Therapy.sh OR Dialectical Behaviour Therap*.mp OR Dialectical Behavior Therap*.mp OR Acceptance and Commitment Therapy.sh OR Acceptance and Commitment Therap*.mp	Parenting.sh OR Parenting Skill.sh OR Parenting Style.sh OR Parents.sh OR Child- rearing.mp OR Childrearing.mp OR exp Parent-child relations OR Parent*.mp OR Fathers.sh OR Father*.mp OR Mothers.sh OR Mother*.mp OR Parental*.mp OR Paternal*.mp OR Maternal*.mp OR Perinatal Period.sh OR Perinatal*.mp OR Prenatal Care.sh OR Prenatal*.mp OR Antenatal*.mp

07/11/2014

Mindful = 994

Parenting = 320 413

Mindful AND Parenting = 57

Appendix C Table 6.12 *EMBASE*

Mindful	Parenting
Mindfulness:de,ti,ab OR Mindful*:ti,ab OR 'Dialectical Behaviour Therapy':ti,ab OR 'Dialectical Behaviour Therapies':ti,ab OR 'Dialectical Behavior Therapy':ti,ab OR 'Dialectical Behavior Therapies':ti,ab OR 'Acceptance and Commitment Therapy':ti,ab OR 'Acceptance and Commitment Therapies':ti,ab	Parenting:de,ti,ab OR 'Child rearing':de,ti,ab OR 'Child parent relation'/syn OR Parent/syn OR Parent*:de,ti,ab OR Parental*:de,ti,ab OR Father/syn OR Father*:de,ti,ab OR Mother/syn OR Mother*:de,ti,ab OR Parental*:ti,ab OR Paternal*:ti,ab OR Maternal*:ti,ab OR Perinatal*:de,ti,ab OR Prenatal*:de,ti,ab OR Antenatal*:ti,ab

3/11/14

Mindful = 5 225

Parenting = 961 933

Mindful Parenting = 266

Appendix C Table 6.13 *Scopus*

Mindful	Parenting
Mindful* OR “Dialectical Behav*” OR “Acceptance and Commitment Therap*”	“Child rearing” OR Parent* OR Parental* OR Parental* OR Father* OR Mother* OR Parental* OR Paternal* OR Maternal* OR Perinatal* OR Prenatal* OR Antenatal*

3/11/14

Mindful = 8 149

Parenting = 1 205 095

Mindful AND Parenting = 337

Appendix C Table 6.14 *CINHAL*

Mindful	Parenting
MH Mindfulness OR TI Mindful* OR AB Mindful* OR TI 'Dialectical Behaviour Therap*' OR AB 'Dialectical Behaviour Therap*' OR TI 'Dialectical Behavior Therap*' OR AB 'Dialectical Behaviour Therap*' OR TI 'Dialectical Behaviour Therap*' OR TI Acceptance and Commitment Therap*' OR AB 'Acceptance and Commitment Therap*'	MH Parenting OR MH Parents+ OR MW Parent* OR TI Parent* OR AB Parent* OR MH Fathers+ OR MW Father OR TI Father* OR AB Father* OR MH Mothers+ OR MW Mother* OR TI Mother* OR AB Mother* OR MW Parental OR TI Parental OR AB Parental OR MW Paternal* OR AB Paternal* OR TI Paternal* OR MW Maternal* OR TI Maternal* OR AB Maternal* OR MW Perinatal* OR TI Perinatal* OR AB Perinatal* OR MW Prenatal* OR TI Prenatal* OR AB Prenatal* OR AB Antenatal* OR TI Antenatal*

3/11/14

Mindful = 1 869

Parenting = 151 069

Mindful AND Parenting = 95

Appendix C Table 6.15 *Cochrane Trial Register*

Mindful	Parenting
Mindfulness* OR Mindful* OR 'Dialectical Behaviour Therapy' OR 'Dialectical Behavior Therap*' OR 'Acceptance and Commitment Therap*'	Parenting OR Parents OR Parent-Child relations OR Parent* OR Father* OR Mother* OR Parental* OR Paternal* OR Maternal* OR Perinatal* OR Prenatal* OR Antenatal*

3/11/14

Mindful = 1 016

Parenting = 38 736

Mindful Parenting = 49

Trials = 27

Reviews = 24

Appendix C Table 6.16 *Psychology & Behavioral Science (Logic Grid 1) not used*

Mindful	Parenting
SU(Mindful*) OR AB(Mindful*) OR TI(Mindful*) OR SU("Dialectical Behaviour Therap*") OR TI("Dialectical Behaviour Therap*") OR AB("Dialectical Behaviour Therap*") OR SU("Dialectical Behavior Therap*") OR TI("Dialectical Behavior Therap*") OR AB("Dialectical Behavior Therap*") OR SU("Acceptance and Commitment Therap*") OR TI("Acceptance and Commitment Therap*") OR AB("Acceptance and Commitment Therap*")	SU(Parenting) OR AB(Parenting) OR TI(Parenting) OR SU(Child rearing) OR TI(Child rearing) OR AB(Child rearing) OR SU(Parents*) OR SU(Parent*) OR TI(Parent*) OR AB(Parent*) OR SU(Parental*) OR TI(Parental*) OR AB(Parental*) OR SU(Fathers OR SU(Father*) OR TI(Father*) OR AB(Father*) OR SU(Mothers) OR SU(Mother*) OR TI(Mother*) OR AB(Mother*) OR SU(Maternal*) OR TI(Maternal*) OR AB(Maternal*) OR SU(Perinatal*) OR SU(Prenatal*) OR TI(Antenatal) OR AB(Antenatal)

6/11/14

Mindful = 1256

Parenting = 59, 038

Mindful Parenting = 64

Appendix C Table 6.17 *Psychology & Behavioral Science*

Mindful	Parenting
Mindfulness OR Mindful* OR “Dialectical Behaviour Therapy” OR “Dialectical Behavior Therap*” OR “Acceptance and Commitment Therap*”	Parenting OR Parents* Parent* OR Child rearing OR Parent* OR Father* OR Mother* OR Parental* OR Paternal* OR Maternal* OR Perinatal* OR Prenatal* OR Antenatal*

6/11/14

Mindful = 1259

Parenting = 59 102

Mindful AND Parenting = 64

Appendix C Table 6.18 *Theses & Dissertations*

Mindful	Parenting
SU,AB,TI (Mindfulness) OR SU,AB,TI(Mindful*) OR SU,AB,TI (“Dialectical Behaviour Therap*”) OR SU,AB,TI(“Dialectical Behavior Therap*”) OR SU,AB,TI(“Acceptance and Commitment Therap*”)	SU,AB,TI(Parenting) OR SU,AB,TI(Parents) OR SU,AB,TI(Parent*) OR SU,AB,TI(Fathers*) OR AB,TI (Father*) OR SU,AB,TI(Mothers*) OR AB,TI(Mother*) OR AB,TI(Paternal*) OR AB,TI(Parental*) OR SU,AB,TI(Maternal*) OR SU, AB,TI(Perinatal*) OR SU, AB,TI(Prenatal*) OR AB,TI (Antenatal)

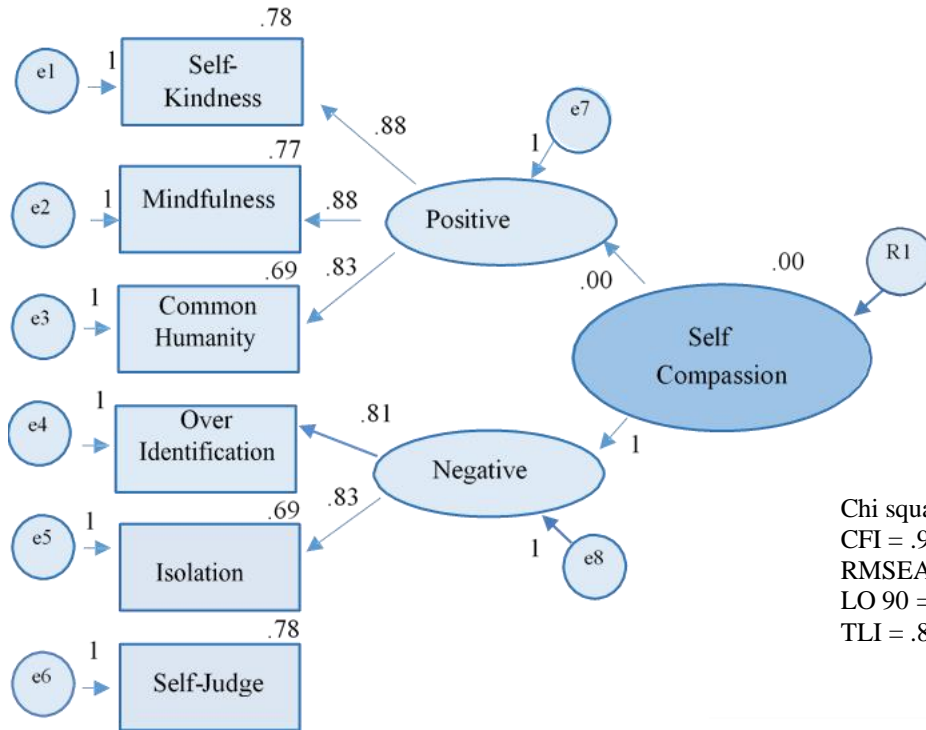
30/10/2014

Mindful = 2 122

Parenting = 177 059

Mindful Parenting = 185

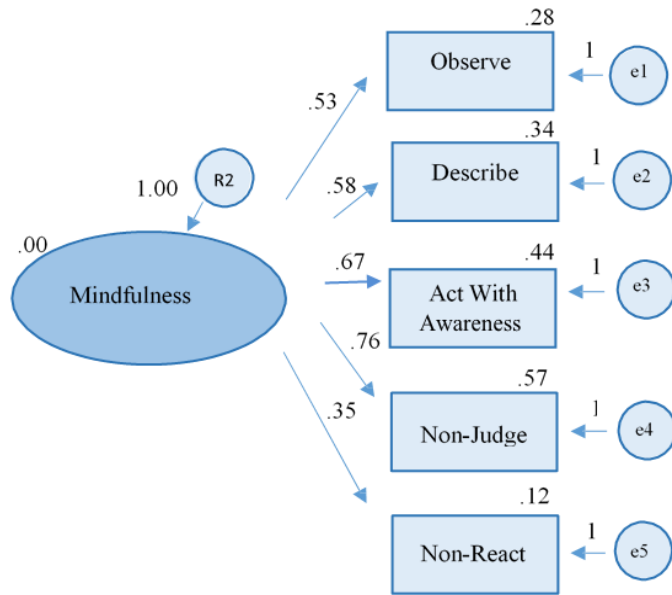
Appendix D: Chapter 10 Appendices



Parameter Estimates

Chi square = 547.75, df = 64, p = .00 Bollen-Stine p = .01
 CFI = .91, AGFI = .70, GFI = .89,
 RMSEA = .21,
 LO 90 = .14, HI 90 = .28, PCLOSE = .00,
 TLI = .83

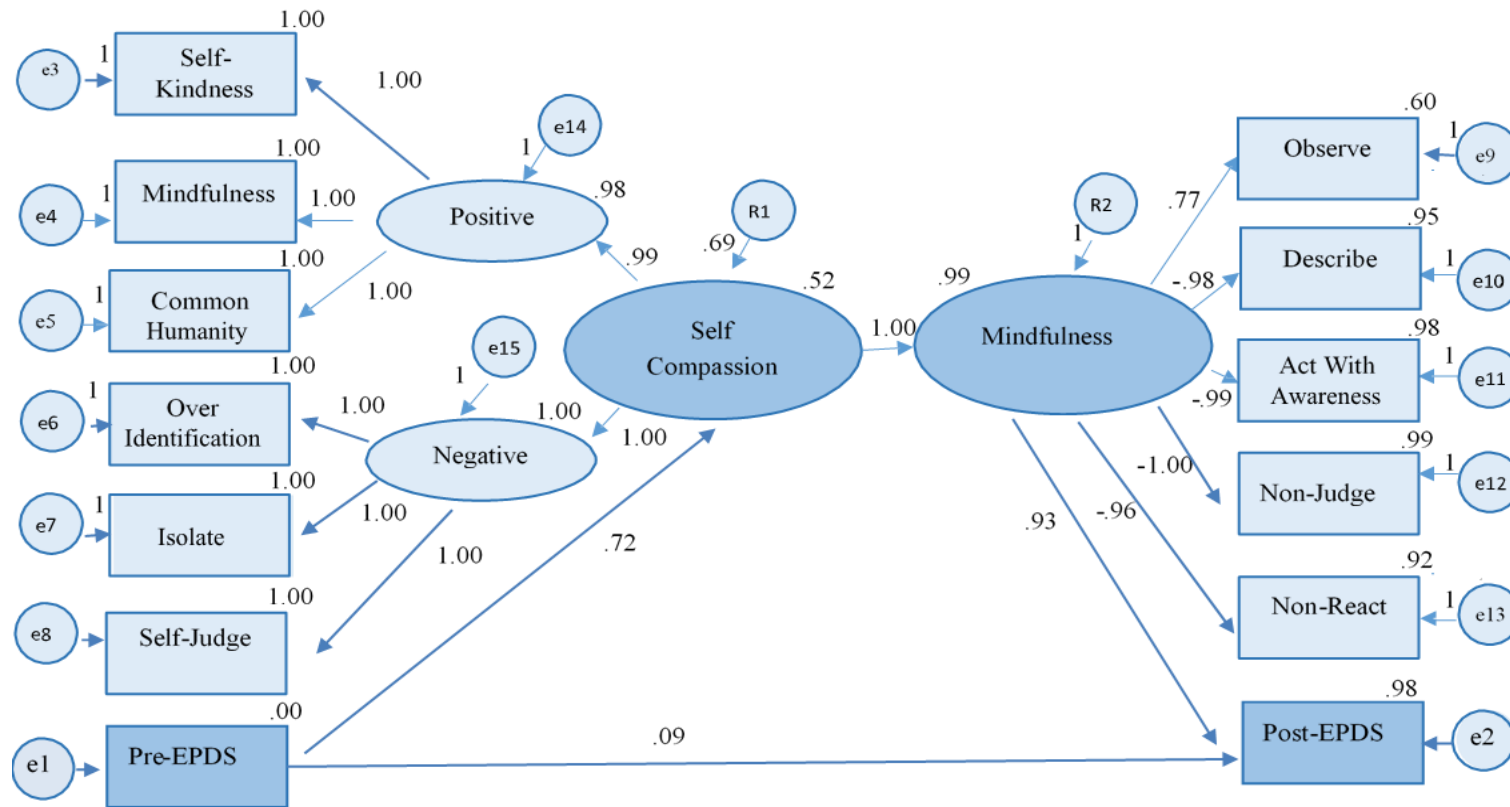
Appendix D Figure 10.4. Confirmatory factor analysis for Self-Compassion in a perinatal sample.



Parameter Estimates

Chi square = 547.75, df = 64, p = .00 Bollen-Stine p = .02
 CFI = .80, AGFI = .71, GFI = .90,
 RMSEA = .20,
 LO 90 = .12, HI 90 = .30, PCLOSE = .00,
 TLI = .59

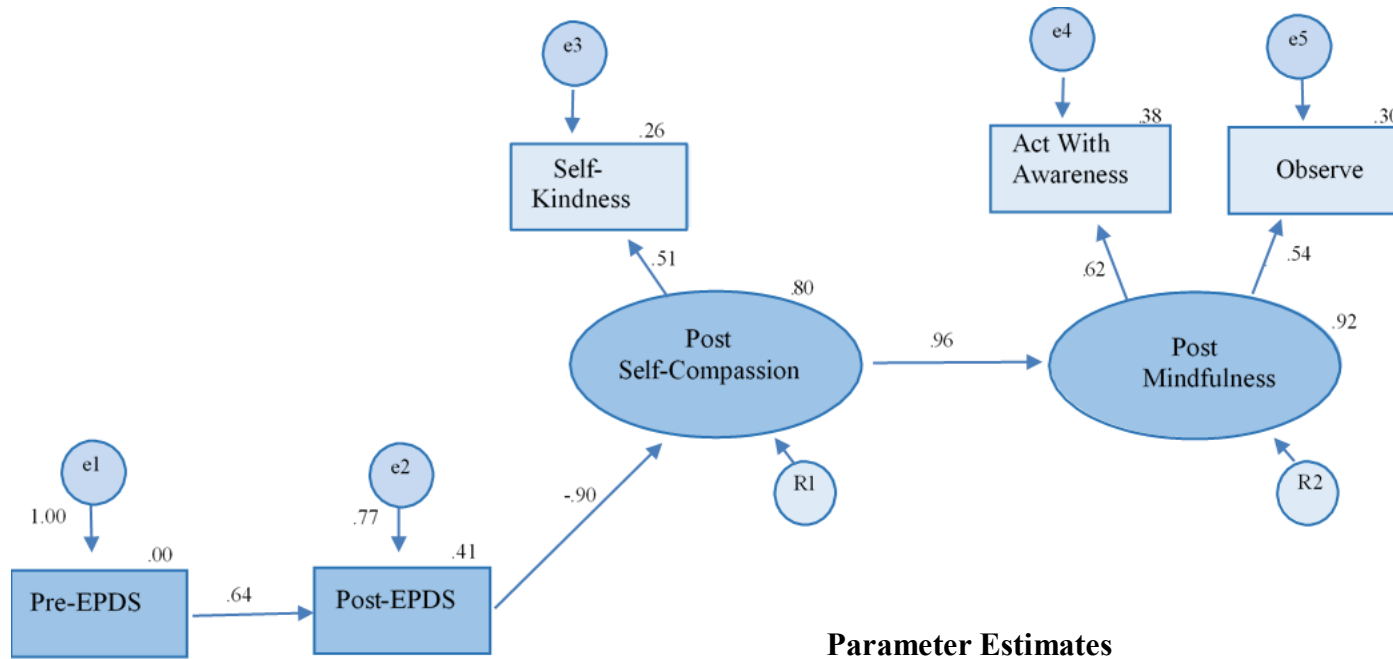
Appendix D Figure 10.5. Confirmatory factor analysis for Mindfulness Measured by FFMQ in a perinatal sample.



Parameter Estimates

Chi square = 547.75, df = 64, p = .00 Bollen-Stine p = .00
 CFI = .00, AGFI = .56, GFI = .69,
 RMSEA = .32,
 LO 90 = .30, HI 90 = .35, PCLOSE = .00,
 TLI = -.25

Appendix D Figure 10.6. Exploratory factor analysis for self-compassion and mindfulness associated with the reduction of perinatal depression.



Parameter Estimates

Chi square = 8.59, df = 6, p = .20
 Bollen-Stine p = 1.00, CFI = .98,
 AGFI = .88, GFI = .95,
 RMSEA = .08, LO 90 = .00, HI 90 = .16,
 PCLOSE = .30, TLI = .94

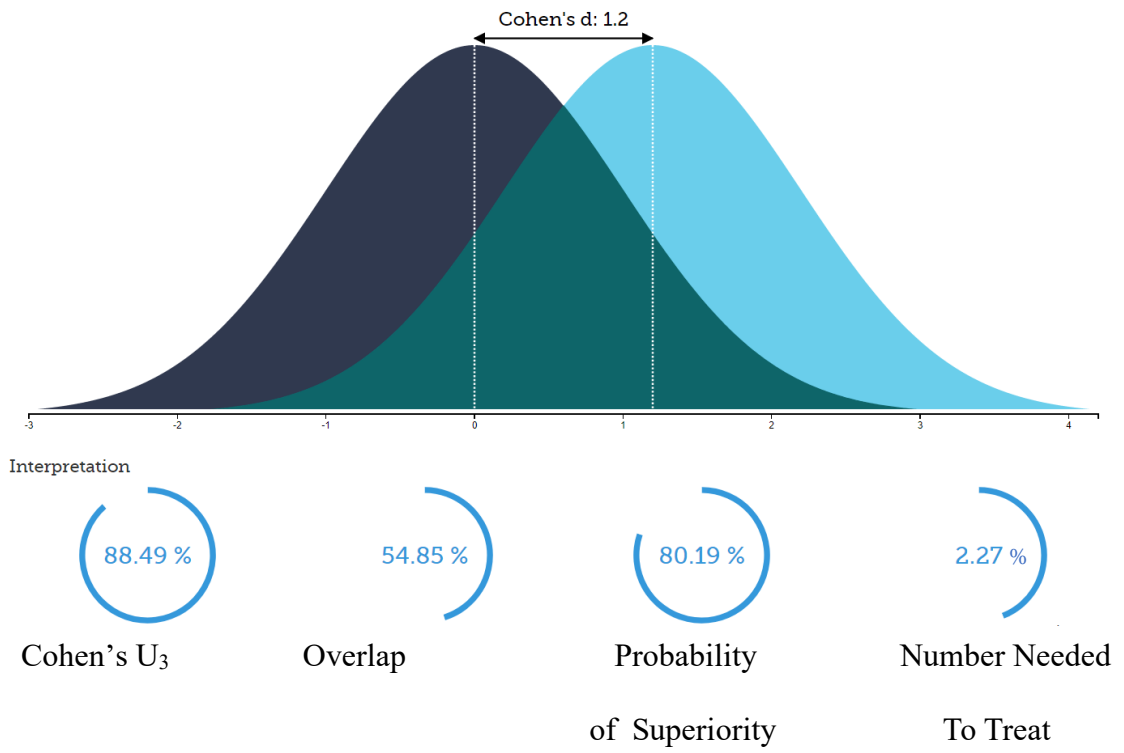
Appendix D Figure 10.7. Reverse Model of Pre - Mindfulness and Post - Self-Compassion Associated With The Reduction of Perinatal Depression.

Appendix D: Chapter 11 Appendices

Appendix D Table 11.1

Amended JBI Levels of Evidence for Effectiveness

Level of Evidence	Study Design
Level 1	Level 1 - Experimental Designs
Level 1.a	Systematic review of randomised controlled trials (RCTs)
Level 1.b	Systematic review of RCTs and other study designs
Level 1.c	RCT
Level 1.d	Pseudo - RCTs
Level 1.e	Single Case Experimental Designs (SCED)
Level 2	Level 2 - Quasi-experimental Designs
Level 2.a	Systematic review of quasi-experimental studies
Level 2.b.	Systematic review of quasi-experimental and other lower study designs
Level 2.c	Quasi-experimental prospectively controlled study
Level 2.d	Pre-test - post-test or historic/retrospective control group study
Level 3	Level 3 - Observational: Analytic Designs
Level 3.a	Systematic review of comparable cohort studies
Level 3.b	Systematic review of comparable cohort and other lower study designs
Level 3.c	Cohort study with control group
Level 3.d	Case-controlled study
Level 3.e	Observational study without a control group
Level 4	Level 4 - Observational - Descriptive Studies
Level 4.a	Systematic review of descriptive studies
Level 4.b	Cross-sectional study
Level 4.d	Case series
Level 4.e	Case study
Level 5	Level 5 - Expert Opinion and Bench Research
Level 5.a	Level 5.a Systematic review of expert opinion
Level 5.b	Level 5.b Expert consensus
Level 5.c	Level 5.c Bench research/single expert opinion



Appendix D Figure 11.2. Visual interpretation of Cohen's d, Cohen's U_3 , Overlap, Probability of Superiority and Number Needed to Treat

References

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- American Psychiatric Association [APA]. (2013). *Diagnostic and statistical manual of mental disorders DSM-5* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Anderson, J. C. (1994). Epidemiological issues. In T. H. Ollendick, N. J. King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents* (pp. 43–65). New York: Plenum Press.
- Anthony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment, 10*(2), 176-181.
- Apter-Levy, Y., Feldman, M., Vakart, A., Ebstein, R. P., & Feldman, R. (2013). Impact of maternal depression across the first 6 years of life on the child's mental health, social engagement, and empathy: The moderating role of oxytocin. *American Journal of Psychiatry, 170*(10), 1161-1168. doi:10.1176/appi.ajp.2013.12121597.
- Arbuckle, J. L. (2017). Amos [Computer Program] (Version 25.0). Chicago, ILL: IBM SPSS.
- Armijo-Olivo, S., Stiles, C., Hagen, N., Biondo, P., & Cummings, G. (2012). Assessment of study quality for systematic reviews: a comparison of Cochrane Collaboration Risk of Bias Tool and the Effective Public Health Practice Project Quality Assessment Tool: Methodological research. *Journal of Evaluation in Clinical Practice, 18*, 12-18.
- Aschbacher, K., Saron, C., Gilbert, A., Arenander, J., & Epel, E. (2014). Effects of early adversity and stress vulnerability on treatment response to mindfulness-based stress reduction. *Journal of Alternative and Complementary Medicine, 20*(5), A51.
- Austin, M. P. (2004). Antenatal screening and early intervention for “perinatal” distress, depression and anxiety: where to from here? *Archives of Women's Mental Health, 7*(1), 1-6.
- Australian Bureau of Statistics [ABS]. (2009). *National survey of mental health and wellbeing: Summary of results, 2007. Catalogue number 4326.0*. In ABS (Series Ed.) Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4326.0>
- Australian Bureau of Statistics [ABS]. (2011). *Australian Social Trends, Australian Bureau of Statistics Catalogue No 4102.0* Retrieved from <http://www.abs.gov.au/socialtrends>
- Australian Bureau of Statistics [ABS]. (2016). *Causes of death, Australia: Intentional self-harm by age. Catalogue number 3303.0* Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3303.0>
- Australian Human Rights Commission. (2014). *Children's rights report 2014*. Retrieved from https://www.humanrights.gov.au/sites/default/files/document/publication/Children%27s%20Rights%20Report%202014_2.pdf
- Australian Institute of Health and Welfare [AIHW]. (2016). *Health expenditure Australia 2014–15. Catalogue no. HWE 67* Retrieved from <https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure-australia-2014-15/contents/summary>

- Australian Institute of Health and Welfare [AIHW]. (2017). *Child protection Australia 2015-16*. Retrieved from <https://www.aihw.gov.au/reports/child-protection/child-protection-australia-2015-16/related-material>
- Badger, T. G. (2000). Action research, change and methodological rigour. *Journal of Nursing Management*, 8, 201–207. doi:10.1046/j.1365-2834.2000.00174.x.
- Baer, R. A., Lykins, E. L. B., & Peters, J. R. (2012). Mindfulness and self-compassion as predictors of psychological wellbeing in long-term meditators and matched nonmeditators. *The Journal of Positive Psychology*, 7(3), 230-238. doi:10.1080/17439760.2012.674548.
- Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky inventory of mindfulness skills. *Assessment*, 11(3), 191-206. doi:10.1177/1073191104268029.
- Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., . . . Williams, J. M. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, 15(3), 329-342. doi:10.1177/1073191107313003.
- Bagozzi, R. P., & Yi, Y. (1991). Multitrait–multimethod matrices in consumer research. *Journal of Consumer Research*, 17, 426-439.
- Bales, S. N., Heckman, J. J., McEwen, B. S., & Rolnick, A. J. (2007). *The science of early childhood development* (C. o. t. D. Child Ed.). Cambridge, MA: Harvard University.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Barbour, R. (2007). *Introducing qualitative research: A student guide to the craft of doing qualitative research*. London: Sage.
- Bardacke, N. (2012). *Mindful birthing: Training the mind, body and heart for childbirth and beyond*. New York: Harper Collins Publishers.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Barr, C., & Malik, S. (2016, 7 March 2016). Revealed: the 30-year economic betrayal dragging down Generation Y's income. *The Guardian*. Retrieved from <https://www.theguardian.com/world/2016/mar/07/revealed-30-year-economic-betrayal-dragging-down-generation-y-income>
- Bartolucci, A. A., & Hillegass, W. B. (2010). Overview, strengths, and limitations of systematic reviews and meta-analyses. In F. Chiappelli, X. M. C. Brant, N. Neagos, O. O. Oluwadera, & M. H. Ramchandani (Eds.), *Evidence-based practice: toward optimizing clinical outcomes* (pp. 17-33). Berlin Springer-Verlag.
- Batchelor, M. (2018). *The impact of mindfulness of feeling tone (vedana) on well-being* Paper presented at the International Mindfulness Conference (ICM), Amsterdam.
- Bayer, J. K., Ukoumunne, O. C., Mathers, M., Wake, M., Abdi, N., & Hiscock, H. (2012). Development of children's internalising and externalising problems from infancy to five years of age. *Australian & New Zealand Journal of Psychiatry*, 46(7), 659-668. doi:10.1177/0004867412450076.
- Beardslee, W. R., Versage, E. M., & Gladstone, T. R. (1998). Children of affectively ill parents: A review of the past 10 years. *Journal of the American Academy of Child & Adolescent Psychiatry*, 37(11), 1134 - 1141. doi:10.1097/00004583-199811000-00012.
- Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. Philadelphia, PA: University of Pennsylvania Press.

- Belsky, J., & Jaffee, S. R. (2006). The multiple determinants of parenting In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Risk, disorder and adaptation* (2nd ed., Vol. 3, pp. 38-85). Hoboken, NJ: John Wiley & Sons.
- Bentler, P. M. (1980). Multivariate analysis with latent variables: causal modeling. *Annual Review of Psychology*, *31*, 419-456.
- Beran, T. N., & Violato, C. (2010). Structural equation modeling in medical research: A primer. *BMC Research Notes*, *3*(1), 267. doi:10.1186/1756-0500-3-267.
- Bergen-Cico, D., & Cheon, S. (2014). The mediating effects of mindfulness and self-compassion on trait anxiety. *Mindfulness*, *5*(5), 505-519. doi:10.1007/s12671-013-0205-y.
- Bergh, O. V., & Vrana, S. R. (1998). Repetition and boredom in a perceptual fluency/attributional model of affective judgements. *Cognition and Emotions*, *12*, 533-553. doi:10.1080/026999398379556.
- beyondblue. (2011). *Clinical practice guidelines for depression and related disorders – anxiety, bipolar disorder and puerperal psychosis – in the perinatal period. A guideline for primary care health professionals*. Retrieved from <https://www.beyondblue.org.au/health-professionals/clinical-practice-guidelines>
- beyondblue. (2016). Inquiry into Aboriginal youth suicides. Retrieved from https://www.beyondblue.org.au/docs/default-source/policy-submissions/bw0404_wa-aboriginal-youth-suicide-inquiry97295baaf37161bc846eff0000e9d3fc.pdf?sfvrsn=9b583aea_0
- Bick, E. (1964). Notes on infant observation in psycho-analytical training *International Journal of Psychoanalysis* *45*, 558-566.
- Bion, W. R. (1962). *Learning from experience*. Lanham, MD: Jason Aronson.
- Bion, W. R. (1967). *Second thoughts*. Lanham, MD: Jason Aaron.
- Black, J. (2002). Darwin in the world of emotions. *Journal of the Royal Society of Medicine*, *95*(6), 311-313.
- Bögels, S. M., Hellemans, J., van Deursen, S., Römer, M., & van der Meulen, R. (2014). Mindful parenting in mental health care: Effects on parental and child psychopathology, parental stress, parenting, coparenting, and marital functioning. *Mindfulness*, *5*(5), 536-551. doi:10.1007/s12671-013-0209-7.
- Bögels, S. M., Lehtonen, A., & Restifo, K. (2010). Mindful parenting in mental health care. *Mindfulness*, *1*(2), 107-120. doi:10.1007/s12671-010-0014-5.
- Bögels, S. M., & Restifo, K. (2014). *Mindful parenting: A guide for mental health practitioners*. New York: Springer.
- Bollen, K. A., & Stine, R. A. (1992). Bootstrapping goodness-of-fit measures in structural equation models *Sociological Methods and Research*, *21*, 205-229.
- Bor, W., Dean, A. J., Najman, J., & Hayatbakhsh, R. (2014). Are child and adolescent mental health problems increasing in the 21st century? A systematic review. *Australian New Zealand Journal of Psychiatry*, *48*(7), 606-616. doi:10.1177/0004867414533834.
- Bor, W., McGee, T. R., & Fagan, A. A. (2004). Early risk factors for adolescent antisocial behaviour: An Australian longitudinal study. *The Australian and New Zealand Journal of Psychiatry*, *38*(5), 365-372. doi:10.1111/j.1440-1614.2004.01365.x.
- Boslaugh, S. (2007). *Secondary data sources for public health: A practical guide*. Cambridge: Cambridge University Press.
- Bowlby, J. (1969). *Attachment and loss*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.

- Bowley, J. (1977). The making and breaking of affectional bonds. Aetiology and psychopathology in the light of attachment theory *British Journal of Psychiatry*, *130*, 201-210.
- Bowling, A. (2005). Mode of questionnaire administration can have serious effects on data quality. *Journal of Public Health*, *27*(3), 281-291. doi:10.1093/pubmed/fdi031.
- Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth *Developmental Psychology*, *28*(5), 759-775.
- Brocki, J. M., & Wearden, A. J. (2006). A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology. *Psychology and Health*, *21*(1), 87-108. doi:10.1080/14768320500230185.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*, 822-848.
- Butter, E. (Producer). (2018, 26 November 2018). Orangutan mother with baby. Retrieved from <https://www.onepixel.com/photo/orangutan-mother-with-baby-3273051?src=c3d25f73c7938a50dac1eb1af9b7b211-108>
- Byrne, J., Hauck, Y., Fisher, C., Bayes, S., & Schutze, R. (2014). Effectiveness of a mindfulness-based childbirth education pilot study on maternal self-efficacy and fear of childbirth. *Journal of Midwifery and Women's Health*, *59*(2), 192-197.
- Caldwell, G. (2008). Theory with a capital 'T'. Exploring the various roles of theory within the IPA research process. Retrieved from <http://groups.yahoo.com/group/ipaanalysis/files>
- Calvo-Merino, B., Grezes, J., Glaser, D. E., Passingham, R. E., & Haggard, P. (2006). Seeing or doing? Influence of visual and motor familiarity in action observation. *Current Biology* *16*(19), 1905-1910. doi:10.1016/j.cub.2006.07.065.
- Camoirano, A. (2017). Mentalizing makes parenting work: A review about parental reflective functioning and clinical interventions to improve it. *Frontiers in Psychology*, *8*, 14. Retrieved from <https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00014/full> doi:10.3389/fpsyg.2017.00014
- Campbell, D. (2016, 24 October 2016). NHS figures show 'shocking' rise in self-harm among young. *The Guardian*. Retrieved from <https://www.theguardian.com/society/2016/oct/23/nhs-figures-show-shocking-rise-self-harm-young-people>
- Campbell, D. T., & Fiske, D. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*, 81-105.
- Campbell, J. A., Walker, R. J., & Egede, L. E. (2016). Associations between adverse childhood experiences, high-risk behaviors, and morbidity in adulthood. *American Journal of Preventive Medicine*, *50*(3), 344-352. doi:10.1016/j.amepre.2015.07.022.
- Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine*, *31*(1), 23-33. doi:10.1007/s10865-007-9130-7.
- Carmody, J., & Baer, R. A. (2009). How long does a mindfulness-based stress reduction program need to be? A review of class contact hours and effect sizes for psychological distress? *Journal of Clinical Psychology*, *65*(6), 627-638. doi:10.1002/jclp.20555.

- Carmody, J., Baer, R. A., Lykins, E. L. B., & Olendzki, N. (2009). An empirical study of the mechanisms of mindfulness in a mindfulness based stress reduction program. *Journal of Clinical Psychology* 65(6), 613-626. doi:10.1002/jclp.20579.
- Carter, S. (1998). Neuroendocrine perspectives on social attachment and love. *Psychoneuroendocrinology*, 23(8), 779-818. doi:10.1016/S0306-4530(98)00055-9.
- Carter, S. (2005). Biological perspectives on social attachment and bonding. In C. S. Carter, L. Ahnert, K. E. Grossmann, S.B. Hrdy, M.E. Lamb, S. W. Porges, & N. Sachser (Eds.), *Attachment and bonding: A new synthesis*. Cambridge, MA: The MIT Press.
- Cassidy, J., & Shaver, P. R. (2008). *Handbook of attachment: Theory, research and clinical applications*. (2nd ed.). New York: Guilford Press.
- Castonguay, L. G., Goldfried, M. R., Wiser, S., Raue, P. J., & Hayes, A. M. (1996). Predicting the effect of cognitive therapy for depression: A study of unique and common factors. *Journal of Consulting and Clinical Psychology*, 64, 497-504. doi:10.1037/0022-006X.64.3.497.
- Catalano, J. S. (1985). *A commentary of Jean Paul Sartre's 'Being and nothingness'*. Chicago: The University of Chicago Press.
- Centre for Longitudinal Studies. (2017). *Millennium Cohort Study*. London: Institute of Education.
- Centre for Parenting and Research. (2008). *Parental mental health and its impact on children*. Ashfield, NSW: New South Wales Department of Community Services (DoCS).
- Chang, J. J., Halpern, C. T., & Kaufman, J. S. (2007). Maternal depressive symptoms, father's involvement, and the trajectories of child problem behaviors in a US national sample. *Archives of Pediatrics & Adolescent Medicine*, 161(7), 697-703. doi:10.1001/archpedi.161.7.697.
- Clough, P., & Nutbrown, C. (2012). *A student's guide to methodology* (3rd ed.). London: Sage.
- Coatsworth, J. D., Duncan, L., Greenberg, M., & Nix, R. (2010). Changing parent's mindfulness, child management skills and relationship quality with their youth: Results from a randomized pilot intervention trial. *Journal of Child and Family Studies*, 19(2), 203-217. doi:10.1007/s10826-009-9304-8.
- Coatsworth, J. D., Duncan, L. G., Nix, R. L., Greenberg, M. T., Gayles, J. G., Bamberger, K. T., . . . Demi, M. A. (2015). Integrating mindfulness with parent training: Effects of the mindfulness: Enhanced Strengthening Families Program. *Developmental Psychology*, 51(1), 26-35. doi:10.1037/a0038212.
- Cohen, J. S. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cohen, J. S. (2010). *Mindfulness and self-compassion in the transition to motherhood: a prospective study of postnatal mood and attachment*. New York: Columbia University.
- Collie, A., Maruff, P., Darby, D. G., & McStephen, M. (2003). The effects of practice on the cognitive test performance of neurologically normal individuals assessed at brief test-retest intervals. *Journal of the International Neuropsychological Society*, 9, 419 - 428. doi:10.1017/S1355617703930074.
- Connolly, G. J. (2017). Applying social cognitive theory in coaching athletes: The power of positive role models. *Strategies*, 30(3), 23-29. doi:10.1080/08924562.2017.1297750.

- Cook, F. (2018). Severely unsettled one-year-olds risk poor mental health, experts caution 2018(22 October 2018). Retrieved from <https://www.mcri.edu.au/news/severely-unsettled-one-year-olds-risk-poor-mental-health-experts-caution>
- Coolican, H., & Kelly, O. (2014). *Research methods in psychology*. Don Mills, Canada: Oxford University Press Canada.
- Costa, J. T. (2017). *Darwin's backyard: How small experiments led to a big theory*. New York: WW Norton & Co.
- Cowling, V. (1999). *Children of parents with mental illness*. Melbourne, VIC: The Australian Council for Educational Research Ltd (ACER).
- Cox, G. R., Callahan, P., Churchill, R., Hunot, V., Merry, S. N., Parker, A. G., & Hetrick, S. E. (2012). Psychological therapies versus antidepressant medication, alone and in combination for depression in children and adolescents. *Cochrane Database Systematic Reviews*, 11, Cd008324. doi:10.1002/14651858.CD008324.pub2.
- Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh postnatal depression scale. *British Journal of Psychiatry*, 150, 782-786.
- Craig, L. (2006). Does Father Care Mean Fathers Share?: A Comparison of How Mothers and Fathers in Intact Families Spend Time with Children. *Gender & Society*, 20(2), 259-281. doi:10.1177/0891243205285212.
- Crane, R. S., Brewer, J., Feldman, C., Kabat-Zinn, J., Santorelli, S., Williams, J. M. G., & Kuyken, W. (2017). What defines mindfulness-based programs? The warp and the weft. *Psychological Medicine*, 47, 990-999. doi:10.1017/S0033291716003317.
- Cunningham, E. (2008). *A practical guide to structural equation modeling using AMOS*. Malvern East, VIC: Statsline.
- Cutler, H., & Olin, E. (2017). *An overview of the 2017-18 federal health budget* Retrieved from https://www.mq.edu.au/research/research-centres-groups-and-facilities/prosperous-economies/centres/centre-for-the-health-economy/documents/Budget-summary_170511_05.pdf
- D'Ausilio, A., Altenmuller, E., Olivetti, B. M., & Lotze, M. (2006). Cross-modal plasticity of the motor cortex while listening to a rehearsed musical piece. *European Journal of Neuroscience*, 24(3), 955-958. doi:10.1111/j.1460-9568.2006.04960.x.
- Dahly, D. L., Adair, L. S., & Bollen, K. A. (2008). A structural equation model of the developmental origins of blood pressure. *International Journal of Epidemiology* 38(2), 538-548. doi:10.1093/ije/dyn242.
- Darwin, C. R. (1838). *Notebook: Metaphysics on morals and speculations on expression* Cambridge: Cambridge University Press.
- Darwin, C. R. (1859). *On the Origin of Species*. London: John Murray.
- Darwin, C. R. (1871). *The descent of man and selection in relation to sex...in 2 volumes: Volume 1*. London: John Murray.
- Darwin, C. R. (1872). *The expressions of the emotions in man and animals* New York: Oxford University Press.
- Dave, S., Petersen, I., Sherr, L., & Nazareth, I. (2010). Incidence of maternal and paternal depression in primary care: A cohort study using a primary care database. *Archives of Pediatrics and Adolescent Medicine*, 164(11), 1038-1044. doi:10.1001/archpediatrics.2010.184.
- Davidson, R. D., & Begley, S. (2012). *The emotional life of your brain*. New York: Hudson Street Press.

- Davidson, R. J. (2016). Mindfulness-based cognitive therapy and the prevention of depressive relapse measures, mechanisms and mediators. *JAMA Psychiatry*, *73*, 547-548. doi:10.1001/jamapsychiatry.2016.0135.
- Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., . . . Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine*, *65*(4), 564-570. doi:10.1097/01.PSY.0000077505.67574.E3.
- Dawe, S., & Harnett, P. (2007). Reducing potential for child abuse among methadone-maintained parents: results from a randomized controlled trial. *Journal of Substance Abuse Treatment*, *32*(4), 381-390. doi:10.1016/j.jsat.2006.10.003.
- de Bruin, E. I., Blom, R., Smit, F. M., van Steensel, F. J., & Bögels, S. M. (2015). *MYmind*: Mindfulness training for youngsters with autism spectrum disorders and their parents. *Autism*, *19*(8). doi:10.1177/1362361314553279.
- de Bruin, E. I., Zijlstra, B. J., Geurtzen, N., van Zundert, R. M., van de Weijer-Bergsma, E., Hartman, E. E., . . . Bogels, S. M. (2014). Mindful Parenting Assessed Further: Psychometric Properties of the Dutch Version of the Interpersonal Mindfulness in Parenting Scale (IM-P). *Mindfulness (N Y)*, *5*(2), 200-212. doi:10.1007/s12671-012-0168-4.
- de Paula, L., & Raabe, P. (2015). *Women in philosophical counseling: The anima of thought in action*. London: Lexington Books.
- Derrida, J. (1995). *Points...Interviews 1974-1994 [Points de suspension, Entretiens]* (Peggy Kamuf and others, Trans.). Stanford, CA: Stanford University Press.
- DerSimonian, R., & Laird, N. (1986). Meta-analysis in clinical trials. *Controlled Clinical Trials*, *7*(3), 177-188.
- DeRubeis, R. J., Tang, T. Z., & Beck, A. T. (2001). Cognitive therapy. In K. S. Dobson (Ed.), *Handbook of cognitive-behavioral therapies* (2nd ed., pp. 349–392). New York: Guilford Press.
- Dhillon, A., Sparkes, E., & Duarte, R. V. (2017). Mindfulness-based interventions during pregnancy: A systematic review and meta-analysis. *Mindfulness*, *8*(6), 1421-1437. doi:10.1007/s12671-017-0726-x.
- Dias, B. G., Maddox, S., Klengel, T., & Ressler, K. J. (2015). Epigenetic mechanisms underlying learning and the inheritance of learned behaviors. *Trends in Neurosciences*, *38*(2), 96-107. doi:10.1016/j.tins.2014.12.003.
- Dias, B. G., & Ressler, K. J. (2014). Parental olfactory experience influences behavior and neural structure in subsequent generations. *Nature Neuroscience*, *17*, 89-96. doi:10.1038/nn.3594.
- Digital Dictionaries of South Asia. (2007). Pali-English dictionary. Retrieved from <http://dsal.uchicago.edu/dictionaries/pali>
- Dimidjian, S., & Segal, Z. V. (2015). Prospects for a clinical science of mindfulness-based intervention. *American Psychologist*, *70*(7), 593-620. doi:10.1037/a0039589.
- Dixon-Woods, M., & Fitzpatrick, R. (2001). Qualitative research in systematic reviews has established a place for itself. *British Medical Journal*, *323*(7316), 765–766.
- Dodge, R., Daly, A., Huyton, J., & Sanders, L. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing*, *2*(3), 222-235. doi:10.5502/ijw.v2i3.4.
- Düdjom, L. (2004). *The Vajra Essence: From the Matrix of Promordial Consciousness and Pure Appearance, a Tantra on the Self-Arisen Nature of Existence*. Ashland: Mirror of Wisdom Publications.

- Dumas, J. E. (2005). Mindfulness-based parent training: strategies to lessen the grip of automaticity in families with disruptive children. *Journal of Clinical Child and Adolescent Psychology, 34*(4), 779-791. doi:10.1207/s15374424jccp3404_20.
- Duncan, L. G. (2007). *Assessment of mindful parenting among parents of early adolescents: Development and validation of the Interpersonal Mindfulness in Parenting scale*. (Ph.D.), The Pennsylvania State University, Ann Arbor. ProQuest Dissertations & Theses A&I database.
- Duncan, L. G., & Bardacke, N. (2010). Mindfulness-based childbirth and parenting education: Promoting family mindfulness during the perinatal period. *Journal of Child and Family Studies, 19*(2), 190-202. doi:10.1007/s10826-009-9313-7.
- Duncan, L. G., Coatsworth, J. D., Gayles, J. G., Geier, M. H., & Greenberg, M. T. (2015). Can mindful parenting be observed? Relations between observational ratings of mother–youth interactions and mothers’ self-report of mindful parenting. *Journal of Family Psychology, 29*(2), 276-282. doi:10.1037/a0038857.
- Duncan, L. G., Coatsworth, J. D., & Greenberg, M. T. (2009a). A model of mindful parenting: Implications for parent–child relationships and prevention research. *Clinical Child and Family Psychology Review, 12*(3), 255-270. doi:10.1007/s10567-009-0046-3.
- Duncan, L. G., Coatsworth, J. D., & Greenberg, M. T. (2009b). Pilot study to gauge acceptability of a mindfulness-based, family-focused preventive intervention. *Journal of Primary Prevention, 30*(5), 605-618. doi:10.1007/s10935-009-0185-9.
- Dunkel Schetter, C., & Tanner, L. (2012). Anxiety, depression and stress in pregnancy: implications for mothers, children, research, and practice. *Current Opinion in Psychiatry, 25*(2), 141-148. doi:10.1097/YCO.0b013e3283503680.
- Dykens, E. M., Fisher, M. H., Taylor, J. L., Lambert, W., & Miodrag, N. (2014). Reducing distress in mothers of children with autism and other disabilities: a randomized trial. *Pediatrics, 134*(2), e454-463. doi:10.1542/peds.2013-3164.
- Eatough, V., & Smith, J. A. (2006). I feel like a scrambled egg in my head: An idiographic case study of meaning making and anger using interpretative phenomenological analysis. *Psychology and Psychotherapy: Theory, Research and Practice, 79*(1), 115-135. doi:10.1348/147608305X41100.
- Egger, H. L., & Angold, A. (2006). Common emotional and behavioral disorders in preschool children: presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry, 47*(3-4), 313-337. doi:10.1111/j.1469-7610.2006.01618.x.
- Ekman, P. (2003). *Emotions revealed: Recognizing faces and feelings to improve communication and emotional life*. New York: Times Books.
- Ekman, P. (2004). *Emotions revealed: Understanding faces and feelings*. London: Orion Publishing Co.
- Ekman, P. (2009). Darwin's contributions to our understanding of emotional expressions. *Philosophical Transactions of The Royal Society Biological Sciences, 364*(1535), 3449-3451. doi:10.1098/rstb.2009.0189.
- Ekman, P., & Cordaro, D. (2011). What is meant by calling emotions basic. *Emotion Review, 3*(4), 364-370. doi:10.1177/1754073911410740.
- Enders, C. K. (2001). A primer on maximum likelihood algorithms available for use with missing data. *Structural Equation Modeling, 8*(1), 128-141. doi:10.1207/S15328007SEM0801_7.
- England, M. J., & Sim, L. J. (2009). *Depression in parents, parenting, and children: opportunities to improve identification, treatment and prevention*. Washington, DC: The National Academies Press.

- Erikson, E. H., & Erikson, J. M. (1998). *The life cycle completed (the extended version)*. New York: W. W. Norton.
- Evans, M. (2008). *Think piece: Hearing the unheard voices: Practice-based approaches*. Melbourne, VIC: Melbourne Business School.
- Faul, F., Erdfelder, E., Buchner, A., & Lanf, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regressions analyses. *Behavior Research Methods, 41* (4), 1149 - 1160. doi:10.3758/BRM.41.4.1149.
- Fearon, R. P., Bakermans-Kranenburg, M. J., van Ijzendoorn, M. H., Lapsley, A. M., & Roisman, G. I. (2010). The significance of insecure attachment and disorganization in the development of children's externalizing behavior: a meta-analytic study. *Child Development, 81*(2), 435-456. doi:10.1111/j.1467-8624.2009.01405.x.
- Feeley, M., DeRubeis, R. J., & Gelfand, L. A. (1999). The temporal relation of adherence and alliance to symptom change in cognitive therapy for depression. *Journal of Consulting and Clinical Psychology, 67*(4), 578-582.
- Felder, J. N., Lemon, E., Shea, K., Kripke, K., & Dimidjian, S. (2016). Role of self-compassion in psychological well-being among perinatal women. *Archives of Women's Mental Health, 19*(4), 687-690. doi:10.1007/s00737-016-0628-2.
- Feldman, R., Gordon, I., Influx, M., Gutbir, T., & Ebstein, R. P. (2013). Parental oxytocin and early caregiving jointly shape children's oxytocin response and social reciprocity. *Neuropsychopharmacology, 38*(7), 1154-1162. doi:10.1038/npp.2013.22.
- Feldman, R., Weller, A., Zagoory-Sharon, O., & Levine, A. (2007). Evidence for a neuroendocrinological foundation of human affiliation: plasma oxytocin levels across pregnancy and the postpartum period predict mother-infant bonding. *Psychological Science, 18*(11), 965-970. doi:10.1111/j.1467-9280.2007.02010.x.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D., Spitz, A. M., Edwards, V., . . . Marks, J. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine, 14*(4), 245-258. doi:10.1016/S0749-3797(98)00017-8.
- Felver, J. C., Tipsord, J. M., Morris, M. J., Racer, K. H., & Dishion, T. J. (2014). The effects of mindfulness-based intervention on children's attention regulation. *Journal of Attention Disorders, 21*(10). doi:10.1177/1087054714548032.
- Ferraioli, S. J., & Harris, S. L. (2013). Comparative effects of mindfulness and skills-based parent training programs for parents of children with autism: Feasibility and preliminary outcome data. *Mindfulness, 4*(2), 89 - 101. doi:10.1007/s12671-012-0099-0.
- Ferre, F. (Ed.) (1988). *Auguste Comte: Introduction to positive philosophy*. Indianapolis, IN: Hackett.
- Field, A. (2013). *Discovering statistics using IBM SPSS Statistics*. London: Sage.
- Finckh, A., & Tramèr, M. R. (2008). Primer: Strengths and weaknesses of a meta-analysis. *Nature Reviews Rheumatology, 4*(3), 1-7.
- Finlay, L. (2011). *Phenomenology for therapists: Researching the lived world*. New York: Wiley-Blackwell.
- Fisher, R. A. (1932). *Statistical methods for research workers* (4th ed.). London: Oliver and Boyd.
- Fjorback, L. O., Arendt, M., Ornbol, E., Fink, P., & Walach, H. (2011). Mindfulness-based stress reduction and mindfulness-based cognitive therapy: A systematic review of randomized controlled trials. *Acta Psychiatrica Scandinavica, 124*(2), 102-119. doi:10.1111/j.1600-0447.2011.01704.x.

- Fjorback, L. O., Arendt, M., Ornbol, E., Walach, H., Rehfeld, E., Schroder, A., & Fink, P. (2013). Mindfulness therapy for somatization disorder and functional somatic syndromes: Randomized trial with one-year follow-up. *Journal of Psychosomatic Research*, 74(1), 31-40. doi:10.1016/j.jpsychores.2012.09.006.
- Flannelly, K. J. (2017). Darwin's descent of man and the expression of emotions. In K. J. Flannelly (Ed.), *Religious beliefs, evolutionary psychiatry, and mental health in America: Evolutionary threat assessment systems theory* (pp. 55-59). Cham, Switzerland: Springer International Publishing.
- Flora, D. B., & Curran, P. J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological Methods*, 9(4), 466-491. doi:10.1037/1082-989X.9.4.466.
- Fonagy, P. (1996). The significance of the development of metacognitive control over mental representations in parenting and infant development. *Journal of Clinical Psychoanalysis*, 5(1), 67-68.
- Fonagy, P. (1998a). Moments of change in psychoanalytic theory: Discussion of a new theory of psychic change. *Infant Mental Health Journal*, 19(3), 233-259. doi:10.1002/(SICI)1097-0355(199823)19:3<346::AID-IMHJ12>3.0.CO;2-X.
- Fonagy, P. (1998b). Prevention, the appropriate target of infant psychotherapy. *Infant Mental Health Journal*, 19(2), 124-150. doi:10.1002/(SICI)1097-0355(199822)19:2<124::AID-IMHJ4>3.0.CO;2-O.
- Fonagy, P., & Bateman, A. (2006). Mechanisms of change in mentalization-based treatment of BPD. *Journal of Clinical Psychology*, 6(2), 411-430. doi:10.1002/jclp.20241.
- Fonagy, P., & Bateman, A. (2008). The development of borderline personality disorder--a mentalizing model. *Journal of Personality Disorders*, 22(1), 4-21. doi:10.1521/pedi.2008.22.1.4.
- Fonagy, P., Gergeley, G., Jurist, E., & Target, M. (2002). *Affect regulation, mentalization and the development of the self*. New York Other Press.
- Fonagy, P., Steele, M., Steele, H., Leigh, T., Kennedy, R., Mattoon, G., & Target, M. (1995). Attachment, the reflective self and borderline states: The predictive specificity of the Adult Attachment Interview and pathological emotional development. In S. Goldberg, R. Muir, & J. Kerr (Eds.), *Attachment theory: Social, developmental and clinical perspectives* (pp. 233 - 279). Hillsdale, New Jersey: Analytic Press.
- Fonagy, P., & Target, M. (1998). Mentalization and the changing aims of child psychoanalysis. *Psychoanalytic Dialogues*, 8(1), 87-114. doi:10.1080/10481889809539235.
- Freud, A. (1949). Certain types and stages of social maladjustment In K. R. Eissler (Ed.), *Searchlights on delinquency* (pp. 193-204). New York: International Universities Press.
- Freud, S. (1923). *The Ego and the Id*. New York: Dover Publications Inc.
- Fritz, M., & MacKinnon, D. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233-239. doi:10.1111/j.1467-9280.2007.01882.x.
- Fronsdal, G. (2017). The Buddha as a parent. Retrieved from <http://www.insightmeditationcenter.org/books-articles/articles/the-buddha-as-a-parent/>

- Furlong, M., McGilloway, S., Bywater, T., Hutchings, J., Donnelly, M., & Smith, S. M. (2013). Behavioural and cognitive-behavioural group-based parenting programmes for early-onset conduct problems in children aged 3 to 12 years. *Evidence-Based Child Health: A Cochrane Review Journal*, 8(2), 318-692. Retrieved from doi:10.1002/ebch.1905
- Gabriel, D. (2011). Methods and methodology. Retrieved from <http://deborahgabriel.com/2011/05/13/methods-and-methodology/>
- Gadamer, H. (1996). *Truth and method* (J. Weinsheimer & G. M. Donald, Trans. 2nd rev. ed.). New York: The Continuum.
- Gardner, H. (1998). A multiplicity of intelligences. *Scientific American*, 9, 19-23.
- Garg, A. X., Hackam, D., & Tonelli, M. (2008). Systematic review and meta-analysis: When one study is just not enough. *Clinical Journal of the American Society of Nephrology*, 3, 253-260. doi:10.2215/CJN.01430307.
- Gaston, L., Marmar, C., Gallagher, D., & Thompson, L. (1991). Alliance, technique and their interaction in predicting outcome of behavioral, cognitive and brief dynamic therapy. *Psychotherapy Research*, 8(2), 190-209.
- Gelaye, B., Rondon, M., Araya, R., & Williams, M. A. (2016). Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries. *The Lancet Psychiatry*, 3(10), 973-982. doi:10.1016/S2215-0366(16)30284-X.
- Germer, C. K. (2009). *The mindful path to self-compassion: Freeing yourself from destructive thoughts and emotions*. New York: Guilford Press.
- Germer, C. K., & Neff, K. D. (2013). Self-compassion in clinical practice. *Journal of Clinical Psychology*, 69(8), 1-12. doi:10.1002/jclp.22021.
- Gershy, N. (2014). *Mentalization, mindfulness and emotion regulation do parents need to mind themselves in order to mind their children*. (PhD), Long Island University, The Brooklyn Center, Ann Arbor.
- Gilbert, L. K., Breiding, M. J., Merrick, M. T., Thompson, W. W., Ford, D. C., Dhingra, S. S., & Parks, S. E. (2010). Childhood adversity and adult chronic disease. *American Journal of Preventive Medicine*, 48(3), 345-349. doi:10.1016/j.amepre.2014.09.006.
- Gilbert, P. (2009). *The compassionate mind. A new approach to life's challenges* London: Constable and Robinson.
- Giorgi, A. (2008). Concerning a serious misunderstanding of the essence of the phenomenological method in psychology. *Journal of Phenomenological Psychology*, 39(1), 33-58. doi:10.1163/156916208X311610.
- Glaser, B. G., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, ILL: Aldine Publishing.
- Glass, R. (1976). Primary, secondary and meta-analysis of research. *Educational Research*, 5, 3-8.
- Glover, V. (2014). Maternal depression, anxiety and stress during pregnancy and child outcome: What needs to be done? *Best Practice & Research Clinical Obstetrics & Gynaecology*, 28(1), 25-35. doi:10.1016/j.bpobgyn.2013.08.017.
- Glynn, L., Schetter, C., Hobel, C., & Sandman, C. (2008). Pattern of perceived stress and anxiety in pregnancy predicts preterm birth. *Health Psychology*, 27(1), 43-51.
- Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136(3), 351-374. doi:10.1037/a0018807.
- Goldman, D. (2007). *Emotional intelligence*. New York: Random House.

- Goldstein, J. (2016). *Mindfulness: A practical guide to awakening*. Louisville, CO: Sounds True Inc.
- Goleman, D. (1988). *The meditative mind: The varieties of meditative experience*. New York: G.P. Putnam's Sons.
- Goodman, S. H., Rouse, M. H., Connell, A. M., Broth, M. R., Hall, C. M., & Heyward, D. (2011). Maternal depression and child psychopathology: A meta-analytic review *Clinical Child and Family Psychology Review, 14*, 1-27. doi:10.1007/s10567-010-0080-1
- Gopalakrishnan, S., & Ganeshkumar, P. (2013). Systematic reviews and meta-analysis: Understanding the best evidence in primary healthcare. *Journal of Family Medicine and Primary Care, 2*(1), 9-14. doi:10.4103/2249-4863.109934.
- Gotink, R. A., Chu, P., Busschbach, J. J. V., Benson, H., Fricchione, G. L., & Hunink, M. G. M. (2015). Standardised mindfulness-based interventions in healthcare: An overview of systematic reviews and meta-analyses of RCTs. *PLoS ONE, 10*(4), e0124344. Retrieved from doi:10.1371/journal.pone.0124344
- Gottman, J. M., & DeClaire, J. (1997). *The heart of parenting: How to raise an emotionally intelligent child*. London: Bloomsbury.
- Gough, D., Thomas, J., & Oliver, S. (2012). Clarifying differences between review designs and methods. *Systematic Reviews, 1*(1), 28. doi:10.1186/2046-4053-1-28.
- Graham, P., & Reynolds, S. (2013). *Cognitive behaviour therapy for children and families*. Cambridge: Cambridge University Press.
- Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3-24). New York: Guilford Press.
- Gu, J., Strauss, C., Bond, R., & Cavanagh, K. (2015). How do mindfulness-based cognitive therapy and mindfulness-based stress reduction improve mental health and wellbeing? A systematic review and meta-analysis of mediation studies. *Clinical Psychological Review, 37*, 1-12. doi:10.1016/j.cpr.2015.01.006.
- Gu, J., Strauss, C., Crane, C., Barnhofer, T., Karl, A., Cavanagh, K., & Kuyken, W. (2016). Examining the factor structure of the 39-Item and 15-Item versions of the Five Facet Mindfulness Questionnaire before and after mindfulness-based cognitive therapy for people with recurrent depression. *Psychological Assessment, 28*(7), 791-802. doi:10.1037/pas0000263.
- Guardino, C. M., Dunkel, S. C., Bower, J. E., Lu, M. C., & Smalley, S. L. (2014). Randomised controlled pilot trial of mindfulness training for stress reduction during pregnancy. *Psychology & Health, 29*(3), 334-349. doi:10.1080/08870446.2013.852670.
- Gudzune, K. A., Doshi, R. S., Mehta, A. K., Chaudhry, Z. W., Jacobs, D. K., Vakil, R. M., . . . Clark, J. M. (2015). Efficacy of commercial weight loss programs: An updated systematic review. *Annals of Internal Medicine, 162*(7), 501-512. doi:10.7326/M14-2238.
- Guo, Y., Logan, H. L., Glueck, D. H., & Muller, K. E. (2013). Selecting a sample size for studies with repeated measures. *BMC Medical Research Methodology, 13*(1), 100. doi:10.1186/1471-2288-13-100.
- Guy, S., Furber, G., Leach, M., & Segal, L. (2016). How many children in Australia are at risk of adult mental illness? *Australian & New Zealand Journal of Psychiatry, 50*(12), 1146-1160. doi:10.1177/0004867416640098.
- Hagen-Zanker, J., McCord, A., & Holmes, R. (2011). *Systematic review of the impact of employment guarantee schemes and cash transfers on the poor*. London: Overseas Development Institute.

- Hall, H. G., Beattie, J., Lau, R., East, C., & Biro, M. A. (2016). Mindfulness and perinatal mental health: A systematic review. *Women and Birth, 29*(1), 62-71. doi:10.1016/j.wombi.2015.08.006.
- Hanson, R., & Mendius, R. (2009). *Buddha's brain: The practical neuroscience of happiness, love and wisdom*. Oakland, CA: New Harbinger Publications Inc
- Harnett, P. H., & Dawe, S. (2012). The contribution of mindfulness-based therapies for children and families and proposed conceptual integration. *Child & Adolescent Mental Health, 17*(4), 195-208. doi:10.1111/j.1475-3588.2011.00643.x.
- Havighurst, S. S., Wilson, K. R., Harley, A. E., Kehoe, C., Efron, D., & Prior, M. R. (2013). "Tuning into Kids": reducing young children's behavior problems using an emotion coaching parenting program. *Child Psychiatry & Human Development, 44*(2), 247-264. doi:10.1007/s10578-012-0322-1.
- Havighurst, S. S., Wilson, K. R., Harley, A. E., Prior, M. R., & Kehoe, C. (2010). *Tuning in to Kids: improving emotion socialization practices in parents of preschool children--findings from a community trial*. *Journal of Child Psychology and Psychiatry, 51*(12), 1342-1350. doi:10.1111/j.1469-7610.2010.02303.x.
- Hawkes, K., O'Connell, J. F., & Blurton Jones, N. G. (1989). Hardworking Hadza grandmothers. In V. Standen & R. A. Foley (Eds.), *Comparative sociology: The behavioral ecology of humans and other mammals* (pp. 341-366). London: Basil Blackwell.
- Hawkes, K., O'Connell, J. F., Blurton Jones, N. G., Alvarez, H., & Charnov, E. L. (1998). Grandmothering, menopause and the evolution of human life histories. *Proceedings of the National Academy of Sciences, 95*(3), 1336-1339. doi:10.1073/pnas.95.3.1336.
- Hayduk, L. A. (1996). *LISREL: Issues, debates and strategies* Baltimore, MD: Johns Hopkins University Press.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*(4), 408 - 420. doi:10.1080/03637750903310360.
- Hayes, A. F. (2013). *Introduction to mediation, moderation and conditional process analysis*. New York: The Guilford Press.
- Hayes, S. C., & Strosahl, K. D. (2005). *A practical guide to acceptance and commitment therapy*. New York, NY: Springer
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2011). *Acceptance and commitment therapy: The process and practice of mindful change*. New York: Guilford Press.
- Heidegger, M. (1952). *Being and time*. Albany: State University of New York Press.
- Heidegger, M. (1996). *Being and time: A translation of Sein und Zeit*. Albany: State University of New York Press.
- Henje Blom, E., Ho, T. C., Connolly, C. G., LeWinn, K. Z., Sacchet, M. D., Tymofiyeva, O., . . . Yang, T. T. (2016). The neuroscience and context of adolescent depression. *Acta Paediatrica 105*(4), 358-365. doi:10.1111/apa.13299.
- Hess, U., & Thibault, P. (2009). Darwin and emotion expression. *American Psychologist 64*(2), 120-128.
- Heyes, C. (2010). Mesmerising mirror neurons. *NeuroImage, 51*(789-791). doi:10.1016/j.neuroimage.2010.02.034.
- His Holiness the 14th Dalai Lama, & Ekman, P. (2008). *Emotional awareness: Overcoming the obstacles to psychological balance and compassion: A conversation between the Dalai Lama and Paul Ekman* New York: Henry Holt.

- Historic England Photo Library (Producer). (2007). Darwin and his eldest son Willian Erasmus Darwin 1842. *Historic England Print Store*. [Daguerreotype photograph] Retrieved from <https://www.licensestorehouse.com/historic-england/historic-images/1840s-daguerreotypes/charles-darwin-son-n990002-512374.html>
- Hoffman, K. T., Marvin, R. S., Cooper, G., & Powell, B. (2006). Changing toddlers' and preschoolers' attachment classifications: the Circle of Security intervention. *Journal of Consulting and Clinical Psychology, 74*(6), 1017-1026. doi:10.1037/0022-006x.74.6.1017.
- Hogan, D., Halpenny, A. M., & Greene, S. (2002). *Children's experience of parental separation*. Dublin: The Children's Research Centre.
- Hollands, C. (2018). *A ten-year review: The closing the gap strategy and recommendations for reset*. The Close the Gap Campaign Steering Committee (Ed.) Retrieved from <http://apo.org.au/node/131816>
- Horak, O. (2000). *Auschwitz to Australia: A Holocaust survivor's memoir*. East Roseville, NSW: Kangaroo Press.
- Horak, O. (2017, 22 April 2017) Interview by N. Mitchell [Tape recording] *The secrets inside your cells: epigenetics, trauma and ancestry*. Science Friction, Australian Broadcasting Corporation Sydney.
- Howitt, D., & Cramer, D. (2011). *Introduction to research methods in psychology* (3rd ed.). Harlow, Essex: Pearson Education Limited.
- Hrdy, S. B. (1999). *Mother nature: Maternal instincts and how they shape the human species*. New York: Ballantine Books.
- Hrdy, S. B. (2009). *Mothers and others: The evolutionary origins of mutual understanding*. Cambridge: Harvard University Press.
- Hu, L., Bentler, P. M., & Kano, Y. (1992). Can test statistics in covariance structure analysis be trusted? *Psychological Bulletin, 112*(2), 351-361.
- Huemer, W. (2015). Franz Brentano. In E. N. Zalta (Ed.), *Stanford encyclopedia of philosophy*. Standford: Stanford University Metaphysics Research Lab. Retrieved from <https://plato.stanford.edu/archives/fall2015/entries/brentano/>.
- Hughes, D. (2013). Intersubjective mindfulness. In D. J. Siegel & M. Solomon (Eds.), *Healing moments in psychotherapy* (pp. 17-34). New York: W.W. Norton.
- Husserl, E. (1971). "Phenomenology" Edmund Husserl's article for the Encyclopaedia Britannica (1927): New complete translation by Richard E. Palmer. *Journal of the British Society for Phenomenology, 2*(2), 77-90. doi:10.1080/00071773.1971.11006182.
- Huta, V., & Waterman, A. S. (2014). Eudaimonia and its distinction from hedonia: Developing a classification and terminology for understanding conceptual and operational definitions. *Journal of Happiness Studies, 15*(6), 1425-1456. doi:10.1007/s10902-013-9485-0.
- Hwang, Y., & Kearney, P. (2014). Mindful and mutual care for individuals with developmental disabilities: A systematic literature review. *Journal of Child and Family Studies, 23*(3), 497-509. doi:10.1007/s10826-012-9707-9.
- Iadarola, S. J. (2011). *Comparative effects of mindfulness and skills-based parent training programs: Feasibility and preliminary outcome data*. (Ph.D.), Rutgers The State University of New Jersey - New Brunswick.
- Institute of Medicine (IOM), & National Research Council (NRC). (2014). *New directions in child abuse and neglect research* Washington, DC: The National Academies Press.

- International Conference on Mindfulness (ICM). (2019). *ICM Asia Pacific 2019*. Paper presented at the International Conference on Mindfulness Asia Pacific 2019, Auckland.
- Irwin, T. (1985). *Aristotle: Nicomachean Ethics*. Indianapolis, IN: Hackett.
- Joanna Briggs Institute (JBI). (2018). The JBI approach. Adelaide: Joanna Briggs Institute. Retrieved from <http://joannabriggs.org/jbi-approach.html>.
- Joreskog, K. G. (1990). New developments in LISREL: Analysis of ordinal variables using polchoric correlations and weighted least squares. *Quality and Quantity*, 24(4), 387-404.
- Judd, C. M., & Kenny, D. A. (1981a). *Estimating the effects of social interventions*. Cambridge: Cambridge University Press.
- Judd, C. M., & Kenny, D. A. (1981b). Process analysis: Estimating mediation in treatment evaluations. *Evaluation Review*, 5, 602–619.
- Juster, R. P., McEwen, B. S., & Lupien, S. J. (2010). Allostatic load biomarkers of chronic stress and impact on health and cognition. *Neuroscience & Biobehavioral Reviews*, 35(1), 2-16. doi:10.1016/j.neubiorev.2009.10.002.
- Kabat-Zinn, J. (1982). An out-patient program in behavioural medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry*, 4, 33-47.
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of the body and the mind to face stress, pain and illness*. New York: Bantam Books.
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. New York: Hyperion.
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present and future. *Clinical Psychology: Science and Practice*, 10(2), 144-156. doi:10.1093/clipsy.bpg016.
- Kabat-Zinn, M., & Kabat-Zinn, J. (1997). *Everyday blessings: The inner work of mindful parenting*. New York: Hyperion.
- Kabat-Zinn, M., & Kabat-Zinn, J. (2014). *Everyday blessings: The inner work of mindful parenting*. New York: Hachette Books.
- Kaiser-Greenland, S. (2010). *Mindful child: How to help your kid manage stress and become happier, kinder and more compassionate*. New York: Free Press.
- Keating, T. (2009). *Intimacy with God : An introduction to centering prayer*. New York: Crossroad Publishing
- Kellerman, N. P. (2001). Transmission of Holocaust trauma: An integrative view. *Psychiatry*, 64(3), 256-267. doi:10.1521/psyc.64.3.256.18464.
- Kellermann, N. P. (2013). Epigenetic transmission of Holocaust trauma: Can nightmares be inherited? *The Israel Journal of Psychiatry and Related Sciences*, 50(1), 33-39.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Journal of General Psychiatry*, 62(6), 593-602. doi:10.1001/archpsyc.62.6.593.
- Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., . . . Hofmann, S. G. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review*, 33(6), 763-771. doi:10.1016/j.cpr.2013.05.005.
- Kim, S., Fonagy, P., Allen, J., Martinez, S., Iyengar, U., & Strathearn, L. (2014). Mothers who are securely attached in pregnancy show more attuned infant mirroring at 7 months postpartum. *Infant Behavior and Development*, 37(4), 491-504. doi:10.1016/j.infbeh.2014.06.002.

- Kinnell, G. (2002). *Saint Francis and the Sow Three Books*. New York: Houghton Mifflin Company.
- Kinser, P., & Robins, J. (2013). Control group design: Enhancing rigor in research of mind-body therapies for depression *Evidence-based Complementary and Alternative Medicine*, 2013(Article ID 140467). Retrieved from <http://downloads.hindawi.com/journals/ecam/2013/140467.pdf>
doi:10.1155/2013/140467
- Klein, M. (1946). Notes on some schizoid mechanisms. *International Journal of Psychoanalysis*, 27, 99-110.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York: Guilford.
- Konner, M. (2010). *Evolution of childhood: Relationships, emotion, mind*. Cambridge: Harvard University Press.
- Kornfield, J. (1993). *Teachings of the Buddha*. Boston: Shambhala Publications.
- Kovesdy, C. P., & Kalantar-Zadeh, K. (2012). Observational studies vs randomized control trials: Avenues to causal inference in nephrology. *Advances in Chronic Kidney Disease*, 19(1), 11-18. doi:10.1053/j.ackd.2011.09.004.
- Krause, S., Pokorny, D., Schury, K., Doyen-Waldeck, C., Hulbert, A., Karabatsiak, A., . . . Buchheim, A. (2016). Effects of the Adult Attachment Projective Picture System on oxytocin and cortisol blood levels in mothers. *Frontiers in Human Neuroscience*, 10. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5143683/>
doi:10.3389/fnhum.2016.00627
- Krebsbach, C. M. (2014). *Bootstrapping with small samples in structural equation modelling: Goodness of fit and confidence intervals*. (Masters thesis), University of Rhode Island, Kingston. Retrieved from <http://digitalcommons.uri.edu/theses/165>
- Krishnamurti, J. (1993). *On mind and thought*. San Francisco, CA: Harper Collins.
- Krishnamurti, J. (1994). *On learning and knowledge*. San Francisco, CA: Harper Collins.
- Krishnamurti, J. (2002). *Meditations*. Boston, MA: Shambhala.
- Langer, E. J. (1989). *Mindfulness*. Reading: Addison-Wesley Publishing Co.
- Langer, E. J. (1997). *The power of mindful learning*. Cambridge: Perseus Books Group.
- Langer, E. J. (2009). *Counterclockwise: Mindful health and the power of possibility*. New York: Ballantine Books.
- Langer, E. J., & Moldoveanu, M. (2000). The construct of mindfulness. *Journal of Social Issues*, 56(1), 1-9. doi:10.1111/0022-4537.00148.
- Lawrence, D., Johnson, S., Hafekost, J., Boterhoven De Haan, K., Sawyer, M., Ainley, J., & Zubrick, S. R. (2015). *The mental health of children and adolescents. Report on the second Australian Child and Adolescent Survey of Mental Health and Wellbeing*. Canberra: Department of Health.
- LeDoux, J. (1996). *The emotional brain: The mysterious underpinnings of emotional life*. New York: Simon and Schuster.
- LeDoux, J. E. (2012). Evolution of human emotion: A view through fear. *Progress in Brain Research*, 195, 431-442. doi:10.1016/B978-0-444-53860-4.00021-0.
- Leung, L. (2015). Validity, reliability, and generalizability in qualitative research. *Journal of Family Medicine and Primary Care*, 4(3), 324-327. doi:10.4103/2249-4863.161306.
- Lever Taylor, B., Cavanagh, K., & Strauss, C. (2016). The effectiveness of mindfulness-based interventions in the perinatal period: A systematic review and meta-analysis. *PLOS ONE*, 11(5), e0155720. Retrieved from doi:10.1371/journal.pone.0155720

- Levine, P. A. (2010). *In an unspoken voice: How the body releases trauma and restores goodness*. Berkeley: North Atlantic Books.
- Levinson, D. J. (1990). A theory of life structure development in adulthood. In C. N. Alexander & E. J. Langer (Eds.), *Higher stages of human development: Perspectives on adult growth* (pp. 35-53). Oxford: Oxford University Press.
- Linehan, M. M. (1993a). Dialectical behavior therapy for treatment of borderline personality disorder: implications for the treatment of substance abuse. *NIDA Research Monograph*, *137*, 201-216.
- Linehan, M. M. (1993b). *Skills training manual for treating Borderline Personality Disorder: Diagnosis and treatment of mental disorders*. New York: Guilford Press.
- Linehan, M. M., & Read, K. (2013). *Instructor's Manual For Dialectical Behaviour Therapy*. Mill Valley, CA: Psychotherapy.net.
- Long, C., Gurka, M., & Blackman, J. (2008). Family stress and children's language and behaviour problems. *Topics in Early Childhood Special Education*, *28*(3), 148-157. doi:10.1177/0271121408318678.
- López, A., Sanderman, R., Smink, A., Zhang, Y., van Sonderen, E., Ranchor, A., & Schroevers, M. J. (2015). A reconsideration of the self-compassion scale's total score: Self-compassion versus self-criticism. *PLOS ONE*, *10*(7). Retrieved from doi:10.1371/journal.pone.0132940
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd Ed.). Sydney: Psychology Foundation.
- Lutz, A., Dunne, J. D., & Davidson, R. J. (2007). Meditation and the neuroscience of consciousness. In P. D. Zelazo, M. Moscovitch, & E. Thompson (Eds.), *Cambridge handbook of consciousness* (pp. 19-497). Cambridge: Cambridge University Press.
- Lyons-Ruth, K., Bruschiweiler-Stern, N., Harrison, A. M., Morgan, A. C., Nahum, J. P., Sander, L., . . . Tronick, E. Z. (1998). Implicit relational knowing: Its role in development and psychoanalytic treatment. *Infant Mental Health Journal*, *19*(3), 282-289. doi:10.1002/(SICI)1097-0355(199823)19:3<282::AID-IMHJ3>3.0.CO;2-O.
- Lyons-Weiler, J. (2016). *Cures vs profits: Successes in translational research* Singapore: World Scientific.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*(1), 83-104.
- Macvean, M., Dennis, J., Shlonsky, A., Barlow, J., Bjorndahl, A., Mildon, R., & Tufford, L. (2012). Mindfulness-based parenting interventions for improving psychosocial outcomes for children aged 0-18: a systematic review protocol. *Cochrane Collaborations*, *19 July 2012*.
- Mahmoud, J. S. R., Staten, R., Hall, L. A., & Lennie, T. A. (2012). The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction and coping styles. *Issues in Mental Health Nursing*, *33*(3), 149-156 doi:10.3109/01612840.2011.632708
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti, & M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention* (pp. 161-182). Chicago, IL: University of Chicago Press.

- Main, M., & Hesse, E. (1992). Disorganized/disoriented infant behavior in the strange situation, lapses in the monitoring of reasoning and discourse during the parent's Adult Attachment Interview, and dissociative states. In M. Ammaniti & D. Stern (Eds.), *Attachment and psycho-analysis* Rome: Gius, Laterza and Figli.
- Mallett, R., Hagen-Zanker, J., Slater, R., & Duvendack, M. (2012). The benefits and challenges of using systematic reviews in international development research. *Journal of Development Effectiveness*, 4(3), 445-455. doi:10.1080/19439342.2012.711342.
- Mallinckrodt, B., Abraham, W. T., Wei, M., & Russell, D. W. (2006). Advances in testing the statistical significance of mediation effects. *Journal of Counselling Psychology*, 53(3), 372-378. doi:10.1037/0022-0167.53.3.372.
- Marcus, M., Yasamy, M. T., van Ommeren, M., Chisholm, D., & Saxena, S. (2012). Depression: A global public health concern. Retrieved from http://www.who.int/mental_health/management/depression/who_paper_depression_wfmh_2012.pdf
- Marmot, M. (2015). *The health gap: The challenge of an unequal world*. London: Bloomsbury Publishing.
- Marmot, M. (2017). Closing the health gap. *Scandinavian Journal of Public Health*, 45(7), 723-731. doi:10.1177/1403494817717433.
- Marmot, M. (September 10 2016) Interview by J. Rasko [Tape recording] *Fair Australia: Social justice and the health gap*. Boyer Lectures: Give every child the best start Australian Broadcasting Corporation Sydney, NSW.
- Martel, Y. (2001). *Life of Pi*. Florida: Harcourt.
- Marvin, R., Cooper, G., Hoffman, K., & Powell, B. (2002). The Circle of Security project: Attachment-based intervention with caregiver-pre-school child dyads. *Attachment and Human Development*, 4(1), 107-124. doi:10.1080/14616730252982491.
- Masten, A. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56(3), 227-238.
- Matvienko-Sikar, K., Lee, L., Murphy, G., & Murphy, L. (2016). The effects of mindfulness interventions on prenatal well-being: A systematic review. *Psychology & Health*, 31(12), 1415-1434. doi:10.1080/08870446.2016.1220557.
- Maybery, D., Reupert, A., Patrick, K., Goodyear, M., & Crase, L. (2009). Prevalence of children whose parents have a mental illness. *Psychiatric Bulletin*, 33(1), 22 - 26.
- Mayr, E. (2000). Darwin's influence on modern thought. *Scientific American*, 238(1), 78-83.
- McIntyre, L. L. (2013). Parent training interventions to reduce challenging behavior in children with intellectual and developmental disabilities. *International Review of Research in Developmental Disabilities*, 44, 245-279. doi:10.1016/B978-0-12-401662-0.00008-7.
- McMahon, C. A., Boivin, J., Gibson, F. L., Hammarberg, K., Wynter, K., Saunders, D., & Fisher, J. (2011). Age at first birth, mode of conception and psychological wellbeing in pregnancy: Findings from the parental age and transition to parenthood Australia (PATPA) study. *Human Reproduction*, 26(6), 1389-1398. doi:10.1093/humrep/der076.
- Mellor, J., Dudek, P., & Clynes, D. (2008). A glimpse into the epigenetic landscape of gene regulation. *Current Opinion in Genetics & Development*, 18(2), 116-122. doi:10.1016/j.gde.2007.12.005.

- Meppelink, R., de Bruin, E. I., Wanders-Mulder, F. H., Vennik, C. J., & Bögels, S. M. (2016). Mindful parenting training in child psychiatric settings: Heightened parental mindfulness reduces parents' and children's psychopathology. *Mindfulness*, 7(3), 680-689. doi:10.1007/s12671-016-0504-1.
- Mercer, J. (2014). Examining Circle of Security™: A review of research and theory. *Research on Social Work Practice*, 25(3), 1-11. doi:10.1177/1049731514536620.
- Merleau-Ponty, M. (1962). *Phenomenology of perception*. London: Routledge.
- Merriam-Webster Dictionary. (2017). Emotion. Springfield: Merriam-Webster Incorporated.
- Meyer, S. (2016, 15 November 2016). Women in prison: histories of trauma and abuse highlight the need for specialised care. Retrieved from <https://theconversation.com/women-in-prison-histories-of-trauma-and-abuse-highlight-the-need-for-specialised-care-68668>
- Milton, J. (1667). *Paradise lost* London: Dover Publications.
- Mindfulness Education Centre (MEC). (2017). A Maori perspective. Retrieved from <https://mindfulnesseducation.nz/a-maori-perspective/>
- Mitchell, M. (2015). *A life free from violence and fear: A child's right*. Paper presented at the 2016 International Congress on Child Abuse and Neglect, Calgary, Canada. <https://www.humanrights.gov.au/news/speeches/life-free-violence-and-fear-child-s-right>
- Moher, D., Cook, D. J., Eastwood, S., Olkin, I., Rennie, D., & Stroup, D. F. (1999). Improving the quality of reports of meta-analyses of randomised controlled trials: the QUORUM statement: Quality of Reporting Meta-analyses. *Lancet*, 354(9193), 1896-1900. Retrieved from doi:10.1159/000055014
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, 151(4), 264-269. doi:10.7326/0003-4819-151-4-200908180-00135.
- Mojtabai, R., Olfson, M., & Han, B. (2016). National trends in the prevalence and treatment of depression in adolescents and young adults. *Pediatrics*, 138(6), 1-10. doi:10.1542/peds.2016-1878.
- Monier-Williams, M. (2006). *Sanskrit-English dictionary: Etymologically and philologically arranged with special reference to cognate Indo-European languages*. New Delhi: Manohar Published and Distributors.
- Moscrop, T., & Mendis, B. A. (1987). *A Sinhalese-English dictionary: Volume 10 of studies on Sri Lanka series*. New Delhi: Sri Satguru Publications.
- Mulder, R. T. (2015). Depression relapse: Importance of a long-term perspective. *Lancet*, 386(4), 10-12. doi:10.1016/S0140-6736(14)62448-X.
- Mulder, R. T., & Frampton, C. M. (2014). Outcome of mood disorders before psychopharmacology: a systematic review *Australian New Zealand Journal of Psychiatry* 48, 224 – 236.
- Muthén, B. O. (2001). Latent variable mixture modeling In G. A. Marcoulides & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling* (pp. 1-33). Mahwah, NJ: Lawrence Erlbaum Associates.
- Muthén, B. O. (2001). Second-generation structural equation modeling with a combination of categorical and continuous latent variables: new opportunities for latent class / latent growth modeling In L. M. Collins & A. Sayer (Eds.), *New methods for the analysis of change* (pp. 291–322). Washington, DC: American Psychological Association.
- Muzik, M., & Borovska, S. (2010). Perinatal depression: Implications for child mental health. *Mental Health in Family Medicine*, 7(4), 239-247.

- Nachtigall, C., Kroehne, U., Funke, F., & Steyer, R. (2003). (Why) should we use SEM?—Pros and cons of structural equation modelling. *Methods of Psychological Research Online*, 8(2), 1-22.
- Nanamoli, B., & Bodhi, B. (1995). *The middle length discourses of the Buddha: A new translation of the Majjhima Nikaya*. Boston: Wisdom Publications
- Nappi, B. (2017). Would you like fries with that breath? Retrieved from https://www.huffpost.com/entry/would-you-like-fries-with_n_7943228
- Napthali, S. (2003). *Buddhism for mothers*. Crows Nest, NSW: Allen & Unwin.
- National Institute for Health and Care Excellence (NICE). (2016). Depression in adults: recognition and management. Clinical guideline (CG90)(30 November 2016). Retrieved from <https://www.nice.org.uk/guidance/cg90>
- National Mental Health Commission (NMHC). (2014). *Report of the national review of mental health programmes and services*. Canberra: NMHC.
- National Research Council (US) and Institute of Medicine (US) Committee on Depression, P. P., and the Healthy Development of Children,. (2009). *Depression in parents, parenting, and children: Opportunities to improve identification, treatment, and prevention*. Washington, DC: National Academies Press.
- Neece, C. L. (2012). Mindfulness-based stress reduction for parents of children with developmental delays: Pilot study. *Journal of Intellectual Disability Research*, 56(7-8), 679.
- Neece, C. L. (2014). Mindfulness-based stress reduction for parents of young children with developmental delays: implications for parental mental health and child behavior problems. *Journal of Applied Research in Intellectual Disabilities*, 27(2), 174-186. doi:10.1111/jar.12064.
- Neff, K. D. (2003a). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2, 223 – 250. doi:10.1080/15298860390209035.
- Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2, 85–101. doi:10.1080/15298860309032.
- Neff, K. D. (2011). *Self-compassion: Stop beating yourself and leave insecurity behind*. New York: Harper Collins.
- Neff, K. D., & Gerrmer, C. K. (2013). A pilot study and randomized controlled trial of the Mindful Self-Compassion Program. *Journal of Clinical Psychology* 69(1), 28-44. doi:10.1002/jclp.21923.
- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning *Journal of Research in Personality*, 41, 139-154. doi:10.1016/j.jrp.2006.03.004.
- Nhat Hanh, T. (1987). *Interbeing: Fourteen guidelines for engaged Buddhism*. Berkley: Parallax Press.
- Nhat Hanh, T. (2009). *The heart of understanding: the commentaries on Prajnaparamita Heart Sutra*. Berkely, CA: Parallax Press.
- Nhat Hanh, T. (2012). *The Pocket Thich Nhat Hanh*. Boston, MA: Shambhala Publications.
- Niven, K., Totterdell, P., Stride, C. B., & Holman, D. (2011). Emotion regulation of self and others (EROS): The development and validation of a new individual difference measure. *Current Psychology*, 30(1), 53-73.
- Norris, F. H., Murphy, A. D., Baker, C. K., Perilla, J. L., Gutierrez Rodriguez, F. R., & Gutierrez Rodriguez, J. J. (2008). Epidemiology of trauma and posttraumatic stress disorder in Mexico. *Journal of Abnormal Psychology*, 112, 646 - 656. doi:10.1037/0021-843X.112.4.646.

- Nyklíček, I., Truijens, S. E. M., Spek, V., & Pop, V. J. M. (2018). Mindfulness skills during pregnancy: Prospective associations with mother's mood and neonatal birth weight. *Journal of Psychosomatic Research, 107*, 14-19. doi:10.1016/j.jpsychores.2018.01.012.
- O'Hara, M. W., Stuart, S., Watson, D., Dietz, P. M., Farr, S. L., & D'angelo, D. (2012). Brief scales to detect postpartum depression and anxiety symptoms. *Journal of Women's Health, 21*(12), 1237–1243. doi:10.1089/jwh.2012.3612.
- O'Rourke, R. W. (2014). Metabolic thrift and the genetic basis of human obesity. *Annals of Surgery, 259*(4), 642-648. doi:10.1097/SLA.0000000000000361.
- Ogders, C. L., Caspi, A., Poulton, R., Harrington, H. L., Thomson, W. M., & Broadbent, J. M. (2008). Female and male antisocial trajectories: From childhood origins to adult outcome. *Development and Psychopathology, 20*(2), 673-716. doi:10.1017/S0954579408000333.
- Onepixel (Producer). (2018). Purple lotus blossoms or water blooming on pond. Retrieved from <https://www.onepixel.com/photo/purple-lotus-blossoms-or-water-blooming-on-3297861?src=b0d0cedc01b28a7f3661922229ef33be-255>
- Onken, L. S., Carroll, K. M., Shoham, V., Cuthbert, B. N., & Riddle, M. (2014). Re-envisioning clinical science: Unifying the discipline to improve the public health. *Clinical Psychological Science, 2*, 22-34. doi:10.1177/2167702613497932.
- Owen, D. S. (2011). The advantages and disadvantages of repeated measures. Retrieved from <https://dsowen.wordpress.com/2011/12/01/the-advantages-and-disadvantages-of-repeated-measures/>
- Oxford English Dictionary. (2017). *Emotion*. Oxford: Oxford University Press
- Pan, C. S., Shell, R. L., & Schleifer, L. M. (1994). Performance variability as an indicator of fatigue and boredom effects in a VDT data-entry task. *International Journal of Human-Computer Interaction, 6*, 37-45. doi:10.1080/10447319409526082.
- Parent, J., McKee, L. G., Mahon, J., & Foreh, R. (2016). The association of parent mindfulness with parenting and youth psychopathology across three developmental stages. *Journal of Abnormal Child Psychology, 44*(1), 191-202. doi:10.1007/s10802-015-9978-x.
- Parsons, C. E., Crane, C., Parsons, L. J., Fjorback, L. O., & Kuyken, W. (2017). Home practice in mindfulness-based cognitive therapy and mindfulness-based stress reduction: A systematic review and meta-analysis of participants' mindfulness practice and its association with outcomes. *Behaviour Research and Therapy, 95*, 29-41. doi:10.1016/j.brat.2017.05.004.
- Pascal, B. (1669). *Pascal's pensées*. New York: E.P. Dutton.
- Patel, V., Fisher, A., Hetrick, S., & McGorry, P. (2007). Mental health of young people: A global public-health challenge. *Lancet, 369*(9569), 1302-1313. doi:10.1016/S0140-6736(07)60368-7.
- Pattakos, A. (2010). *Prisoners of our thoughts: Viktor Frankl's principles for discovering meaning in life and work*. San Francisco, CA: Berrett-Koehler Publishers.
- Pearson, K. (1904). Report on certain enteric fever inoculation statistics. *British Medical Journal, 2*(2288), 1243-1246.
- Pereira, A. T., Xavier, S., Bento, E., Azevedo, J., Marques, M., Soares, M. J., . . . Macedo, A. (2016). Mindfulness, self-compassion and depressive symptoms in pregnant women. *European Psychiatry, 33*, S420. doi:10.1016/j.eurpsy.2016.01.1517.
- Perls, F. S. (1969). *Gestalt therapy verbatim*. Moah, UT: Real People Press.
- Petticrew, M. (2001). Systematic reviews from astronomy to zoology: Myths and misconceptions. *British Medical Journal, 322*(7278), 98-101. doi:10.1136/bmj.322.7278.98.

- Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Malden: Blackwell Publishing.
- Phelan, R. F., Howe, D. J., Cashman, E. L., & Batchelor, S. H. (2012). Enhancing parenting skills for parents with mental illness: The Mental Health Positive Parenting Program. *Medical Journal of Australia*, 199(3 Suppl), S30-S33. doi:10.5694/mja11.11181.
- Pietkiewicz, I., & Smith, J. A. (2012). A practical guide to using Interpretative phenomenological analysis in qualitative research psychology. *Psychological Journal*, 18(2), 361-369. doi:10.14691/CPJ.20.1.7.
- Pirson, M., Langer, E. J., Bodner, T., & Zilcha-Mano, S. (2012). The development and validation of the Langer Mindfulness Scale: Enabling a socio-cognitive perspective of mindfulness in organizational contexts. *Fordham University Schools of Business Research Paper*. Retrieved from doi:10.2139/ssrn2158921
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903. doi:10.1037/0021-9010.88.5.879.
- Potharst, E. S., Aktar, E., Rexwinkel, M., Rigterink, M., & Bögels, S. M. (2017). Mindful with your baby: Feasibility, acceptability and effects of a mindful parenting group training for mothers and their babies in a mental health context. *Mindfulness*, 8(5), 1236–1250. doi:10.1007/s12671-017-0699-9.
- Powell, B., Cooper, G., Hoffman, K., & Marvin, B. (2014). *The Circle of Security intervention: Enhancing attachment in early parent-child relationships*. New York: The Guilford Press.
- Prabhupada, A. C. B. (2008). *Bhagavad-Gita as it is* (2nd ed.). Sydney: The Bhaktivedanta Book Trust.
- PricewaterhouseCoopers (PwC). (2014). Valuing perinatal mental health: The consequences of not treating perinatal depression and anxiety Retrieved from <https://www.beyondblue.org.au/docs/default-source/8.-perinatal-documents/bw0079-report-valuing-perinatal-health.pdf?sfvrsn=2>
- Pringle, J., Drummond, J., McLafferty, E., & Hendry, C. (2011). Interpretative phenomenological analysis: A discussion and critique. *Nurse Researcher*, 18(3), 20-24.
- Queensland Children's Health Hospital and Children and Youth Mental Health Service (CYMHS). (2014). Quality, integrated, responsive and recovery-focussed child and youth mental health services across Queensland. *Queensland Mental Health Commission Strategic Planning Issues Papers*. Retrieved from <http://www.qmhc.qld.gov.au/work/queensland-mental-health-and-drug-strategic-plan/issue-papers/>
- Race, K. (2014). *Mindful parenting: Simple and powerful solutions for raising creative, engaged, happy kids in today's hectic world*. New York: St Martin's Press.
- Ravelli, G. P., Stein, Z. A., & Susser, M. W. (1976). Obesity in young men after famine exposure in utero and early infancy. *New England Journal of Medicine*, 295(7), 349-353. doi:10.1056/NEJM197608122950701.
- Reynolds, D. (2003). Mindful parenting: a group approach to enhancing reflective capacity in parents and infants. *Journal of Child Psychotherapy*, 29(3), 357-374. doi:10.1080/00754170310001625413.
- Reynolds, D. (2017). *Core components of Mindful Parenting: A reflective approach to working with at-risk dyads* Queensland Multicultural Centre, Brisbane.16-17 October 2017.

- Rice, P. L., & Ezzy, D. (1999). *Qualitative research methods*. South Melbourne, VIC: Oxford University Press.
- Riedel, W. J., Klaassen, T., Deutz, N. E. P., Someren, A., & Praag, H. M. (1999). Tryptophan depletion in normal volunteers produces selective impairment in memory consolidation. *Psychopharmacology*, *141*(4), 362-369. doi:10.1007/s002130050845.
- Rizvi, S. L., & Nock, M. K. (2008). Single-case experimental designs for the evaluation of treatments for self-injurious and suicidal behaviors *Suicide Life Threat Behavior*, *38*(5), 498-510. doi:10.1521/suli.2008.38.5.498.
- Rizzolatti, G., & Sinigaglia, C. (2007). Mirror neurons and motor intentionality. *Functional Neurology*, *22*(4), 205-210.
- Roseboom, T. J., van der Meulen, J. H., Ravalli, A. C., Osmond, C., Barker, D. J. P., & Bleker, O. P. (2001). Effects of prenatal exposure to the Dutch famine on adult disease in later life: An overview. *Twin Research and Human Genetics*, *4*(5), 293-298. doi:10.1375/twin.4.5.293.
- Ross, L. E., & McLean, L. M. (2006). Anxiety disorders during pregnancy and the postpartum period: A systematic review. *Journal of Clinical Psychiatry*, *6*(9), 1-14. doi:doi:10.4088/JCP.v67n0818.
- Roy Malis, F., Meyer, T., & Gross, M. (2017). Effects of an antenatal mindfulness-based childbirth and parenting programme on the postpartum experiences of mothers: A qualitative interview study. *BMC Pregnancy and Childbirth*, *17*, 57-68. doi:10.1186/s12884-017-1240-9.
- Rutherford, H. J. V., Wallace, N. S., Laurent, H. K., & Mayes, L. C. (2015). Emotion regulation in parenthood. *Developmental Review*, *36*, 1-14. doi:10.1016/j.dr.2014.12.008.
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719-727.
- Sander, L. (1995). Identity and the experience of specificity in a process of recognition. *Psychoanalytic Dialogues*, *5*(4), 579-593. doi:10.1080/10481889509539095.
- Sander, L. (2000). Where are we going in the field of infant mental health? *Infant Mental Health Journal*, *21*(1-2), 5-20.
- Sanders, M., Pidgeon, A., Gravestock, F., Connors, M., Brown, S., & Young, R. (2004). Does parental attributional retraining and anger management enhance the effects of the Triple P-positive Parenting Program with parents at risk of child maltreatment? *Behavior Therapy*, *35*(3), 513-535. doi:10.1186/s12884-017-1240-9.
- Saris, W. E., & Stronkhorst, L. H. (1984). *Introduction to causal modeling in nonexperimental research*. Amsterdam: Sociometric Research Foundation.
- Sartre, J.-P. (1956). *Being and nothingness*. New York: Washington Square Press.
- Sawyer-Cohen, J. A., & Semple, R. J. (2009). Mindful parenting: A call for research. *Journal of Child and Family Studies*, *19*(2), 145-151. doi:10.1007/s10826-009-9285-7.
- Sawyer, J. A. (2007). Mindful parenting, affective attunement, and maternal depression: A call for research. *Graduate Student Journal of Psychology*, *9*, 3-9.
- Sawyer, M. G., Arney, F. M., Baghurst, P. A., Clark, J. J., Graetz, B. W., Kosky, R. J., . . . Zubrick, S. R. (2000). *Child and adolescent component of the national survey of mental health and well-being*. Canberra: Department of Health and Aged Care
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information*, *44*(4), 693-727. doi:10.1177/0539018405058216.

- Schetter, C. D., & Tanner, L. (2012). Anxiety, depression and stress in pregnancy: Implications for mothers, children, research and practice. *Current Opinion in Psychiatry*, 25(2), 141-148. doi:10.1097/YCO.0b013e3283503680.
- Schleirmacher, F. (1998). *Hermeneutics and criticism and other writings* (A. Bowie, Trans.). Cambridge: Cambridge University Press.
- Schmitter, A. M. (2016). *17th and 18th century theories of emotions* E. N. Zalta (Ed.) *The Stanford encyclopedia of philosophy* Retrieved from <https://stanford.library.sydney.edu.au/entries/emotions-17th18th/>
- Schreiber, J. B., Stage, F. K., King, J., Nora, A., & Barlow, E. A. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *Journal of Educational Research*, 99(6), 323-337. doi:10.3200/JOER.99.6.323-338.
- Schulz, K. F., Altman, D. G., & Moher, D. (2010). CONSORT 2010 Statement: updated guidelines for reporting parallel group randomised trials. *British Medical Journal*, 8, 18. Retrieved from doi:10.1136/bmj.c332
- Schuppan, K. M., Roberts, R., & Powrie, R. (2019). Paternal perinatal mental health: At-risk fathers' perceptions of help-seeking and screening. *The Journal of Men's Studies*, 0(0). doi:10.1177/1060826519829908.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: The Guilford Press.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2012). *Mindfulness-based cognitive therapy for depression: a new approach to preventing relapse*. New York: Guilford Press.
- Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.
- Shapiro, S. L. (2009). The integration of mindfulness and psychology. *Journal of Clinical Psychology*, 65, 555-560. doi:10.1002/jclp.20602.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62(3), 373-386. doi:10.1002/jclp.20237.
- Shea, B. J., Grimshaw, J. M., Wells, G. A., Boers, M., Andersson, N., Hamel, C., . . . Bouter, L. M. (2007). Development of AMSTAR: A measurement tool to assess the methodological quality of systematic reviews. *BMC Medical Research Methodology*, 7. Retrieved from doi:10.1186/1471-2288-7-10
- Shi, Z., & MacBeth, A. (2017). The effectiveness of mindfulness-based interventions on maternal perinatal mental health outcomes: A systematic review. *Mindfulness*, 8(4), 823-847. Retrieved from doi:10.1007/s12671-016-0673-y
- Shidhaye, P. R., & Giri, P. A. (2014). Maternal depression: A hidden burden in developing countries. *Annals of Medical and Health Sciences Research*, 4(4), 463-465. doi:10.4103/2141-9248.139268.
- Shipley, B. (2000). *Cause and correlation in biology*. Cambridge: Cambridge University Press.
- Shore, A. N. (2001). The effects of a secure attachment relationship on the right brain development, affect regulation and infant mental health. *Infant Mental Health Journal*, 22(1), 7-66. doi:10.1002/1097-0355(200101/04)22:1<7::AID-IMHJ2>3.0.CO;2-N.

- Siegel, D. J. (2007). *The mindful brain: Reflection and attunement in the cultivation of wellbeing*. New York: W.W. Norton & Company.
- Siegel, D. J., & Hartzell, M. (2003). *Parenting from the inside out: How a deeper self-understanding can help you raise children who thrive*. New York: Penguin.
- Siegel, D. J., & Payne Bryson, T. (2012). *The whole-brain child: 12 revolutionary strategies to nurture your child's developing mind*. New York: Bantam Books.
- Sikh, B. S., & Spence, D. (2016). Methodology, meditation and mindfulness: Toward a mindfulness hermeneutic. *International Journal of Qualitative Methods*, *15*(1), 1-8. Retrieved from doi:10.1177/1609406916641251
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Fisher, B. C., Wahler, R. G., McAleavey, K., . . . Sabaawi, M. (2006). Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. *Journal of Emotional & Behavioral Disorders*, *14*(3), 169-177. doi:10.1177/10634266060140030401.
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, J., Curtis, W. J., Wahler, R. G., & McAleavey, K. M. (2007). Mindful parenting decreases aggression and increases social behavior in children with developmental disabilities. *Behavior Modification*, *31*(6), 749-771. doi:10.1177/0145445507300924.
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, J., Singh, A. N. A., Adkins, A., & Wahler, R. (2010). Training in mindful caregiving transfers to parent-child interactions. *Journal of Child & Family Studies*, *19*(2), 167-174. doi:10.1007/s10826-009-9267-9.
- Singh, N. N., Singh, A. N., Lancioni, G. E., Singh, J., Winton, A. S. W., & Adkins, A. D. (2010). Mindfulness training for parents and their children with ADHD increases the children's compliance. *Journal of Child and Family Studies*, *19*(2), 157-166. doi:10.1007/s10826-009-9272-z.
- Slade, A. (2002). Keeping the baby in mind: A critical factor in perinatal mental health. *Zero to Three, June/July*, 10-16.
- Slade, A., & Cohen, L. J. (1996). Processes of parenting and the remembrance of things past. *Infant Mental Health Journal*, *17*(3), 217-238. doi:10.1002/(SICI)1097-0355(199623)17:3<217::AID-IMHJ3>3.0.CO;2-L.
- Slade, A., Grienberger, J., Bernbach, E., Levy, D., & Locker, A. (2005). Maternal reflective functioning, attachment, and the transmission gap: A preliminary study. *Attachment & Human Development*, *7*(3), 283-298. doi:10.1080/14616730500245880.
- Slade, A., Grienberger, J., Bernbach, E., Levy, D., Locker, A., & Kelly, K. (2001). *Maternal reflective functioning and attachment: Considering the transmission gap* Paper presented at the Unpublished address, Biennial Meeting of the Society for Research in Child Development Symposium, Minneapolis, MN.
- Slade, A., Sadler, L., De Dios-Kenn, C., Webb, D., Currier-Ezepchick, J., & Mayes, L. (2005). Minding the baby. *The Psychoanalytic Study of the Child*, *60*(1), 74-100. doi:10.1080/00797308.2005.11800747.
- Smith, C. U. (2010). Like grandfather, like grandson: Erasmus and Charles Darwin on evolution. *Perspectives in Biology and Medicine*, *53*(2), 186-199. doi:10.1353/pbm.0.0152.
- Smith, J. A. (1996). Beyond the divide between cognition and discourse: Using interpretative phenomenological analysis in health psychology. *Psychology & Health*, *11*(2), 261-271. doi:10.1080/08870449608400256.
- Smith, J. A. (1999). Identity development during transition to motherhood: An interpretative phenomenological analysis. *Journal of Reproductive and Infant Psychology*, *17*(3), 281-300. doi:10.1080/02646839908404595.

- Smith, J. A. (2004). Reflecting on the development of interpretative phenomenological analysis and its contribution to qualitative research in psychology *Qualitative Research in Psychology*, 1(1), 39-54. doi:10.1191/1478088704qp004oa.
- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research* London: Sage.
- Smith, J. A., & Osborn, M. (2008). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 25-52). London: Sage.
- Smith, J. D. (2012). Single-case experimental designs: a systematic review of published research and current standards. *Psychological Methods*, 17(4), 510-550. doi:10.1037/a0029312.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., Nelson, C. A., & Guthrie, D. (2010). Placement in foster care enhances quality of attachment among young institutionalized children. *Child Development*, 81(1), 212-223. doi:10.1111/j.1467-8624.2009.01390.x.
- Snilstveit, B., & Waddington, H. (2012). Systematic reviews: Let's work out the kinks. Retrieved from <http://www.3ieimpact.org/>
- Sobel, M. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312.
- Solomon, J., & George, C. (2011). The disorganized attachment-caregiving system: Dysregulation of adaptive processes at multiple levels. In J. Solomon & C. George (Eds.), *Disorganized attachment and caregiving* (pp. 3-24). New York, NY: Guilford Press.
- Somerville, S., Dedman, K., Hagan, R., Oxnam, E., Wettinger, M., Byrne, S., . . . Page, A. C. (2014). The Perinatal Anxiety Screening Scale: Development and preliminary validation. *Archives of Women's Mental Health*, 17(5), 443-454. doi:10.1007/s00737-014-0425-8.
- Spearman, C. (1904). General intelligence, objectively determined and measured. *American Journal of Psychology*, 15, 201-293.
- Spence, D. G. (2001). Hermeneutic notions illuminate cross-cultural nursing. *Journal of Advanced Nursing*, 35(4), 624-630. doi:10.1046/j.1365-2648.2001.01879.x.
- Spiliotopoulou, G. (2009). Reliability reconsidered: Cronbach's alpha and paediatric assessment in occupational therapy. *Australian Occupational Therapy Journal*, 56(3), 150-155. doi:10.1111/j.1440-1630.2009.00785.x.
- Squires, J., & Bricker, D. (2009). *Ages and stages questionnaires: A parent-completed child monitoring system (ASQ-3)* (3rd ed.). Baltimore: Brooks Publishing.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349-367. doi:10.1080/14616730500365928.
- Sroufe, L. A., Carlson, E. A., Levy, A. K., & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology*, 11(1), 1-13.
- Sroufe, L. A., Coffino, B., & Carlson, E. A. (2010). Conceptualizing the role of early experience: Lessons from the Minnesota Longitudinal Study. *Developmental Review* 30(1), 36-51. doi:10.1016/j.dr.2009.12.002.
- Steering Committee for the Review of Government Service Provision (SCRGSP). (2014). *2014 Indigenous expenditure report* Canberra: Commonwealth of Australia.
- Steering Committee for the Review of Government Service Provision (SCRGSP). (2017). *2017 Indigenous expenditure report*. Canberra: Commonwealth of Australia.

- Steger, M. F., Frazier, P., Kaler, M., & Oishi, S. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life *Journal of Counseling Psychology, 53*(1), 80-93. doi:10.1037/0022-0167.53.1.80.
- Stern, D. N. (1985). *The interpersonal world of the infant*. New York: Basic Books.
- Stern, D. N. (1995). *A unified view of parent-infant psychotherapy*. New York: Basic Books.
- Steyer, R. (1992). *Theory of causal regression models: Theorie kausaler Regressionsmodelle*. Stuttgart, Germany: Gustav Fischer Verlag.
- Steyer, R. (2003). *Probability and regression: Wahrscheinlichkeit und Regression*. Berlin: Springer.
- Strathearn, L., Fonagy, P., Amico, J., & Montague, P. R. (2009). Adult attachment predicts maternal brain and oxytocin response to infant cues. *Neuropsychopharmacology, 34*(13), 2655 -2666.
- Swain, H. (2016, 26 January 2016). Mindfulness: the craze sweeping through schools is now at a university near you. *The Guardian*. Retrieved from <https://www.theguardian.com/education/2016/jan/26/mindfulness-craze-schools-university-near-you-cambridge>
- Swenson, C. R., & Choi-Kain, L. W. (2015). Mentalization and Dialectical Behavior Therapy. *American Journal of Psychotherapy, 69*(2), 199-217. doi:10.1176/appi.psychotherapy.2015.69.2.199.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55. doi:10.5116/ijme.4dfb.8dfd.
- Thaler, R. H., & Sunstein, C. R. (2009). *Nudge: Improving decisions about health, wealth and happiness*. New York: Penguin Books.
- Tippet, L. H. C. (1931). *The method of statistics*. London: Williams and Norgate.
- Tomarken, A. J., & Waller, N. G. (2005). Structural equation modeling: Strengths, limitations and misconceptions. *Annual Review of Clinical Psychology, 1*, 31-65. doi:doi: 10.1146/annurev.clinpsy.1.102803.144239
- Tomasello, M. (2008). *Origins of human communication*. Cambridge, MA: MIT Press.
- Townshend, K. (2016). Conceptualizing the key processes of Mindful Parenting and its application to youth mental health. *Australasian Psychiatry, 24*(6), 575 - 577. doi:10.1177/1039856216654392.
- Townshend, K., Caltabiano, N. J., Powrie, R., & O'Grady, H. (2018). A preliminary study investigating the effectiveness of the Caring for Body and Mind in Pregnancy (CBMP) in reducing perinatal depression, anxiety and stress. *Journal of Child and Family Studies, 27*(5), 1556–1566. doi:10.1007/s10826-017-0978-z.
- Townshend, K., Jordan, Z., Peters, M., & Tsey, K. (2014). The effectiveness of Mindful Parenting programs in promoting parents' and childrens' wellbeing: a systematic review protocol. *JBI Database of Systematic Reviews and Implementation Reports, 12*(11), 184-196. doi:10.11124/jbisrir-2014-1666.
- Townshend, K., Jordan, Z., Stephenson, M., & Tsey, K. (2016). The effectiveness of Mindful Parenting programs in promoting parents' and children's wellbeing: A systematic review. *JBI Database of Systematic Reviews and Implementation Reports, 14*, 139 - 178. doi:10.11124/JBISRIR-2016-2314.
- Truijens, S. E. M., Nyklíček, I., van Son, J., & Pop, V. J. M. (2015). Validation of a short form Three Facet Mindfulness Questionnaire (TFMQ-SF) in pregnant women. *Personality and Individual Differences, 93*(April), 118-124. doi:10.1016/j.paid.2015.06.037.

- Turpyn, C. C., & Chaplin, T. M. (2016). Mindful parenting and parents' emotion expression: effects on adolescent risk behaviors. *Mindfulness*, 7(1), 246-254. doi:10.1007/s12671-015-0440-5.
- Twenge, J. M., Gentile, B., DeWall, C. N., Ma, D., Lacefield, K., & Schurtz, D. R. (2010). Birth cohort increases in psychopathology among young Americans, 1938–2007: A cross-temporal meta-analysis of the MMPI. *Clinical Psychology Review*, 30(2), 145-154. doi:10.1016/j.cpr.2009.10.005.
- Ullman, J. B. (2001). Structural equation modeling. In B. G. Tabachnick & L. S. Fidell (Eds.), *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- United Nations [UN]. (2017). History of the United Nations. Retrieved from <http://www.un.org/en/sections/history/history-united-nations/>
- Van Dam, N. T., Earleywine, M., & Borders, A. (2010). Measuring mindfulness? An item response theory analysis of the Mindful Attention Awareness Scale. *Personality and Individual Differences*, 49(7), 805 - 810. doi:10.1016/j.paid.2010.07.020.
- Van Dam, N. T., Sheppard, S. C., Forsyth, J. P., & Earleywine, M. (2011). Self-compassion is a better predictor than mindfulness of symptom severity and quality of life in mixed anxiety and depression. *Journal of Anxiety Disorders*, 25(1), 123-130. doi:10.1016/j.janxdis.2010.08.011.
- Van Dam, N. T., van Vugt, M. K., Vago, D. R., Schmalzl, L., Saron, C. D., Olendzki, A., . . . Meyer, D. E. (2018). Van Dam, N.T. *Perspectives on Psychological Science*, 13(1), 36-61. doi:10.1177/1745691617709589.
- van de Weijer-Bergsma, E., Formsma, A. R., de Bruin, E. I., & Bögels, S. M. (2012). The effectiveness of mindfulness training on behavioral problems and attentional functioning in adolescents with ADHD. *Journal of Child and Family Studies*, 21(5), 775-787. doi:10.1007/s10826-011-9531-7.
- van der Kolk, B. (2014). *The body keeps the score: Mind Brain and body in the transformation of trauma*. London: Penguin Books Ltd.
- van der Oord, S., Bögels, S. M., & Peijnenburg, D. (2012). The effectiveness of mindfulness training for children with ADHD and mindful parenting for their parents. *Journal of Child and Family Studies*, 21(1), 139-147. doi:10.1007/s10826-011-9457-0.
- Van der Zalm, J. E., & Bergum, J. E. (2000). Hermeneutic-phenomenology: Providing living knowledge for nursing practice. *Journal of Advanced Nursing*, 31(1), 211-218. doi:10.1046/j.1365-2648.2000.01244.x.
- van Ijzendoorn, M., Sagi, A., & Lambermon, M. (1992). The multiple caretaker paradox: Data from Holland and Israel *New Directions for Child and Adolescent Development*, 57, 5-24. doi:10.1002/cd.23219925703.
- Varela, F. J., Thompson, E., & Rosch, E. (2017). *The embodied mind: Cognitive science and human experience*. London: The MIT Press.
- Veringa, I. K., de Bruin, E. I., Bardacke, N., Duncan, L. G., van Steensel, F. J. A., Dirksen, C. D., & Bögels, S. M. (2016). 'I've changed my mind', Mindfulness-Based Childbirth and Parenting (MBCP) for pregnant women with a high level of fear of childbirth and their partners: study protocol of the quasi-experimental controlled trial. *BMC Psychiatry*, 16(377). doi:10.1186/s12888-016-1070-8.
- Vieten, C. (2009). *Mindful motherhood: Practical tools for staying sane during pregnancy and your child's first year*. Oakland, CA: New Harbinger Publications.
- Vieten, C., & Astin, J. (2008). Effects of a mindfulness-based intervention during pregnancy on prenatal stress and mood: Results of a pilot study. *Archives of Women's Mental Health*, 11(1), 67-74. doi:10.1007/s00737-008-0214-3.

- Vychegzhanina, T. (Producer). (2018, 26 November 2018). Parent's hands tenderly holding baby's head [Photograph] Retrieved from <https://www.onepixel.com/>
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the Resilience Scale. *Journal of Nursing Measurement, 1*(2), 165-178.
- Wallace, B. A. (2012). *Meditations of a Buddhist skeptic: A manifesto for the mind sciences and contemplative practice*. New York: Columbia University Press.
- Wallace, B. A. (2014). *Mind in the balance: Meditation in science, Buddhism and Christianity*. New York: Columbia University Press.
- Wallace, B. A. (2016). *Workshop on four balances*. Cairns: Khacho Yulo Ling Buddhist Centre.
- Wallace, B. A., & Ekman, P. (2015). *Cultivating emotional balance manual*. Santa Barbara, CA: Santa Barbara Institute for Consciousness Studies.
- Walsh, J. P., Kiesler, S., Sproull, L. S., & Hesse, B. W. (1992). Self-selected and randomly selected respondents in a computer network survey. *Public Opinion Quarterly, 56*(2), 241-244.
- Weir, A., Rabia, S., & Ardern, C. (2016). Trusting systematic reviews and meta-analyses: All that glitters is not gold! *British Journal of Sports Medicine, 50*, 1100-1101. Retrieved from doi:10.1136/bjsports-2015-095896
- Weissman, M. M., Wickramaratne, P., Nomura, Y., Warner, V., Pilovsky, D., & Verdelli, H. (2006). Offspring of depressed parents: 20 years later. *American Journal of Psychiatry, 163*(6), 1001-1008.
- Werner, E. E. (2012). Children and war: Risk, resilience, and recovery. *Development and Psychopathology 24*(2), 553–558 doi:10.1017/S0954579412000156.
- Werner, E. E., & Smith, R. S. (1982). *Vulnerable but invincible: A study of resilient children*. New York: McGraw-Hill.
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Ithaca, NY: Cornell University Press.
- Wetherell, M., Taylor, S., & Yates, S. J. (2001). *Discourse theory and practice: A reader*. London: Sage.
- Whitfield, C. L., Anda, R. F., Dube, S. R., & Felitti, V. J. (2003). Violent childhood experiences and the risk of intimate partner violence in adults: Assessment in a large health maintenance organization. *Journal of Interpersonal Violence, 18*(2), 166-185. doi:10.1177/0886260502238733.
- Williams, A., & Apter, G. (2017). Helping mothers with the emotional dysregulation of borderline personality disorder and their infants in primary care settings. *Australian Family Physician, 46*, 669-672.
- Williams, J., & MacKinnon, D. (2008). Resampling and distribution of the product methods for testing indirect effects in complex models. *Structural Equation Modeling, 15*(1), 23–51. doi:10.1080/10705510701758166.
- Williams, M. J., Dalgleish, T., Karl, A., & Kuyken, W. (2014). Examining the factor structures of the five facet mindfulness questionnaire and the self-compassion scale. *Psychological Assessment, 26*(2), 407-418. doi:10.1037/a0035566.
- Wilson, K. R., Havighurst, S. S., & Harley, A. E. (2012). Tuning in to Kids: An effectiveness trial of a parenting program targeting emotion socialization of preschoolers. *Journal of Family Psychology, 26*(1), 56-65. doi:10.1037/a0026480.
- Wilson, S. L. (2003). Post-institutionalization: The effects of early deprivation on development of Romanian adoptees. *Child and Adolescent Social Work Journal, 20*(6), 473-483. doi:10.1023/B:CASW.00000003139.14144.06.

- Wilson, T. D., Reinhard, D. A., Westgate, E. C., Gilbert, D. T., Ellerbeck, N., Hahn, C., . . . Shaked, A. (2014). Just think: The challenges of the disengaged mind. *Science*, *345*(6192), 75-77. doi:10.1126/science.1250830.
- Winerman, L. (2005). The mind's mirror. *Monitor on Psychology*, *36*(9), 48-49.
- Winnicott, D. W. (1960a). *The maturational process and the facilitating environment: Studies in the theory of emotional development* New York International Universities Press.
- Winnicott, D. W. (1960b). The theory of the parent-infant relationship. *International Journal of Psychoanalysis*, *41*, 585-595.
- Woolhouse, H., Mercuri, K., Judd, F., & Brown, S. J. (2014). Antenatal mindfulness intervention to reduce depression, anxiety and stress: A pilot randomised controlled trial of the MindBabyBody program in an Australian tertiary maternity hospital. *BMC Pregnancy and Childbirth*, *14*(1), 369. doi:10.1186/s12884-014-0369-z.
- World Health Organisation [WHO]. (2013). *Mental health action plan 2013-2020* Retrieved from http://www.who.int/mental_health/publications/action_plan/en/
- World Health Organisation [WHO]. (2014). *Mental health: a state of wellbeing* Retrieved from http://www.who.int/features/factfiles/mental_health/en/
- World Health Organisation [WHO]. (2017). "Depression: let's talk" says WHO, as depression tops list of causes of ill health. Retrieved from <http://www.who.int/mediacentre/news/releases/2017/world-health-day/en/>
- Wright, S. (1918). On the nature of size factors. *Genetics*, *3*(4), 367 - 374.
- Wright, S. (1920). The relative importance of heredity and environment in determining the piebald pattern of guinea-pigs. *Proceedings of the National Academy of Sciences*, *6*(6), 320-332.
- Wright, S. (1921). Correlation and causation. *Journal of Agricultural Research*, *20*(7), 557 - 585.
- Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology and Health*, *15*(2), 215-228. doi:10.1080/08870440008400302.
- Yehuda, R. (2017) Interview by N. Mitchell [Tape recording] *The secrets inside your cells: epigenetics, trauma and ancestry*. Science Friction, Australian Broadcasting Cooperation, Sydney.
- Yehuda, R., Daskalakis, N. P., Bierer, L. M., Bader, H. N., Klengel, T., Holsboer, F., & Binder, E. B. (2016). Holocaust exposure induced intergenerational effects on FKBP5 methylation. *Biological Psychiatry*, *80*(5), 372-380. doi:10.1016/j.biopsych.2015.08.005.
- Yehuda, R., Daskalakis, N. P., Desarnaud, F., Makotkine, I., Lehrner, A. L., Koch, E., . . . Bierer, L. M. (2013). Epigenetic biomarkers as predictors and correlates of symptom improvement following psychotherapy in combat veterans with PTSD. *Front Psychiatry*, *4*, 118. doi:10.3389/fpsy.2013.00118.
- Yin, R. (2013). *Case study research: Design & methods* (5th ed.). Los Angeles: Sage.
- Yoshida, M., & Nakamura, Y. (1999). *Kodansha's furigana Japanese dictionary*. Tokyo: Kodansha International Ltd.
- Zalewski, M., Stepp, S. D., Whalen, D. J., & Scott, L. N. (2015). A qualitative assessment of the parenting challenges and treatment needs of mothers with Borderline Personality Disorder. *Journal of Psychotherapy Integration*, *25*(2), 71-89. doi:10.1037/a0038877.
- Zang, W. (2006). *Heidegger, Rorty and the Eastern thinkers: A hermeneutics of cross-cultural understanding*. New York: State University of New York

- Zeanah, C. H., Berlin, L. J., & Boris, N. W. (2011). Practitioner review: Clinical applications of attachment theory and research for infants and young children. *Journal of Child Psychology and Psychiatry*, *52*(2), 819-833. doi:10.1111/j.1469-7610.2011.02399.x.
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, *37*(2), 197-206. doi:10.1086/651257.
- Zumbo, B. D., & Chan, E. K. H. (2014). *Validity and validation in social, behavioural and health sciences*. New York: Springer International Publishing.